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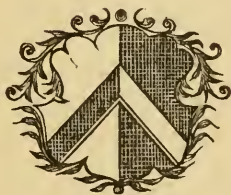
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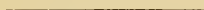


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PATRICK BLACK, M.D.

BY

REGINALD SOUTHEY, M.D.

DR. PATRICK BLACK, late Consulting Physician to our Hospital, who died on October 12th of the present year, at the age of sixty-six, was the second son of a retired officer of the Bengal Cavalry, Lieutenant-Colonel Patrick Black of Aberdeen.

His mother's maiden name was Young; she, like his father, came of an old Aberdeenshire family.

Our late colleague was born in Aberdeen in 1813. He was one of a family of four sons, three of whom survived to mature years. His father died when the lad was only about six years of age, and the boy was left to the sole care and guardianship of his mother. Of her watchfulness over him in early life, her wise direction of his studies, and entire devotion to her children, he often gratefully spoke.

The first school he was sent to was kept by a Dr. Bisset, at Bourtie, in Aberdeenshire. The master appears to have been not only a good scholar but an excellent teacher, who won the love and regard of his pupil.

In 1825 his mother came up to London, bringing her children with her, and resided for a time with her brother-in-law, Mr. William Abercrombie. Patrick was now for two years and a half at Mr. Roberts' school at Chelsea, and left this for Eton, where he was from January 1828 till July 1830, under the headmastership of Dr. Keate. He was seventeen years of age, and in the fifth form, when he left Eton. He does not appear to have worked over-hard there, and when he first offered himself for matriculation at Christ Church he was refused. This failure nettled him, and stimulated his exertions, so that he referred to it afterwards as having turned out ultimately to his advantage.

He made good use of the six months which intervened before he could again go up to Oxford by studying at Paris, where he lived with a M. Pelletan. He attended anatomical lectures, followed the course upon toxicology and medical jurisprudence, then given by the illustrious Orfila, and acquired a fair acquaintance with the French language.

In 1831 he matriculated at Oxford, graduated in honours in 1834, and took his M.D. degree in 1836; but he had already in 1834 (directly after taking his Bachelor of Arts degree) commenced his medical education at St. Bartholomew's, where he entered so heartily into his work, that the praise which was awarded to his neat-handedness in dressing and bandaging is still remembered; while a tradition remains that some one in authority then said of him that he was cut out by nature to become a surgeon rather than a physician. This shows that he shunned no practical work; indeed, later on in life, when encouraging others to make use of all the opportunities which a large hospital affords, he would say that for many years he never let a single case pass which required a thorough examination, however disagreeable this might be to make; which care, and his sedulous attention to the motto of the Pathological Society, 'Nec silet mors,' were the groundwork of that wide general knowledge of disease that he possessed. Yet he did not so put off the Oxford man as to escape being distinguished by the title of 'Gentleman BLACK;' and the student who first gave him this nickname very truly struck the keynote of his life.

In 1840 Dr. BLACK, upon the advice of his friends, made himself a Governor of the Hospital, and in 1842 he was elected Assistant Physician in the vacancy caused by Dr. Latham's resignation the year before. About this time he first made the acquaintance of Miss Mark, daughter of Mr. William Mark, then H.M. Consul at Malaga, to whom he was married on the 18th November 1843.

It has gone well with a man in this world if, when his memoir comes to be written, the only difficulty encountered in reference to his domestic affairs is that of doing justice to uninterrupted happiness, and of just lifting the veil enough to show that there is no reserve requisite beyond that with which we instinctively guard our own homes.

The perfect example he set his family of what a husband and a father should be was duteously responded to by them in their various relations towards him. When sorrow fell upon them, and in the space of two years he lost two promising sons, one by a lingering disease, the other in the disaster of the 'Eurydice,' then those whose privilege it was to know him might see that that happiness and his philosophy were not framed only for fair weather, but built upon solid foundations.

Dr. BLACK'S first years of married life were spent in Bedford Square; but in 1851 it became necessary to his prospects in life that he should hold the not wholly covetable office of Warden to the Medical School, and reside, therefore, in the close, untempting quarters provided for that dignitary within the precincts of the Hospital. He held this post together with that of administrator of chloroform till 1856, at which date he resigned both, and took a house in Queen Anne Street.

After the prosperous outset which Dr. BLACK made, it must seem strange that, with his high natural abilities, his brilliant opportunities, his love for his profession, his strong health, pleasing manners, and punctual habits, he should not have won for himself great reputation as a practical physician or a clinical teacher. Yet so it was; his opinion was thought valuable in consultation by his colleagues, oracular well-nigh at the Clerical and Medical Assurance Office, which he served faithfully for many years; few patients, however, disturbed his meditations in his study in Queen Anne Street, and few pupils followed his visits round his wards, or willingly sat through his lectures.

We are anticipating, however, and had better follow the events of his life as these occurred. In the year 1854 cholera broke out in London, and Dr. BLACK received charge of the special cholera wards. It is needless to add how faithfully and thoroughly he discharged the duties then assigned him. In 1855 he was called upon to deliver the Croonian Lectures at the College of Physicians, and to them we shall have occasion to advert hereafter. In the same year he was also appointed Lecturer on Medical Jurisprudence, and continued to deliver this course for six years. When Dr. Baly's lamentable death took place in 1861, he was appointed joint-lecturer with Dr. Kirkes on the Principles and Practice of Medicine; this lectureship he held

for seventeen years, in fact well-nigh up to the date of his resignation a year ago, and for two years, 1865 and 1866, he undertook the whole course.

Dr. Hue's resignation in 1860, at the age of eighty-one, led to Dr. BLACK'S succession as Physician and Clinical Lecturer, after fifteen years' out-patient practice; and we have been informed that his veteran predecessor, who possessed large experience of pupils and considerable acumen in discerning what class of article suited the public taste, speaking one day of Dr. West, Dr. BLACK, and Sir James Paget, who had all three been clerks under him, ventured this remark anent them, 'West and Paget will succeed in practice, BLACK will not,'—a prophecy fulfilled in each particular.

As a lecturer, the matter he gave was orthodox and sound, collected with considerable labour and well arranged; but the lectures were composed in an old-fashioned spirit—read, not talked. Admirable essays they often were, containing what is absolutely necessary for students to know, and nothing that could be disputed; they raised no questions, left no doubts, but they were not calculated to stimulate an indolent man's energies; there was little in them beyond what any one might read at leisure in his text-book at home.

But having said this, there is nothing more to say in dispraise of his teaching. It is true that he was sceptical to an extreme point as to the value of drugs, but at the bedside, by those who chose to watch his cases and listen to his remarks upon diagnosis and prognosis, there was much to be learnt from him. In his long career he had many pupils, who were grateful to him for the principles he had taught them, which guided them aright often amid a labyrinth of theories and conflicting opinions.

He was accustomed to take a wider view of disease than young inexperienced students could be expected to appreciate. He attached more importance to the general state of the patient than to the exact localisation or extent of the various disorganising processes. For him, what had been written about the complaint did not come within the province of what should be taught at the bedside so much as the art of interrogating a patient, eliciting the several symptoms in the order of their occurrence truthfully out of the sick man's own lips. There, however, he showed his

skill as a clinical physician, and thoroughly trained his pupils in habits of mind which, if practised, could not fail to make them an honour to their profession.

In his wards, although nature was allowed as full play as her most zealous advocates could require, yet he was ready on an emergency to act occasionally with peremptory vigour against her proceedings. He never was timid or showed himself a slave to blind routine. Thus, to give example, he allowed the use of issues in Pott's disease, and often bled for pneumonia and apoplexy, as well as aortic aneurism. He thought that scurvy could be cured without lime-juice, and that ague would get well without quinine.

His rare power of facial diagnosis will be long remembered. He would often arrive at a more accurate opinion upon the nature and issue of a patient's malady by an apparently cursory glance at his countenance than another would reach after close examination and inquiry.

Still, as we have already said, he did not command a large class of followers at his visits. It may appear strange to say of a physician at sixty-five—for a physician is probably only at his prime at sixty—that he outlived the age which he represented; yet this is what we dare venture to affirm of him. During the fifteen years that he was a clinical teacher, medicine made enormous strides. New methods of physical examination and clinical inquiry came into vogue, which he did not care to employ. The immense increase of knowledge upon nervous diseases did not engage his attention; and as the very fact of these things being new rendered them especially attractive to students, and heightened their importance, so his disregard of them was accepted by the more energetic students as evidence of some lack of interest in their tuition. Yet we are prepared to maintain that no physician ever entered his wards with more conscientious purpose of benefiting both patients and pupils; and few have had their recorded judgments—by which we mean the headings of their boards—so seldom reversed upon the post-mortem table.

Let us turn our attention next to BLACK'S life outside the Hospital gates. In 1867 he revised the Latin part of the new nomenclature of diseases for the College of Physicians. He was

one of the Examiners on Classics there at the time when a preliminary Arts Examination was required of the candidates for the licence. He was three times Censor and three times on the Council. In 1874 he was appointed an Examiner for the medical degree at Oxford. He was also Physician to Christ's Hospital, and to the Marine Society, and to the Seamen's Hospital for about eleven years.

Dr. BLACK did not write much, but what he wrote was clever and well composed. His pamphlets show originality of thought, and repay perusal as well for their matter as for their style. We know that he looked forward, on his retirement from the Hospital, for leisure in which to bring together some of the various notes and observations he had collected; but we know nothing of his scheme, and very little about his materials. He was constantly thinking over medical problems; and we remember how, after a painful, sleepless night towards the end of his last illness, he told us one morning, that although he had not slept he had been very well occupied, and had, he thought, hit upon a plan of curing popliteal aneurism, by supporting the leg in a sling in a peculiar position.

He took the forces of the circulation for his Croonian Lectures, which were delivered in 1855. In them he unearthed some very good experimental physiological inquiries made by Hales. He shows that while resistance to the circulation is offered everywhere throughout the arteries, the greatest exists always in the capillaries, and that it is this resistance to the pump force of the heart which produces the tension of the pulse throughout the arterial system. 'The power of the heart,' he writes, 'must bear a necessary relation to the resistance offered.' If this, as in atheromatous disease of the arteries, is increased, the heart must either dilate or hypertrophy to meet the demand made upon it.

Considering the date when these lectures were given, the doctrines here inculcated were well advanced, and redounded not inconsiderably to the reputation of the physician who brought them forward.

In 1855 he published his pamphlet entitled, 'Chloroform: How shall we ensure Safety in its Administration.' It followed as a natural and very practical sequel to the lectures he had

just before delivered at the College. He disputes in its pages the correctness of Dr. Snow's opinion as to the immediate cause of death in chloroform inhalation; he was then and remained always satisfied that death was seldom if ever due to paralysis of the heart. The fatal cases he had seen, as indeed many which he had read about, reported a train of clinical symptoms indicative of death by apnoea or pure asphyxia: the patient choking and struggling for breath with spasmodic closure of the glottis; the glottis, as he writes, closing instinctively against the too concentrated chloroform vapour, and shutting out both air and chloroform together.

He was himself a very careful and exceedingly fortunate administrator of chloroform, and fully impressed of its safety if certain symptoms were attended to; but his conclusion that chloroform is only dangerous to life by arresting respiration is not confirmed by the experience of others.

The physiology of respiration was always a favourite subject with him. 'Why do we breathe?' formed the theme of a lecture he delivered before a popular audience, and published in 1876. The lucidity of its style, the beauty of the metaphors employed, the many apt quotations he makes use of, render it delightful reading. It is difficult to put it down without finishing it.

He shows that while the lungs are principally expanded by the dilatation of the thoracic chambers in which they hang, and the movements of whose walls they follow, they are still opened and swelled in bulk in no inconsiderable degree by the blood propelled through them at every beat of the heart. 'Both these forces are always being actively exerted; one supplements the other; and, when the function of respiration is being perfectly fulfilled, each is regulated by the other. They are mutually compensative.'

We question if any physiologist perceived more clearly than he did the full value of old Hale's experiment ('Hæmostatics,' 76), which proved conclusively the heart's power to distend the lungs, an expanding force too often left out of calculation, both in health and disease.

He shows that when the right heart, stimulated by muscular exercise, acts too quickly and too forcibly, the lungs so swell the chest cavity that little further expansion of this becomes

possible by even the most violent effort at inspiration. The lungs are blood-gorged, the air vesicles remaining empty of air in proportion as they are over-full of blood. If the limit of chest expansion is reached thus by blood pressure before the air vesicles are unfolded, no oxygenation changes can take place, and no blood passes through the lungs to the left heart. Thus the condition becomes at once one of distress and imminent danger. The individual stands with open mouth striving for air, which no effort of his inspiratory muscles can draw in until the pump force of the heart moderates; but then, as the lungs sink back the thorax too subsides, and the dilatation of the vesicles with fresh air is rendered once more feasible. 'You see, then,' says BLACK, 'what a difference it makes whether the chest is expanded by the muscular forces external to the lungs, or by the force of the circulation within them.' The aeration of the blood and its passage onwards are then shown to be collateral results of the expansion of the air-cells, and this expansion of them to remove the obstacle that previously barred the current of the blood through the lungs. And he continues:— 'If the right heart were muscular pump enough to sweep the hindrance before it, instead of requiring that it should be lifted away by the act of inspiration, the necessity for this act would not have been felt. Medulla's function would not be invoked; the blood would pass through the lungs without his sanction unchanged. Nature has, therefore, so weakened the right heart that the barrier is effectual until another power is called in; as inspiration lifts off this barrier, the circulation through the lungs is continued, and the blood's changes duly accomplished.'

As BLACK observes with truth, the right ventricle has its proper explanation, not in the shorter circuit the blood has to run through the lungs, as Harvey originally taught, but because of altered requirements, and of a different 'scheme' of capillaries.

It would be difficult to equal, impossible to surpass, his adaptation of his language to his audience; his statement of the situation is not merely clear—it is handled in a most masterly manner, and fully deserved the applause which it received.

Space does not permit us to do more than briefly notice here his attempt to explain the cause of the 'Medical Failure of the

Arctic Expedition of 1875-6,' and his essay on the 'Use of the Spleen,' but both are well worth reading. The function of the spleen has proved a hard nut for all physiologists to crack. Dr. BLACK, however, points out one of its uses with extreme skill. It is impossible for us to agree with him that the entire function of the organ is indicated here, and that it serves merely as a moderator of the current, and as a diluent of the blood passing to the portal vein.

The same idea, we fancy, may be found suggested in Gray's 'Anatomy,' more dimly expressed. However this may be, the essay is written throughout in his happiest vein, and is brimful of metaphor and quotations.

We must confess to leaving his writings truly sorry that a man who could write so well should have written so little and will now write no more.

Little more than a year ago, when he resigned the Hospital in his due time, at the age of sixty-five, his friends remarked how young and active he still was, and how well and upright he looked. Who could have guessed then that the seeds of a fatal malady were already sown in him and its first symptoms would so soon manifest themselves? Yet this was the case. In August 1878, while hurrying across a railway line one day, he fell rather heavily. Three months later, pain, which remained constant to one particular spot, came on; this he at first was inclined to attribute to some injury caused by the accident. He consulted his old friend Sir George Burrows frequently about himself, but the evidence of some incurable form of disease became steadily, although very gradually, more and more pronounced. He felt languid, easily exhausted, lost flesh, and became pallid. Up to June last he was able to get out a little on most days, and continued to attend his Assurance Office regularly, but by this time he felt himself all too certainly that the verdict was given against him, and that the inevitable diagnosis which he had been the first to pronounce openly admitted no longer of any doubt.

From then well-nigh to the last he often experienced acute paroxysms of pain, and was seldom wholly out of suffering; but this was borne by him throughout with a patience and resignation truly exemplary.

Writing on June 30th last to Sir George Burrows in reference to his inability to dine at the College Club dinner, he says:—

‘As you well know, I have not been up to banqueting-point lately, and am much less so now than at any previous time. Your meeting within an hour or so hence brings many pleasing recollections of the wit and wisdom of our members, and above all of our kindly fellowship. All these combine to kindle the vain desire of being with you, but this may not be; for though much better in regard to pain, my future has still the same uncertainty hanging over it. Probably it is best so, and I am happy to accept the lines of Horace for myself—

“Prudens futuri temporis exitum
Caliginosâ nocte premit Deus.”

Horace’s *prudens Deus* is the Supreme Being who so wisely conceals from us the future we are often too anxious to know. Throughout my illness I have been thrice blessed, aye, *ter et amplius*, by a response which has been given to that prayer which Juvenal advises us to address to the gods of Olympus:—

“Orandum est ut sit mens sana in corpore sano
Fortem posce animum mortis terrore carentem,
Qui spatium vitæ extremum inter munera ponat
Naturæ.”

Only a short time elapsed, however, after he penned these lines before the pain of which he here speaks as better became almost constant suffering. It was with extreme reluctance that he consented to submit at last to the subcutaneous injection of morphia for its relief, fearing that from the time he began with sedatives his enjoyment of his mental faculties and all further pleasurable converse with his family would be at an end for him.

He yielded, however, finally, to the wishes of his advisers, and for the last three months of his life passed his time with a mind singularly clear and serene, patiently awaiting his discharge, so that when the silent visitor took him by the hand, he was received as Juvenal described he should be, ‘*inter munera naturæ*,’ as nature’s kindest gift:—

‘When life is pain prolonged by every breath,
Then give us swift dismissal, gentle Death.’

The friends of Dr. BLACK, and they were many, into whose hands this memoir must come, will, we are aware, miss much from the portrait which it has been our lot to draw. We should be satisfied indeed if we could fulfil their just expectations; asking them, however, to pardon our shortcomings, we add this slight sketch of the man as we knew him.

In person he was tall, strong, and handsome; in dress scrupulous. His health, with the exception of his having had two abscesses in early life, and of his having been latterly subject to sharp attacks of gout, was excellent. He enjoyed that expression of contentment—the genial smile and rosy look which usually accompany very perfect health. Naturally quick-tempered, there were few of his friends who were aware of it; he seemed always cheerful without any effort, and was always good company without being a great talker himself. Modest and reticent of his opinions, he was at heart a bold, self-reliant man, alert and active, but not willing to act without due and sufficient reason. In literature and the arts he possessed excellent taste, and interested himself in whatever was done in either. His criticisms were genuine, and his opinion might always be deferred to with respect. His memory was unusually good, and he never lost his taste for or knowledge of the classics. Upon questions of mere scholarly learning he would sometimes astonish his friends. Thus, on one occasion when Gray's lines were quoted—

‘Nine times emerging from the flood,
She mewed to every watery god,’—

a scholar who was present said, ‘I daresay that amongst us all there isn't one who could remember the names of more than one or two of these watery divinities.’ Three were, however, mentioned, but there the roll stopped until BLACK mentioned six more, which he recollected strung together in a Greek epigram.

It was characteristic of him to tell a good story, and he told it well; and there was scarcely any subject or sentiment that he could not fit with a becoming quotation. To the last year of his life he was the same genial companion that the friends of his youth remembered.

‘The man,’ says Carlyle, ‘is the spirit he worked in; not what he did, but what he became.’ PATRICK BLACK became a physician whose word could be entirely depended on. Mysticism and inconclusive reasoning he never indulged in; his opinion was his whole belief. He was worthy of the trust reposed in him, beloved and respected by all who knew him. He added to the charms of his natural disposition those high qualities of culture and that entire absence of all mannerism which is so dis-

tinguishing a mark of a well-educated gentleman. He was a serious-minded man, who gave much thought to abstruse problems, both of philosophy and of religion. He believed it to be his duty to maintain and illustrate by his life the conclusions at which he had arrived upon these subjects, but he never obtruded his opinions unasked. Here, as indeed in all things, he was liberal in the best sense of that word ; and if any would grudge him his freedom of thought, they should remember his charity to all men, whatever their belief ; he was far too modest a man to arrogate to himself infallibility on any matter, however convinced he might feel about it himself. In medicine there surely never was a more tolerant sceptic. We ourselves never met a man with less faith in physic or with more charity for those who gave it.

He was confident in the rectitude of his own opinions when he felt that all his experience and knowledge pointed one way, but he was not the man to exclude a doubt while there was room to entertain one. 'If you should receive with caution,' he writes in his 'Address to Students,' delivered in 1852, 'the views of others, you must watch with still greater suspicion over those conclusions which suggest themselves to your own minds.'

He was content not to know what he believed to be beyond the reach of human knowledge, and desiring to have a reason for the faith that was in him, belonged to no sect or school of theology, but lived and died trusting himself fearlessly to the hands of the God who had created him, and whom he faithfully endeavoured to serve.

GEORGE WILLIAM CALLENDER.

BY

SIR JAMES PAGET, F.R.S.

GEORGE WILLIAM CALLENDER was born in June 1830, at Clifton. His father was a member of an old Scotch family; of his mother's family many had been in the medical profession. As a boy, he was intelligent, fond of history and tales of adventure, handy at making and rigging toy-ships; and he would have liked to go to sea. His early education was at "The Bishop's College," at Bristol; and when it was ended, he gave up his own inclination and, in compliance with the wish of his mother, whom he regarded as his best educator, began to study medicine with his uncle, Dr. Lancaster of Clifton. In 1849 he entered at St. Bartholomew's. He had no personal relations with any of the staff and came as an ordinary pupil, well-trained, well-mannered, and disposed to work. He went through his whole course of study industriously and evenly; attended all his lectures punctually; enjoyed himself in a fair quantity of cricket and other recreations; and gained brilliant successes in the class-examinations. He gave in these a clear promise of a chief character of his future work, in that his answers were not only accurate and complete, but were written in exact order, straight-lined, very legible, without blot or erasure. He became a member of the College of Surgeons in 1852, a Fellow in 1855.

CALLENDER'S conduct and career as a student made it certain that, if he would hold-on his course, he would attain the best positions in the School and Hospital. The enumeration of the

posts he filled will show the route through which he passed ; the fact that he maintained or increased his reputation in every one of them may tell how well he deserved his complete success. He was, in due order, Dresser, Clinical Clerk, House Surgeon, Registrar, Assistant Surgeon and, in 1871, Surgeon ; Demonstrator of Morbid Anatomy and of Anatomy, Lecturer on Comparative Anatomy and on Anatomy ; and, in 1873, a Lecturer on Surgery. Moreover, the same qualities that made all glad at every step in his promotion at the Hospital gained for him reputation in the many offices which he filled elsewhere. Within the last few years he was Professor of Anatomy at the College of Surgeons, Examiner in Anatomy and in Surgery at the University of London, in Surgery at that of Cambridge and at the College of Physicians, Secretary, and, more lately, President of the Clinical Society ; a Member of Scientific Committees at the Medico-Chirurgical Society, Chairman of the Scientific Committee of the British Medical Association, Member of the Councils of the Pathological and Medico-Chirurgical Societies and of the British Medical Association, and (to say nothing of Consulting Surgeoncies) Surgeon to the Charter House.

It would be safe to take the judgment of his character which would be given by one or all of those with whom he was associated in these appointments. It would certainly tell of care, prudence, earnestness, and courtesy in every duty, of work done with good judgment and good-will.

Prosperity in private practice, though following after, kept pace with the reputation which CALLENDER was constantly gaining in these public and professional relations. It was as certain as anything of the kind could be that, in a few years, he would attain one of the very highest positions among the consulting surgeons of his time, and with this whatever wealth and honour might accrue. But this was not to be. With a rare high spirit, he had been working hard and bearing heavy responsibilities, while he knew, or at the least suspected, that he had 'Bright's disease.' Few had observed more than that in the last year or two he often looked ill and very tired ; but he was generally cheerful ; he never shirked a duty, and made his plans for work or pleasure as hopefully as ever. He left home in September with two daughters, intending to spend his

vacation in the United States, where, in 1878, he had spent two months, intensely enjoying the study of the vigorous mental life and keen appreciation of utility, which he there found combined with an overflowing friendliness and hospitality. It must have been a sad contrast when, instead of the renewed pleasure, he felt himself in peril of his life, his disease almost suddenly becoming acute, and then all its symptoms, prophetic of the coming end, gradually accumulating. Only one thing was unchanged: the kindness of his American friends, especially of Dr. Da Costa and Dr. Levis of Philadelphia, and Dr. Dennis of New York. With generous and tender care they provided for him the means with which they hoped that he might safely reach the home to which he longed to return,—special train, special ferry, special state-room; and on board the Cunard steamer he had the constant care of an old friend, once a pupil of St. Bartholomew's, Dr. Hill. But the disease made rapid progress and, on the 20th of October, he died as, perhaps, in his boyhood he would have wished, at sea.

The great regard which those who knew him well always felt for CALLENDER would naturally suggest that, in writing his life, one should dwell on those parts of his character which made him most estimable in his friendships and in private life; that one should tell of his good manners and good taste, his tact and various knowledge, his hospitality and pleasant flow of conversation, his love of the fine arts and of good society. But, in a biography destined for our Hospital Reports, it seems more appropriate to record the qualities by which chiefly he did good in the Hospital and School, those which made his teaching influential, and of which he may have impressed some likeness on his pupils.

CALLENDER had great mental activity and a calm, sound judgment. He loved prudent enterprise and worked hard; he could learn easily, teach very clearly, observe patiently; and he had a fair ambition of success. But the qualities by which he was most distinguished and which gave him most influence were his love of order and completeness, and his placid gentle temper. These were parts of his nature; he carefully cultivated them, and they appeared in every portion of his life's work.

Such qualities are not commonly reckoned among the highest

mental endowments; yet perhaps they should be. The want of them often makes highly intellectual persons nearly useless and very troublesome. The possession of them, as one could study in CALLENDER, enhances greatly the value and influence of all the other good qualities with which they may be combined.

Thus, they helped to make him admirable as a colleague, especially in such an office as that of treasurer of the School, which he held for many years, and in which he was chief administrator of its affairs. He was excellent in the business of councils and committees, in making minutes, drawing-up reports, and keeping accounts. He was prudent and judicious; did not propose things that were untimely or hardly practicable; his enthusiasm, even for improvements in the School, was not restless or flighty. He had the chief part in starting the Hospital Reports, and in arranging the special surgical departments, of which he first took that for the eye; but in these and other changes he acted discreetly, persuading, not trying to compel. He could work with everybody, not because he tried to let everybody have his own way, but because he was always patient, calm, and courteous. When debate arose or controversy, he was liberal, forbearing, and gentle; it seemed impossible to provoke him to harsh words; everywhere he was a peacemaker.

The influence of his love of order and completeness was equally evident in all his writings and his lectures. He was an industrious reader, and to the last a student, not only of books, but of museums. He kept his knowledge well arranged, ready at hand, and could produce it fluent and clear, whether in speech or writing, quoting largely and accurately. It would be difficult to find in any of his papers an obscure sentence; and no student could doubt what he meant in speaking. Every lecture was well arranged and well spoken, every sentence rounded and in due method. He often sketched illustrations with artistic skill; and he inculcated order and regular attendance by his own un-failing punctuality.

Similarly, in his practice, his habitual calmness never failed him. In difficult operations, or in doubtful diagnosis, or in uncertainties of practice, even when great issues were involved, he could think and act deliberately; and if he rarely appeared

bold, it may have been because he never was in haste. His gentleness was shown in all the treatment of his patients, and his love of order in every plan. His operations were dexterous and neat, and all preparations for them were trim, in due place and time. He was no great inventor, but he was full of ingenious devices; and, having been from childhood fond of carpenter's work, no one's apparatus was more variously adjusted to each various need than his was. All was scrupulously watched-over by himself; he seemed never tired of taking care for the cleanliness and comfort of his patients, never doubtful that every care would contribute to their welfare and to his own happiness in success.

It followed, of course, that CALLENDER was very popular, and that by his business-like habits, his love of peace, his attraction of students, and constantly increasing reputation, he contributed largely to the prosperity and the best welfare of the School. His lectures and his 'going-round' were well attended; his pupils felt sure that what he taught would be useful in examinations and in practice; they saw in him many things worth imitating; they could refer to him and obtain prudent guidance in difficulties of whatever kind. And their esteem for him was often enhanced by the friendliness and zeal with which he promoted their interests in after life.

CALLENDER'S writings were very numerous, consisting chiefly of essays in the Hospital Reports, of which, in the first nine years, he was one of the editors; papers in the Transactions of the Clinical, Pathological, and Medico-Chirurgical Societies, and Clinical Lectures published in the journals, especially in the 'British Medical Journal.' Besides he published a small book on 'The Anatomy of the Parts concerned in Femoral Rupture:' London, 8vo, 1863; and contributed essays on 'Pyæmia,' and on 'Injuries and Diseases of Veins' to 'Holmes's System of Surgery.'" The Transactions of the Royal Society for 1869 contain a paper by him on 'The Formation and Growth of the Bones of the Human Face;' and the 'Proceedings' (vols. 16 and 19) give abstracts of papers on the 'Anatomy of the Thyroid Body,' and on 'The Formation of some of the Subaxial Arches of Man.'

Among the best examples of his work, the essay on "Femoral

Rupture,' shows how widely he read and how honestly he quoted. The notes are longer than the text, and consist almost wholly of brief accounts, such as one with a genuine love of history would write, of the descriptions of each structure by the earlier anatomists. The essay on 'The Diseases of Veins' seems the best instance of his work in the dead-house and in museums; especially it shows careful work in its description of the changes occurring in blood-clots. An excellent paper on 'Fatty Degeneration of the Diaphragm,' is in the 'Lancet' of 1867. His observations on 'Brain-Shocks,' in the third and fifth volumes of the Hospital Reports, give a hundred cases for the study of the functions of different parts of the brain. The papers communicated to the Royal Society show that though practical surgery was the main object of his professional life, he never gave up the love of anatomy which he acquired in his student-days. The subjects which he chose for investigation may indicate the difficulties in which he was prepared to work, and he justified himself by success. His paper in the 'Philosophical Transactions' was praised by the best judge of its worth and, added to his other merits, ensured his Election to the Fellowship of the Royal Society in 1871. Of the paper on the 'Axial Arches,' the same good judge writes, 'It was very important, but only treated of one or two stages: if he had gone on with the research it would have been work of great price.' The same may be said of what he did in the study of 'The Formation and early Growth of the Brain of Man.' This was the subject of his lectures as Professor of Anatomy at the College of Surgeons in 1873, which were published in the 'British Medical Journal' of 1874.

The work in surgery by which CALLENDER was chiefly known, and for which he will long be remembered, was in the treatment of wounds, whether those of accidents, or of operations, or in compound fractures.¹ Here was the best possible field for the exercise of his best qualities, and he used them with good effect. His plans of treatment may be gathered from the papers referred to in the note, but in details he often changed them. The most

¹ His chief writings on this subject are in the 'Medico-Chirurgical Transactions,' vol. 47; 'St. Bartholomew's Hospital Reports,' vols. 5, 9, 14; 'British Medical Journal,' 1849, 1873, 1876, 1878; 'Transactions of the Clinical Society,' 1873.

constant parts were torsion of arteries or carbolised catgut-ligatures, good drainage, dressings with carbolised oil long retained in place, separate materials for the cleansing of each patient's wound, and washings with water containing Condly's fluid or some other antiseptic. With these and his incessant personal care of every case he became a leader among those who have shown that in a wide range, though not the whole range, of operative surgery, the lowest rate of mortality after operations which has yet been reached may be secured in a well-arranged and well-ordered hospital, by a scrupulous watchfulness for the comfort and quietude of every patient, by the strictest cleanliness, and by simplicity of dressings. This is not the time or place in which to discuss whether, or in what conditions, or what groups of cases, the complete antiseptic method is essential to the highest attainable success. The question is not a simple or single one: it needs a very careful analysis of many and various cases collected in different places and at different times; but whatever may be the answer to the question, it is sure that, in the future history of surgery, CALLENDER will have a large share of the honour which will be awarded to those who, in the last twenty years, by greatly diminishing the mortality of operations, have made by far the most important improvement in practical surgery.



SAINT BARTHOLOMEW'S HOSPITAL REPORTS.

TWO CASES OF NERVE LESION IN GYNÆCOLOGY.

BY

J. MATTHEWS DUNCAN, M.D.

I draw attention to the following two cases as briefly narrated, on account of their being uncommon ; they are the only two of the kind that I have met with during two years of practice in St. Bartholomew's Hospital, and on account of the considerations attached to them regarding remote pains or disorders in connection with diseases of the womb and ovaries.

The modern literature of the diseases of the unimpregnated uterus and of the ovaries is replete with descriptions of pains, disorders, and diseases in remote parts, represented as being directly dependent on them, and especially on such as are in other respects of minor importance. The whole of this special uterine pathology I reject as being, meantime at least, unworthy of any place in medical writing. The whole heap of such statements has to be subjected to scrutiny, and I feel sure that such scientific sifting will leave, as a real and true residuum, but very little. That little will be of great value.

The importance of recognising the absence of any specialty in gynæcological pathology is well expressed in the trite maxim, First a physician, then a gynæcologist. The therapeutics of the diseases of women is not founded on peculiar knowledge ; it has no peculiar methods, no special mysteries. It is a natural error, though not on that account to be condoned, to invest with too much dignity and too widespread influence the diseases of

organs which are specially studied, an error long well known, and illustrated in the daily practice of special physicians, one finding the roots of most diseases in the stomach, another in the liver; one in gout, another in hysteria. The specialty is in the physician, not in the disease; and every special physician ought studiously to oppose this inevitable tendency to err from the truth.

Special pathology is quite a different matter from special practice, or devotion of individuals to a limited department of medicine. Scientific progress, increasing the wealth of knowledge, and also its power in a limited area, while it destroys specialty and demonstrates unity of pathology, renders specialty of practice almost a necessity. The human mind is incapable of acquiring, assimilating, and quickly using in practice, more than a portion of pathology, with all its little details of knowledge and skill.

Pains, disorders, and diseases indirectly dependent on diseases of the unimpregnated uterus and ovaries are well known, and need no special description by the gynæcologist. When one member suffers all the members suffer with it. Such indirect consequences should never be confounded with those that are more or less direct: they are included in general pathology, not in limited gynæcological pathology, as are those which are more or less direct. Anæmia, for example, may be a direct consequence of the bleeding produced by a uterine polypus. Cardiac blowing murmur, palpitations, headache, may be indirect consequences. The direct results, bleeding and anæmia, are gynæcological. The indirect results, palpitations and headache, are in the domain of general pathology. The limited gynæcologist ends by describing polypus as a disease producing loss of blood and anæmia. He wanders beyond his limited field when he describes the ulterior results of anæmia. He positively errs if he describes headache as a symptom of polypus.

In teaching clinically and in conducting practice, the gynæcologist must march solemnly from his limited department into the field of general pathology or of general therapeutics. Mere knowledge or practice of limited gynæcology is insufficient. Indeed, as already said, strictly speaking, there is no special gynæcological pathology, nor gynæcological therapeutics, which is an important part of pathology. But there is a well-known limit of pathology called gynæcological, and all within this limit is often, and with a certain justice, called special.

Scientific or systematic gynæcology should either not pass beyond its proper limit, or, if it does so, it should make such overstepping of the boundary distinctly recognised. Much diffi-

culty and error arises from authors either disallowing this limit, or, if recognising it, yet not enforcing its recognition. The best modern literature of the diseases of women is replete with such errors as are illustrated in describing palpitations and headache as the result of polypus, instead of placing them as consequences of anæmia, by whatever cause induced.

I here make only allusion to the still grosser and very common error of ascribing pains, disorders, and diseases in remote parts to uterine or ovarian disease, when there is no connection between them, whether direct or indirect.

According as special physicians study successfully the limited area of gynæcological pathology will they diminish the present vagueness of description of symptoms, and consequent indefiniteness of the information they give. Pain is the great symptom of disease, and our familiarity with it, in various kinds, degrees, and situations, has prevented fulness of attention to it. We are all easily attracted to what is striking or rare, while we naturally neglect that whose importance is attested by its commonness and our consequent familiarity with it.

Nowadays, pains are described, of various kinds, degrees, and situations, with little precision, and nothing further is made of them. But it is important always to keep in mind that the day is coming when every pain, and each of its variations, will bear a distinct message to the physician as to the disease of which it is a symptom. At present, for example, we say that, in a certain case of cancer, there is complaint of acute pain in a groin, aching in the back and down the limbs, or a combination of them, without trying to make out of what condition within the pelvis each of these symptoms is the reflection.

The quality of remoteness in situation of symptoms is one that already commands some attention. It is common, in describing diseases of women, or gynæcological diseases, distinguished from diseases of pregnancy, to name infra-mammary pain as a direct or regular symptom of uterine engorgement or chronic uterine inflammation. I know of no direct uterine symptom so remote. The flushings of the menopause are equally remote, but then they are widely diffused over the body, and probably the result of a more general nervous lesion, affecting probably the vaso-motor system. The vomiting of severe dysmenorrhœa is more remote, but it is an indirect result of the pain, as is shown by the details of its history.

Excluding such symptoms as are the result of mere mechanical pressure from great enlargement, I know no direct symptom more remote, upwards, than the region of the kidneys. Pains arising from diseases of the unimpregnated female rarely occur

in that region; frequently and characteristically near the lowest lumbar vertebræ and sacrum. They occur also in the hips and thighs, the groins and hypogastrium; rarely in the legs and feet.

I have often known pain between the shoulders and in the higher lumbar or dorsal region, or indeed anywhere, referred directly to uterine disease. But long experience and some amount of care in observation have revealed to me no good basis even of suspicion of such direct connection. Such good basis might be found in uniformity of character in, or frequency of concurrence with, certain uterine or ovarian conditions.

In natural and morbid pregnancy and in the puerperal state remote symptoms and diseases are well known. There is no part of the body in which they may not be observed, in which they have not been well made out; and this circumstance excites the hope that a minuter study of the diseases of the unimpregnated female may lead to the discovery of a similar remoteness of symptoms in them.

The two following cases are illustrations of the remotest lesions or symptoms in diseases of unimpregnated women:—

A. P., aged 30, was admitted into Martha Ward on the 1st January 1879. Married, has had four children, and last year a miscarriage. Catamenia began at fifteen and have been regular. Latterly their duration has greatly increased, lasting twelve days. In August, September, and December she had considerable hemorrhages. The body, generally, is healthy. The urine 1020, albumen $\frac{1}{4}$. She complains of great pain in the hypogastrium, of pain in the left thigh, and of white discharge, which has continued for nine months.

Two months ago she began to feel pain in sitting. The pain is referred to the course of the sciatic nerve outside the tuber ischii. She has constant pain from the left hip to the knee, and the muscles of that thigh are subject to involuntary contractions, which produce distressing twitchings of the limb, which are never long absent, and interfere most injuriously with sleep. They seem to produce a pain about the kneecap, of which she complains much.

The cervix uteri is fixed, much enlarged, nodose, not bleeding when touched. The whole uterine mass feels as if displaced to the left, and adherent or fixed to the plane of the left ischium, the right side of the pelvis presenting natural conditions.

The choreic-like movements of the thigh were very remarkable. They were no doubt produced by disease, probably malignant degeneration of the nervous trunks before they pass through

the left great sciatic notch. In this region there was dense cancerous induration felt by the finger. Disease in this situation, whether inflammatory or malignant, often causes pains in the thigh resembling those of sciatica. The disorder of motion added in this case is rarer than the disorder of sensation, and indicates a different kind or seat of lesion.

J. S., aged 28, was admitted into Martha Ward on January 1, 1878. Married one year and eight months. Had a child eleven weeks before admission. She says she had a very bad labour in which forceps was used; that afterwards she had aching pain in the womb, and that now she is unable to walk from pain in the sole of the left foot.

Digital examination per vaginam discovers a long cicatrix running along the left side of the vagina from the cervix uteri to near the os vaginae. On the right side of the vagina is a similar cicatrix, only shorter. Through the speculum the cicatrices can be seen; they are not completely healed at some points. The foot is small, well shaped, pale, and presents to the eye no unnatural appearance. Pain is described as shooting about the foot. Gentle touching any part of the sole produces no pain, but firm pressure affecting parts deeper than the skin is very painful. The area painful on firm pressure can be mapped out with some precision: a transverse band over the distal heads alone of the second, third, fourth, and adjacent part of fifth metatarsal bones; a rounded spot at the proximal end of the first metatarsal bone about an inch in diameter; a rounded spot fully two inches in diameter at the posterior part of the sole, just in front of the seat of insertion of the plantar fascia into the calcaneum, and a little to the outside of a mesial position. Pressure on the posterior tibial nerve below the knee and behind the ankle elicits pain in the pressed part. There is no pain on pressing the peroneal nerve at the head of the fibula.

She says she has had no pain above the knees; that her present illness began six weeks after her confinement with a feeling of stiffness under both knees. She had been going about for a fortnight before the stiffness came on. Both feet were soon affected. Then she began to improve; and a fortnight from its commencement the disease had disappeared in the right knee and foot. Now she describes only the affection of the left foot, which disables her from walking.

She was kept in bed and treated with a liberal diet and tonics (iron and arsenic). The foot was frequently fomented with hot water. Improvement gradually increased, and seventeen days

after admission she left the hospital nearly well. The posterior tibial nerve was probably the seat of inflammation.

Under what circumstances the forceps was used in this case I have no information, and cannot therefore judge whether or not the vaginal injury was inevitable. The case is an illustration of a rare result of injury done by this valuable instrument.

It is often and most erroneously described as a "perfectly harmless" proceeding to deliver by forceps. While there is no injury necessarily the result of the use of the forceps, yet it is quite certain that both mother and child run great risk from forceps delivery, however judiciously and skilfully performed. Ignorance of the occurrence of injuries arises from the practitioner not looking carefully for them.

It is not even theoretically required that the forceps should do no injury. In fact, in most cases, such as those of slight obstruction, there is more laceration in forceps delivery than in spontaneous birth; and it is natural to expect this result. But this anticipation of increased local injury from forceps interference is far from being sufficient to preclude it. Increase of local injury implies increase of danger to life, and it is therefore necessary in every case to have preliminary careful weighing of the comparative gains and losses from a proposed use of the forceps, so far as the gains and losses can be anticipated.

ON
THE TREATMENT OF ACUTE RHEUMATISM
BY SALICYLATE OF SODA.

BY
REGINALD SOUTHEY, M.D.

In a paper communicated to the last volume of Reports, the natural history of rheumatism was investigated by us at some length, and upon tabulated facts which at least afforded some grounds for the conclusions arrived at.

The outcome of our observations led us to the inference that two varieties of acute rheumatism existed, and might be distinguished as continued and as relapsing forms of the disease.

The continued form, as already shown by Sir William W. Gull and Dr. Sutton, was apparently wholly uninfluenced in its course or complications by the alkaline treatment, or any other so-called special cure hitherto employed, whereas the relapsing form could hardly be adjudged, upon the evidence hitherto produced, to be either shortened in its course or deprived of its cardiac perils by either alkalies, iron, quinine, or blisters.

The treatment of the disease by rest, by a comfortable bed, by good hygienic measures, by careful nursing, by local and general anodynes, was apparently all that could be done, and notwithstanding what has been advanced to the contrary, so far as our hospital statistics dealt with the matter, no specific cure for rheumatism appeared to exist, while all drugs hitherto administered—salicylic acid and its congeners not excepted—seemed palliative rather than curative in their action.

We promised, however, to examine the treatment of the disease by salicylate of soda statistically, and redeem our word by the table which accompanies this communication.

Once more it becomes necessary to call attention to the two forms of rheumatism already mentioned, since erroneous conclusions as to the effects of special remedies appear to us fostered

by ignorance of the fact that one class of these cases tends to recover early and quite spontaneously, while the other, by reason of a sudden abatement of pains and fever, gives the semblance of yielding to remedies which really exercise little or no influence over it, the cases relapsing and remaining in hospital every bit as long when treated by salicylate as by other specifics up to this period essayed.

The following features characterised the continued form. Uncomplicated by either pericarditis or pleuro-pneumonia, its ordinary accidents, a subsidence of pains with remission of temperature takes place gradually on the eighth and ninth days, and by about the twelfth day of the disease, counting this from the first day in bed, the patient feels well but weak. Convalescence is rapid, and between the fourteenth and twenty-first day the case is ordinarily discharged well.

The relapsing forms, fully as suffering when first seen, have generally been ill longer; they may have taken to their beds quite as early in the complaint, but have usually made an effort to get up and be about again. These cases, when they first fall under observation, seldom fail to present an endocardial murmur.

It is our opinion that endocarditis is as much a feature of the disease as the articular inflammations; between the ages of eight and twenty-five scarcely ever absent, although often overlooked. No murmur may betray its presence until the swelling of the endocardium subsides or deposition of fibrin takes place upon the roughened serous membrane, but the heart sounds are never like those of perfect health, clear and sharp, and when convalescence is reached, a distinct murmur is manifested. In this form, between the fifth and eighth days the pains remit with singular invariableness, except the patient has been suddenly purged or otherwise disturbed, and by the evening of the eighth day the temperature is nearly or quite normal. On the evening of the twelfth day the temperature rises slightly to 99.5° or 100.2° , and on the morning of the thirteenth there is a slight relapse with articular pains, lasting from twenty-four to forty-eight hours. But again the pains and fever subside, and the case either enters upon a tardy convalescence about the twenty-first day, or relapses again and again after various delusive periods of remission, so that the mean average residence of a relapsing case in the hospital is forty-two days.

We may state that the cases which figure upon the table are not selected ones. Every acute rheumatism that came into my wards was treated by salicylate of soda, at first in smaller doses, afterwards in larger; careful notes of them were kept by my

house-physicians, and the results tabulated according to my directions. The amount of work thus entailed was not inconsiderable, and my special thanks are due to Dr. Darbishire and Mr. Heath, without whose assistance this inquiry could not have been instituted.

There remains little further to be said in explanation. Fixing the date of the disease is the first difficulty which has to be surmounted. Some amount of error is more likely to occur in doing this in the case of poor and ignorant hospital patients than with more intelligent classes, and more with a malady like rheumatism, which begins oftentimes by grumbling aches and pains, lasting for forty-eight hours or more before the patients will acknowledge that they are really ill, than with other fevers. Still the date upon which an individual was last able to do a day's work usually admits of being ascertained, as well as that upon which they are or were first so ill as to be laid up on bed or sofa. This last we have always reckoned as the first day of the disease. The next important dates to fix are those upon which the temperature remains normal or below normal for twenty-four hours, and when no further pains are complained of; the last dates we need are the day on which the patient is allowed to be up all day, when all pains ceased. Finally, how long the patient was kept in convalescing, and the total stay in hospital.

The table contains 51 cases, from which we may fairly exclude three which might promote error, Nos. 6, 31, and 46 respectively, cases that began like acute rheumatism, but were complicated, the first by hæmaturia, the two latter by synovitis. Soda salicylate had no apparent remedial effect upon them, although tried in the first instance, and their incorporation would prejudice a statistical analysis of the salicylate treatment. There remain 48 cases, which most fortunately divide themselves into 24 continued and 24 relapsing forms.

The first point to which we may direct attention is the length of time these cases remained in the hospital, shown in days. The continued forms are above, the relapsing figures below the line.

C...18.28.42.25.21.84.28.35.18.25.28.12.19.24.12.27.28.10.21.30.28.20.
14.15=612 days ÷ 24 = 25.

R...49.42.63.42.49.21.35.34.32.47.24.54.42.46.35.53.34.22.55.43.40.
23.31=969 days ÷ 24 = 40.

The mean average of the continued cases shows 25 days, that of the relapsing 40 days, a result which does not tell much in favour of the new remedy.

Let us estimate next the duration of the acute symptoms in cases thus treated from the day when the treatment is begun;

and here also we may separate the continued from the relapsing cases with advantage.

The figures are arrived at by subtracting the day upon which treatment is begun from that on which all pain finally ceased.

$$\begin{array}{r} \text{C.} \dots 2. 2. 3. 5. 1. 3. 8. 4. 3. 4. 3. 1. 1. 6. 5. 3. 15. 18. 4. 5. 5. 6. 6. 11. 4. 4. = 102 \div 26 = \text{nearly 4 days.} \\ \text{R.} \dots 28. 20. 25. 16. 40. 12. 2. 22. 13. 30. 5. 34. 36. 42. 28. 44. 48. 19. 13. 28. 30. 38. \\ \quad \quad \quad 14. 20 = 607 \text{ days} \div 24 = 25. \end{array}$$

The figures are apparently in favour of the remedy, and so too we venture to say would a similar statistical examination of almost any remedy be found to be, when associated as it is well-known that this will be with rest in bed, comfortable quarters, and appropriate feeding. But once more for these cases, as for those others differently treated of which I wrote last year, let us inquire not the duration of acute symptoms after admission only, but the duration of the entire symptoms from first to last, adding the duration of the illness before admission to the time it lasts in each instance within the hospital. It will then be perceived, I think, that the vaunted remedy is of very little influence upon the duration of the case, and that the mean average of each continued form, is between 11 and 12 days, and that of the relapsing between 34 and 35 or thereabouts.

The following figures thus show the total durations of the acute symptoms:—

$$\begin{array}{r} \text{C.} \dots 8. 10. 12. 6. 17. 16. 11. 6. 7. 8. 8. 16. 9. 11. 9. 26. 18. 17. 12. 12. 9. 9. 16. 9. 11 = 293 \div 25 = 11. \\ \text{R.} \dots 33. 24. 33. 17. 54. 14. 23. 27. 19. 33. 22. 43. 42. 48. 78. 42. 51. 53. 26. 26. 35. 33. 43. 26. \\ \quad \quad \quad 22 = 867 \div 25 = 34. \end{array}$$

Thus 11 days appears the mean average duration of the symptoms in the acute, and 34 days the term for the relapsing cases, figures differing very little, if at all, from those attained with other treatments. So far as cardiac complications are concerned, all our 51 cases may be cast together. There are four questions we can answer:—

1st, How many of the 50 cases presented some cardiac complication before they were subjected to treatment in hospital at all? 24 out of 51 presented evidence of either endo- or pericarditis on their admission.

2d, How many manifested heart complication after being subjected to salicylate treatment? Four only.

3d, What number escaped all heart affection? 27 out of 51 cases.

4th, The state of the heart at date of discharge? 21 out of 51 cases presented evidence of permanent heart lesion; 30 out of 51 escaped with uninjured hearts.

Pericarditis was observed altogether eleven times in 51 cases, five times as a complication of relapsing cases; six times as a complication of continued cases. But again we may point out that the short continued form was apparently only complicated six times out of 25 cases by endocardial murmurs.

Salicylate of soda is far from being unobjectionable as a remedy. In four cases I was obliged to stop its administration on account of sickness, and just as many times by reason of salicylism, by which term I connote the usual aggregate of disagreeable symptoms, faintness, deafness, and small running pulse, to which the attention of the profession has been already drawn. Twice when it was given violent maniacal delirium appeared due to its administration, for the delirium subsided after withdrawal of the remedy.

We are far from denying potency to salicylate of soda administered in the frequent and large doses which have been recommended; we are of opinion that the pulse rate is increased and the blood tension diminished by its action; at all events, the pulse becomes less full and throbbing, and the drug exerts a general soothing or anodyne influence. The duration of an attack of acute rheumatism does not, however, from our statistical examination of the remedy, appear at all shortened by it; nor is the tendency to heart complication diminished, nor is the endocarditis apparently bereft by it of its ultimate damaging effects.

Those who fancy salicylate of soda is a specific cure for rheumatism have in our opinion failed to realise the fact that the acute continued forms of this malady are *ipsâ naturâ* short-lasting cases, and that the relapsing forms under ordinary rational treatment exhibit sudden intermissions of fever and local inflammatory action lasting for days or even weeks, like indefinite forms of ague with relapsing tendencies, wholly apart from any drug treatment whatsoever.

Against the adduction of some of the cases recorded in my table as evidence objection may be raised, forasmuch as the disease had lasted some days before the salicylate treatment was commenced.

It is inevitable, however, that this should be so. We can only state our experience as this has been gathered. Relatively few cases are admitted into hospital earlier than the fifth day. But this circumstance tells both ways, as much for as against the remedy, since the natural tendency of the acute cases proves that a remedy administered between the sixth and ninth days is likely to be credited with more merit than strictly belongs to it.

In the relapsing form, twenty-four hours' rest in bed after a

bath, and any treatment except free purgation, between the sixth and eighth days of the disease is attended by a marvellous subsidence of pains. This, we think, has been mistaken for an effect of treatment upon the disease.

If salicylate of soda were such a specific for acute rheumatism as has been asserted, we are of opinion that it should exhibit its power of controlling or curtailing the disease in more manifest terms. Neither of these expectations, however, have been fulfilled.

There are few diseases, perhaps, which present more dangerous pitfalls for the unwary and clinically ill-informed therapist than rheumatism does, and it is only just to point this out from the statistical survey of cases specially treated.

Look at Case No. I., prominent only by accident, but an example of a first attack of rheumatism in a girl of thirteen. She is placed upon the salicylate treatment on the fifth day of her illness. Her pains subsided suddenly on the sixth day; her temperature became normal on the tenth; she commenced taking fifteen grains of the salicylate every two hours for six doses; she continues taking the remedy every four hours for twenty-one days. On the twenty-fourth day of her malady, in spite of the physic, she has a relapse, with a temperature of 103° ; endocarditis and severe articular inflammation lasting for eight days. It is not until the thirty-third day of her illness that all pain can be pronounced departed; and her entire stay in the hospital, including sixteen days during which she was up convalescing, is forty-nine days.

"Look at the effect of our remedy," exclaims Salicylist. "In twenty-four hours from the time she begins with the drug she is free from pain." The result is so sudden, was to the observer so surprising, to one little tutored in the complaint so astonishing, that one can forgive almost the profound impression that the utility of the medicine made upon him. He doesn't record the whole case, the treatment persisted with, the relapse—the bad relapse, for it is a bad relapse that lasts eight days; the slow convalescence, the tell-tale forty-nine days' stay in the hospital, the persistent mitral murmur noticeable at the patient's discharge. His memory remains deeply graven with that one fact, the sudden abatement of pains after the drug was given; but not, alas! as we believe, because of it.

Assured that there is something in this new-fangled remedy of which many speak so highly, he approaches his next case of acute rheumatism, No. II., in an attitude of expectant confidence in his remedy. It is a fourth attack of rheumatism in a young woman of nineteen, which began gradually, so that she did not

take to her bed until she had been ill four days. On the sixth "Confidens" begins giving salicylate of soda, twenty grains every three hours. The temperature, raised by removal and agitation to 103.2° , sinks to normal on the eighth day. The pains gradually abate, and wholly disappear between the eighth and ninth days. She gets up on the seventeenth day of her illness, has no relapse, and is discharged well and fit to work. She took the medicine for six days or so; "but," argues our enthusiast, "it had cured her disease in two days, for she was well from that time."

Is it a hard or a cruel task to say that this was an acute continued case? That Cases IV., VI., and VIII., and others we have recorded, were like unto it, and express our solemn conviction that salicylate of soda had no more to do with the cure of them than cold water?

The advocate of the salicylate points to the deafness, the ringing in the ears, the smaller pulse, the cleaner tongue perhaps, manifested because the practitioner has abstained from complicating affairs by gastro-enteric catarrh, which he was formerly in the habit of provoking with calomel and jalap upon *le brave idée* of cleansing the *primæ viæ*, and exclaims, "Do you tell me my remedy was inert? Is it not indicated by physiology, alighted upon of old by accident, proved by chemistry, certified by the experience and observation of all who have eyes to see and minds to be convinced by argument and inferences—argument, unfortunately, seldom logical; inferences formed from facts not traced out with sufficient fulness—so that one who runs may read them?"

Mr. Galton in a to us extremely interesting article, published in the "Nineteenth Century Review" for August 1879, points out the unstable foundations upon which most popular beliefs are based.

"In arriving at an opinion upon any subject, the mind of man generalises upon a variety of impressions made upon the memory. First there is the attitude, the receptivity, the preparation of the mind to be reckoned with, whether properly planed, rubbed smooth, and surfaced to receive the impressions that will be etched upon it, like the lithographer's stone. No just judgment was ever yet given by a mind hurriedly worked up to be graven on."

Further, fair-judging men of science make allowance for the depth of the impressions left upon their memories by exceptional instances and accidental occurrences; they know how largely their opinions are formed upon facts that have struck them

most remarkably, and etched themselves most deeply into their memories.

While we criticise what is received as evidence by others, and what is acted upon as if it were evidence, let us be just. Our judgments have been too biassed by our mental attitudes and our exceptional impressions. There are forms of rheumatism and critical days, and before an opinion upon the value of any drug can be confidently pronounced, that drug should be tried alone, and not, like salicylic acid, with soda.

Bitter experience has taught us that if we have as yet hit upon no specific for this disease, we have not yet learnt anything except that the long past irrational treatment has done cases of rheumatism much harm.

We turn to our professional brethren, and show that we are ready to try something else. Invent us something new; it shall have a fair trial; let it stand or fall according to its deserts.

Far from being discouraged by what we have learnt from observation of the natural history of this disease, we believe that we are upon the verge of discoveries likely to confer inestimable benefits upon our fellow-creatures. The fogs are lifting, the dust of ages being cleared away, and medicine is being pursued scientifically.

A.	33	...	...	...	6th, 103 7th, 103.8 r.	Intemperate; had had delirium tremens twice. Treated after relapse with quinine.
A.	34	...	...	...	8th, 99.4; r	Relapses on 17th=4, 29th=2, and 44th=7. Treated after second relapse with iron and quinine. Dysmenorrhœa.
A.	35	...	...	...	4th, 101.5	Quinine given during convalescence. Relapse was treated with salicylates. Wine required during convalescence.
A.	36	...	...	...	6th, 102 r	
A.	37	...	...	...	7th, 100.2	
A.	38	...	...	...	7th, 102	
A.	39	...	...	...	4th, 102.8	
A.	40	...	...	...	9th, 101.4	Salicylism. Brandy required.
W.	41	...	...	...	6th, 99.6	
W.	42	...	...	...	19th, 101.8	Salicylate produced sickness on 3d day, and was given less frequently; 6tis, and afterwards 8vis; obliged to be discontinued. Patient had slight hæmaturia and albuminuria; quinine and potassium iodide were substituted.
A.	43	...	...	...	3d, 103.2; relapse,	
A.	44	4 hours	...	...	3d, 99.4; r	Invasion gradual; vague pain, 7 days. Improvement gradual between 6th and 16th; on 10th day of disease pot. bromidi and tinct. belladonnæ were substituted for salicylate.
Z.	45	...	...	...	5th, 100.4	
S.	46	...	...	...	7th, 100.2	Pregnant, . Subacute localised synovitis. Iodine, iron, cod-liver oil, splint, pine oil, empl. hydrarg.
S.	47	...	...	...	5th, 100.6 r. second re	Sickness began on 2d day of salicylate; hst. magn. c. soda ter, was given. Relapse occurred on 14th day. Salicylate was again tried; caused no sickness, but faintness. Discharged herself on 31st day of her disease, and was re-admitted with relapse on 37th. Was again treated with salicylate, 20 grains 6tis horis for 7 or 8 days, and afterwards with quinine and iron.
S.	48	...	For 2 days	...	12th, 100.6	The salicylate was tried on 11th day a second time for 2 days; afterwards quinine and iodide.
S.	49	...	...	...	2d, 101.6 100.4	Nursing; baby 8 months. Invasion gradual, 11 days.
W.	50	...	...	...	...	Pericardial friction was heard on discharge. Sudden invasion.
W.	51	...	...	...	8th, 100.4	

CLINICAL CONTRIBUTIONS

TO

PRACTICAL MEDICINE.

PART II.¹

BY

DYCE DUCKWORTH, M.D.

In this communication will be found brief commentaries upon the following subjects:—

1. On the treatment of acneiform rash due to bromide of potassium while continuing the remedy.
2. On the employment of glycerine in painful forms of follicular inflammation of the skin, and on its use as an adjunct to poultices.
3. On the earlier influence of gouty inflammation upon certain textures.
4. On aphthous stomatitis as a sign of approaching death.
5. On a peculiar ulcerative form of gingivitis met with in cases of congenital heart disease.
6. On anæmic dilatation of the heart.
7. On the prognostic value of herpes labialis in pneumonia.
8. On the occurrence of sweating in cases of paralysis agitans.
9. On the aspiration of hydatid cysts.

I.—*On the Treatment of Acneiform Rash due to Bromide of Potassium while continuing the Remedy.*

There can be no doubt that bromide of potassium has the effect of stimulating sebaceous glands. It has been supposed that the same structures are also sometimes affected by iodide

¹ For Part I. *vide* vol. xi. of these Reports, p. 49, 1875.

of potassium, but this is less certain. The vesiculating dermatitis, which but rarely ensues while the latter salt is being taken, has not as yet been proved to arise distinctly in the sebaceous follicles, while such evidence as at present exists rather goes to prove their immunity from any special inflammation. All persons are not subject to bromide rash, but in cases where this unpleasant symptom occurs, it is sometimes well to be able to treat it successfully. There seem to be two methods worthy of trial for this purpose—one local, the other constitutional. In the case of a young woman, æt. 20, suffering from occasional epileptic attacks, who was treated in hospital with advantage by bromide of potassium in doses varying from 45 to 60 grains a day, a rather severe acneiform rash came out. It presented the confluent form (which is characteristic) in places, and was both painful and a source of annoyance to the patient.

With small hope of doing any good, I prescribed the *lotio sulphuris c. camphorâ*¹ to be used twice a day, and gruel to be employed instead of soap. Within a week there was decided improvement, and in two weeks this was still more marked. The hard and sluggish papules had resolved in many places, and many had disappeared. The bromide was taken as usual. I have found similar benefit to occur in several cases, so that I cannot doubt the utility of the treatment. Other recognised local methods would probably be found equally efficacious.

The constitutional plan of treatment consists in giving *liquor arsenicalis* along with the bromide of potassium. Successful results have been reported to follow this plan, which is practised in Edinburgh by Professor Grainger Stewart. Dr. Sangster has stated that he finds the acne controlled by arsenic, but that a *sudden* increase in the dose of bromide will again be followed by eruption in spite of it. Dr. Weir Mitchell of Philadelphia also recommends the employment of arsenic in these cases.

II.—On the Employment of Glycerine in painful forms of Follicular Inflammation of the Skin, and on its use as an adjunct to Poultices.

The peculiar solvent powers of glycerine are of decided value in some affections of the skin. When this agent was first introduced, it was more largely used in lotions than at present. Some of the objections to it are its stickiness and the smarting it induces. This latter property renders it an improper application in acute and irritable conditions of skin.

I have found that the addition of glycerine to poultices in the

¹ R Sulph. præcipitati ʒij, spir. camph. f. ʒj, aq. calcis f. ʒij. ℥ ut ft. lotio.

hard and painful stages of furuncular inflammation is very valuable. The tension is much relieved by its penetrating (soaking) property. In particular, there is a form of follicular inflammation not uncommon about the nostrils where poultices cannot well be applied. A sort of "blind boil" arises in connection with the vibrissæ, accompanied by extreme pain and tension. Suppuration is not common, and resolution occurs as a rule. The application of pure glycerine by means of a camel's-hair pencil, both internally and externally, is a source of much relief and benefit. Carbuncles in an early stage may be freely brushed with it, and some may be put upon poultices till suppuration is established.

III.—*On the Earlier Influence of Gouty Inflammation upon certain Textures.*

After a part of the body has been subjected to an attack of gouty inflammation, however slight, it would seem that the once-affected textures never again resume their former normal condition.

The whole nutrition of the part appears to be modified for the future. An observant gouty patient knows that a distinct change has come over the region once visited in this way. The fact that inflammation of the same type, and due to the same cause, is most apt to recur in a part once affected, is a proof amongst others of the specificity of the process. The same, no doubt, may be alleged in the case of rheumatic inflammation. But with gout, the tendency for repeated precipitation upon the same textures is much more marked than in rheumatism.

The parts become sensitive to atmospheric and to barometric changes.¹ Vague pains occur, and a general sense of impaired power is realised in the parts affected. A measure of crippling is therefore inevitable as the outcome of each attack. And all this is appreciable by the senses before any coarse trophic changes are clinically recognised. When bony deformity or thickening of synovial membranes and tendinous sheaths arrive, when ankylosis is established in a part, or deposition of urates occur, we have, of course, the gravest results of the gouty cachexia, and are not surprised at undue sensitiveness to trivial influences. But it is hardly as yet realised that gout in its earliest local attacks so far modifies nutrition as pointed out above.

And in the same measure, it may fairly be supposed, does

¹ Trousseau has remarked that gouty patients are very "barometric."

gouty influence affect the kidneys and blood-vessels in its earlier constitutional manifestations.

As a result of repeated attacks of subacute or incomplete (Paget) gout, manifest nutritional changes occur in the affected parts. A possible exception to this is perhaps met with in the veins, which, even after many attacks of gouty phlebitis, present no *obvious* signs of change after complete removal of the clots.¹ Still, the parts in the neighbourhood of such veins remain unduly sensitive, and in a different condition from those that have never been the seat of gouty inflammation.

IV.—*On Aphthous Stomatitis as a sign of Approaching Death.*

Towards the end of many chronic diseases, as is well known, the tongue, mucous membrane of the mouth, and fauces become affected with aphthous stomatitis. Some stress has been laid upon this trouble as a sign of the very near approach of death. In many instances this proves well founded, but it is certain that the affection may be removed by suitable treatment, even when it seems fairly to accompany such weakness and exhaustion as betoken a speedy termination. I have on several occasions been mistaken in prognostications which seemed justified by this occurrence, and have seen marked instances recover for weeks before the fatal event. This has been especially noticeable in cases of far-advanced phthisis.

The affection appears to have the gravest import if it extends to the pillars of the fauces and the pharynx.

The free use of glycerine of borax seems to answer best for the removal of it, when treatment is to prove of any avail. Several attacks may occur before the final one.

V.—*On a Peculiar Ulcerative form of Gingivitis met with in cases of Congenital Heart Disease.*

I have met with several cases in which, along with more or less cyanosis, resulting from congenital cardiac malformation or valvular affection, there has been an unwholesome ulceration of part of the gums. In the last example I saw, where the cyanosis was but little marked, and the patient came on account of some glandular enlargements about the neck, I was led by the presence of this ulceration to seek at once for evidence of cardiac defect, and it was easily recognised, and by a clear history rendered

¹ For the most masterly description of the phases of incomplete gout, see Sir James Paget's "Clinical Lectures and Essays," 2d edition, 1879.

certain to be of congenital origin. The cause of this, I suppose, is not far to seek in such instances.

In the cases I have seen, this ulceration has commonly occupied the lower gums about the incisor teeth. In one case it corresponded to the central and lateral incisors of the upper jaw. This was in a girl aged twelve years, undersized, and with some admixture of negro blood. She was a seven months' child, and had been under Dr. Gee's care when eight years old for heart disease. She came complaining of enlarged tonsils¹ and swollen lymphatics at the angles of the jaw. She had always been breathless, and was slightly cyanotic. The cardiac apex was in the sixth intercostal space within left nipple line; transverse dulness measured $1\frac{3}{4}$ inches. There was a systolic and diastolic thrill, the former more marked, and a loud systolic murmur at the apex, fading towards both cardiac bases, and heard at angle of left scapula. The second sound was clear. There was no clubbing of the fingers. The ulceration of the gums was overlapped by, though apparently unconnected with, a patch of nævoid texture in the upper lip, which reached as far as the mucous frenum in that situation.

There was loss of substance, and the teeth were a good deal exposed. The surface was very red, raw, and fungous looking; it bled readily. Shreddy, sloughing particles were more or less adherent to it. It was painful during mastication. There was no general sponginess of the gums, and no other form of stomatitis present. This case proved rebellious to several methods of treatment. Tannic acid was of no avail. Cod-liver oil and iodide of iron improved the general condition of health. After two months the ulceration was actually spreading. Solid nitrate of silver was then applied pretty freely, but it was of no service. The ulceration now reached from the first bicuspid tooth to the corresponding one on the other side, having gone far beyond the limits of the nævoid texture, and some abrasion was seen on the buccal membrane over the left upper incisor tooth. Borax and chlorate of potash were next employed, and gradual improvement followed, but very slowly. The mother stated that she had ulcerated gums when cutting her first teeth.

All the cases I have seen have been in young subjects who have mostly been badly tended, and more exposed than such patients ought to be. The affection must be due to malnutrition, yet it is noteworthy that cyanotic patients do not commonly suffer from degenerative changes of nutrition at any peripheral point, although the phenomena of "clubbing" are very often, but

¹ Not herpetic tonsillitis.

not always, manifest at the ends of the fingers and toes, and also at the extremity of the nose.

Glycerine of tannin, chlorate of potash, and borax are usually of service, and in most cases act promptly.

VI.—*On Anæmic Dilatation of the Heart.*

One meets occasionally with cases of anæmia in which very plain evidence is obtained of enlargement of the heart. These cases are of particular interest.

It is clearly not often possible to watch them while in progress, but it is important to discover whether the affection is unequivocally due to anæmia and its concomitants, and not the result of any acute constitutional affection. In the last volume of these Reports,¹ several most interesting cases of acute cardiac dilatation were described by Dr. Samuel West, who discovered their nature, and watched the issue of them during their hospital residence. These cases resulted from weakness following rheumatic fever. The point of chief clinical importance is the happy tendency to recovery of the dilatation, provided sufficient rest is secured for the patient.

The physical signs in dilatation of this nature are naturally found in connection with the left ventricle, which has to bear the stress of the systemic circulation. In Dr. West's cases there was every reason to believe that the cardiac walls were softened by myocarditis, the result of rheumatic inflammation.

In the case of chlorotic or anæmic patients, no such extreme structural change can be conceived, yet decided alteration must take place in the muscular walls. Walshe has pointed out that the gravest hæmorrhagic spanæmia "will not reduce the resistant force of the ventricles, as unassisted, to lead to dilatation," and quotes examples of multiple cancer as instances, but he thinks changes both in structure and in the properties of the muscular fibres probably occur in long-standing anæmia.

The dilatation accompanying chlorosis has been supposed to be due to the general muscular atony which accompanies the disorder, and is, therefore, of a temporary character, amenable to treatment proper for the relief of the chlorotic condition. This subject has attracted more attention in Germany than in this country. The following case was carefully watched for some time:—J. C., æt. 21, a pale-faced young woman, flabby in muscle, but fairly fatty in integument, came under treatment for anæmia in Hope Ward on January 15, 1879. She was born of Irish parents, but lived in London. Her chief symptoms

¹ Vol. xiv. p. 228, 1878.

were vertical headache, anorexia, general debility, and pain under both mammæ. She had likewise pain across the back. On exertion she had dyspnœa. The catamenia had been regular up to three months previously, and there was some leucorrhœa. Bowels constipated. Urine free from albumen and sugar.

The complexion was truly chlorotic. *Bruit de diable* was heard in the jugular veins. The apex of the heart was in the sixth left intercostal space, one inch outside the nipple line. Transverse percussion dulness measured $4\frac{3}{4}$ inches. At the apex, on auscultation, the first sound was found prolonged, rather toneless and reduplicated. Soft soufflé with systole at the base, louder along the pulmonary artery.

Good diet was ordered, and f.ʒss. of liq. ferri dialysati was given along with the alkaline calumba draught of the hospital thrice daily. The bowels were regulated with ten grains of the aloes and myrrh pill taken on alternate nights. Rest in bed.

Gradual improvement took place. Some superficial keratitis and granular state of conjunctiva on right side supervened. This was treated by belladonna fomentation and dusting with calomel. It proved tedious.

On February 1, the transverse cardiac dulness was diminished to 4 inches. Murmurs still audible. The girl was now sitting up daily.

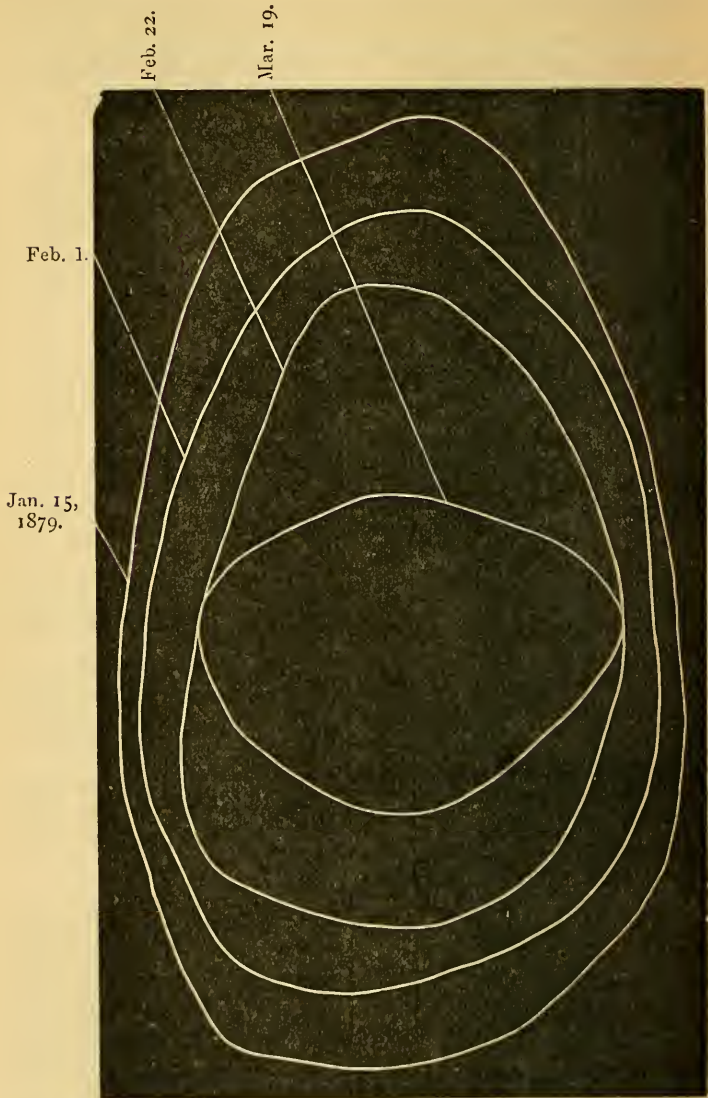
Feb. 22. Cardiac dulness measured $3\frac{3}{8}$ inches. Exercise in the hospital square. General improvement. The pains ceased, appetite returned and catamenia reappeared. Five grains of citrate of quinine and iron were taken thrice a day.

March 19. Patient left the hospital. The transverse cardiac dulness measured $1\frac{3}{4}$ inches. No murmur audible. *Bruit de diable* could be heard only when the sterno-mastoid muscle compressed the jugular vein.

Much improvement in complexion and general health.

In this case the signs of cardiac dilatation were very marked. It did not appear that this young woman had made any undue exertion such as should have placed extraordinary stress upon the heart, and it must therefore be supposed that the ventricles gradually became unequal to the ordinary strain of the circulation. The dyspnœa and pain under the mammæ were apparently the chiefest expressions of the trouble engendered. Palpitation was not noted, although so common a symptom in chlorosis. The tonelessness and reduplication of the first sound revealed respectively the condition of the muscular fibres, and the asynchronous ventricular action.

The gradual restoration of the yielding walls was plainly



Transverse cardiac dulness (deep).

Measurements	=	$4\frac{3}{4}$	inches	on	admission	(Jan. 15, 1879).
"	=	4	"	"	February 1.	
"	=	$3\frac{3}{8}$	"	"	February 22.	
"	=	$1\frac{3}{4}$	"	"	March 19.	

proved in response to rest and suitable treatment. It may be supposed that marked circulatory difficulties would have ensued with such a condition of the cardiac walls in a plethoric person, or even in any one not decidedly oligocythæmic. With impoverished circulatory fluid, the difficulty occurring *pari passu*, very little disturbance, comparatively, was experienced. It is conceivable that such a condition of the heart-walls, if neglected too long, might lead to permanent dilatation and other lesions, and in cases of this temporary form of cardiac dilatation, it may perhaps be fairly assumed that no amount of hypertrophy accompanies it.

VII.—On the Prognostic Value of *Herpes Labialis* in *Pneumonia*.¹

Herpes labialis as a symptom in pneumonia is well recognised, and frequently met with. Opinions vary as to the importance which ought properly to be assigned to it, and most writers, indeed, fail to express themselves about the matter.²

In his article in Ziemssen's "Cyclopædia," Professor Juergensen remarks that an eruption of herpes, as a rule, is a favourable symptom. He found it in two-fifths to a half of all cases, at all periods of life, from the second to the fifth day, or later.

Geissler in Vienna adduced the same view from a careful study of 421 cases of pneumonia, in which 9.3 per cent. died of 182 cases which had herpes, and 29.3 per cent. died out of 239 cases without. Of the whole number, 159 were over thirty years of age; of these, 50 had herpes, and 20 per cent. died; 109 had no herpes, and 53.2 per cent. died.

The contrary opinion has been expressed by Professor Hardy, and he regards the presence of herpes upon the face as a symptom of bad augury. Professor See considers herpes as a favourable sign. He has observed that it seldom appeared in the aged.

Dr. Hare of University College Hospital has paid especial attention to this matter, and records his experience to the effect that those cases of pneumonia which are accompanied with herpes usually do well, and that, therefore, a good prognosis may be

¹ Some physicians employ the term *Herpetic Pneumonia* to such cases of sharp and well-defined pneumonia as are accompanied with herpetic outbreak.

² Sir George Burrows does not attach much importance to herpes as a symptom which would assist prognosis. He has seen it in the most severe as well as in the slightest cases, and believes that it occurs in pulmonary affections where there is no pneumonia, as in capillary bronchitis, influenza, &c. He has never seen it in rheumatic, gouty, or pyæmic pneumonia.

Sir William Jenner has always taught that herpetic pneumonia ran, as a rule, a more favourable course than pneumonia in other conditions of system, but he has met with fatal cases. He doubts if herpes is ever present in pneumonia due to drain poison, which is a very fatal form.

made in consequence. He has not met with any exceptions to this in his hospital practice. Those he remembered occurred in private practice, and one of these was a case of severe double pneumonia which had been previously much stimulated.

He noted herpes to appear in cases in which the lung consolidation came on *rapidly* and *completely*, and did not extend subsequently, and he did not find it in such cases as were accompanied with a *creeping* inflammatory process from below upwards.

He was thus led to regard the herpes as somewhat significant of a different class of case, and it was found that resolution rapidly followed in these instances. It does not appear that herpes bears any relation to the amount of pneumonic inflammation, or to the particular part of the lung which is affected. It is met with in pneumonia of the apex as well as in that of the base, and may or may not be present if both lungs are affected.

The accompanying table gives the cases of pneumonia which have occurred during the last two years in Dr. Andrew's Wards *in which the presence or absence of herpes has been specially noted*. I am indebted to Dr. Moullin for the list, and to Dr. Andrew's kindness for permission to make use of it.

Several points of interest come out on inspection of these cases. Thus it appears that the majority occurred in males. The age of the eldest patient was forty-nine, that of the youngest five years. Herpes was present in the pneumonia of rheumatic fever in one instance, and in that accompanying scarlet fever in another. Of the seventeen cases thus noted, eleven had herpes and recovered, while two had herpes and were fatal. In three cases which recovered there was no herpes, and one in which the absence of the symptom was noted proved fatal.

Some physicians have described what they term herpetic pneumonia. It is believed that herpetic inflammation of deep parts of the body may occur without any external manifestation.

In the herpes accompanying pneumonia, the lips and sides of the nose are most commonly affected, but it may be met with inside the mouth, on the tongue, eyelid, ear, over the scapula and groin. It belongs to the recurrent variety, which differs in this respect from the zoster form, which only occurs once in a lifetime, as a rule, and scars hardly ever result from it because the vesicles do not commonly pustulate. They simply dry up and form scabs. As is well known, some persons are frequently affected with herpes about the lips, and very slight catarrhal symptoms may provoke it, or, at any rate, accompany it. Other persons never show the herpetic tendency on the skin, though they may suffer from it on the mucous membranes of the mouth, tongue,

Sex.	Age.	Pneumonia.—Form.	Complications.	Herpes labialis.	Result.
1. Male.	16 years.	In course of rheumatic fever.	Pericarditis.	Present.	Recovery.
2. Male.	36 years.	Right pleuro-pneumonia.	...	On 4th day.	Death on 19th day.
3. Male.	42 years.	Right pleuro-pneumonia. Temperature 103°	...	Present.	Recovery.
4. Male.	29 years.	Right pleuro-pneumonia.	...	Slight.	Recovery.
5. Male.	19 years.	Right lung. Defervescence on 8th day. (Double in course of scarlet fever. Rigors on Dec. 24 and 27. Right base. Admitted 28th, herpes present. Temperature 104.6°. On 31, more herpes. Jan. 1, pneumonia of left base. Jan. 2, more herpes.)	...	Present.	Recovery.
6. Male.	24 years.	Right apex. Temperature 103.6° (highest). Defervescence on 7th day.	...	None.	Recovery.
7. Male.	29 years.	Double pleuro-pneumonia.	...	None.	Death on 8th day.
8. Male.	36 years.	Pleuro-pneumonia, ending in empyema.	...	None.	Recovery with fistulous opening.
9. Male.	24 years.	Left pleuro-pneumonia.	...	Present on left side.	Recovery.
10. Male.	10 years.	Left pleuro-pneumonia. Temperature 101°.	Delirium.	Present on 4th day.	Recovery.
11. Male.	49 years.	Left upper lobe. Temperature 104.4°. Defervescence on 7th day.	...	Present.	Recovery.
12. Male.	9 years.	Pleuro-pneumonia, right side. Temperature 103.2°. Defervescence 9th day.	...	None.	Recovery.
13. Male.	23 years.	Pleuro-pneumonia, left base. Marked crisis. Temperature 103°.	...	Present on both lips.	Recovery.
14. Female.	5 years.	Pleuro-pneumonia, right base. Marked crisis. Temperature 104.2°.	...	Herpes on chin.	Death on 6th day.
15. Female.	40 years.	Pleuro-pneumonia, right base. Defervescence on 8th day.	...	Present on lips and nose.	Recovery.
16. Female.	14 years.	Pleuro-pneumonia, right base. Defervescence on 8th day.	...		
17. Female.	17 years.		...		

and fauces. The relation of the herpes to sharp pyrexial conditions is not readily explained. Regarding its commonly received neurotic origin, we may bear in mind the intimate central connection between the vagus and the fifth nerves, and conceive reflected influences from branches of one to those of the other, in the cases of both pulmonary and gastro-enteric disorders.

However, such an explanation goes but a short way to throw light upon the phenomenon. The symptom is an inconstant one, and in no definite relation to any part of either lung in the case of pneumonia.

Grave inflammatory changes in the lungs occur in the course of other affections which are unaccompanied by herpes, and many cases of true pneumonia are observed without the presence of it at any period of the illness. Again, it would seem to be the case, so far as my experience goes, that this symptom is never present in such pneumonias as are due to gout, rheumatic poison, pyæmic influence, or to embolism.¹ Cases arising from these sources are apt to be somewhat insidious at the outset, and present several points of distinction from sharp attacks of so-called sthenic pneumonia. Recovery from all of these is not infrequent, and may be said to be common in the rheumatic and gouty cases.

So far, however, as the presence of herpes is of any moment in a given case of acute pneumonia, it may fairly be taken, on the whole, as of decidedly favourable import, and, along with other signs, may serve as an element of some value in forming a prognosis.

VIII.—*On the Occurrence of Sweating in Cases of Paralysis Agitans.*

It is not a new fact in the clinical history of this disorder that patients are prone to suffer from subjective sensations of heat, and also from inordinate sweating. But sufficient attention has hardly been called to these points. The subject has this particular interest for myself, that I had recognised the fact in several cases, and made notes of it some years before I came across the mention of it by Charcot in his "*Leçons sur les Maladies du Système Nerveux*," vol. i. p. 177, ed. 3. The first case in which these symptoms were very marked came under my care in 1866. A woman, aged fifty, presented all the characters of the disease in marked degree. She worked very hard up to the age of forty-three. The catamenia then suddenly ceased. She suffered from general bronchitis. The characteristic tremors came on

¹ Herpes is likewise most rare in the pneumonia accompanying typhoid fever. I have never met with it.

five years previously. She had severe pains in both shoulders, and these were aggravated by the warmth of the bed, so that she was easier when sitting up. There were also pains in the lower part of the back and the limbs, inconstant, however, coming and going suddenly.—fulgurant perhaps.

She remained for two years under my observation, and during that time she was tormented with burning sensations in the soles of the feet, and more or less generally over the body. The warmth of ordinary bedclothes was intolerable, and she used to appear at every season of the year bathed in perspiration. This was very noteworthy even in the keenest frosts of midwinter. She took sulphate of zinc and extract of belladonna without any relief. The warmth of her room was trying to her even in the daytime. Quinine and nux vomica suited her best, and she had relief at night from four grains of oxide of zinc given with five grains of lupuline in pills.

In another case, that of a woman aged twenty-nine, who was ill-nourished and exhausted by hyperlactation, and who had also characteristic tremors, there was marked sweating. She had had five children in seven years.

In a man aged forty-three, the disorder was aggravated by paroxysmal attacks of increased tremor, accompanied by metallic taste in the mouth and sweating, which lasted about an hour.

Another case, a man aged sixty, was under my care in Mark Ward, suffering from right-sided paralysis agitans. He had the characteristic restless nights, and was troubled with a burning sensation on the inner side of the right arm. It was noted that after having exerted himself in any way to use the right hand, the tremors became more violent, and the palms and fingers were covered with perspiration.

Besides these, I have observed several other cases in which sweating was a marked symptom, and no rise of temperature accompanied it. Neither is there usually found any other sensory disturbance.

Some importance may fairly be attached to these sensations of heat and to the sweating met with in cases of true paralysis agitans, for they do not appear to be amongst the many recognised symptoms of multiple cerebro-spinal sclerosis, with which affection the former malady used to be, and still perhaps is, sometimes confounded.

IX.—*On the Aspiration of Hydatid Cysts.*

Since the introduction of the method of treating hydatid cysts by simple tapping, a large number of cases have been so operated upon. But it appears to be the practice now to employ the

aspirator in place of the trocar and cannula. I wish to record my experience as being entirely opposed to the use of the aspirator. A good deal has yet to be learned, and taught, respecting the best method of dealing with both simple and multiple hydatid cysts, such, for instance, as occur but too often in the liver. It seems certain that radical cure has sometimes followed simple puncture and simple tapping, and even if these measures be repeated again and again, they may be fairly termed minor operations.¹ I am bound to confess, however, that some of the most satisfactory cures of hydatid tumour of the liver that I have witnessed, have been achieved after the graver operation of free opening and evacuation of the contents. This proceeding is now very forcibly advocated by Dr. John Harley in preference to the puncture with small trocar. It is probable that, as often happens, both methods are right in particular instances.

The lesser operation can hardly be of much avail in old and large tumours, while a recently developed and small hydatid growth may conceivably be checked and destroyed by it.

At the present moment I am only concerned to decry the use of the aspirator as an instrument for effecting simple tapping.

I am prepared to say that the result in almost every instance is a failure. The cannula becomes choked immediately by part of the mother-sac, or the numerous daughter-cysts, and hardly more than a few drachms of fluid are withdrawn. The trocar probably enters a daughter-cyst, and this having emptied itself, forthwith collapses and envelopes the cannula. The operation is at an end. A fresh puncture has to be made, and the same result ensues.

But little harm may accrue if no aspiration is employed: if, however, suction is superadded, no further withdrawal of fluid occurs, yet there is no doubt that blood is caused to exude into the sac, and thus considerable harm may follow.

The chief difficulty in the major operation, with either a large trocar, such as is used for emptying ovarian cysts, or with a clean incision made by a bistoury, is to arrange such apposition of the cyst with the abdominal wall as shall prevent leakage into the peritoneal cavity. In the only case I have experience of where adhesion was sought to be set up by previous applications of *potassa fusa*, it was difficult to determine whether this was successful. The cyst was readily evacuated, however, and the patient recovered.

¹ Albeit I have knowledge of at least two cases in which death very speedily followed simple puncture and aspiration, apparently from shock.

AN ACCOUNT OF
AN UNSUCCESSFUL ATTEMPT TO TREAT
EXTROVERSION OF THE BLADDER
BY A NEW OPERATION.

BY
THOMAS SMITH.

In devising means for the relief of this wretched deformity, attention has chiefly been directed to the most pressing of the evils attendant on the condition, namely, the absolute incontinence of urine; and since in these cases there is neither a receptacle for urine nor a retaining apparatus, surgical ingenuity has exercised itself chiefly in one of two directions: either in the formation of a receptacle for urine by plastic operations, or in attempts to divert the stream of urine into the lower bowel, so as to use the rectum as a common cloaca.

The plastic method, in which the scrotal and abdominal integument is used to replace the deficient anterior vesical wall, has been so far perfected as to furnish a means of providing a receptacle for the urine, but at present no means exist for retaining the urine within the newly-formed cavity except of a mechanical kind.

With the object of diverting the flow of urine from the anterior surface of the abdomen and leading it into the rectum, various operations have been undertaken.

Mr. Lloyd and Mr. Athol Johnstone attempted unsuccessfully to establish a direct communication between the posterior wall of the bladder and the cavity of the rectum by means of a seton, but in both cases the patients died from injury to the recto-vesical pouch of the peritonæum.

Mr. Holmes succeeded in establishing the desired passage between the bladder and rectum without injury to the peri-

tonæum; but, having accomplished this much, the passage could not be kept permanently open, nor could the urine be induced to avail itself of the new route to any considerable extent: it still flowed over the pubes in large quantity.

Mr. Simon, by a very ingenious operation, succeeded in establishing a permanent and free communication between the ureters and the cavity of the rectum, without injury to the peritonæum, but he could not completely close the vesical orifices of the ureters, nor could he prevent the urine from flowing to some extent over the pubes, though a considerable portion of it passed into the rectum. This I believe is the only instance where the attempt to divert the flow of urine into the rectum has been in any degree successful.

Being dissatisfied with the results of the plastic method of treating ectopia vesicæ, I was led by Mr. Simon's experience to make a somewhat similar attempt, the object in view being the same, though the means employed were different.

In selecting a spot for connecting the ureters with the bowel, it seemed that the lumbar region offered the greatest facilities for the operation, since in this situation both the colon and ureter could be exposed without injury to the peritonæum. The plan proposed for accomplishing the object in view was the following:—

To pass a long probe or fine catheter up the ureter, from its vesical end as far as the kidney, so as to assist one in recognising the tube in the cellular tissue of the loins; next, to make the ordinary incisions in the loin as for opening the colon; to find the ureter through the wound, and to pass a temporary ligature beneath it so as to have it at command. Next, having withdrawn the probe, to expose the posterior surface of the colon, and dividing the ureter as low down as possible, to insert its upper or renal end through a small incision into the colon and fasten it in position by fine sutures. It was proposed to operate upon one ureter at a time, and to make the performance of the second operation contingent on the success one might meet with in the first.

In this proceeding it was certain that there would be certain executive difficulties to be overcome, but these did not seem to be insurmountable; it was less certain what would be the effect on the colon of a constant flow of urine over its mucous membrane; nor could one feel sure that trouble might not arise from absorption of urine by the intestinal mucous membrane. Due consideration being given to the difficulties, dangers, and uncertainty of the operation, I obtained the consent of the majority of my colleagues to its performance.

The patient, a boy aged seven, was admitted, May 30, 1879, into Henry Ward, under my care, with ectopia vesicæ. The deformity was such as is ordinarily observed in these cases, about two-thirds of the mucous membrane of the bladder being deficient; the pubic symphysis was widely cleft, there being from an inch and a half to two inches between the pubic bones. The testicles were in the inguinal canals; there was no hernia; the penis was aborted, and cleft on the upper surface in its whole length. It was observed that more urine flowed from the right ureter than from the left, and that the flow was not continuous, but that at intervals the ureters contracted and forced the urine out with a gush, and this was followed by a retraction of their orifices, so as to leave a funnel-shaped depression in the mucous membrane of the bladder at the point where the ureter opened. This action of the ureters was in a measure rythmical; it did not occur simultaneously in both ureters; and it was occasionally sufficiently forcible to eject the urine in a minute jet clear of the mucous membrane of the bladder.

Operation, June 19, 1878. — Under chloroform. A small gum elastic catheter was passed into the left ureter until presumably it had reached the kidney; the child was turned on his right side and a transverse incision was made in the left loin as for colotomy; the colon and kidney were exposed, and the ureter was found; but so far was it from the surface, that the operation was nearly abandoned as impracticable; finally it was hooked up with an aneurysm needle and divided as low down as possible. The upper part of the ureter being detached from its connections,¹ was stitched by means of fine catgut sutures to the back of the colon; a small opening being made in the colon, the end of the ureter was pushed into the bowel, so as to protrude about half an inch into its cavity. It was kept in position by additional sutures of very fine carbolised catgut, and these were passed through the lips of the wound in the colon and through the cellular tissue surrounding the ureter. The cutaneous wound was brought together at its extremities by one or two sutures, and the back of the bowel was supported by being padded with soft sponges wrung out in carbolic lotion.

For six days after the operation the boy progressed favourably, the urine passing with the fæces, and neither urine nor fæces escaping by the lumbar wound. There was no unusual irritability about the bowels, but the motions were very watery, and were passed more frequently than natural. On the seventh

¹ Care being taken to leave undisturbed its immediate surrounding of connective tissue.

day after the operation, fæces and urine began to escape from the loin, and the child, who had suffered from moderate pyrexia, became much more feverish and ill. On the ninth day he had a rigor, and he began to be troubled with diarrhœa from the artificial anus.

During the next fortnight the boy remained very ill, suffering from sickness and diarrhœa, having a high temperature and very rapid pulse. He began to improve at the end of a month from the operation, and in three months from the operation he had regained his usual health and was up and about the ward. Up to this time all the fæces had been passed through the lumbar wound, apparently mixed with urine; there had also been free suppuration either in or around the kidney, the abscess opening in the loins at the wound.

Four months after the operation, the larger part of the fæces were passed per anum; the wound in the back had contracted to a mere pinhole, and the boy was strong and well. Various efforts were made, by pressure and other means, to close the fistula in the loin, and on February 26, 1879, eight months after the first operation, the edges were pared and brought together by deep and superficial sutures. This did not immediately close the fistula, but by the end of June 1879 it had quite healed, and all the motions were passed per anum.

It could not be ascertained that urine passed with the fæces, though it was certain that none flowed from the vesical orifice of the left ureter. The mucous membrane on the left side of the bladder had undergone a change in appearance, having become much lighter in colour and somewhat cutaneous in its texture.

On August 28, 1879, fourteen months after the first operation, the boy being in good health, a second operation was performed, on the same plan and with the same object as the first, namely, to introduce the right ureter into the back of the corresponding colon. This proceeding was much more easy of execution than on the left side, chiefly owing to the position of the kidney on this side being more favourable for the exposure of the ureter.

In this operation fine silver wire sutures were used to secure the ureter in its connection with the colon, as it was manifest that on the first occasion the carbolised catgut sutures had dissolved before the union had taken place between the bowel and the ureter. The extremities of the cutaneous wound were brought together, and a drainage tube was led from the deeper parts of the wound through the dressings to the surface.

He passed a quiet night after the operation, but next morning

his bowels had not acted and there was no sign of urine escaping either from the wound or from the anus; he was very drowsy, and inclined to be sick. Pulse, 140; temperature, 100°. He became more drowsy, and died fifty hours after the operation.

Postmortem examination twenty-eight hours after death. Body well nourished; decomposition advancing. The peritoneal surface was quite natural; there was no trace of inflammation; the lower end of the left ureter was found terminating just above the left common iliac artery. The pelvis of the left kidney was found distended with clear fluid having the appearance of urine; no trace of true renal structure could be found, what remained of the organ being reduced to a fibrous condition, spread in a thin layer over the contained fluid. The portion of ureter attached to the kidney measured an inch and a half in length, and terminated on the back of the descending colon; a probe passed down the ureter could not be made to enter the bowel.

On the right side, the lower end of the ureter was found a short distance above the common iliac artery. In the connective tissue near the kidney there were three or four small collections of lymph. The right kidney was much enlarged, being as large as the organ in an adult. The capsule adhered to the cortical substance, which was very soft and friable, and contained many small cysts; the medullary substance was much softer than natural, but contained no cysts. The pelvis of this kidney and the upper end of the ureter were distended with urinous fluid, and the latter was attached by five sutures to the back of the colon; in the interior of the colon, at its point of attachment to the ureter, there was a vascular patch of mucous membrane about the size of a shilling. A small probe could with difficulty be made to pass from the ureter into the cavity of the colon.

It is manifestly one's duty to record the facts of this case for the information of others, since it stands with Mr. Simon's case; I venture to record it as a warning to those who may be tempted, like myself, to think that the miseries of *ectopia vesicæ* can be alleviated by making the ureters discharge their contents into the cavity of the bowel.

In the operation here recorded, there can be no doubt that, as regards the left side, the connection between ureter and colon was thoroughly established and maintained during six days, and that during that time all the urine from the left kidney passed into the bowel.

The sequel showed that any fears that were entertained of harm resulting from absorption of urine were groundless; nor

did the urine seem to exercise any irritant effect on the muscular fibre or mucous membrane of the intestine.

The kidneys seem to have been the organs to suffer by the operation; on one side, the left, the secreting structure being entirely removed by suppuration, while the function of the right kidney was so quickly and seriously affected as to put an end to life within three days.

The cause of the rapid change observed in the structure of the right kidney after death may have been partly due to obstruction of its ureter; it was found puckered up (by the sutures) at the point where it terminated in the bowel, so that a fine probe could with difficulty be passed, and it might well have been that the escape of urine was much hindered, though I do not think it was stopped. On the left side, the one first operated on, the injury to the kidney must have been due to some other cause than obstruction, since the urine flowed from it freely for a long time after the operation.

Nor is the view that the disorganisation of the right kidney was caused by the sudden obstruction of the ureter borne out by the observed effects on the kidney of calculus impacted in the ureter.

To turn to Mr. Simon's case, that gentleman succeeded in establishing a free communication between the lower ends of both ureters and the rectum, so that a large part (though not all) of the urine flowed into the bowel. His patient died at the end of a year "of an affection of the ureters and kidneys, with large calculous accumulations in the ureters."¹

Mr. Simon has kindly informed me that it is within his recollection that there was a suppurating state of the mucous membrane of the ureters, with triple phosphate concretions, not only in the lower part of the excretory apparatus, but involving the pelvis of the kidney on each side, and that there was not any abscess formation in the substance of either kidney.

In this case also the patient died from the effects of the operation on the urinary mucous membrane, the morbid change spreading upwards from the rectum to the pelvis of the kidney; and one cannot doubt that the secreting structure of the kidney would have been attacked had the patient lived somewhat longer.

The more rapid implication of the kidney in my own case was probably due to the more direct communication between the cavity of the bowel and the pelvis of that organ. The whole length of the ureter intervened in Mr. Simon's case between the

¹ Holmes' Surgical Treatment of Children's Diseases, p. 147.

bowel and the kidney, whereas in my patient there was but two inches of ureter.

In connection with this subject, it may be worth considering how far the function of the kidney might be influenced by the introduction of intestinal gas to its pelvis. In my own case, when the colon was distended by flatus, one would feel certain that gas would find its way into the ureter, and so to the pelvis of the kidney. I venture to think that neither Mr. Simon's case nor my own give any encouragement to further attempts to treat ectopia vesicæ by connecting the ureters with the lower bowel. Setting aside all difficulties that have to be overcome, and the immediate risks of the operation, it would appear that a permanent and direct communication between the ureter and bowel is of itself a fatal lesion.



ON FUR ON THE TONGUE.

BY

HENRY T. BUTLIN.

In a recent paper¹ I drew attention to the fact that the fur on the tongue is composed, in health and in disease, chiefly of minute living organisms (schistomycetes), and not, as had previously been supposed, chiefly of cast-off epithelium. In the present paper, I propose briefly to discuss the general and microscopical characters, and to speak also of some of the clinical features of fur. I propose, therefore, to divide the subject into two parts, the first part dealing with the general and microscopical characters of fur, and with the relative proportions of its constituents; the second part with the conditions which appear to be necessary to its formation, the changes which are observed in it, and the conditions upon which those changes depend. The paper is, I am aware, incomplete, for it is the result of work carried on at intervals of time snatched from arduous routine work, but I hope it may be completed at no very distant period, either by myself or by some other person who is even more interested in the subject than I am.

Before stating my own observations, I will give a brief account of what has been done on this subject in this country and on the Continent. In a short paper published in 1831,² Piorry endeavoured to show that the formation of fur is due to the evaporation of saliva, and the consequent deposit of its solid constituents and of the solids held in suspension. In 1849, Pfeufer³ stated that the fur is the effect of a catarrh of the interior of the mouth (mundhöhlenkatarrh). His view has not, so far as I am aware, been adopted by any other author; but the evaporation theory of Piorry was supported in 1850 in an able paper by Miquel,⁴

¹ Proceedings of the Royal Society, March 1879.

² Piorry, Du Procédé Opératoire, Paris, 1831.

³ Pfeufer, Henle u. Pfeufer, Ztschft. f. rat. med., Bd: 7, 1849, s. 180.

⁴ Miquel, Prager Vierteljahrschrift, 1850, Bd. 28, s. 44.

and a little later by Hyde Salter,¹ in the "Encyclopædia of Anatomy and Physiology." In 1861, Neidhardt, in an excellent and very complete paper,² showed that the fur collects when the tongue is not freely used and so kept clean; and that the fur lies chiefly upon the filiform papillæ on account of their roughness. He stated that its colour is due to accidental causes and to the nature of the food taken. Kölliker³ in 1867, and Clarke⁴ in 1873, assigned the first place in the production of fur to an excessive growth of epithelium.

The chief constituent of fur is admitted by all these authors to be epithelial cells, generally sodden and granular. But Miquel, and later Neidhardt and Kölliker, noticed the frequent occurrence of dark-brown bodies, generally much larger than epithelial cells, and having a granular aspect. Kölliker believed them to be of the nature of a fungus, similar to, if not identical with, the fungus affecting the teeth, and stated that in twenty or thirty cases examined by him they were scarcely ever missing. In 1853 Robin⁵ described a vegetable parasite as of constant occurrence in the buccal mucus and between the teeth. To this he gave the name of *Leptothrix buccalis*. Besides these bodies are mentioned tiny rods (vibriones), fat molecules, lime salts, and the remains of food. Billroth,⁶ examining the ordinary white fur on the tongue of himself and a number of patients, often found exquisite palmelloidal forms of ascococcus, which partly gave the impression that the growth had arisen in the epithelial cells, and great gliacoccus colonies.

I. It may seem almost superfluous to describe the naked-eye characters of tongue fur, they are so well known. But it is necessary to refer to some of them more or less closely, in order that the conclusions to which I have been led may be more thoroughly supported. There exists almost always a layer of fur upon the surface of the tongue, both in health and in disease, so much so, that in 68 tongues of healthy persons examined, only once was there no perceptible fur, and in 178 tongues of persons suffering from disease or accident only two appeared to be quite clean. This layer of fur is usually thin or very thin, of a bluish-white or light grey colour, becoming white or yellowish-white and more opaque when thicker. It lies only upon the papillary surface of the tongue, commencing near the tip and

¹ Hyde Salter, Todd's Cyclopædia of Anatomy and Physiology, vol. iv. part 2, p. 1161.

² Neidhardt, Arch. d. Wissensch. Heilkunde, Bd. v. 1861, s. 294.

³ Kölliker, Handbuch der Gewebelehre, 5th Auflage, 1867, ss. 348-349.

⁴ Fairlie Clarke, Diseases of the Tongue, London, 1873.

⁵ Robin, Végétaux Parasites, Paris, 1853, p. 345.

⁶ Billroth, Coccobacteria Septica, Berlin, 1874.

extending as far back as the circumvallate papillæ, seldom farther, and reaching almost completely across from one lateral margin to the other. It never forms a continuous layer unless it is exceedingly thick, but is limited to the filiform and some of the fungiform papillæ. In children the fungiform papillæ are usually quite free from fur, but in adults the difference between the fungiform and filiform papillæ is not nearly so well marked; and, with the exception of those situated near the apex of the tongue, the fungiform papillæ are frequently coated with fur. The layer of fur is seldom of uniform thickness, but is generally markedly thicker at the centre and back than elsewhere. It usually covers all the papillæ, except at the apex and sometimes at the sides of the tongue. It appears to vary little in character in the same subject in health, but is a little thicker before rising in the morning than at any other period of the day. It is apparently unaltered by the frequently varying conditions of acidity and alkalinity which depend upon whether the mouth is moistened with mucus or saliva, nor does it appear to be affected, except in colour, by the kind or amount of diet, by smoking, chewing tobacco, &c., within certain reasonable limits. When thin it can only be scraped off with difficulty, and always brings with it fragments of the hair-like processes which form the terminations of the filiform papillæ. But when thicker, soft, and moist, it can be removed in considerable quantity with ease.

Microscopical examination of the results of such scraping gives in nearly every instance the same results:—

1. Débris of food and bubbles of mucus and saliva.
2. Epithelium.
3. Masses, which appear at first sight to consist of granular matter, sometimes loosely held together, irregular in form, without well-defined limit; but more often spheroidal in form, with clearly defined margins, varying much in size, but frequently much larger than the epithelial cells. These masses are generally attached to the hair-like processes of the filiform papillæ which have come away on account of the close adherence which exists between them and the masses. Sometimes a single mass forms a knob at the end of such a process; generally many masses surround the process which lies in their midst like a central axis. The masses are sometimes colourless, but at other times, and indeed more commonly, of a yellow or brownish-yellow tint. On careful examination with a high power, they are found to consist of vast numbers of exceedingly minute spheres, with light centres and dark outlines, and of very fine elongated bodies or rods, having similar characters, which appear to be bound together by a cementing substance. Around the masses, and mingling with

the other constituents of the fur, there float in the fluid (water) in which the fur is examined free spherical and elongated bodies, having the same dimensions and characters as those which compose the masses. Or these minute bodies are arranged in close contact so as to form pairs or chains or long-jointed lines. The free elongated bodies exhibit frequently more or less lively movements, often shooting with great velocity from one part of the field of the microscope to another, but the masses exhibit no movement. The longest of the rods, too, are motionless. In their interior may often be observed minute spheres, very similar to those lying free or in the masses. Vertical sections of hardened tongues show the relation of the masses to the papillæ better than can be seen by mere scraping of the surface of the tongue. The filiform papillæ, instead of exhibiting fine clean tapering processes, terminate in processes which are uneven, tuberculated, or beaded, and blunted at their ends owing to the presence of these bodies.

These masses are evidently identical with the dark-brown bodies described by Miquel, Neidhardt, and Kölliker, and stated by the first two of these observers not to be of constant occurrence, but believed by Kölliker, from an examination of twenty or thirty cases, to be always present, although often in small quantity and difficult to discover. A woodcut which accompanies the text in Kölliker's "Handbuch der Gewebelehre" places the question of identity beyond doubt.

The characters of the masses and of the free bodies, the lively movements of some of the latter and their apposition, to form pairs and chains, led me to believe them to be the glæa and individuals of certain forms of schistomycetes. Comparison of their size and appearance with those of the organisms described by Klein and Sanderson,¹ Cohn, and others,² and examination of their chemical characters served to strengthen this view. But their nature was finally proved by a series of cultivation experiments which were perfectly successful in producing from minute quantities of these elements of tongue-fur a numerous progeny as often as the experiments were repeated.³

The relative proportions of the three constituents of fur vary under certain circumstances. Naturally during or immediately after eating, the quantity of débris of food and bubbles of saliva is much greater than during fasting, when it is reduced to a minimum amount. But as the quantity of fur upon the tongue is not directly increased by the taking of food, it is evident that

¹ Klein and Sanderson, *Med. Chir. Trans.*, vol. lvi. p. 340.

² *Beiträge zur Biologie der Pflanzen.*

³ Ewart, *Proceedings of Royal Society*, June 1878.;

the débris of food and the bubbles do not form the chief constituent of fur.

Epithelium is always found in fur. It is obviously impossible to scrape the surface of the tongue without removing epithelial cells. But the quantity of epithelium does not bear a direct proportion to the thickness and quantity of the fur. If the fur is thin and very adherent, and requires vigorous scraping for its removal, the scrapings will contain a large amount of epithelium. If, on the contrary, the fur is thick and soft and easily removed, the proportion of epithelium in the scrapings is much smaller. The quantity of epithelium, therefore, bears an inverse rather than a direct relation to the quantity of fur. I should not think it necessary to dwell longer upon the question of the quantity of epithelium in fur, if it had not been so long supposed to be the chief constituent. On that account I may draw attention to two more facts which are directly opposed to this theory. If epithelium be the chief constituent of fur, there must be, when the fur is thick and forms rapidly, an enormous destruction of surface epithelium, which must be accounted for either by thinning of the epidermal layer of the tongue or by increased production of cells. But examination of sections of thickly-furred tongues does not discover either a thin epidermis or any appearances in the cutis or rete mucosum of increased activity of cellular development. If epithelium be the chief constituent of fur, fur should exist not only upon but between the papillæ; indeed, we should expect to find it there in larger quantity, for the cast-off epithelium would have a tendency to collect in the deep furrows between the papillæ; but neither with the naked eye nor with the microscope is it discovered there. I think, then, it may safely be asserted that epithelium is not the chief constituent of fur, or, in other words, that fur is not cast-off epithelium. By a process of exclusion, therefore, we should be driven to accept the schistomyces as the chief constituent of fur. But there is abundant evidence in favour of this view. In one hundred cases of scraping from the surface of the tongue, examined microscopically, the glœa was found in every case in which fur was present, even in one or two cases in which no fur was visible to the naked eye. The thinnest and most adherent furs produce a great deal of epithelium and a small quantity of glœa. The thicker and more easily separated furs, on the other hand, produce a large quantity of glœa and a far smaller quantity of epithelium. In vertical sections of hardened tongues, in which the fur is still adherent to the surface of the tongue, the glœa is always present. Both sections and scrapings show that it is attached to the fine processes of the filiform papillæ; but the sections show more than

this. They show that the filiform papillæ are the sole seat of the glæa, which does not exist either on the fungiform papillæ or between the papillæ, thus proving that the seat of these bodies is identical with the seat of the fur, as observed with the naked eye. Again, the colour and appearance of the thin grey fur corresponds with the colour and appearance of the thin grey pellicle which forms upon the surface of bacterium-producing fluids, and as the latter becomes whiter and more opaque as it becomes thicker, so does the fur become whiter and more opaque with increased thickness. A modification of colour is, however, frequently produced by the yellow or brownish-yellow tint which the glæa exhibits.

The cultivation experiments mentioned above were made not only to prove the parasitic nature of fur, but to discover, if possible, by procuring it in a pure form, the exact nature of the glæa. Several organisms were discovered—*Micrococcus*, *Bacillus subtilis*, *Sarcina ventriculi*, *Spirochæta plicatilis*, *Bacterium termo*, and a form of *Vibrio*; but only two were of constant occurrence, *Micrococcus* and *Bacillus subtilis*. The former developed abundantly in every experiment which was made; but *Bacillus subtilis*, which appears to be identical with the *Lep-totlrix buccalis* of Robin, refused to develop in the presence of other organisms under artificial conditions. These experiments led me to believe that the fur consists essentially of *Micrococcus* and *Bacillus subtilis*, but that its thickness is often increased by the development of one or more of the other forms which were found in it. *Micrococcus* consists of exceedingly minute spheres, which occur singly or in groups of two, four, or more, or in long chains, or in large masses, usually of spheroidal shape, which are held together by the glæa. These spheres do not develop into other forms. *Bacillus subtilis* consists of slender rods of various length, often forming long jointed bodies. Small highly refracting spheres can often be distinguished, lying at short distances apart, in the interior of the larger rods, which are probably the spores from which new rods are developed.

II. The organisms of which the fur consists may enter the mouth with the inspired air or with solid or liquid food. The latter are the more probable means of conveyance. Once arrived in the mouth, it is difficult to imagine a better nidus than the surface of the tongue affords for their support and development. They are caught upon and between the fine processes of the filiform papillæ, which are never so smooth that they do not afford numerous irregularities of surface for the capture and detention of such minute bodies. They are kept in a warm and moist soil, the varying reaction of which is never sufficiently

strong to destroy them. They are nourished by decomposing food, and are prevented from being carried away through the alimentary canal by the tenacity with which they adhere to the papillæ. And lastly, they are exposed to free access of air, which is said to be essential to their development, or at least to their rapid development. All the conditions are therefore favourable to abundant development of the fungus. Under such circumstances it is not to be wondered at that the fur may increase in thickness with the greatest rapidity.

The glæa collects upon the filiform papillæ for the reasons which have been given above, namely, because these papillæ are prominent, and terminate in many fine but rough processes. The larger and more prominent the filiform papillæ, and the more numerous and rough their processes, so much the thicker, *cæteris paribus*, will be the fur upon the tongue; and the smaller and more insignificant in character the filiform papillæ, the thinner will be the layer of fur. The tongues of very young infants, on which the filiform papillæ are so small that the tongue appears to be without any, are naturally also without fur. This is the case in spite of the presence of many well-marked prominent fungiform papillæ, upon which the glæa does not collect on account of their smoothness. The larger and more prominent the fungiform papillæ, the less liable are they to become coated with fur, for they are on this very account more easily kept clean. The fungiform papillæ are earlier developed than the filiform papillæ, and retain their superiority in size and easily distinguishable characters throughout childhood up to and beyond puberty, but in adult life they are much more difficult to distinguish. In children, therefore, the exemption of the fungiform papillæ from a coating of fur is very much more marked than in adult life. During the day the tongue is continually cleansed by being rubbed against the roof of the mouth and against the gums and teeth. It is this cleansing process which prevents too rapid an increase of the glæa and consequent thickening of the fur. During the night the cleansing of the tongue is not nearly so efficiently carried on; early in the morning, therefore, the coating of fur is thicker than at any other time of the day. Free mobility of the tongue is essential to complete cleansing, but however free the movement of the tongue, if the filiform papillæ are large and rough, they can scarcely ever be completely cleansed from fungi. The portion of the tongue which is most difficult to cleanse is the centre and back part, *i.e.*, the most fixed part, and here, as one knows well, the fur is always thickest and most constant. The portions of the tongue which are most easily cleansed are the tip and sides, *i.e.*, the most moveable parts, and these parts are always most

free from fur. The mobility of the tongue depends for its perfection upon the moisture of the mouth and tongue, and upon its nature, whether, for instance, it is stiff and unyielding, or whether it is pliant and supple. It is easy to conceive that if the tongue is soft and supple and freely moved, and if its papillæ are very small, there will be little or no fur upon it. If, on the other hand, it is stiff and firm, and is covered with large prominent papillæ, it can never be completely freed from fur. Moisture is essential to perfect freedom of movement of the tongue, and although it is advantageous to the development of fungi, the free movement of the tongue in health is generally sufficient to keep down rapid development.

In support of some of the foregoing propositions I would refer to the following analysis of healthy tongues. For convenience of description all furs are classed according to their thickness in six degrees—1. Very thin; 2. Thin; 3. Moderately thin; 4. Moderately thick; 5. Thick; 6. Very thick.

Table showing relation of fur to papillæ on 62 healthy tongues, with remarks on the age of the persons and the characters of the papillæ:—

Position of Fur.	No. of Cases.	Age of Patients.	Remarks on Papillæ.
On filiform papillæ only.	41	22 under 20 years of age.	...
On filiform and some fungiform papillæ	18	17 over 20 years of age—1 æt. 15.	In all cases fungiform papillæ small—in 14 cases difficult to distinguish.
Equally on filiform and fungiform papillæ.	3	All over 20 years.	Fungiform papillæ small or indistinguishable.
	62		

Table of thickness of the fur on 68 healthy tongues, with remarks on the papillæ and the nature of the tongue:—

Quantity of Fur.	No. of Cases.	Papillæ.	Condition of Tongue.
None.	1	Scarcely any.	Tongue very smooth and supple.
Very thin.	17	Scarcely any in 12.	Very smooth and supple in 12.
Thin.	38	...	...
Moderately thin.	10	Large and distinct in 8.	...
,, thick.	2	Large and distinct.	Infirm old people, æt. 80 and 95.
Thick.	0	...	...
	68		

Cases of unilateral furring of the tongue are often peculiarly instructive as illustrative of the laws of furring. I have collected five cases. Two of these occurred in young women, the left half of the tongue in each case being coated three or four times as thickly as the right half. The character of the tongue was the same on both sides, the movement of one side as free as that of the other. But the left upper jaw had been removed only a few weeks previously in each case, so that most of the cleansing apparatus was absent on that side. In another woman the right half of the tongue was coated thickly, the left half very slightly. This woman was suffering from a large tumour which projected into the right side of the mouth and impeded seriously the movements of that side of the tongue. A man suffering from recent hemiplegia protruded his tongue towards the right side, and owing to the lack of power over the right half of the tongue, that half was much more furred than the left half. The last case was that of a young man, who had a much thicker layer of fur upon the left half than upon the right, and who told me he had a sharp tooth on the left side which hurt him as he moved his tongue along that side of his mouth. It may here be mentioned that the mere presence of a carious tooth on one side does not usually produce any appreciable effect upon the fur.

The rapidity with which fur is capable of being formed is undoubtedly very great, but accurate data are much wanted on this point. It is often said that drinking an extra glass or two of wine in the evening will cause the production of a much thicker fur than usual on the following morning, or that a debauch will produce a thick coating of fur in a single night upon a previously clean tongue. But unfortunately the condition of the tongue before such an excess has not generally been noticed, so that no comparison can be made of the present with the previous amount of fur. Personally I am bound to confess that an extra glass or two of wine at dinner, or even dining at a large public dinner, where the stomach is loaded with many kinds of indigestible food, and several glasses of more or less indifferent wine are drunk, does not produce so great a change in the amount of fur as might be imagined from the difference which one feels in the condition of the mouth. A thin or moderately thin fur may become moderately thick during the night. After a heavy meal the breathing is oppressed and the mouth is generally kept open. The tongue becomes dryer than usual, its movements are consequently less active, but it does not generally become so dry that the development of the fungus is interfered with. In the morning the fur is a little thicker than on the previous night, the tongue and mouth are dryer

than normal, the sense of taste is disordered, so that a most uncomfortable sensation is produced which adds to the general feeling of languor and distress from which the individual suffers. In a number of observations made upon the tongues of persons who had just met with severe accidents, and again at intervals of twenty-four and forty-eight hours, I have found that in the course of twenty-four hours a very thin fur may become moderately thin, or a thin fur moderately thick, or a moderately thin fur thick.

The laws by which the development of fur are governed in health are probably the same as those which govern its development in disease. There is not, so far as I have been able to observe, a special fur for each special disease, nor have I even been able to discover a preponderance of any one of the organisms I have mentioned constantly occurring in any disease. Of course certain diseases have a marked tendency to produce certain conditions of the mouth and tongue, and these conditions are almost invariably accompanied by certain characteristic furrings. If these phenomena were of constant instead of very frequent occurrence, we would regard the examination of the tongue as the most important of all means of diagnosis, and indeed should scarcely deem it necessary to examine any other part of the body after the condition of the tongue and fur had been examined. But they are not constant, and therefore we must look, not to any special disease for the explanation of the phenomena which are observed in the tongue and fur, but to the general and local conditions which are as a rule induced by such a disease. For instance, I was told by more than one of the physicians to the Hospital—to whom I take this opportunity of expressing my indebtedness for their kindness in placing at my disposal the materials for the study of this subject—that the tongue of typhoid fever is essentially different from the tongue of acute rheumatism. An examination of a number of patients suffering from either of these diseases showed that this was the rule, but that it was not the rule without exception. Indeed, the first patient I saw, a man suffering from acute rheumatism (shown me by the House Physician), protruded a typical typhoid tongue, proving that the conditions upon which the rheumatic tongue generally depends were either absent, or were much modified although the rheumatism was present. I do not for an instant deny that chemical conditions of the mouth, induced by local or constitutional causes, may modify considerably the characters and quantity of the fur, but I cannot but think that the characters of the furred tongue are generally easily explicable on the grounds I have already mentioned.

As examples, take the tongues of typhoid fever, rheumatism, and scarlet fever, all of which are sufficiently characteristic. During the early days of typhoid fever the whole of the papillary surface of the tongue is usually covered with a thick or moderately thick layer of dirty-white or yellowish-white fur. In the course of a few days there appears a central streak, dry, fissured, and without fur, while the fur is reduced from a continuous layer to a band, more or less broad, on either side of this central streak. As the disease progresses towards a fatal termination, the tongue lies far back in the mouth, shrunken, fissured, red or brown, and destitute of fur. I should explain these conditions thus:—During the first few days the fur becomes thicker on account of the general condition of malaise, which prevents the patient from taking food and from keeping the tongue clean as heretofore. As the disease advances, the mouth is kept almost always open, and the interior of the mouth is hot and dry, like the surface of the body generally. But the central part and edges dry first, because their blood supply is less abundant, and the central part especially is less accessible to the salivary secretion. The fur either peels off or remains as a thin brown interrupted layer. Later still, the whole tongue becomes dry and parched; its surface is consequently fissured, and the fur is destroyed, as it cannot develop or even subsist upon a surface deprived of moisture, and from which the papillæ have disappeared.

In acute rheumatism the tongue is large, moist, and thickly coated with a dirty yellow or yellowish-white fur, covering completely its papillary surface. The tongue, like the skin generally, is moist; and as the mouth is not habitually kept open, as in typhoid fever, the moisture is retained. The patient is disinclined to make the slight exertion necessary to clean the tongue, or is incapable of making it. The cleansing action due to the taking of solid food is wanting. In fact, there are present all the conditions for the development of fur, heat, moisture, a sufficiency of air, a nourishing diet of liquid food, whilst the conditions for its removal are reduced to the lowest degree.

And lastly, in scarlet fever, the tongue is very characteristic, especially in children. It is covered with a thick white or yellowish-white fur, in the midst of which the fungiform papillæ stand out red and prominent, producing the appearance known as the strawberry tongue. In scarlet fever, the surface of the tongue, like the skin, is usually intensely congested. All the papillæ are swollen and prominent, but whilst this favours the development of fur upon the filiform papillæ, it only serves to render the fungiform papillæ, which in children are of large

size in proportion to the filiform papillæ, more smooth and less fitted for the attachment and development of the glæa. They therefore stand out bare and red in the midst of the sea of fur which surrounds them.

In conclusion, I have to express my thanks to the Council of the Royal Society for permitting me to use the adjoining plates, which represent the microscopical appearances of fur scraped from the surface of the tongue, and on sections of the tongue, also some of the results of the cultivation of fur.

Fig. 1.

Fig^s 1, 2, 3.
Position of Fur on Tongue
under normal conditions.

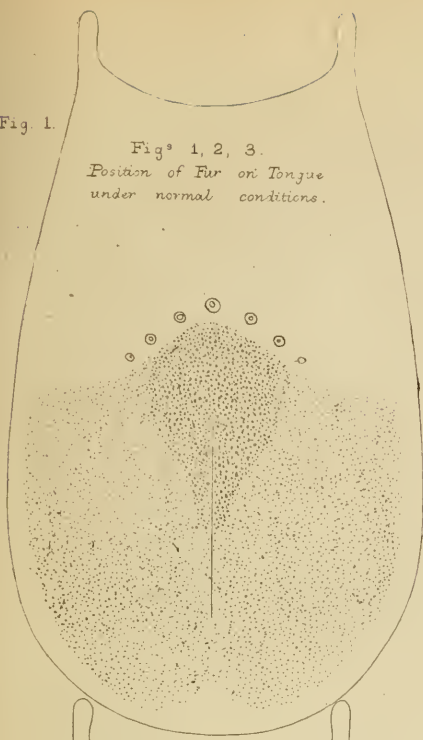


Fig 2.

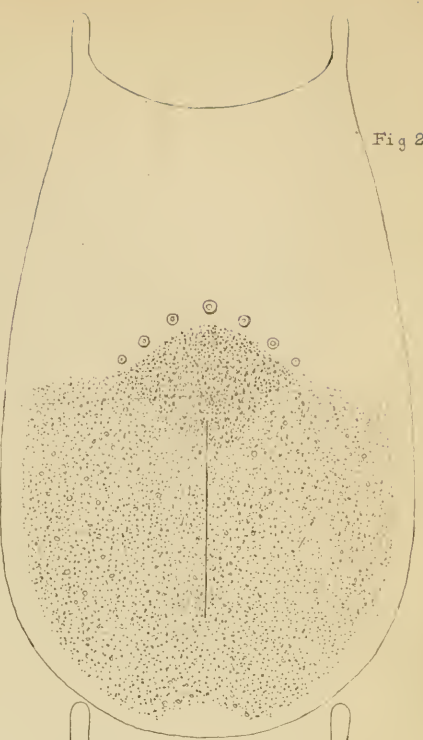


Fig 3.



Fig. 4.

Favilla absent in
Central line.

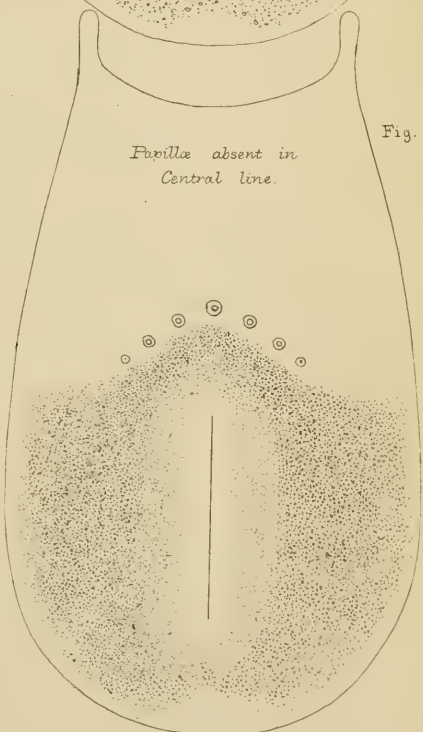




Fig 1.



Fig 3



Fig 2.



Fig 4



Fig^s 1, 2. Sections of Epidermis - fur on filiform papillæ (oc 3 ob 4)
Fig^s 3, 4. Portions of Papillæ with fur upon them. ($\times 240$)



Fig 2

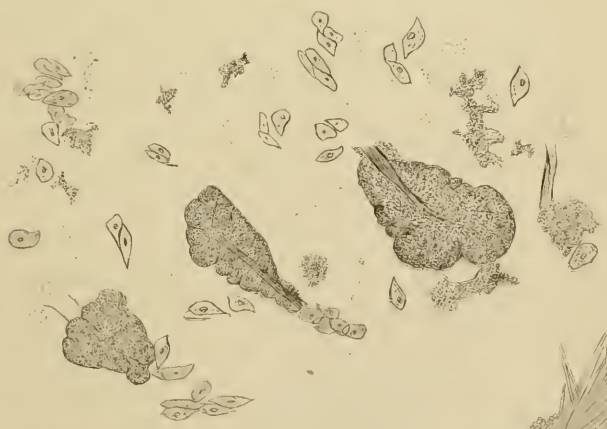


Fig. 1.

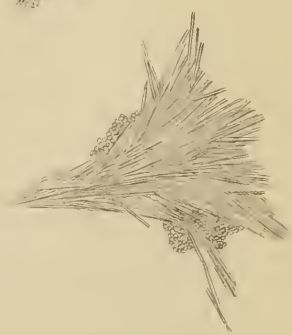
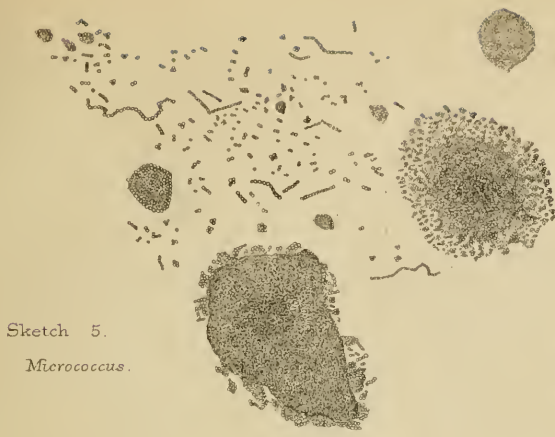


Fig. 3

W. E. Butlin del
W. E. Westley int.

Fig 1 Constituents of healthy saprophytic
Fig. 2, 3. d° d° highly magnified (x400)



Sketch 5.
Micrococcus.



Fig. 1.

Sarcina.



Fig 4

Bacillus
subtilis.

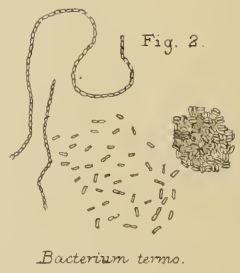


Fig. 2.

Bacterium termo.

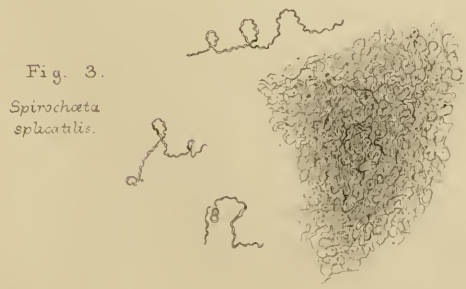


Fig. 3.
Spirochaeta
sphaerulata.

Fig. 6.
Vibrio.





NOTES OF HOSPITAL PRACTICE.

BY THE LATE

G. W. CALLENDER, F.R.S.,

AND

C. B. GABB.

Before Mr. Callender left England he gave into my charge the following short paper, to which he desired me to add some remarks on cases we had attended together, it being his intention on his return to add much additional matter, and to revise the whole before it was handed in for publication. Upon receiving the news of his lamented death, I consulted the editors of these Reports as to what they would wish done. They kindly left it in my hands to publish it according to what I believe to have been Mr. Callender's intentions. The following is, therefore, with a few necessary corrections, what was written early in August last. —C. B. GABB.

The brief notes which follow have been prepared by my present House Surgeon, Mr. Gabb, in part from the notes of our Surgical Registrars, but with reference to the patients who have been under his care from his own records of their cases. I have added a few remarks which are printed in smaller type to isolate them from the rest of the paper.

I owe it to the care and skill with which Mr. Gabb has worked in our wards that we are able to state that in his year of office no death has occurred amongst the patients on whom I have operated.¹

I have already, after my return from America in January 1879, cor-

¹ Some weeks after Mr. Callender had sailed for America, an elderly female, on whom he had done a Syme's amputation before leaving town, died. From a private memorandum I find that Mr. Callender performed fifty-six operations in the theatre (this number does not include hare-lips and several other small operations). Of these, nine were for removal of the breast, seven were osteotomies, fourteen amputations or resections, and four for strangulated hernia.

rected elsewhere¹ the statement in the last volume of our Reports that no case of pyæmia had occurred amongst the patients whilst under treatment in my wards. Two such cases did originate during the period of five years referred to—one in Sitwell Ward, the second in Darker. The first case is mentioned in the paper in question [which I had no opportunity of revising, owing to my absence from England]; the second was accidentally omitted, and it will be referred to later on.

TABLE SHOWING THE RESULTS OF OPERATIONS FOR THE WARDS HARLEY, SITWELL, DARKER, AND LAWRENCE, FOR THE YEARS 1876-78.

	No. of Operations.	Deaths.	Percentage.
1876.....	91	5	5.5
1877.....	81	4	4.9
1878.....	93	1	1
Totals.....	265	10	3.7

Excluding four cases, *b, c, e, i*, reckoned amongst the fatal results, in which it will be seen later on that the issue was not influenced by the operation, the percentage is 2.2. The total of operations includes only such cases as were operated on in the theatre of the Hospital; it does not include the cases of tracheotomy, of trephining, and of hernia. The cases of tracheotomy were four in number, two fatal for diphtheria and one from a scald; one successful for the removal of a cherry-stone from the wind-pipe. These operations were performed by the House Surgeon on duty. There were three cases of trephining, two fatal, one recovered. Sixteen cases of strangulated hernia were operated upon; of these, six died, ten recovered. The fatal results were due, as usual, to changes ante-dating the operation.

In the six fatal cases the sac was opened four times; in the ten who survived the operation the sac was opened seven times. The average age of the patients who died was just over sixty, of the recoveries forty-nine; of these latter, one female was aged 88.

The table further does not include a large number of small operations performed in the wards. Amongst such the opening of an abscess was of frequent occurrence in the progress of disease tending to a fatal result; such an operation was followed at the least by temporary relief, except in the following instances:—

1. A male aged 5, with hip disease, suffered from poisoning by carbolic acid after the opening of an abscess, and although death was not the immediate result, it seemed that the fatal issue was accelerated by the additional constitutional disturbance.

2. A male aged 6 had an abscess of his thigh opened. Unfortunately it was not learnt until later that he was bred from a family of bleeders. He died exhausted from repeated oozings of blood from the sac wall of the abscess.

¹ Lancet, March 15, 1879.

3. A male aged 14 was admitted, 26th June 1877, with acute necrosis of the femur in a typhoid condition, and died within forty-eight hours. Intermediately an exploratory puncture was made without result. It in no way influenced the progress of the case.

The following were the fatal cases (after operation), giving the cause of death in each :—

1876.

(a.) *Sitwell*.—Plastic operation for exstrophy of the bladder—male aged $1\frac{1}{2}$ years. Death on the fifty-fourth day from ordinary inflammation of the lungs.

(b.) *Darker*.—Exhaustion after colotomy, twentieth day—male aged 62.

(c.) *Darker*.—Malignant disease of the œsophagus—male aged 41.

Exploratory operation to see if the tube could be opened in the neck, July 12. The wound healed, and the patient lingered until September 26. Although this case is here given, the operation could not be credited with any influence upon the result.

(d.) *Darker*.—Malignant disease of the œsophagus—male aged 39. Gastrostomy. Death from peritonitis ninety-one hours after operation.¹

(e.) *Darker*.—Caries of the sacrum—male 56. Some fragments of bone removed December 5. The patient lingered until February 18 following.

Here again the fatal result was not influenced by the operation.

1877.

(f.) *Sitwell*.—Spina bifida—male aged 3 weeks. Injected with Morton's fluid. Spinal meningitis.

(g.) *Darker*.—Necrosis and osteo-myelitis of femur—male aged 38. Trephining. Pyæmia.

(h.) *Harley*.—Compound fracture of the bones of the leg. Secondary amputation—male aged 67. Referred to again later on.

(i.) *Harley*.—Exhaustion and renal disease.

In the course of the malady it was thought well to puncture the bladder above the pubes. The fatal result was not influenced by the operation performed sixty-six days before death.

1878.

(k.) *Sitwell*.—Spina bifida—male aged 4 weeks. Injected with Morton's fluid. Spinal meningitis.

Having had these two experiences of this operation, I do not do it again.

¹ Case reported in the *Lancet*, April 14, 1877.

TABLE SHOWING THE NUMBER OF ACCIDENTS UNDER MR. CAL-
LENDER'S CARE DURING THE YEARS 1876-78.

<i>Harley Ward (Males).</i>				<i>Darker Ward (Males).</i>			
Date.	Recovered.	Died.	Total.	Date.	Recovered.	Died.	Total.
1876.....	80	3	83	1876.....	36	1	37
1877.....	90	6	96	1877.....	20	...	20
1878.....	121	9	130	1878.....	14	...	14
	291	18	309		70	1	71
<i>Lawrence Ward (Female).</i>				<i>Sitwell Ward (Female).</i>			
Date.	Recovered.	Died.	Total.	Date.	Recovered.	Died.	Total.
1876.....	52	4	56	1876.....	10	...	10
1877.....	9	1	10	1877.....	20	1	21
1878.....	15	...	15	1878.....	18	2	20
	76	5	81		48	3	51
<i>Casualty (Male and Female).</i>				<i>Totals.</i>			
Date.	Recovered.	Died.	Total.	Ward.	Recovered.	Died.	Totals.
1876.....	5	1	6	Harley....	291	18	309
1877.....	7	1	8	Darker....	70	1	71
1878.....	5	1	6	Lawrence..	76	5	81
	17	3	20	Sitwell....	48	3	51
				Casualty..	17	3	20
					502	30	532

Percentage of deaths, 5.6.

The following were the fatal cases, giving the cause of death for each:—

Harley Ward (Males).

1876.

1. P. B., 62.—Admitted January 10, died January 14. Fractured clavicle. Cause of death, chronic bronchitis.

2. G. H., 23.—Admitted April 1, died May 26. Lacerated wound of thumb, phlegmonous inflammation of arm. Death from exhaustion.

In this case the wound was closed without any provision for drainage.

3. G. L., 24.—Admitted July 26, died August 7. Severe burns. Tetanus.

1877.

4. A. M., 38.—Admitted March 6, died March 7. Crushed head and spine.

5. J. J., 67.—Admitted April 26, died June 23. Compound fracture. Secondary amputation. Death from exhaustion.

This was a compound fracture, the chief complication of which was a great destruction of the integument. I did not see the patient until the third day, when the overaction was such that an amputation did not seem justifiable. Otherwise a primary operation should have been performed immediately after admission. As it was, the patient was unequal to the repair of the integument wound, and on June 9 a secondary amputation at the knee-joint was performed. Without intercurrent of other trouble the man sank gradually, and died from exhaustion, June 23.

The above case is an illustration of the difficulty in dealing with statistics, as it reckons as two deaths, first as a fatal case after operation [see above], secondly as a fatal result consequent upon an accident.

6. J. E., 22.—Admitted October 13, died October 15. Fracture of the skull. Base.

8. J. L., 50.—Admitted November 9, died November 15. Simple fracture of the femur (*Mollities ossium*).

This case will be reported to the Pathological Society.

9. H. B., 35.—Admitted December 6, died December 8. Fractured cervical spine.

1878.

10. E. D., 26.—Admitted January 7, died next day. Fractured cervical spine.

11. R. J. G., 18.—Admitted January 9, died next day. Gun-shot wound of the head.

12. A. A., 40.—Admitted February 1, died day following. Fracture of the skull. Vertex.

13. F. M., 56.—Admitted February 5, died same day. Fracture of the skull. Vertex.

14. J. T., 31.—Admitted July 19, died July 22. Ruptured liver.

15. C. C., 24.—Admitted July 23, died in two days. Fracture of skull. Base.

16. J. M., 32.—Admitted August 19; to Highgate October 11. Simple fracture of the leg. Died October 26.

This patient was readmitted from Highgate, October 24, to Harley Ward, there being no vacant bed on the medical side. He was suffering from acute peritonitis, in no way connected with the injury.

17. J. S., 55.—Admitted August 20, died August 23. Fractured cervical spine.

18. H. J., 52.—Admitted October 16, died October 19. Fracture of the skull. Base.

Darker Ward (Males).

1876.

19. J. C., 58.—Admitted November 12, died November 16. Pott's fracture. Delirium tremens.

1877-78.—No fatal cases.

Lawrence Ward (Females).

1876.

20. W. B., 3.—Admitted May 25, died same day. Scald of throat. Tracheotomy. Mentioned above.

21. F. D., 6.—Admitted June 28, died the next day. Fracture of skull. Vertex. Trephining. Also mentioned above.

22. M. F., 16.—Admitted July 26, died July 28. Fatal burns.

23. E. B., 2.—Admitted October 30, died November 16. Fatal burns.

1877.

24. L. S., 43.—Admitted January 6, died same day. Crushed thorax.

1878.—No fatal cases.

Silwell Ward (Female).

1876.—No fatal cases.

1877.

25. B. S., 3.—Admitted June 23, died in two days. Run over and crushed.

1878.

26. A. S., 46.—Admitted February 2, died February 18. Fractured skull. Base.

27. E. B., 15.—Admitted March 30, died April 19. Fatal burns.

Casualty Ward (Male and female).

1876.

28. W. W., 41.—Admitted August 24, died August 29.—Admitted with erysipelas of head and face following upon wound of the scalp. Epilepsy.

1877.

29. C. W., 50.—Admitted February 2, died February 10. Fracture of the spine.

30. J. R., 45.—Admitted August 16, died August 21. Lacerated wound of face, fracture of several bones of skull. Delirium tremens.

RESUMÉ.

Cause of death in cases fatal after accidents.

Chronic bronchitis	Fatal in	2
Peritonitis	„	1
Phlegmonous inflammation	„	1
Epilepsy and erysipelas	„	1
Delirium tremens	„	2
Exhaustion	„	1
Mollities ossium	„	1
Burns	„	5
Crushed head or trunk	„	3
Fractured skull	„	7
Fractured spine	„	4
Ruptured liver	„	1
Gunshot wound of head	„	1

 30

The following pages contain only the outlines of a few of the many cases of interest which have been under observation during my year's house-surgery.

A man, mentioned in the last volume of these Reports (page 190), who suffered from a compound fracture of the skull, with considerable loss of brain-matter, still remains under observation. When last seen, a few weeks ago, some thirteen months after the accident, he expressed himself, as he looked, in perfect health, often taking walks of six or eight miles with ease, and able to do as good a day's work in a timber-yard as before the accident. He finds, however, that he is not so ready at calculation as before, and has some difficulty in expressing himself if at all excited; but the trouble he found in saying some compound words during the early part of his convalescence has ceased.

Of compound fractures over a dozen have been under treatment, and all have done well. Of these, three were of the radius (Colles' fracture), and were treated, at their own request, as out-patients. The wounds were treated in the usual way with carbolic oil. In each case the patient was over fifty, and obtained a useful limb. Only one of these compound fractures was of the skull, and that in a child aged five. No serious symptom followed, and the patient left the Hospital in thirty-seven days. Of compound fractures of the lower limb, one case is worthy of special note.

A man, aged 24, was admitted 29th April with a severe compound comminuted fracture of the left fibula, with extensive laceration of muscles and other soft parts, the skin being separated

for some inches around the wound, which measured on its outer side 6 inches, on the inner $4\frac{1}{2}$, and somewhat over 3 inches across. No pulsation could be felt in the anterior tibial. Mr. Callender determined to attempt to save the limb, the tibia being intact. Several large pieces of the lacerated peronei were cut away, and the whole wound washed freely with carbolic lotion (1 in 30), and drainage tubes passed under the integuments wherever it was separated, and the whole dressed with oiled lint. This accident was caused by the passage of a loaded van of over three tons weight across the limb. Mr. Callender stated that he thought it right to give the man the chance of keeping his limb, but he considered it the worst compound fracture he had ever attempted to save. With the exception, however, of some superficial sloughing, nothing occurred to delay repair, and the wound rapidly filled up. For the first few days his temperature was somewhat raised, the highest being on the morning of the fourth day, when it reached 102.8° , the pulse at the same time being 116. In a week he was enjoying a full diet, chop with a pint of porter. Oiled lint was at first always used for dressing the wound, but later on both nitrate of silver and sulphate of zinc lotions were used from time to time as the state of the wound seemed to require. He left the Hospital at the end of September, with a small superficial ulcer alone remaining, well able to be up and about all day.

During the year no case of secondary or recurrent hæmorrhage worthy of record has occurred; but of accidents, complicated with severe hæmorrhage, mention may be made of three.

1. A man had his posterior tibial artery divided at the junction of the lower and middle third by the bursting of a magnum of champagne. He came to the Hospital from a neighbouring hotel, much exhausted from loss of blood, and in so weak a state that the chloroformist considered him unfit to inhale an anæsthetic. However, two hours later, having somewhat recovered, he was placed under gas and ether, and Esmarch's bandage was applied, and the wound being enlarged, the divided artery was fortunately found easily within reach; the two ends were picked up and tied with catgut. The man steadily convalesced.

2. A lamplighter, whilst upon a ladder cleaning a lamp, slipped and spiked his left arm upon an iron rail, which entered the arm on the inner side just above the elbow, and tore its way out owing to the man's weight. When I saw him in the Surgery, the two ends of the brachial were completely severed, but, most fortunately for the man, the proximal end was twisted as if torsion had been applied, and although jerking vigorously, was not bleeding in the slightest. The median nerve was also exposed for some inches, but not severed, and the muscles were very much lacerated. The

patient, an old man, was in the Hospital many weeks, but left for Highgate with a very useful arm. He has been lost sight of since.

3. A case of severe bleeding, caused by a stab at the edge of the left cheek, gave rise to some anxiety. The wound, when first seen, did not bleed, but the man, who was drunk, becoming violent, dislodged some clots, and at once it was evident that a very large vessel was wounded, and that deep in the neck, as the finger could be passed into the wound for nearly two inches, and the blood welled up fast from the bottom. A firm pad of dry lint and a bandage quite controlled the hæmorrhage for the time; but the struggles of the man, who declined to remain in the Hospital, several times displaced the pad before he could be carried into the theatre. Each time a smart gush of blood followed. Mr. Callender, who was in the Hospital at the time, enlarged the wound downwards into the neck, and dissected down to the internal jugular vein, which was found punctured, the wound being the size of a pin's head, from which bright blood was issuing in a continuous jet of considerable power. The hole in the vein was picked up and tied with medium catgut, which was cut short, and the wound plugged with a graduated compress. Several small vessels were tied during the operation. A shot pad was kept in readiness should any secondary hæmorrhage occur, but the man made rapid strides towards recovery without the slightest sign of anything of the kind, and left the Hospital well in thirty-three days. I was unable to find what instrument inflicted the wound, as the man was anxious to shield the offender, and the case, though taken up by the police, did not come on for trial.

Of the many cases of disease of the female breast under treatment, two proved of much interest from a diagnostic point of view. One, a woman, aged 38, six months pregnant, had had a hard tumour in her breast for several months; whilst in the Hospital, the skin over it became red, and some fluid could be detected; an abscess was opened, but it soon became clear that more serious trouble was behind. The breast was removed, and the tumour was found to be a well-marked case of suppurating scirrhus. The second patient, aged 39, complained of a hard lump in her left breast. The nipple was quite retracted, an enlarged gland could be felt in her axilla, whilst the skin over the tumour was markedly adherent. She had noticed this swelling six months. She had not suckled for the last seven years, during which time she had not been pregnant. The unanimous opinion at a consultation was in favour of its being a solid tumour, most likely scirrhus, but it was recommended to cut into the tumour at the time of the operation to judge if it was necessary to remove the whole breast. This being done, an ounce or more of pus was evacuated, and an end was made to the tumour.

In the only case of stone, lithotomy was performed. The patient was a boy aged six. With the exception of the day after the operation, the temperature did not rise above 99° F.

The result of an operation on a young woman for the cure of a compound palmar ganglion of the left wrist was watched with much interest. For some years past she had been a French polisher, grasping boxes with her left hand and rubbing them with her right; for two years she had been conscious that her left hand was becoming weaker and her wrist slightly swollen. On admission she had a well-marked compound ganglion. The operation for its cure was commenced by making an incision into the palmar swelling, opening the sac of the ganglion, and squeezing out a large number of small bodies like boiled rice. The sac was then washed out with carbolic lotion (1 to 30), and a drainage tube passed under the annular ligament. The hand and forearm were placed in the prone position on a splint, with a trap-door corresponding with the wound, which was then dressed in the usual way. Fixed in this manner, the forearm was swung, and the wound could be dressed by opening the trap-door without disturbing the limb. The temperature was carefully watched. On the day following the operation it was 100° F.; again on the seventh day it reached the same point; on the tenth day it was 100.4°; but, with these exceptions, it was either normal or a fraction of a degree above it.

The drainage tube was slightly withdrawn daily; it was at first firmly gripped by the annular ligament. By the tenth day all of it had been removed, and a week later the splint was discontinued and the girl allowed to get up. At first she complained of some numbness in the thumb and index finger, but this passed off. On attempting to use her hand after its removal from the splint, she found the thumb and little finger movable, but the three middle fingers somewhat stiff; this, however, became less as she used them, and when last seen she had every promise of a most useful and strong hand.

Four cases of strangulated hernia were operated upon, and all recovered. The sac was opened in three of these; the case in which it was left unopened was that of a young man, aged 19, with a small femoral rupture. Of these cases, two were of more than ordinary interest.

1. Congenital inguinal hernia in a male, aged 28. In brief, his history was as follows:—He had never been ruptured before, and was quite well until the noon of the day he came to the Hospital. Suddenly, without any exertion or known cause, the right side of his scrotum became very much enlarged and painful, and he was very sick shortly after. At 11 P.M. of the same day he was admitted into the Hospital, evidently very ill; his scrotum was

oedematous, red, tender, and enlarged beyond the size of a large cocoa-nut, and without impulse on coughing. A hot bath and opium had no effect upon the swelling, neither had the moderate taxis, which it was thought right to use. Herniotomy was performed, and over two feet of congested small intestine escaped from the sac, and considerable difficulty was experienced in returning it. After this had been done, no attempt to close the wound was made beyond a pad of oiled lint and a bandage. The man passed through a prolonged convalescence without a bad symptom. For some days he was kept under the influence of morphia given hypodermically, usually $\frac{1}{6}$ gr. at a time, sometimes $\frac{1}{4}$ gr. He left the Hospital somewhat sooner than he otherwise would have done, as his circumstances allowed of it. A few days since, I saw him for the first time after his discharge from the Hospital, now five months ago. He was quite restored to health; and, what is most important, there is at present no sign of the rupture protruding.

I may here mention that, almost without exception, every adult patient who was operated upon was injected with morphia for two or three nights following the operation. The urine was always examined the morning of the operation as well as on admission, so that the cases where opium was contra-indicated were known. I cannot recall any case in which the patient seemed the worse for the dose, but in many cases two good nights following an operation have enabled the patients to bear up against the extra strain put upon them.

2. Left femoral hernia in a female aged 32. She had been ruptured seven years, but had never worn a truss; had had seven children; confined last, sixteen months ago; thinks herself four months pregnant. The rupture had, on admission, been unreturned for more than fifty hours; constant vomiting for the last twenty-four hours; bowels not open for several days. Taxis failing, the usual operation was performed at 3 P.M. The sac being opened, the gut was found ash-coloured at one spot the size of a shilling, but still retaining its polish. All constrictions being divided, no attempt was made to return the hernia, on account of its condition. Eight hours later she was sick, and again the next morning, when she complained of great abdominal pain which was much relieved by firm pressure. The vomiting continued and increased, the abdomen becoming more distended and painful. Temp. 99° ; pulse, 108; resp. 28, abdominal. On the third day, as all these symptoms continued, the gut was opened at the slough, but little or no fæces passed by the wound, but some flatus. The bowels had not acted since the operation. Two days later, as her condition became much worse, she was placed under chloroform, and Mr. Baker (under whose care she

had now passed, Mr. Callender having left town) passed his finger through the opening in the gut, to ascertain if anything could be felt which obstructed a free passage; nothing was found, and the woman was taken back to bed apparently moribund. From this time, however, her condition improved. The sickness stopped, and she passed large quantities of fæces by the wound; on the second day after, copious motions passed per rectum. The following day (the ninth since the operation) she was sick several times, and the bowels were not open either way. She was ordered an enema of gruel and castor-oil, which caused her to have a free action. For some days the enema had to be continued; if omitted, the abdomen became much distended and painful. After this less and less passed each day by the wound. She picked up her strength slowly, and when, on the 1st of October, she passed from under my care, she had for some time been enjoying a meat diet, and expressed herself as daily improving in health. A month later the wound has quite closed, but the woman is still very weak. She states that she had had diarrhœa for some days before the rupture became strangulated; but from the great quantity of fæces passed after each enema, I should presume it must have been many days since her bowels were freely open.

A boy, aged 6, was admitted into Harley with mal-union of the bones of his left forearm. Three months before, he had broken his arm, but had received only maternal care, the result being that the bones had so united that all power of pronation and supination was lost. A considerable amount of callus could be felt at the point of fracture, which was about the middle of the bones. As the use of the limb was greatly impaired by this state of things, Mr. Callender, after a consultation, divided the radius and readjusted the two portions of the bone. "This readjustment consisted," to quote his own words, "in rotating the lower fragment into supination, in which position the upper fragment was held by the action of the biceps muscle chiefly, and of the supinator brevis in a less degree." The compound fracture thus made was treated in the usual way, and the arm placed between two straight splints. No rise of temperature followed; and at the end of four weeks, on removing the splints, it was very satisfactory to find that the boy could pronate and supinate his arm perfectly.

The cure of varicose veins in a man aged 33 was attempted by an operation which, I believe, had not before been performed. The left external saphena vein of this man was most unusually enlarged. Just above the knee a vein which connected the external and internal saphena veins became so tortuous and dilated as to resemble a largish bunch of grapes. The operation was very simple. A transverse incision an inch long was made over a prominent part of the vein in the middle third of the leg;

an aneurysm needle was passed under the vessel, and was then threaded with strong carbolised catgut and withdrawn, the ligature tied and cut short. This was done in two places, one above and one below the knee. The wound was dressed with oiled lint, and the limb was placed on a back splint and kept at rest for twenty-eight days. Once the temperature rose to 100° F., otherwise it remained normal. When the man got up after the removal of the splint, the veins were found a good deal less distended, and this improvement lasted until he was lost sight of some weeks after. This improvement was doubtless a good deal due to the four weeks of absolute rest, as well as to an elastic bandage he was ordered to use whenever he left his bed. So simple was the procedure, and followed by no constitutional disturbance, that it would have been worth while tying a vein in half a dozen places at once, and repeating the operation if necessary.

It must be owned, however, that it is quite the exception to find a case of varicose veins in which an operation of any kind isto be recommended. In this case the man had been troubled by this vein for fourteen years. He had no other enlarged vein worthy of mention ; it seemed as if the disease was confined to the one vessel.

During the past year the cases under Mr. Callender's care have been quite free from erysipelas, excepting, of course, several that have been admitted with it. The only case of pyæmia following a wound or operation of any kind was a man aged 39, who was admitted into the Hospital in May with a lacerated wound of the front of his right leg, inflicted by a kick from a horse. The man was drunk on admission, and owned to having often been in the same state. The wound was treated in the usual manner, but could never be got satisfactorily sweet. His temperature from the first was high, but on the eleventh day it became normal, and he seemed to be convalescing in a satisfactory manner. On the twentieth day after admission he had a rigor ; his temperature rose to 102.2°. He lived for eight days longer, during which time he developed unmistakable signs of blood-poisoning, which a postmortem examination amply confirmed.

It was Mr. Callender's intention to add here notes and remarks on several cases of operation for the cure of *genu valgum*, both by section of the tibia, division of the lateral ligament, as well as three fresh cases of Ogston's operation, beside other operations on bones and resection of joints ; but the circumstances under which this fragment now appears are so painfully altered from those which at its commencement were anticipated, and as some considerable period would elapse before the cases could be placed in the hands of the editors, it is thought better to reserve their publication for some future volume of these Reports.



A CASE OF
SCLEROSIS OF THE CEREBRAL CORTEX,
WITH TWO OTHER EXAMPLES OF CEREBRAL
DISEASE IN CHILDREN.

BY
NORMAN MOORE, M.D.

The postmortem examinations recorded in this paper were made by me during the year 1879, and illustrate three varieties of cerebral disease in children.

1. *Encephalitis (Sclerosis).*

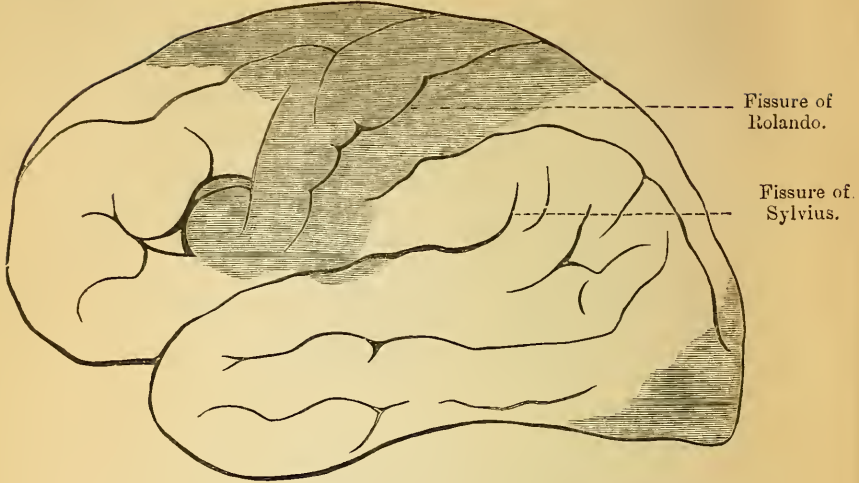
Louisa W., aged 5 years, died on June 23, 1879, and the postmortem examination was made twelve hours after death.

Body.—Emaciated but not rickety.

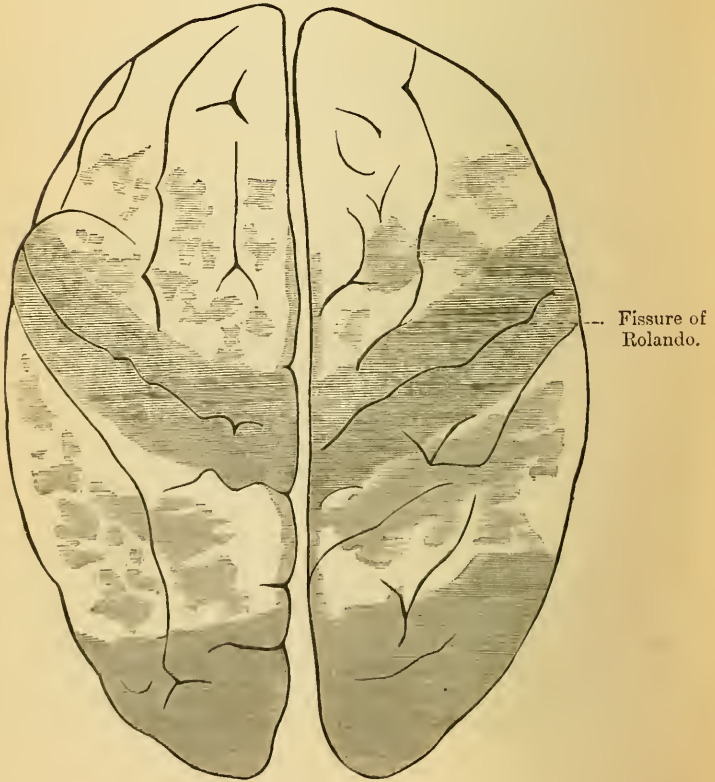
Head.—Calvaria normal. Dura mater not more adherent to calvaria than is usual in children of this age, and normal in appearance. There was no effusion of lymph round the nerves or anywhere at the base, but on removing the brain, large quantities of clear fluid flowed from the subarachnoid space. More fluid flowed out on opening the ventricles, and the cerebral convolutions were slightly flattened. The cortical part of the brain was so soft that it was not possible to remove the arachnoid without tearing the brain substance. The grey matter was softened and of a distinct yellow in several places. This change in some places affected the whole thickness of the grey matter, in others only a superficial layer was yellow and soft, while the grey matter immediately resting on the white was of normal appearance. The size and proportions of every part of the brain were normal, and the white matter, both to the naked eye and under the microscope, was free from morbid change.

A Case of Sclerosis of the Cerebral Cortex.

LEFT SIDE (outer view).



FRONTAL.



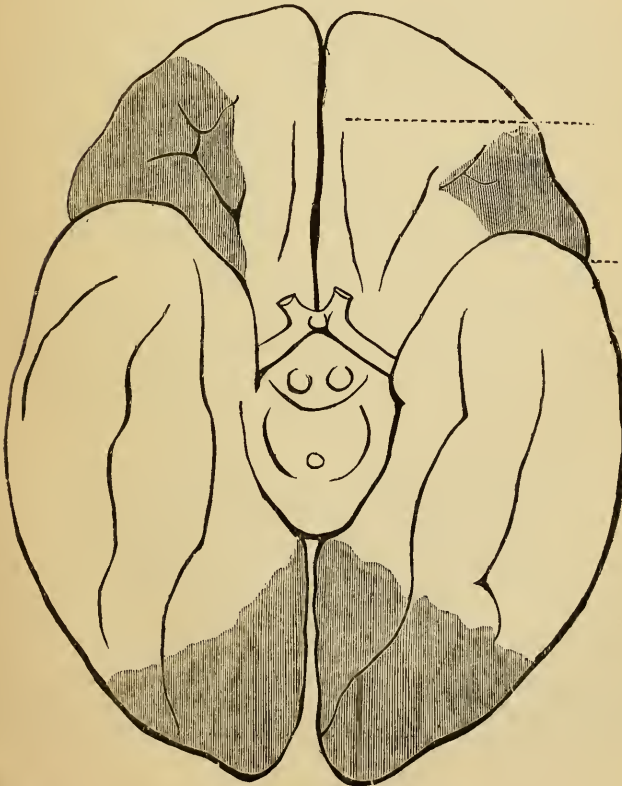
Occipital.
UPPER SURFACE.

RIGHT SIDE (inner side)



Fissure of Rolando.

Callosal marg. fiss.



Olfactory Sulcus.

Fissure of Sylvius.

BASE.

The parts most markedly affected by the yellow change are shown shaded in the accompanying drawings, and were—(1) the hinder part of first frontal convolution; (2) the hinder part of the third frontal convolution; (3) the ascending parietal convolution; (4) the ascending frontal convolution; (5) the callosal marginal convolution as far as the fissure of Rolando. A general idea of the appearance of the upper surface of the brain is best given by stating that there was a broad yellow band on each side of both the right and the left fissures of Rolando, with a little yellowness in indistinct patches in front of this yellow band, and a somewhat greater degree of patchy yellowness behind it, while the posterior extremity of each cerebral hemisphere was yellow on all its surfaces. The softening in the first frontal convolution did not reach as far inwards as the olfactory sulcus. It extended somewhat farther inwards on the right than on the left side, but, with this exception, the distribution of the yellow softened tracts was symmetrical. On the upper and outer aspect of the posterior third of the right cerebral hemisphere there was a slight but distinct redness on the surface of the brain under the arachnoid for about the area of a florin. The Pacchionian bodies were of normal size and appearance.

The vessels of the base, the origins of the nerves, the medulla oblongata, and the spinal cord were in every way normal. The white matter of the brain under the microscope showed no morbid change. Sections of the cortical substance cut in several places, after hardening in chromic acid (one-sixth per cent.) and in spirit, and staining with logwood solution, showed in all cases the same morbid appearance, viz., a great increase in the neuroglia and diminution in the number of nerve-cells. Some of the cells looked shrunken and smaller than natural, but whether this was due to the reagents or was an effect of the disease I do not know. The increase of connective tissue was great and unmistakable, and the cerebral affection was pathologically a true sclerosis.

The patient was in Mary Ward, under the care of Dr. Gee, from 28th April 1879. I saw the case during life, but I have to thank Dr. Gee for allowing me to use the ward notes, kindly lent to me by his House Physician, Mr. Harold B. Boulter, to whose courtesy I am also much indebted. The child's relations stated that she had been in robust health till six weeks before admission, and that she had had no previous illness, and in particular had never had either fits or discharge from ears or nose. Her parents are healthy, and she was the sixth of seven children. Her mother had had one miscarriage some years ago. Five weeks before admission the child fell down suddenly when

playing in the street, but got up again quickly. There seemed to have been neither loss of consciousness at the time nor subsequent discomfort. About a week later she accidentally fell near the fire while running across the room. Her pinafore took fire. It was put out before the child was burnt at all, but she was at the time much frightened. Three days after this her mother noticed twitchings and uncontrollable grimaces, limited (she said) to the left side of the child's face. After these had lasted for about three days, there occurred sudden loss of power in the left arm and leg. About ten days later the child, on its waking in the morning, was found to have no power of voluntary motion in the right arm and leg, and to be speechless. This loss of power on the right side improved during the following days, but the speechlessness persisted. About a fortnight after the occurrence of this right hemiplegia, contracture of the left limbs set in, *i.e.*, about five weeks after the day on which they were first noticed to be paralysed.

Fourteen days before admission the child began to be sick and vomited often, especially after food, for a week. During this period she had obstinate constipation, and for twenty-four hours anuresis. Castor-oil brought away a round worm, and the vomiting, which had lasted a week then (her mother said), ceased. For the four weeks previous to admission the child's appetite had been very bad and her bowels confined. She had wasted rapidly but had not complained of pain.

Condition on Admission.—April 28.—The child was of light hair and complexion, and was well grown; her face plump but her body rather lean; her skin dry and somewhat branny. Her head was hot and her cheeks flushed. There was no injection of the eyes and no squint, but the pupils were widely dilated and seemed insensible to light. There was slight myoidema of the left orbicularis palpebrarum. As far as could be made out, she could not see, but retained some slight sense of hearing. She resented being touched, and frowned and screamed fretfully at intervals, rolling her head and burrowing it in the pillow when not screaming. She had no special decubitus. Just after admission she was slightly sick, and she frequently ground her teeth and did not control her sphincters. There was strong rigid flexion of all the joints of both arm and leg on the left side, except that on the left hand there was hyper-extension of the carpus and meta-carpus on the forearm, with marked and powerful flexion of the phalanges. There was also flexion of all the joints of the fingers and thumb of the right hand, but the rest of the right arm showed no abnormal flexion. There were occasional slight convulsive movements of both arms and legs, and

these were more marked on the left than on the right side of the body. There was no loss of sensation, and no *tâche cerebrale* was obtained. The heart sounds and lung sounds were normal. The abdomen was retracted, and its muscles were excited to rigid contraction by palpation. The pulse was feeble and rather irregular. The temperature was 99° Fahr., and the respirations were 24 per minute.

April 29.—She screamed throughout the night, but was quieter in the daytime. She had to be forced to take food and resisted any kind of examination. The right arm and leg seemed natural; her hands and feet were very cold. Bowels opened three times involuntarily. Pulse very feeble, but regular. Temp. morning, 99° , evening, 99° ; R. 24.

April 30.—The condition was the same except that the right arm and leg were strongly flexed, and that the left sterno-mastoid muscle was slightly contracted. From this date till death the temperature varied between 99° and 99.4° Fahr.

May 1.—She slept after chloral. Bowels opened; no worms.

May 7.—In the afternoon the child was put under chloroform with the following results:—Complete relaxation of all contraction and rigidity, except in the left hand, of which the wrist remained strongly extended on the forearm, and the fingers flexed into the palm, while there was some persistence of the varus of both feet. As anæsthesia was induced the pupils became moderately contracted. All the muscles of the limbs responded readily to faradisation of moderate intensity. Faradisation of the muscles of the left leg was accompanied by slight movements of pronation of the left hand, with some further extension of that wrist on the forearm. Similar results were not produced by faradisation of the right leg or arm. The previous position and posture were resumed as the effect of the chloroform passed off.

May 10.—The eyes were satisfactorily examined under chloroform by Mr. Vernon, whose opinion was as follows:—"Except slight hyperæmia of the optic discs, there is no indication whatever of any inflammation of or pressure upon the optic nerves. There are no appearances of tubercle in the choroid." There was no change in the child's general condition, and for the following days she merely grew weaker and thinner, and her cry grew less strong and less continuous.

May 14.—On this day, at 1 A.M., the child had a fit of epileptic character, lasting for about ten minutes. Her face was drawn to the right, and there were twitchings of the facial muscles on that side. The eyeballs were rolled upwards, the right arm

and leg were straightened, but the limbs of the left side remained contracted as usual. The fit was followed by a great deal of loud screaming. At 9 A.M. the condition and posture were as they had been before the fit.

May 20.—The child had a similar fit, lasting about twenty minutes, during the night; the tongue was protruded, and after the fit all the limbs appeared more rigid for a while, but by morning had resumed their usual position.

May 23.—Yesterday evening both legs were extended for some time, but in the morning were found flexed in their usual position.

May 31.—On being lifted out of bed the child stretched out its legs quite straight, and arched its trunk strongly backwards three times, each opisthotonic spasm lasting for about three seconds.

June 6.—Some boils appeared this day on the abdomen, and similar ones came out up to the day of death in increasing numbers.

June 7.—The right hand was extended on the forearm, instead of being flexed, as up to this date it had been, and this condition lasted for three days, when the previous position was resumed. The child would hardly take food, and was weaker and thinner.

June 12.—The legs appeared to possess an equal degree of sensation; the left arm possessed sensation, but below the elbow the right arm did not, and there seemed to be no sensation on the right side of the neck. From this date the child emaciated very rapidly, and the spastic rigidity of the limbs seemed gradually relaxing as from mere weakness.

June 24.—The child died at 4.15 A.M., without any convulsions.

While in the Hospital the child was never heard to speak, and gave no evidence of being able to see.

The drawing (on next page) shows the ordinary position of the patient, and was made on May 7th.

Placing the morbid postmortem appearances and the symptoms side by side, it will be observed that the chief indications of disease during life were disturbance of the motor system, first on the left side, and later on both sides, convulsions and speechlessness; while the chief appearances after death were changes different in degree, but most complete in the fronto-parietal, frontal, and occipital region. The fact that the change existed in slighter degree between these regions points, as the symptoms do, to its being progressive. Of the sections of Pitres, the following were affected:—

(1.) The *prefrontal* in the lower part of its circumference.

As is well known, considerable injury of this region of the brain may take place without any permanent paralysis or sign of definite local irritation, and nothing to the contrary was observable in this case.

(2.) The *occipital* in its whole circumference. No motor paralysis and no true anæsthesia have been observed to accompany lesions in this region, but Charcot has observed certain



not very distinct cutaneous symptoms as associated with lesion of the occipital lobes, and the partial anæsthesia which existed in Louisa W. may have been due to this part of the sclerosis.

(3.) The *pediculo-frontal*, (4.) *frontal*, and (5.) *parietal*: the *pediculo-frontal* chiefly in its posterior and inferior part, but the *frontal* and *parietal* almost completely. Thus almost the whole of the cortical substance of what Charcot calls the motor brain was in a condition of advanced sclerosis, and that this

region was deeply affected might have been predicted from the profound and extended disturbance of the motor system during life. The disease in the inferior part of the *pediculo-frontal* section on the left side was sufficient to account for the speechlessness, the precise clinical variety of which was not ascertained. It is, however, to be observed that the *pediculo-frontal* section was affected on the right as well as on the left side.

The whole case is in accordance with the important conclusions of Pitres, and as these have not been given in full in any English book, a translation of them may be of use to observers in this country, and will complete the illustrations of this case of encephalitis.

Dr. Pitres' general conclusions are:—

1. The brain is not, as physiologists long taught, an organ functionally homogeneous. It is a complicated apparatus, or rather an assemblage of organs partly independent of one another, and each endowed with special functions.

2. The centres of activity probably exist in the grey matter, while the nerve fibres are merely conductors, the section of which prevents the manifestations of activity in the centres, precisely as breach of continuity in a telegraphic wire prevents the current from reaching the receiving apparatus, and so makes useless the activity of the pile.

3. It is still doubtful whether distinct anatomical centres exist in the brain specially organised for the perception of impressions of sense or for the evolution of intellectual phenomena, but it is certain that there is a limited tract of the brain the use of which is to produce voluntary movements.

4. The voluntary motor apparatus of the brain consists of a cortical territory formed by the ascending frontal and parietal convolutions, by the paracentral lobule, by the base of the frontal convolutions, and the subjacent aggregation of medullary fibres.

5. Destructive lesions of the centrum ovale, which do not affect the fibres subjacent to the cortical motor zone, give rise to no precise disturbance of voluntary motion. Thus the pre-frontal, occipital, and sphenoidal fibres may be destroyed by hæmorrhage, tumours, or abscesses, without the production of motor paralysis or of convulsions.

6. Destructive lesions of the fronto-parietal fibres are, on the contrary, as a rule associated with grave disturbances of voluntary motion. If these lesions are considerable, they cause a permanent hemiplegia of the opposite side of the body; if they are limited, they may occasion local paralysis, just as much as limited lesions of the motor zone of the cortex itself. This last fact is important, for it shows that the cortical motor centres are united

to the peduncular expansion by fibres anatomically and physiologically distinct in all their course between the cortex and the central masses.

7. The most prominent symptoms produced by lesions of the fronto-parietal fibres of the centrum ovale are aphasia, paralysis, primary contraction, convulsions, secondary contraction, and descending degeneration.

(a.) Aphasia is produced whenever the continuity of the fibres of the lower pediculo-frontal group of the left side is interrupted.

(b.) Paralysis is the result of destructive lesions of the medullary fibres which go from the motor cortical zone to the peduncular expansion.

(c.) Primary contraction appears to be the consequence of irritation transmitted to the nucleus caudatus by excitation of the cortico-striate fibres.

(d.) Convulsions appear to be also phenomena of irritation: they are early or late, and sometimes assume the character of general and sudden convulsions, sometimes those of partial epilepsy.

(e.) Secondary contractions and descending degenerations are late but certain consequences of considerable destruction of the motor fibres of the centrum ovale.

2. *Cerebro-Spinal Meningitis.*

James L., aged 14 months, was under the care of Dr. Gee, in Mary Ward, from August 25 to September 8, 1879. The postmortem examination was on Sept. 10, forty-five hours after death.

Body.—Lean; no marks of injury. Tibiæ bent; ribs beaded; distal ends of radius and ulna enlarged; anterior fontanelle not quite closed. Teeth normal. No exudation from mouth or ears.

Head.—Calvaria normal; dura mater normal. On raising the brain a copious deposit of soft lymph was found at the base. There was none around the optic chiasma, nor anywhere farther forward than the anterior edge of the pons varolii. The thickest layer of lymph was about the posterior part of the pons and near the superficial origins of the nerves from the medulla. There was neither lymph nor fluid in the fourth ventricle. The convolutions were much flattened, and the lateral ventricles and the third ventricle contained a large quantity of clear fluid. On the convexity of the cerebral hemispheres were a few small flakes of lymph under the arachnoid. No tubercles were discoverable in any part of the brain. On the superior surface of the cord, within the dura mater and one inch from the foramen magnum, were

numerous flakes of lymph, and there were more on the same surface in the lumbar enlargement, but none in the intermediate tract. In the cord itself nothing abnormal was observed.

The mesenteric glands were caseous, but all the other organs were free from morbid appearances.

The history of the case was that the child was said to have had a fall upon the back of its head a fortnight before admission. It was further said to have had two severe fits in the week before admission, and for several days it has always screamed when touched. It had never had a discharge from either ear.

The child died on the fourteenth day after admission. Its symptoms were violent vomiting, blindness, and cervical opisthotonos. My view of the case is that the fall was the real cause of the meningitis, and the symptoms are of interest in connection with the morbid appearances as supporting the observations of Dr. Gee and Dr. Burrow (St. Bartholomew's Hospital Reports, vol. xiv.), that basic meningitis in children under two years of age is a cause of cervical opisthotonos. In two of their cases, as in this, there was also spinal meningitis.

3. *Acute Hydrocephalus.*

This case is only worth recording as an example of acute hydrocephalus, with a very small amount of tubercle within the cranium.

William D., aged 19 months, died on March 20, after having been one day in the Hospital, and the body was examined thirty-one hours after death.

Body.—All the large joints rickety. Forehead prominent.

Head.—Calvaria and dura mater normal.

Brain.—Convolutions on both sides much flattened. Cerebral hemispheres adherent to one another. Corpus callosum much arched. In the subarachnoid space there was a large clear effusion (not turbid on disturbance). The ventricles were greatly distended by a similar effusion. Their walls were nowhere granular. On a careful survey of the brain no tubercles were found except one (examined microscopically) on the choroid plexus.

Chest.—The bronchial glands were enlarged, but not caseous; the other thoracic viscera were normal.

Abdomen.—On the under surface of the diaphragm were numerous minute tubercles, but none were found on any other part of the peritoneum. All the mesenteric glands were enlarged, and several were caseous and softened. The other abdominal viscera were normal.

I have not met with any record of a postmortem showing in a

child the appearances described in the first of these three cases. The second adds one to the collection of twenty-five published by Dr. Gee and Dr. Barlow in illustration of the variety of opisthotonos, which they were the first to elucidate; and the third is a contribution to the study of the cause of the cerebral symptoms in tubercular meningitis, a subject in which many points yet remain for exact determination.

ANEURYSMS WHICH DO NOT PULSATE.

BY

W. MORRANT BAKER.

A man, F. D., 40 years old, was admitted into St. Bartholomew's Hospital under my care in July 1878, on account of a popliteal aneurysm, which had existed for about seven months. When I first saw the patient, the symptoms were sufficiently distinctive to make me feel sure of the nature of the disease; but my friend Mr. Norton, under whose care the man had been for some time previously at the Holborn Union Infirmary, told me that he was for a time in considerable doubt as to the diagnosis, and that when he first examined him no pulsation in the ham could be detected.

I extract the following note of the case from that taken by the Surgical Registrar, Mr. Macready, soon after the patient's admission into the Hospital:—

The patient was quite well up to seven months ago, when he noticed a swelling in the middle of the right ham. It has increased but little since he first noticed it.

It has been the seat of occasional shooting pain; and this has been so severe at night, during the last six weeks, as to disturb his rest.

His health has been invariably good, and he has never had syphilis or rheumatism. He is short, spare, and of fair complexion.

There is a tumour filling up the right ham. The circumference of the knee is $15\frac{1}{2}$ inches; that of the left knee 12 inches.

On looking at the front of the limb, there is seen to be some slight fulness of the soft parts of the knee-joint below the patella. The subcutaneous veins of the leg are conspicuous, and the calf is fuller than on the left side. A rounded swelling projects in the ham. It fills the popliteal space, and passes for an inch or two down the inner side of the leg behind. The tumour is tense

when the leg is extended, and its presence prevents complete extension of the limb. Flexion of the leg can be made until a right angle is reached. The swelling is generally well defined, and is tense, elastic, and fluctuating in all directions. A very faint arterial pulse is felt in it when the limb is in extension. Faint as it is, however, the impulse is distensile. When the leg is flexed, the impulse becomes more distinct, but it is still very faint. The pulsation ceases when pressure is made on the femoral artery at the groin; and then, during flexion, the tumour becomes soft, yet still remains as a defined fluctuating swelling. The tumour cannot be emptied when the femoral artery is controlled. It merely changes from a tense to a soft tumour. No bruit can be heard. The pulse in the arteries of the right foot is less strong than in those of the left.

There is nothing abnormal in either the chest or abdomen.

It will have been gathered from the preceding account that the symptoms in this case were by no means so characteristic as usual. This fact, however, upon which I am desirous of laying stress, namely, the absence, or rather the uncertain character, of the usual symptoms, was made more evident still by the circumstance that among those who kindly examined the case with me in consultation after the patient's admission into the Hospital, a majority were opposed to the notion of the existence of an aneurysm. A pulsation so faint as to be sometimes imperceptible, and sometimes extinguished by the mere extension of the limb, did not seem a sufficient ground on which to found a positive diagnosis of aneurysm. It appeared to me, however, that still greater difficulties lay in the way of accepting any other interpretation of the symptoms, and I determined to commence the treatment as for aneurysm.

July 23.—Esmarch's bandage was applied to the limb for about thirty-five minutes, and the femoral artery at the groin was afterward compressed for twenty-five minutes. The pressure was then removed.

July 24.—It is noted that there is no marked alteration in the tumour.

As the aneurysm was not cured at this time by the elastic bandage, the symptoms became, as might be anticipated (from the reaction on the part of the blood-vessels which so commonly follows its application), somewhat more marked; and all doubt regarding the existence of an aneurysm disappeared from the minds of those who examined the limb at this time. The characteristic symptoms of aneurysm, although far less distinct than usual, were unquestionable.

The treatment was resumed 27th July. On this day, at about noon (12.15 P.M.), Esmarch's bandage was applied from the foot upwards nearly to the groin; the knee and the greater part of the aneurysmal swelling being left uncovered. No separate cord was applied, the femoral artery being controlled by drawing tight the last turn or two of the elastic bandage. No anæsthetic was administered.

In about an hour (1.20 P.M.), the bandage was taken off on account of the pain produced by it, and the femoral artery at the groin was controlled by the finger, on which was applied a shot-bag weighing about 10 lbs.

At 2.10 P.M., Esmarch's bandage was again applied in the same manner as before; and the patient was left to himself and allowed to take as much of his dinner as he fancied.

At 2.45 P.M., it became necessary, on account of pain, to remove the elastic bandage; but before its removal digital pressure was resumed with the finger and shot-bag, and continued until 4.10 P.M.

At this time, on removing the pressure, pulsation in the aneurysm could no longer be detected. The pressure was therefore discontinued and the limb left at rest.

July 28.—No pulsation in the aneurysm, nor in the tibial arteries of the affected limb, can now be detected. All pain in the limb has disappeared, and the patient has slept better during the night than for many weeks past. In the popliteal space there is still a large and soft but elastic swelling, fluctuating on pressure, and nearly painless. The generally swollen and tense condition of the neighbouring parts is beginning to disappear.

At the time of the patient's leaving the Hospital, about nine weeks after the cure of the aneurysm, a well-defined rather tense elastic swelling in the popliteal space, of about the size of a small hen's egg, was still present. Over it the integuments, however, were perfectly healthy, all signs of ecchymosis having disappeared; and there was not the faintest trace of pulsation. The swelling was situate exactly over the centre of the popliteal space, and did not extend to the calf of the leg. It gave the patient no trouble, and did not interfere in any way by its presence with flexion of the leg or any other movement of the limb. Indeed, unless his attention had been directed to it, he would have been probably unconscious of its existence.

Several weeks afterwards, I again saw the patient. There had been no return of pain or other trouble in the site of the aneurysm, and the swelling in the popliteal space, though still present, was diminished.

Many points of much importance and interest are raised in connection with this case. The question whether the case was really one of aneurysm may be left out of consideration. For although it would have been requisite to take this into account, as one of the possibilities, had the symptoms remained as obscure at the last as they were when the patient was first seen, the evidences of aneurysm became unquestionable at a later period, and there could be no doubt as to the nature of the disease.

In the first place, what were the conditions which obscured the characteristic signs of an aneurysm?

I am disposed to believe that the chief cause of the obscurity of the symptoms lay in the presence of a large quantity of blood effused from the sac, and extravasated in the textures around the aneurysm. Many circumstances point to this conclusion.

(a.) There was certainly a large quantity of fluid occupying the whole of the popliteal region, and extending beyond its boundaries, more especially in the region of the lower and inner part of the thigh. The swelling was very tense and elastic, as if the fluid within were tightly held under the fascia, and not as if it communicated freely with an artery into the channel of which it could be easily pressed. The size of the swelling, it is true, could be lessened by compression, but only to a small extent and by the exercise of considerable force, and, unless the manipulation was very carefully managed, with considerable pain.

(b.) The pulsation was very variable, and was at first influenced to a marked degree by the position of the limb. When the leg was flexed, and the fascia and other textures at the back of the knee thereby relaxed, expansive pulsation could be detected by careful examination. On the other hand, when the parts were made tense by straightening the leg, the pulsation was not always discernible; as if pressure must have been exercised on the collection of fluid beneath the tightened fascia, and through it upon the artery beneath.

(c.) The purplish bruise-like discolouration of the integuments over the popliteal space was quite sufficiently marked to render the presence of extravasated blood unquestionable. It was not by itself sufficient to indicate that the greater part of the swelling was due to the presence of extravasated blood, but, with other symptoms, its importance as a diagnostic sign was great.

(d.) The very acute pain which the patient suffered almost constantly, and which was sufficient to prevent his sleeping for more than a short period at a time, may be taken as adding to the probabilities that the aneurysm was not a simple saccular one.

I am aware that certain *a priori* objections may be raised to

the presence of a diffused aneurysm in this case. It may be objected that in a diffused aneurysm there is more widespread mischief than was here present; and that it is unlikely that a diffused aneurysm would be cured by pressure only. To both these suppositions I venture to demur.

Some amount of extravasation from a saccular popliteal aneurysm is, I believe, far from rare; and its commencement is not unfrequently the cause of that aggravation of the symptoms which leads a patient among the lower orders to seek for hospital relief. Fortunately, the opportunity of verifying this fact but rarely occurs; but in one case at least, that of a popliteal aneurysm under the care of a colleague, which had been treated by the application of a ligature in Scarpa's triangle, and in which amputation became necessary on account of secondary hæmorrhage at the site of operation, I have had an opportunity of proving the existence of extravasation where it had been previously suspected. The symptoms, however, were only such as not unfrequently accompany a popliteal aneurysm; and, unless my attention had been by chance specially directed to this point, I should not, more than others, have suspected that the aneurysm had given way.

The supposition that the leaking of blood from an aneurysm must lead rapidly to widespread extravasation is founded on theory rather than accurately observed facts, and is probably the exception, not the rule. In cases of aneurysm of the limbs, a slight amount of extravasation, when present, does not interfere with the cure by ligature or by pressure, and is, therefore, assumed not to exist. In the case of thoracic and abdominal aneurysms it is also not noticeable at an early stage of the disease. And when, in either case, widespread extravasation does at last occur, and leads forthwith to the loss of a limb or to death, the indications discoverable by postmortem examination of the comparatively slight leakage which went on for so long a time, are naturally not much regarded, even if the evidences of anything of the kind have not been swept away or rather concealed by the last fatal burst.

The argument that an aneurysm which is leaking cannot be cured by pressure on the artery above or by the Hunterian method of ligature is not one which can be supported by facts. In other words, the case is quite different from that of a punctured wound of an artery, to which, at first sight, it seems analogous. In the case of a punctured wound of a healthy artery, the uselessness of applying pressure or a ligature only above the wound depends on the fact that, with the establishment of an anastomosing system of vessels, the blood will again

find its way out of the hole in the artery, and the restraint of the bleeding will have been only temporary. In the case, on the other hand, of an aneurysm which is leaking, there is no such danger of hæmorrhage after deligation or the application of pressure above the seat of disease, inasmuch as the coagulated mass of blood-clot *within* the sac forms a barrier, when the anastomosing circulation is established, which is not present in the case of an opening in a healthy artery.

I may add that, in the case of popliteal aneurysm mentioned above (p. 79), examination of the limb after removal proved that all had progressed favourably so far as the consolidation of the aneurysm was concerned. The disease was apparently cured, and would, doubtless, have given no further trouble.

I have argued this case upon its own merits; but it does not stand alone, even within my own experience, as that of an aneurysm in which the leading feature of pulsation was partially or altogether absent.

CASE II.—The following case was brought before the Clinical Society by Mr. Hulke in March 1878, and is reported at length in the eleventh volume of the Society's Transactions, from which I abstract the following account:—

“A French polisher, aged 36, but much older in appearance, was admitted into the Middlesex Hospital, March 28, 1877, complaining of pain over his left shoulder-blade and down the back, and the inner side of his arm, so severe that it broke his sleep, and made it impossible for him to continue at his trade.

“On stripping him, a large prominent swelling was apparent on the left side, in the root of the neck and in the armpit. The collar-bone separated the cervical and the axillary parts of the swelling, which gave the whole somewhat of the figure of an hour-glass. The cervical portion reached outwards rather beyond the junction of the middle and outer thirds of the collar-bone, and it passed inwards under cover of the sterno-mastoid muscle so deeply, that when this muscle was fully relaxed, and the finger-tips were deeply pressed between its inner border and the windpipe, the innermost limit of the swelling could not be felt. The whole swelling pulsated strongly; the pulsation was extensile; it was not merely plain to the touch, but it was also evident to the eye, especially in the part above the collar-bone, and it was attended with a marked thrill and bruit, which were more intense near the posterior border of the sterno-mastoid muscle.

“The left wrist pulse was feeble as compared with that in the right radial artery, and the hand was purplish and cold, and

the forearm œdematous. . . . After a respite of a few days, for the purpose of getting him used to the ward and attendants, he was restricted to bed, and forbidden to sit up or rise from it for any purpose, and he was strictly enjoined to lie as still and to move as little as possible. The arm was bandaged from the finger-tips to the shoulder with a thin flannel roller. The aneurysm was painted with a liniment of Extr. Belladonnæ ℥ii., glycerini ℥i., and an opiate was given at night. His diet was limited to bread, ℥viii., and milk, a pint a day, with a cup of weak tea morning and evening, and he was allowed to drink as much water as he chose."

Considerable improvement resulted from this treatment. "Within a few days the aneurysm was observed to be less prominent, particularly the infra-clavicular part. At the end of a fortnight from beginning the treatment (April 16), this part of the aneurysm no longer conspicuously distended the front fold of the armpit; it was also firmer, and it pulsated less forcibly. The cervical part also was firmer, and certainly not so prominent. Pain, which at the date of his being taken into the Hospital was really severe, had by this time become relatively slight. Four days later (April 20), no pulsation could be detected in the axillary part of the swelling; beyond it, in the lowest part of axillary artery, only an extremely feeble pulse could be felt, and the presence of a pulse in the radial artery was doubtful. From this date there was a steady improvement in the condition of the aneurysm until the middle of May, when the pain returned, and the aneurysm began again to enlarge, and the pulsation and thrill, which had become very faint, again increased. The cause of this retrogression was rendered apparent on May 23 by an outbreak of violent drunkenness. His empty gin-bottle was discovered hidden beneath his bedding, and his wife, who had been allowed to visit him, confessed that she had surreptitiously brought him liquor, as he complained of being starved."

It will suffice to say, in reference to the further progress of this case, that, June 28, pulsation and bruit had completely ceased; but, July 9, a slight pulsation was again noticed at the upper and back part of the aneurysm, and this part seemed also slightly larger, and he again complained of pain. Treatment was renewed, but this was not followed by such marked improvement as was observed at the beginning; and his behaviour was so often troublesome and disorderly, that it was suspected that he was again surreptitiously getting liquor through his wife.

"August 8. — His misconduct made it necessary for the House Surgeon to discharge him. The infra-clavicular part of

the aneurysm was at this date a solid knot of about the size of an acorn. The cervical part was so shrunken that it no longer caught the eye when uncovered. It was quite firm, as if solid. A very feeble pulsation, not expansile, continued. I doubted whether this was in the sac itself, or simply communicated. No pulse could be felt in the lowest part of the axillary artery, and that in the radial at the wrist was so weak as to be barely perceptible."

So far, this case has no special bearing on the subject of this paper; but in the discussion which ensued at the meeting of the Clinical Society, it was stated that the man had, since leaving the Middlesex Hospital, been admitted into another Hospital; and that the symptoms were found to differ so much from those which commonly attend the presence of an aneurysm, that a strong doubt was felt by the physicians and surgeons who then examined him whether the case were really one of aneurysm at all.¹ It was stated that at this time there was a solid doughy tumour rising above the clavicle, uneven on the surface, and not pulsating except in transverse lines in the direction of certain superficial vessels. There was deep-seated dulness in the upper part of the chest, extending downwards to about the level of the third rib in front, and reaching to the back of the chest. The patient left the Hospital, but after a time returned, the tumour being then decidedly larger. Finally he was discharged for misconduct, and lost sight of. The tumour was considered to be glandular or malignant, though it was thought there might have been an aneurysm beneath it at one time.

In the course of the same debate the late Mr. Maunder remarked that he had two cases in his mind of very large swellings of the popliteal region in which (the history being unreliable) it was impossible to determine between aneurysm and malignant disease. Amputation disclosed ruptured aneurysm, the explanation being extravasation and coagulation of blood, which, being no longer circumscribed by the sac, ceased to pulsate.

A similar opinion was expressed by myself, on the strength of a case which occurred to me in 1872, and which is quoted below.

A curious coincidence threw this interesting case in my own way some little time afterwards. In the course of examination of some patients with my friend Mr. Norton in the wards of the Holborn Union Infirmary, he pointed out a patient whom I was able to identify, from the history, as the man whose case had been brought before the Clinical Society by Mr. Hulke.

¹ Lancet and British Medical Journal, March 16, 1878.

At this time the condition of the parts affected was, in an exaggerated degree, that which had been described as existing some time after the patient had left the Middlesex Hospital and had been admitted elsewhere. An enormous semi-solid mass occupied the supra-clavicular, infra-clavicular, and axillary regions, and in this no pulsation could be detected.

Through the kindness of Mr. Norton, permission to make a postmortem examination was subsequently obtained; and I am much indebted to Mr. Robert Lyell, who made the autopsy, for the following note, and to Mr. Hulke for permission to publish it:—

“An immense diffused aneurysm was found occupying the whole of the left side of the neck, from trachea to vertebræ, passing down behind the clavicle, filling the axilla, and through the superior aperture of the thorax into the left pleural cavity, occupying its upper third, and compressing the lung. It evidently sprang originally from the left subclavian artery; for a portion of the latter for about two inches of its length, beginning just beyond the thyroid axis, was completely obliterated as a tube, and actually formed part of the anterior wall of the aneurysm. Beyond this, for about an inch and a half, the vessel was normal; and on the axillary artery was a second aneurysm of fusiform shape, the size of a walnut, and completely plugged by laminated coagula.

“The main aneurysm possessed anteriorly a well-formed sac, which was altogether deficient posteriorly, being replaced by the natural tissues. It was filled partly by firm decolorised, and partly by loose dark clots, in large quantity.”

CASE III.—The detailed account of this case is unfortunately contained in a volume of Hospital Registrations which has been by some mischance lost, and I am unable to quote it fully. The following, however, are its leading features.

A man (A. B.), aged 39, was admitted into St. Bartholomew's Hospital under my care in August 1871, on account of an aneurysm of the second and third portions of the subclavian artery, which had given him for some time considerable pain. The characteristic symptoms of an aneurysm were well marked. The case was not one in which operative interference would have offered a reasonable prospect of success; and the patient was therefore confined to bed, and kept at rest as much as possible, and dieted. So far as I can remember, however, and in this I am confirmed by Mr. Strugnell, who was a dresser in the ward at the time, the rules laid down as to diet were not extremely strict.

Considerable local benefit seemed to result. The aneurysm became firmer and its pulsation much less distinct; and had it not been for the pain which the patient continued to suffer, and for some apparent extension of the swelling in the direction of the axilla, one would have felt sure that all was progressing favourably in the direction of consolidation. After some weeks, however, of continued and increasing suffering, it became plain that with the diminished pulsation there was increase of the swelling in all directions; and at length death occurred, January 5, 1872, five months after the patient's admission into the Hospital.

Examination *post-mortem* cleared up all doubts regarding the cause of the increased swelling and diminished pulsation. Large masses of blood-clot of various ages formed the greater part of the tumour, and besides filling up all available space in the neck and armpit, had extended also, as in Case II., into the thorax on the same side.

There had been gradual extravasation of blood from the subclavian aneurysm, the walls of which were merged in the larger swelling, which had to a great extent obliterated its proper outline.

The foregoing cases appear to me sufficient for establishing a clinical fact which, if known to many, is not universally recognised; the fact, namely, that the absence of pulsation is not to be regarded as incompatible with the existence of an aneurysm. But I cannot doubt that, with but little trouble, many more cases might be found illustrating the same thing. The two cases referred to by Mr. Maunder (p. 82) are examples in point; and a friend tells me of another in his own practice, in which, after consultation with a surgeon whose skill and large experience are above question, a tumour which seemed, without any doubt, malignant, proved, after amputation of the thigh, to be a popliteal aneurysm.

REMARKS ON ANGINA PECTORIS.

BY

V. D. HARRIS, M.D.

Since the time, about a hundred years ago, when angina pectoris was first described by Heberden,¹ there have been many articles written upon it by various distinguished men, among whom was Dr. Latham; and in quoting above, nearly word for word, the introduction to his account of the symptom, I may also quote in continuation his conclusion, "that its pathology is still doubtful." Various distinct views have been taken as to its causation, and an almost endless variety of new names, intended to indicate its nature, have been proposed. It was called, "syncope anginosa" by Dr. Parry, who first published Edward Jenner's views, that the symptom depended upon ossification of the coronary arteries; "epileptic neuralgia," by Trousseau; "asthma dolorificium," by Darwin; and very early "angine de poitrine," by Desportes. Of authorities, Parry, Latham, Wickman, Walsh, Friedreich, Bamberger, Desportes, Lænnec, Hope, Stokes, and Brunton may be mentioned. The most recent epitomes of the literature of the subject are given by Dr. Gairdner in Reynold's "System of Medicine," vol. iv., and by Professor Eulenberg in Ziemssen's "Handbuch, d. spec. Patholog. u. Therapie," Bd. xii. 2. In this paper I propose to offer some short remarks on its frequency, associated diseases, and varieties.

Frequency and Associated Diseases.—Lænnec² states that "angina pectoris in a slight or middling degree is *extremely common*, and exists very frequently in persons *who have no organic affection of the heart or large vessels*. . . . On the other hand, it is certainly true that this affection frequently coincides with organic diseases of the heart; but nothing proves, even then, that it depends upon such diseases, inasmuch as they are of various kinds, and as the angina exists without any of them." This description differs greatly from those ordinarily given. True angina pectoris, according to Latham's definition (which I shall state lower down), is not by any means common, and although possibly more frequent in private than in hospital

¹ De dolore pectoris, 1796.

² Diseases of the Chest, 4th edition.

practice, even among the wealthier classes it is rare. It seems probable, therefore, from Lænnec's description, that he includes under the term the various neuralgic affections of the neighbourhood which are known as cardialgia, pleurodynia, and gastralgia, and also the intense dyspnœa or orthopnœa, with pain produced by pressure upon the vagi or recurrent laryngeal nerves. In treating of the varieties of the affection further on, we shall see that Lænnec distinguished between these cases.

In the past year, during which time I have purposely noted all the heart cases, about eighty, which I have been able to examine carefully, of which thirty-five were seen (in six months) at the casualty department of St. Bartholomew's, and the rest elsewhere, principally at the Hospital for Diseases of the Chest, Victoria Park, comprising the young and old, and of both sexes, in only two have I had clear accounts of angina pectoris—assuming Latham's definition, "Pain of excessive severity passing through the chest to the spine, arising suddenly and ceasing suddenly, and accompanied, while it lasts, with a feeling of approaching death, with or without extension of the pain to one or both arms, most frequently to the left, and stopping at the elbows, sometimes to the right and sometimes to both, and sometimes reaching to the fingers."¹

The cases were distributed as follows:—

Mitral Disease—	Cases of Angina Pectoris.	
a. Regurgitation	28	
b. Obstruction	14	
c. Both	12—54	0
Aortic Disease—		
a. Regurgitation	6	
b. Obstruction	0	
c. Both	6—12	2
Aortic and Mitral Disease	11	0
Tricuspid—		
a. Regurgitation	0	
b. Obstruction	0	
c. Both ²	1—1	0
Pulmonary	0	
Aneurysms of Aorta	2	
	80	2

As the cases are instructive, they may be given:—

CASE I.—J. V. H., warehouseman, aged thirty, came under my care at Victoria Park Hospital at the beginning of March 1879. He was a fair nourished although anæmic man. He came complaining of attacks of dyspnœa and pain in chest indicating angina pectoris. He had been perfectly well, according to his account, up to the preceding Boxing-Day, when suddenly, whilst singing a solo in some musical entertainment at a large East-End theatre, he "*felt something give way in his chest,*" and

¹ Latham, Subjects connected with Clinical Medicine, 1846, vol. ii. p. 366.

² Confirmed on autopsy.

had a spasm of dyspnoea, from which he has occasionally suffered since. He did not know that he had heart disease. There was no history of gout, rheumatism, or syphilis in patient himself or in his family.

Examination of Heart.—Heaving impulse; diffused apex-beat, somewhat but not greatly out of normal position; cardiac dulness displaced down and out; a loud double murmur, “*saw-saw*,” heard all over præcordial region, especially down sternum and over ensiform cartilage, also heard at apex, but towards axilla the murmurs become softer, “*whiff-whiff*;” the murmurs heard behind at angle of scapula, but less distinctly; pulse 80, sudden and jerking.

The history and the physical signs appeared to indicate rupture of aortic valves, as at any rate no other plausible explanation was forthcoming.

CASE II.—Charles A., aged 31, salesman, married, three children, youngest about two years old, came to Victoria Park Hospital in June 1879. Said that he was quite well five years before, and a great athlete, and that he was in the habit of lifting very heavy weights. One day he was lifting two 56 lbs. weights, just to see whether he could do so easily; he felt something give way in his left side. He had no great inconvenience, except that he did not feel very well, until he went to recruit at Margate, three weeks after, and there he had his first attack of angina. He came home at once to consult a medical man, and the first one who examined his chest warned him of his extensive heart disease. He had various attacks of the symptom, which nearly always came on after exertion of some kind. After each severe attack he seems to have consulted a new medical man, so that he had seen a very large number of the principal medical men in town.

He said that the fit comes on suddenly, with intense pain in chest, running down the inside of the left arm, and in the latter place it was as though the flesh were being torn off the bone with pincers. When the attack comes on he feels as though he could not breathe any more, but has to pull at the clothes about his neck. Sometimes the attacks are simply dyspnoea, but in these there is not so much pain, neither do they appear to him to be serious; the great seizures, occurring more rarely, have come on even from the exertion of getting up in the morning, and they appear to him to endanger life.

Examination of Heart.—Apex-beat diffused and outside nipple, four or five inches below, and one and a half outside; very heaving epigastric and arterial pulsation; impulse in second right interspace over aortic valves, but no marked thrill; bulging of præcordia; dulness immensely increased, displaced down and out; double murmur of great intensity and high pitch, almost musical, heard all over chest, especially over aorta; the systolic trace-

able into arteries, and heard even in radial; no murmur in epigastrium; the murmurs heard almost without aid of stethoscope. From the history of the sudden onset of the heart disease after tremendous exertion, the youth of the patient, and the absence of history, whether personal or family, of gout, rheumatism, or syphilis, and of atheroma (from feel of radial and other arteries), together with the intensity of the murmurs, I am induced to believe it to be a case of ruptured aortic valve.

In addition to foregoing cases I may add notes of a third, which does not satisfy the definition exactly, but was more likely one of cardiac asthma.

CASE III.—A. Q., aged 41, a thin, pale, and ill-nourished woman, was a patient in September last. She came complaining of spasmodic attacks and difficulty of breathing with slight pain. Chest very deformed (lateral curvature of spine); apex-beat much displaced in consequence; a very loud systolic murmur heard all over præcordia, chiefly at the base and apex; possibly, therefore, two.

Although the dyspnœa or orthopnœa was spasmodic, the pain the patient complained of was evidently not in her eyes anything like so important as the dyspnœa, and therefore we can hardly class it as a case of true angina pectoris.

Examining the statistical tables of St. Bartholomew's Hospital of the last seven years, I find only ten cases of angina pectoris, nearly, if not quite, all connected with disease of aortic valves; and in these tables *angina pectoris* occupies a distinct fixed position, and so it is unlikely that any instances are omitted.

Table of Cases of Heart Diseases and Angina Pectoris.

Year.	Aortic.	Mitral.	Other Cardiac Affections and Aneurysms.	Total.	Angina Pectoris Cases.
1874	24	37	18	79	2 male. 1 female.
1875	24	27	20	71	2 male.
1876	30	57	16	103	1 male.
1877	26	86	46	158	1 male.
1878	34	77	32	143	2 male.
1879	25	64	30	119	1 female.
Total	163	348	162	673	10 8 male. 2 female.

So that we see that in the 673 cases of heart disease, including aneurysms of the aorta, only ten have been affected with true angina, allowing about $1\frac{1}{2}$ per cent. The ages of the patients were as follows:—

Years.	Cases.
15—30.....	2
30—45.....	4
45—50.....	4

Both my patients were just over thirty.

It is acknowledged generally that disease of the aortic valves often goes with angina pectoris, but in no account that I have read has the sudden *incompetence of those valves from rupture* (such as occurred in my case) been stated as likely to produce it, as it appears to be the general idea that atheroma, together with or produced by gout, is the general lesion producing it. In one patient in the above table, aged between fifteen and twenty, with aortic disease, gout would have been an unlikely cause. As regards sex, according to our table the male is much the most liable, and strangely enough in Dr. Gairdner's paper no full-length account appears of any female patient affected with angina, whereas he describes in detail the celebrated cases of Seneca, Dr. Chahners, Dr. Arnold of Rugby, and John Hunter.

In the table of Forbes, the proportion of women to men was 1 to 10, and the age of the patients was above 50 in 72 out of 84 cases. Of complete cases, organic disease of the heart was found in 39 out of 45, and in more than half the aorta was affected; but he does not, however, mention the possibility of sudden angina coming on with ruptured valves in youngish people. All authors appear to agree in associating angina pectoris with gout; and this may account for the fact of the infrequency of angina among the hospital out-patients with aortic disease, as in the cases of which I have notes there was not a single one with a clear personal or family history of gout. As a matter of fact,¹ intense pain in the side, in paroxysms, running down the inside of left arm, is not uncommon in dyspeptics, and the gouty are frequently troubled with dyspepsia, but such cases are not treated of in my table. Rheumatism predisposes (Trousseau).

The stated occurrence of angina with aneurysm (Trousseau, &c.) receives little support from the Hospital table, as in ninety-seven cases of aneurysm of the aorta there is no record of this symptom. I have notes of two cases which might have been called by Lænnec or Parry syncope anginosa. Two men with

¹ Hope, Diseases of Heart, 3d ed., p. 498.

aneurysm of the arch (one of middle, other of descending aorta) suffered attacks which occurred suddenly, commencing with intense pain in the chest. The first, a sailor aged 40, died in one of these paroxysms (the second during his stay in the hospital). It was noted at the bedside that the attack was almost exactly like an epileptic fit. On autopsy it was found that the aneurysm had eroded several of the dorsal vertebræ, and that there was evidence of *pressure upon the left vagus nerve*, which was greatly flattened. In the second, the patient also died in one of these attacks, which was about the fifth during his stay in Hospital, and here the left recurrent nerve was affected, as well as the left vagus. These cases may also be instances of Trousseau's "epileptic neuralgia."¹

Varieties.—It appears evident from the foregoing that various and distinct classes are included under the title of angina pectoris, the very different accounts of the pulse alone pointing this out. Some state that the pulse at the wrist is not to be felt during a paroxysm, and others that it is quite unaffected. The classification into (1.) True, and (2.) False, adopted by several authors, is of course dependent upon what each considers a typical case, and so variable. Dr. Forbes divided the cases as follows:—

(a.) *Organic.*

- (1.) Occurring with heart disease, the symptoms of angina being less prominent than those of the heart disease. These are few in number and moderate in intensity.
- (2.) Occurring with heart disease in which the angina altogether masks the heart disease, almost seeming to precede or cause it. This includes the greater number of the severe cases, and in these the derangement of the system generally is great.

(b.) *Functional.*

- (1.) Occurring with feeble action of the heart without other disease. Not rare.
- (2.) Occurring with feeble action of the heart together with other disease. These contribute a very considerable proportion of the cases met with in practice.

Dr. Stokes² said that he had never seen a case such as those described by Dr. Latham, nor of the purely nervous ones of Lænnec, or "functional subclass I." of Forbes; he considers that the vast majority of the cases of so-called "*angina pectoris*" were in reality cases of cardiac asthma, "probably examples of the combination of a dilated heart with *congestion and spasm*

¹ Clinique Medicale, vol. ii. p. 527.

² Diseases of Heart and Aorta, 1854, p. 488.

of the lungs." Dr. Hope,¹ on the other hand, considered that all cases of true angina pectoris were connected with organic diseases of the heart or of its appendages; all other cases, such as those connected with hysteria, dyspepsia, hypochondriasis, plethora, enlarged liver, or other abdominal tumour, or without sympathetic irritation, he considered unworthy of the name. Many authorities look upon angina as neuralgia of various nerves. M. Desportes² places its seat in the vagus, because the lungs as well as the heart are affected with pain, and have their functions disturbed.

Lænnec,³ looking upon the affection as nervous, gives the following sets of nerves as those which may be affected sympathetically with angina pectoris (which he considers, with Desportes, to be a neuralgia of the vagus or of the cardiac sympathetic):—Almost any branches of the brachial plexus, anterior thoracic from superficial cervical plexus, and any branches of lumbar and sacral plexuses.

It is unnecessary to cite further authorities, as the above quotations illustrate sufficiently well that the authors are either describing altogether different conditions or several varieties of the same state. In conclusion, it may be as well to draw up in a few paragraphs what seems to be the present state of our knowledge of the subject:—

1. That there are at least two varieties of the symptoms classed under the head of "angina pectoris," the first in which the attack of pain is severe, accompanied by dyspnoea, or by the sense of suffocation, with or without alteration in the pulse, is unfrequent, and may end in sudden death; whilst in the second, the pain, which is less severe but more erratic, is less often accompanied by dyspnoea and alteration in the pulse, and is less dangerous but more frequent.

2. That the first variety is nearly always associated with valvular disease, of which the most frequent kind is aortic incompetence, whether produced by rupture, atheroma, or in any other way.

3. That the second variety is seldom associated with valve disease, but rather accompanies dyspepsia and kindred disorders, but may be complicated by a weak heart.

4. That both varieties are closely connected with gout, and occasionally with rheumatism.

5. That the *exact* pathology of either condition has not been made out.

¹ Hope, loc. cit.

² De l'Angine de Poitrine, 1813.

³ Loc. cit.



STUDIES OF SOME IRREGULAR MANIFESTATIONS OF GOUT.

BY

DYCE DUCKWORTH, M.D.

It is alleged that gout is more commonly met with now than has been the case for the last twenty-five years. Whether this be a fact, or whether gout and gouty manifestations are more readily recognised than formerly, it is not quite easy to determine.

Seventeen years ago, Sir George Burrows stated that he then met with less gout than he had been accustomed to see in his earlier practice, signifying thereby cases of regular acute gout.

In a recent discussion upon the subject in one of the medical societies in London, it was affirmed that the disorder was now more commonly seen amongst the lower orders in the metropolis than formerly, and increased consumption of animal food and malt liquors was suggested as a possible cause of it.

Sir Robert Christison believes that gout is now more frequently met with in women than formerly, and thinks the reason for this is, that many of them now live as highly as men, which used not to be the case.

Certainly a large advance has been made in the recognition of gouty states, and of the conditions of the various textures of the body as influenced by gout, during the last quarter of the century. For example, differential diagnosis has been made between osteoarthritis and chronic gouty affections of the joints; the condition of the vascular system, and the changes induced in the kidneys by gout have been very clearly established, as well as the special connection between lead-impregnation and this disease; likewise the occurrence of temporary gouty glycosuria.

Again, certain points of high importance in relation to diagnosis have been made out, respecting, more particularly, the physiognomical aspects of those who inherit and develop gouty manifestations.

The commingling of gouty with other diathetic taints, such as

scrofula, cancer, and syphilis, has been demonstrated by Laycock and Paget, and the inhibitory action of the gouty upon the tubercular diathesis has been demonstrated by J. E. Pollock and others.

Facts continue to accumulate, also, showing the dependence of certain nervous conditions upon gouty affection, some of which indeed lend support to the neurotic theory of gout itself.

In any case, it may fairly be said that there is still much in the whole subject to be studied, and that the modern physician can never lose sight of the last additions to our knowledge of it.

The out-patient practice in a London hospital furnishes ample material for study of gout in all its forms, and I have availed myself freely of the opportunities that have fallen thus before me. It might be remarked that such a field would present a large number of cases that should be termed "poor man's gout," but I may here state that I fail to perceive any difference between the gout of the rich, and that of the poor. When cases manifestly due to rheumatic influence, to osteo-arthritis, and to so-called gonorrhœal rheumatism are absolutely excluded, those the result of true gout fall into a large and well-defined category, about which, with proper precautions, no reasonable doubt can be entertained. Such cases in their varying aspects and degrees demand, and respond to, the same principles of treatment in all classes of society.

Many of the points to which attention is directed in these pages have been studied with the pupils in the out-patient room. Such a sphere affords large means for the prosecution of the so-called physiognomical diagnosis; and as I believe this method to be highly valuable and helpful in daily practice, I make full use of it in the first instance. The errors to which it sometimes leads are subsequently dispersed by further inquiries, and by physical diagnosis. And so all the varying types and phases of the several diatheses come to be studied both in their simple and in their commingled forms, as well as in relation to their corresponding cachexiæ.

Physicians who practise chiefly amongst the affluent classes of society in this country, are not unfrequently twitted because they attribute a large proportion of the ailments they are called upon to treat to gout or gouty influence. The idea that many of the troubles demanding relief are really of gouty origin is scoffed at, because in so large a proportion of the cases there is no overt gouty attack, as commonly recognised. Putting aside, however, a fair number of cases in which the opinion expressed serves for little better than a cloak for want of more exact knowledge, or in which the term is applied merely to appease undue anxiety—for few persons are really shocked to be

told that they are gouty, and formerly, indeed, it was considered rather a social distinction—there still remains a large number of cases in which ailments and discomforts due to true gouty influence demand exact recognition.

Such cases have long been known and described as those of irregular, or, as Sir James Paget terms it, incomplete gout.

Senator expresses his belief that irregular gout is evolved from the typical form when the latter has existed for many years, and that it is met with chiefly in elderly people.¹ This is without doubt the case in a large proportion of instances, but this view will not explain the existence of symptoms and numerous ailments which occur in the persons of those who are goutily disposed, who are entitled to gout, and whose bodily disorders are plainly impressed with the gouty type. It is the occurrence of the minor and less well-marked forms of gouty trouble that have so long escaped exact recognition, and which even now do not readily receive this explanation, and it is for these that I now plead a due appreciation. In his masterly Croonian Lectures for 1874, the late Dr. Murchison took very full account of such ailments, and discussed the question of their truly gouty significance by the light of his large and exact knowledge of functional derangements of the liver. He there reviewed many of the opinions put forth by Sir James Paget² in his Clinical Lectures (which constitute the most complete contributions that have been made to this subject up to the present time), and was led to assign the bulk of the symptoms referred to to lithæmia, itself the result of disordered hepatic function.³ He showed, what all must fairly admit, that many of these ailments occurred in persons who had no other claim to be considered gouty, but I think he failed to recognise that these were often substitution-forms and manifestations of the gouty habit. For it is claimed that, as will be shown presently, these troubles are truly the outcome of imperfectly developed attacks of gout in persons who do not, as a rule, display obvious and readily recognisable gouty symptoms, and their true place comes to be assigned to them by careful attention to their nature, to their peculiar type, and to their relation in respect of the life-history of the several patients. If, for example, it can be shown that certain special tissue-characteristics appertain to the persons of those who are of gouty diathesis, and which can be

¹ Art. in Ziemssen's Cyclopædia.

² Clinical Lectures, Brit. Med. Journal, 1875, vol. i.

³ "I hold that what is called a 'gouty diathesis' always indicates, and is the result of, hepatic derangement, and that many symptoms commonly referred to gout would be more correctly ascribed to disorder of the liver. . . . Gout itself is merely one of the results of lithæmia."—*Lectures on Diseases of the Liver*, 2d ed. p. 568, 1877.

readily recognised, the case may be taken as fairly proven, and we may proceed to dogmatise with the same certainty in regard to the gouty subject, that we do when we satisfy ourselves respecting the existence of the strumous habit, or the syphilitic cachexia. To claim for all these imperfectly developed phases of gout that they are due to hepatic distemper, is to beg the whole question of the theory of gout, and for this we are certainly not yet prepared. We know a good deal, but we have still large acquisitions to make upon this subject. Anomalous cases occur from time to time, in which it is difficult to pronounce with certainty whether the symptoms are entirely due to disordered hepatic function, or are truly irregular manifestations of gout. A so-called antilithic course of medication not unfrequently affords relief to the troubles, and so the hesitancy is not seldom due to a conflict about terms rather than about different things. Dr. Murchison pointed out what had not, so far as I know, been plainly shown before, that the morbid tendency to hepatic derangement is itself inherited, and it will be in the experience of most observant physicians that some members of a family manifest this liability to disorder of the liver, while others are more obviously gouty. The term lithæmia covers the underlying condition common to both very fairly. What is now contended for, is the fact that we must not draw a hard and fast line in respect of the presence or absence of *arthritis* in any given case. Hitherto it has been too much the custom to be dogmatic only as to true gout when some articular structures happen to be implicated.

It is now maintained that the true gouty taint not unfrequently impresses its type upon the affected individual in other textures, and in other modes of perverted nutrition, with almost equal significance.

It will appear that the principal points aiding the diagnosis of irregular gouty manifestations, are to be arrived at by a careful study of the physiognomy and of various textures of the body. In many instances, the family and diathetic histories of the patient fail to afford much information, but the same is often the case in true gout. There are certain definite traits peculiar to the gouty habit which, in varying degree, underlie even its most irregular manifestations. A knowledge of these is essential. Amongst the most prominent should be mentioned the plainly paroxysmal nature of gouty processes. This is so marked a feature, indeed, as to have afforded one of the strongest arguments whereon to base the neurotic theory of the whole disorder. This paroxysmal habit attaches to the mildest manifestations of irregular gout, and a due recognition of this fact is a valuable aid to diagnosis.

To pass to the subject we have particularly in hand, we may

refer to a large number of disorders of various parts of the body, which arise either in persons who have had, or are occasionally the subjects of, true gouty paroxysms, or in those who plainly inherit gouty taint, or are exposed to such conditions as will generate gout.

To ascertain the nature of any ailment we may suspect to be gouty, we are advised by Garrod to seek for history of hereditary predisposition, and the degree in which this exists, and to search for the operation of any predisposing causes; also, to have regard to the age and sex of the patient, and to inquire for history of any joint-affection. In doubtful cases he recommends the examination of the blood-serum, secured either by small venæsection or blistering, for the presence of uric acid.¹

It must be confessed that in the large majority of cases of irregular gout we are quite unable to avail ourselves of the latter methods. The inquiries respecting hereditary influence in this disease, as indeed in all diseases, are but too often replied to so vaguely as to afford no facts whereon to found an opinion. The patient too commonly has no knowledge, or what he has may be really incorrect. I have already alluded to the frequent absence of joint-affection in this particular class of cases.

To enter upon a complete description of irregular gout is not within the scope of the present paper. The subject is a very large one, demanding the fullest and fairest consideration of all the known theories about gout. I am only here concerned to record such observations as I have myself made upon several of the leading symptoms presented by irregular forms of gout; and my chief plea for putting these forth rests in the fact, that I have made careful study of them for some years. I have had no other object in view but to render my knowledge more exact, and I have striven to avoid the many fallacies that naturally beset such inquiries.

The knowledge we have of regular gout is very large and precise. The fact that so many sufferers are persons of trained observation and culture has aided much in securing this. In the case of the minor ailments due to imperfect gout, the knowledge hitherto attainable has been inextricably mixed up with accounts of symptoms due to rheumatic and other influences. The type of gouty (inflammatory or other) affection is apt to be sudden and explosive in its outset. This feature holds good of the milder equally with the graver forms of gouty manifestation.

Much difficulty attends the diagnosis of minor gouty ailments in many cases, because regard is mostly had to some very overt and plain tokens of the disease. Thus, it is common to hear objec-

¹ Uric acid may exist in excess in the blood without giving rise to gout, as Garrod himself admits.

tion made to an opinion as to the truly gouty nature of a case, because no tophaceous deposits can be found, or no history of an attack in a big toe, at some previous period, is obtainable. And again, it is objected that there can be no gouty element, because the patient has earned the right to the ailment neither by heredity nor by his personal habits.

In opposition to doubts of this nature, I am most deeply impressed with the fact, that it is just in cases where no marked coarse, objective, signs of gout exist, that we should look for the presence of the minor tokens of the affection, and just in such cases that we commonly find them. Irregular and incomplete gouty symptoms occur both in those who are the victims of regular, exquisite, attacks, and in persons who have never had, and perchance may never have, a typical precipitation of regular gouty inflammation. The most marked instances are certainly to be found amongst the latter class, although even in these it is never safe to predict immunity from a regular attack, since such may not supervene till the ninth or tenth climacteric period of life.

A study of the irregular phenomena of gout is of much importance, and tends to shed light upon the nature of the disorder, or at least to clear the way for a better knowledge of its laws. The pathology of gout still requires much elucidation, and many difficulties encompass the study of it. I feel confident that there has yet to be shown, and developed, a great deal of knowledge respecting the influence of the nervous system in the production of gout, and believe that at some future time Cullen's assertions respecting the malady will be more completely verified and vindicated.¹ At the present time, the view that gout is simply significant of uric acid-excess in the blood may be said to be most generally held; such excess, however, may after all not really constitute the essential cause of gout. Garrod's researches carried forward the pathology of this disorder to a greater degree of exactness than had ever been attained before, and his facts have never been controverted.

¹ "Gout is manifestly an affection of the nervous system, in which the primary moving powers of the whole system are lodged. The occasional or existing causes are almost all such as act directly upon the nerves or nervous system, and the greater part of the symptoms of the atonic or retrocedent gout are manifestly affections of the same system. This leads us to seek for an explanation of the whole of the disease in the laws of the nervous system, and particularly in the changes which may happen in the balance of its several parts. Of the several pyrexia which are diseases of the sanguiferous system, some are with, and others without a considerable affection of the nervous system: pyrexia and neuroses, therefore, are necessarily and unavoidably mixed more or less with one another. Of those which are mixed, gout is a principal instance, in so far as it is an inflammatory disease; like rheumatism, it is placed among the pyrexia, but it is among the limits between pyrexia and neuroses, and shows more than any other pyrexia does of an affection of the nervous system."—*First Lines of the Practice of Physic*, part i. chap. xiv.

While fully accepting them, the late Professor Laycock taught at Edinburgh, twenty years ago, that these aberrant relations of uric acid, and the whole perverted chemistry of gout, were but symptoms—epiphenomena—of a more profoundly-seated and overruling neurosis. It is, however, by no means an easy task to sustain the thesis that gout is a pure neurosis, although many arguments can be adduced in support of it; yet it cannot be denied that too little attention has been given to the influence of the nervous system in determining disorders which appear to be due to dyscrasiæ of the fluids.¹

Continental professors have not contributed much to the common stock of knowledge respecting gout. Indeed, as Dr. Pye-Smith² has shown, the term is still loosely employed in Germany. Trousseau, N. Gueneau de Mussy, and Charcot have, however, well-vindicated the reputation of the Parisian school for accurate teaching on this subject: albeit, the beef-eating and beer-drinking English have furnished the physicians of this country with the amplest supplies of material for clinical study; and whatever theory of gout be uppermost for the time being, the facts of an over-nitrogenous diet as a powerful element of causation can certainly not be ignored.

According to the views of some authorities, the gouty habit, once attained, can hardly be thrown off, and thus the paroxysms should only be regarded as prominent features of it, the predisposition constantly remaining, and being more or less prone to be locally determined and manifested. The fact that some patients have only one or two attacks in a lifetime, would seem to throw some doubt upon the uric acid-theory of Garrod as being capable of universal application.

It is sufficiently intelligible that gouty inflammation may be primarily determined in a part by some local injury, or by such cause as lowers the nervous energy of the particular textures. But when once an attack has occurred, there remains the peculiar liability for recurrence, without, in every instance, a distinct or overt determining cause. Thus, gouty phlebitis may be excited in the first attack by some local injury, but the same veins will again and again prove the seats of recurring gouty inflammation, with thrombosis, without manifest local injury, or with, at any rate, very trifling provocation.

It is an error to suppose that the irregular manifestations of gout are mostly witnessed in the affluent classes of society. Hospital practice furnishes numerous examples, if they be sought for

¹ Dr. Edward Liveing has adduced powerful arguments in favour of the neurotic theory of gout in his elaborate work on Megrin, 1873.

² Guy's Hospital Reports, 1874.

and detected. Hard-worked men living in towns, whose occupations are mainly sedentary, suffer in considerable proportion, and especially are those affected who use their brains and undergo great mental labour. In such instances there is often found to be a large appetite for food, for brain-work and wear of the nervous textures will, equally with muscular energy, create this; but a limit is placed to sufficient oxidation by reason of the necessary urban and confined life, and the consequent defective aëration. If no relief be afforded, a measure of dyspepsia ensues, usually of catarrhal form, and pains and fulness are complained of in the liver. A sort of cumulative plethora is thus from time to time set up, and it is at such crises that a sudden precipitation of gouty inflammation may be looked for. A regular attack of acute gout may occur, or, if no special depressing cause comes into play, then some minor or irregular token of gout appears.

In the cases of those who lead very uniform and regular lives, these troubles occur if the gouty taint is present; but the proclivity is much aggravated by indiscreet indulgence in food or drink, or by undue exposure to chill and changeable weather.

Mr. Prescott Hewett's remarks on some of the irregular manifestations of gout are particularly apt and instructive.¹ He refers to "dyspepsia, more or less troublesome; frequent deposits of lithates; slight eczematous eruptions from time to time; anomalous pains in various muscles; sharp, deep-seated pain in the tongue, existing for two or three days, and then disappearing altogether for a while; crackling about the cervical spine in slight movements,² more or less; sometimes a mere suspicion of knottiness about the smaller joints of the fingers." And he adds, "The great difficulty in such an investigation is to get at a clear recognition of such trifles, for, disappearing as they do for awhile, they are forgotten until recalled to the mind."

I believe that many of the anomalous pains above described, in muscular, fibrous, synovial, and articular structures, are truly gouty in their nature, but they are more frequently ascribed to "rheumatic" influences.

I have met with gouty pain in the tongue in at least one instance. It seldom lasted more than a day or two, and recurred at irregular intervals.

Much might be written about the knottiness of the smaller joints due to true gouty affection. That Heberden's nodes are not gouty is taught somewhat dogmatically. Heberden denied that what he termed *nodi digitorum* were due to gout, and only

¹ Inaugural address, Clin. Soc., 1872.

² Crackling sensation in the upper part of the spine was recognised by Brodie in 1842 as a gouty symptom, and he related having met with several cases.

such as are situated on and limited to the distal phalanges of the fingers can be properly thus described. It would, however, be a matter of difficulty to be honestly dogmatic in demonstrating the *non-gouty* character of these in many instances.¹

If the criterion of a gouty arthritis be the presence of tophaceous deposit, then the majority of digital nodes must pass for non-gouty formations. The distinctions between the distortions due to gout, and those resulting from osteo-arthritis in the fingers, are readily recognised in many instances, but those who are well qualified to utter an opinion in such a matter will be most ready to confess the extreme difficulty of arriving at a clear decision in a large proportion of cases, and the various probabilities will often be balanced only after a careful review of the life-history and habit of the individual. Tophi are more often absent than present in deformity due to true and regular gouty arthritis—that is, obvious skin-concretion. In cases of chronic and incomplete gouty joint-change, I have often observed that the articulations become bulbous, especially those of the last phalanges, and the little finger tends to curve in towards the ring-finger. The last joints of the little finger thus become like small liliaceous bulbs. The distortion of the fingers towards the ulnar aspect of the limb is certainly much more common in osteo-arthritis than in true gout, but many exquisite examples of gouty and tophaceous arthritis lead to this peculiar diversion, as is proved by cases I have myself seen, by drawings in various books, and by models of gouty hands in our Museum. The cause of this axial distortion is to be found in the influence of the extensor muscles of the wrist and fingers. The movements of adduction at the wrist are more free than those of abduction, and therefore the muscles, when unchecked, tend to draw the fingers inwards.² That this adduction should be found in cases of arthritis, due to either gouty or rheumatic influence, is not therefore remarkable, since the same cause is at work in both instances.

Charcot has well-described the deformities produced by gout and osteo-arthritis in the fingers, and declares that they are often

¹ I have never known Heberden's nodes to give rise to any discharge, as described by Garrod, but I have observed them to contain a fluid material, apparently viscous, and which gives a crunching sensation on pressure with the finger. This condition I believe to be present chiefly in an early stage.

² "Adduction is effected to a greater extent than abduction in consequence of the mode of disposition of the lateral ligaments, and with greater power in consequence of the leverage afforded by projection of the cuneiform and pisiform bones on the inner side of the wrist. Thus the hand assumes the position of adduction and the little finger becomes inclined to the ulna when, from disease or other cause, the muscles lose the influence of volition, and exercise an uncontrolled sway over the part."—*A Treatise on the Human Skeleton*, p. 427. Prof. Humphry, Cambridge, 1858.

clinically undistinguishable for the reason that they are induced in each case by the same cause, viz., spasmodic retraction of the muscles reflexly excited by the painful arthritis. And I have an impression that there is thus commonly a relation between the amount of pain and the distortion from the proper axis. It is somewhat common to find the second phalanx of the middle finger depressed at its junction with the first, and thrust awkwardly out of line.

The gouty nodosities are often red, and are prone to become hot and painful from various causes. Fugitive achings are frequent in them whenever a threatening of fresh attacks supervenes, and they are specially apt to be troublesome after partaking of bad champagne or other gout-inducing wines.

The metacarpo-phalangeal joint of the right thumb is frequently enlarged, and excessive use of this part in writing, or in carrying out other manual labour, has possibly much to do with its special liability to suffer.

These gouty deformities of the finger-joints are to be met with in women, who seldom present in as marked form as males either the physiognomical features or the tissue changes of the gouty diathesis. I have seldom met with them before the menopause.¹ They are to be distinguished from true gouty deformities of the fingers in both sexes both by their tuberos form, and by the fact that they are not always the result of an acute (gouty) arthritis. And they must not be confounded in any case with the grosser changes brought about by rheumatic osteo-arthritis, in which also the axes of the fingers more commonly diverge to the ulnar side of the forearm.

It has long been recognised that gouty manifestations in women are different from those observed in men. Distinct gouty inflammation is not usual in women till the "change of life" has occurred. But it is found that gouty headache, migraine, and dysmenorrhœa occur before that period in the subjects of inherited gout, and are indeed sometimes the only expressions of such hereditary tendency.² I think I have observed that menorrhagia occurs with some frequency in women who have had gouty parentage, and certainly severe headaches and migraine in such cases. Without doubt all these ailments in such persons yield more distinctly to anti-gouty treatment than to any other mode of medication.

¹ "A woman does not take the gout unless her menses be stopped."—*Hippocrates, Aphorisms*, sec. vi. 29.

"I know," wrote Cullen, "that this does not apply to our climate, for I have known women have the gout before that evacuation disappeared, and even such as menstruated frequently and in great quantity."

² Trousseau.

Laycock asserted that the gouty manifestations in women had never had the attention bestowed upon them that they deserved. He taught that this predisposition manifested itself at puberty in anomalous forms of hysteria, varied neuralgiæ, and vicarious urinary and menstrual discharges. One of the worst cases of vicarious menstruation, by way of epistaxis, that I ever witnessed, was in a young lady, the daughter of an exceedingly gouty father.

At more advanced age are found chronic skin-affections, "especially chronic desquamative erythema of the cheeks and nose; chronic metritis, chiefly implicating the cervix, and nodose small joints" (Laycock).¹

The importance of recognising gouty predisposition and processes in order to treat such ailments with certainty, is surely very great, for the ordinary modes of treatment are commonly ineffectual here.

In neurotic persons in whom gout appears, the various troubles experienced are often modified by the gouty element in the case, and no better instances are found of the mixed diatheses. Little good will be done for these sufferers unless the gouty taint be recognised and attacked. The addition of alkalies to quinine is of much service in treatment, and a dose of calomel or blue pill is often necessary at the outset. Chloride of ammonium is likewise useful. In some of the most obstinate attacks of neuralgia there seems reason to believe that gouty inflammation of the nerve-sheath is at the root of the trouble.

Plantar gout has not been, so far as I know, particularly described. It is very agonising, and may attack both soles simultaneously, hard swellings being formed in each fascia. It begins subacutely, and is slow to pass off.

I have observed that the ankles are sometimes the parts first affected in acute gout. Achings in the instep are a common symptom in cases of irregular gout, with a sensation as if a tight boot were worn; no redness or swelling is found, and the pain is not easily localised by pressing on definite points.

Of headache as a gouty symptom it may be noted that it occasionally precedes more overt attacks, and seems to be due to something more than the degree of dyspepsia present at the time. In women, headache appears to be one of the irregular manifestations of gout. It may be very severe and distracting, or there may be little more than muzziness in the morning, or fleeting tightness felt in various regions at different periods of the

¹ I lately met with a well-marked case of gout in the hands and feet of a woman aged seventy. She had a fine physique, and presented signs of the diathesis in her face, teeth, and fauces.

day.¹ Stooping position aggravates it, which would indicate that there is no lack of arterial tension at the time. Again, great tenderness of the scalp is noted in certain cases, especially marked over the vertex, where the slightest contact of the hand gives exquisite pain. This is mostly paroxysmal.

Sir Robert Christison informs me that the late Professor Gregory taught in his lectures that erysipelas appeared to him to be especially common in women whose fathers were gouty, and Sir James Paget lays it down that those persons who are peculiarly sensitive to the topical influence of arnica, and suffer from erysipelas, vesication, and much pain in consequence, are commonly of gouty constitution.²

Amongst the irregular forms of gout which occur in other than articular structures are the aching and boring pains in certain muscles and muscular groups. The adductors of the thigh and the gastrocnemii are apparently especially liable to suffer. Cramps have long been rightly ascribed to gouty influence in many cases. I have long believed that the cramps which accompany the cachexia associated with granular disease of the kidney were related to gouty taint in certain instances. I first learned to inquire for this symptom from reading Dr. George Johnson's lectures on the subject of granular kidney.

Wandering pains have been noted in various parts, and in the subjects of gout which does not regularly develop itself, some fresh ache or disagreeable symptom crops up almost every week; and thus patients complain of gout "flying about," and they do not know where a fresh precipitation or petty outbreak may occur.

Deep-seated pain in the heel has been recognised as of gouty origin. The sensation is compared to the feeling of a foreign body being implanted there, such as a bullet. And it is noteworthy that this is sometimes a symptom of a renal calculus, which may itself be the outcome of gouty taint. The pain is sometimes distinctly in the tendo-Achillis. I have suspected the occurrence of a dull, aching pain in the ensiform cartilage to be of this nature. The tenderness is sometimes extreme, it comes and goes somewhat suddenly, and some degree of hepatic discomfort is mostly associated with it.

So-called muscular rheumatism appears to occur with marked

¹ This symptom along with several others was observed by the late Dr. Fuller in a series of cases recorded in the 51st vol. of the Medico-Chirurgical Society's Transactions (p. 45), 1868, in which he found excess of urica in the urine. Most of these instances I am strongly disposed to regard as examples of incomplete gout, and gouty parentage was traced in several of the cases.

² "It has appeared to me that gouty women are more disposed than gouty men to erysipelas. It seems to represent, or sometimes come instead of, the expected fit."—Sir Charles Scudamore, "*Treatise on Gout*," p. 531, 1823.

frequency in persons of gouty tendency. In many of these cases, I have observed that, as happens so commonly in gouty affections, the pains are only discovered in the night, or on the morning following an exposure to damp which occurred perhaps many hours before on the previous day. The patient retires to bed in perfect comfort, and awakes in the early morning to find himself racked with the characteristic torture. This is the case, too, with gouty megrim and with many other minor irregular gouty manifestations. I do not wish to state my belief that this is the true history of all cases of muscular rheumatism. It may be that a gouty taint only impresses its type upon certain persons exposed to the ordinary causes of such myalgia. We are sufficiently ignorant of the true nature of these cases, and it may be well to bear in mind the possible gouty explanation of some of them.

A noteworthy feature in the study of irregular manifestations of gout is the condition of the mind as regards disposition and temper.

The irascibility preceding a gouty explosion is well recognised in certain cases. Trousseau refers to transient mental derangement as an associated or alternating neurosis in some instances. But the irritability of temper (fit of passion) may be the only manifestation of a gouty paroxysm, or it may be accompanied by no further trouble than a feeling of malaise.

Again, extreme depression of spirits, languor, and listlessness, with the gloomiest forebodings, may sometimes represent a phase of gouty paroxysm.

Gouty insomnia has long been known, and was described accurately enough, though not recognised as gouty, by Cullen. A feature giving colour to the neurotic theory of gout is the very constant occurrence of the paroxysm in the early hours of the morning. And it is noted that where a regular attack is expected, and does not supervene, sleep is abruptly broken, an hour or two before the usual time of waking, by some horrible dream, and does not return. This may occur for several days in succession. Nightmares, accompanied with shouting, have been observed as occurring in the dyspepsia preceding or accompanying gout. Asthmatic attacks and angina pectoris, also gastralgic paroxysms, are described by authors, but I have yet to gather my experience of these. In one instance, that of a medical man, severe laryngeal dyspnoea is observed to precede each gouty precipitation in the foot. Obstinate nocturnal priapism has also been noted, and the occurrence of thrombosis in the penis in gouty subjects is a well-ascertained fact.

Lumbar pain in the morning, passing off in an hour or two, is an occasional symptom of incomplete gouty trouble. It is first

felt on awaking, and the last hour or two in bed may be rendered miserable by it. During the day this symptom may entirely pass away.

Persons who are goutily disposed commonly know by their general sensations on awaking in the morning, whether they are likely to suffer from any special manifestation during the day. These occur, for the most part, during the night, and are first detected early in the morning. Sometimes there are observed fleeting pains, twinges, in one or more joints of the fingers and toes.

No symptoms can be more significant, and when these occur amidst others somewhat anomalous, we may decide as to the truly gouty nature of the case, having, indeed, the arthritic element present in its mildest form. These pains are often the earliest tokens of the outset of gouty manifestations, and are common enough in young men who live freely, and drink largely of malt liquors in the third decade.

The aspect of the fauces and pharynx has of late begun to attract attention in the persons of those of gouty predisposition. Sir James Paget has clearly defined it, and the indications are so constant and definite as to command close attention to their significance.

Of course, attention to minor points such as these is not called for in instances of manifest gout; but for accuracy of diagnosis, and certainty in treatment of the many anomalous and troublesome ailments of the goutily disposed, it is imperative to observe in all directions.

The gouty throat is like no other. The pillars of the fauces, especially the posterior pair, the velum, and the uvula, are very red and glazed. They appear as if freshly brushed over with glycerine. Some dilated venules may often be seen coursing over parts of the membrane. The uvula is greatly enlarged and elongated, sometimes seeming to fill up the gap between the pillars. It has often an œdematous border, or edging, and tip. Sometimes it is so big that the condition of the pharynx can hardly be observed. The surface of the latter is not so smooth as that of the fauces. It is coarse, with red, glairy prominences upon it, and depressions here and there covered with greyish, slightly adherent patches of mucus, and it has sometimes enlarged venules upon it. In elderly people the redness is less marked in some instances, but the large uvula and glairy membranes are readily recognised.

Gouty persons are subject to occasional attacks of catarrhal tonsillitis and to chronic catarrh of the fauces. One tonsil is more apt to ache and enlarge at a time, and the little trouble it excites

may not last more than half a day before it subsides ;¹ but a good deal of rather tough, greyish, pearly mucus may continue to be hawked up for some days. Such persons often snore greatly in consequence of this state of the fauces, and the snoring is no doubt harmful in itself. It is not dependent only on dorsal decubitus in such cases.

In a valuable paper read in 1877² at Manchester, Dr. Russell Reynolds described several nervous ailments which were fairly attributable to a gouty habit. Some of these I have had occasion to observe, but I have yet to gain experience of others. He has described the gouty headache and the peculiar vertigo which some patients suffer from, likewise the tinglings, numbness, and deadness felt at times by gouty persons in the limbs. Of undue abdominal aortic pulsation as a gouty symptom, I have no knowledge. One sees many examples in hospital practice, but I have never connected this symptom with a gouty habit. It is common in both sexes, perhaps more so in women, and atonic dyspepsia is the most frequent concomitant.

Scudamore, Garrod, and Murchison, however, allude to this symptom as one related to gout. Flickering contractions of muscular fibres in various parts I have seen, such as are witnessed in spreading muscular atrophy. These varied ailments mostly yield to remedies that relieve the gouty state, and are in no degree benefited by treatment addressed primarily to nervous conditions.

Gouty cesophagismus was described by the late Dr. Brinton, and Garrod mentions an example of it. I have looked for such cases since Brinton's contribution was made in 1866, but have failed to meet with any that could fairly be connected with gouty influence. The last instance I saw was distinctly due to hysteria, and yielded at once on the passage of a large bougie.

A frequently recurring minor trouble in some goutily disposed persons is a painful follicular inflammation in the *alæ* of the nose. A sort of indolent furuncle is formed, which does not proceed to suppuration. It lasts for a few days and then resolves. The pain is very considerable and annoying. The inflammation is observed to return again and again in the same spot, or very near to it. This does not appear to have much, if anything, to do with the gradual thickening of the end of the nose, which is a well-recognised nutritional change in many subjects of regular gout after middle age.

The condition of the nails is worthy of attention in these cases. They have been noticed to be particularly brittle, and to

¹ Wunderlich alludes to the *one-sided* character of gouty tonsillitis. *Medical Thermometry*, New Syd. Soc. Transl., p. 387.

² *British Medical Journal*, vol. ii. 1877.

present linear markings in their long axes. Dr. Russell Reynolds has called attention to this, and I have confirmed these points frequently.¹ Dr. Reynolds describes the appearance as "vertical linings of the nails of both fingers and toes." It is seen in very varying degrees, but is well-marked and very coarse in some instances, the nails appearing to be quite fibrous. It would, however, be unjustifiable to condemn as gouty, or goutily disposed, all persons possessing this linear striation of the nails, for I have failed to find it in many well-marked cases of true gout, and I have often found it in cases in which I could make out no gouty history or proclivity. It is seen in young children not unfrequently. I believe that I have observed this striation to increase and become more marked with advancing age in many persons, and it is certainly hereditary. It is usually most pronounced in the thumb-nails, and is more developed on some fingers than upon others. I have frequently failed to find this striation in the nails of men who have gout supervening on lead-impregnation. The appearance in a well-marked case recalls the striation seen on the shell of a filbert or a large Barcelona nut.

Along with the appearances in the throat, the condition of the nails may assist in filling up the physiognomical picture of the goutily disposed, but too much stress must not be laid upon it.

I have had the opportunity of watching the course followed by a small gouty formation resembling a crab's eye at the root of the nail.

In the earliest stage a small eminence was observed, which was slightly tender. It became full of a clear fluid, and was prone to ache and cause a sensation of burning. It enlarged and burst at intervals, emitting a pellucid and sticky fluid. It was solitary, and in no way connected with the last phalangeal joint. On examining the fluid microscopically I could find no uratic formations, and no chalky matter appeared. The whole subsided for months together and reformed exactly as before. These formations can hardly be called tophaceous, inasmuch as no salts of uric acid are deposited, but I apprehend that they have alliance with tophi. Dr. Garrod refers to formations of this nature in connection with Heberden's nodes, but of this I am not yet satisfied. Sir James Paget has described these growths, and deprecates any surgical interference with them. If let alone, their tendency is to rupture and to subside along with the quiescence of the gouty activity that gave rise to them. Some little thickening of the integument is all that can be found in the intervals.

The relation which undoubtedly exists between the gouty diathesis and glycosuria is one of high importance from many

¹ Brit. Med. Journal, Dec. 1877, p. 842.

points of view. I believe that many cases of temporary glycosuria are due to gouty conditions. The fleeting presence of glucose in the urine of many elderly persons may be thus explained. It has long been recognised that such an affection, which, in many instances, is undeserving of the name *diabetes mellitus*, for the simple reason that there is no *diabetes* in the strict sense of the term, is not really a grave one. The presence of glucose is found to alternate with that of uric acid. In the aged, but little importance should be attached to the symptom. Charcot testified to this some years ago in his excellent lectures on the maladies of old people, his experience being gathered at that fertile school of study—the Salpêtrière. In persons under forty years of age, however, glycosuria, even of gouty origin, is a most grave matter, and merits the closest attention, since it may eventuate in confirmed diabetes. In women who inherit gout, who are past forty, and who are inclined to obesity, the symptom is not very uncommon. The consideration of the age and the presence of much fat give elements for favourable prognosis in such cases so far as the glycosuria is concerned. Attention to the accompanying symptoms of some increased thirst, slight diabetes, pruritus vulvæ (often intolerable), loss of weight, impaired muscular power, sense of fatigue without undue exertion, mental incapacity and irritability, should warrant a careful examination of the urine. And it is found that such cases, if treated early by restricted diet as respects sugar and amylaceous matters, soon respond to the change and lose their glucose altogether or in large measure. It is the rule to find that the quantity of urine passed is not much, if at all, above the normal, but the specific gravity may range from 1.035 to 1.050. An anti-gouty treatment is likewise called for, for the glucose may otherwise only give place to uric acid or increased azoturia, and the gouty habit has rather to be attacked than the glycosuria.

These cases may, however, pass on to become confirmedly diabetic. The gouty element is then lost. Garrod ingeniously explains the removal of the gouty symptoms in such cases, believing that the excess of urine carries off the superabundant uric acid and solids from the blood, and that in cases where the gouty troubles remained to some extent, or recurred from time to time, it would be found that the amount of urine passed was not an extraordinary amount.

In a given case of glycosuria manifestly connected with gout, the prognosis may safely be given for chronicity, and the disorder may be less gravely regarded than one in which no gouty element is present; and much may be hoped for if careful dieting be practised (not absolutely an anti-diabetic one), and a free life in

the open air can be led by the patient. The factor of age is equally important in forming a prognosis either of gouty glycosuria or of true saccharine diabetes. The disorder is met with in certain members of gouty families, some having regular gout, and others manifesting less regular gout, or this alternating with glycosuria.

Persons of gouty habit are usually active-minded, with capacity for both mental and bodily labour. Their appetites are often in excess of their digestive capacity. Thus, they are large eaters. They hold much of their comfort in life by observing such control in diet as their experience dictates to them. Diminished supply of animal food and sugar, and increased consumption of green vegetables and bland fluids, are certainly helpful in warding off the cumulative plethora which accompanies most gouty seizures. The question of abstinence from alcoholic liquors is pretty well settled for most sufferers. The prudent patient learns by degrees what he may take with impunity, and suspends the use first of malt liquors, then of champagne, then of the stronger wines. Total abstinence may best suit many young subjects in whom a gouty habit is early pronounced, but experience shows that a moderate quantity of really good wine, something not exceeding five or six ounces, may be useful, if only to prevent, as it certainly does, undue consumption of solid food, and to promote, as I think it does, the better digestion of the smaller quantity taken. This matter, however, must be settled in each case, and no absolute rules can be laid down.

The points discussed in this paper, and the manner in which I have treated them, may, perhaps, lead the reader to believe that a gouty habit of body appears to underlie an infinite variety of symptoms, and that I have come to be biassed in my judgment respecting many common ailments so far as to overstrain my case. I can only state that I have striven to be fair and truthful, and that, having a wholesome horror of specialities in physic, I hope I am unlikely to be grievously misled in seeking to interpret some of the many perplexing problems which daily present themselves in practice.

ON
THE OSSEOUS TUMOURS OF BONE
FORMERLY CALLED OSTEOID CANCERS.

BY
W. J. WALSHAM.

What is osteoid cancer? is a question I am frequently asked by senior students and young qualified practitioners preparing for the higher surgical examinations.

In the Hunterian Museum, and in the museums of most of the London hospitals, there are specimens of tumours called in the catalogues "osteoid cancer," but what is meant by such a term is left to be inferred, as either no account whatever of the microscopical characters of the tumour is given, or else one quite inadequate for determining its structure.

Nor is the student better off should he consult the works on pathology, and attempt to answer the question for himself. Supposing, for example, he refers to Dr. Green's admirable little work, the text-book on pathology perhaps in most general use, he finds no mention of osteoid cancer in the index; but in the chapter on Cancer, under the head of "Varieties," it is incidentally remarked that "peculiarities in situation, structure, and appearance have given rise to special names. Hence the terms *osteoid*, *chondroid*, *cystic cancer*," &c. But Dr. Green does not state in which of his four classes of cancer, viz., the scirrhus, medullary, colloid, and epitheliomatous, the so-called osteoid cancer should be placed, or whether indeed it should be classed as cancer at all, seeing that in the same paragraph he goes on to say that "many of these tumours, which were formerly regarded as cancerous, are now recognised as sarcomatous."

In the classical lectures of Sir James Paget the term osteoid cancer is applied to a form of disease to which Müller assigned the name of osteoid tumour or ossifying fungous growth—a form of disease of which, Sir James Paget remarks, "he (Müller) with admirable acumen collected several cases illustrating these as its distinctive characters;—that the primary

tumour consists chiefly of bone, but has on its surface and in the interstices of its osseous parts an unossified fibrous constituent as firm as fibrous cartilage, and that after a time similar growths ensue in parts distant from the seat of the first-formed, and not on bones alone, but in the areolar tissue, serous membranes, lungs, lymphatics," &c. Sir James Paget, after remarking that Müller was disposed to call such growths osteoid cancer, and after discussing their affinities with other forms of cancer, says:—"I believe the most probable view of the nature of osteoid cancers would be expressed by calling them ossified fibrous or medullary cancers, and by regarding them as illustrating a calcareous or osseous degeneration."

Should, however, the inquirer be desirous of seeing what the more recent writers have to say on the subject, and look up "osteoid cancer" in the last edition of Drs. Wilks and Moxon's pathology, likewise a favourite text-book, he will find that under this head he is simply referred to osteoid chondroma; and on turning to that subject will read, "So many recurrent ossific tumours have recently been found to be of this kind (osteoid chondromata), that it is doubtful whether most of the so-called 'osteoid cancers' of authors are not really osteoid chondromata."

Wishing to see if other recent authors agree in this statement, he may consult Billoth's "Pathology" and turn to osteoid chondromata (for Billoth has no osteoid cancer in his index). Here he will be surprised when he reads, "I am doubtful about any one being able to distinguish such tumours (osteoid-chondromata), which I have often examined, from periosteal ossifying round-celled or spindle-celled sarcomata; hence I prefer not separating Virchow's osteoid chondromata from the sarcomata."

Having by this time discovered from his text-books and other works on pathology that there is a considerable diversity of opinion as to what is implied by the term osteoid cancer, the student will now probably appeal to his teacher, "What is the structure of those osseous growths called in the catalogues 'osteoid cancers'?" The answers he will receive will probably be as various as the opinions of the authors whose works he has already consulted. Thus, by those who hold that cancer never occurs as a primary affection in bone, and who further believe with Billoth that the so-called osteoid chondromata cannot be distinguished from ossifying sarcomata, he will be told that these so-called osteoid cancers are in all instances ossifying sarcomata. Others will say that although the greater number are ossifying sarcomata, some are undoubtedly osteoid chondromata; others again that they are nearly always osteoid chondromata. A few, who admit the occurrence of primary cancer in bone, will tell

him that they have occasionally a true carcinomatous structure. All will most probably inform him that the term osteoid cancer is an old one, and is fast becoming obsolete. With this I quite agree, and perhaps lay myself open to criticism in thus bringing into notice a term which had better be forgotten. My excuse, however, in doing so, is the confusion which prevails upon this subject, and the difficulty students have in making out for themselves to what class of tumours in the more recent systems of pathology the specimens called in the catalogues osteoid cancer should be referred.

I have had opportunities during the last six years of examining a considerable number of these osseous growths, and I am inclined to agree with those who believe that the majority of them are ossifying periosteal sarcomata. I am very positive, however, that all are not of this nature; two at least of those which I have examined are carcinomata, and others I think can fairly be called osteoid chondromata.

Of those having a sarcomatous structure, the greater number appear to be of the spindle-celled variety, some of the round-celled; a few are mixed. A good example of the last mentioned is contained in the Museum of St. Bartholomew's Hospital (Series I., No. 364).¹

One specimen² which I examined consisted for the most part of spindle-celled tissue outside the bone and of round-celled tissue inside the bone.

Of the four recent specimens which have been added to the class of osteoid tumours of bone in the Hunterian Museum,

¹ Series I., No. 364, St. Bartholomew's Hospital Museum:—"A large, mixed sarcoma of three or four months' duration, springing from the periosteum of the middle and upper third of the femur, and involving the structures immediately surrounding it. From a boy aged thirteen. The limb was removed by amputation at the hip-joint. The patient made a good recovery from the operation, and left the Hospital about two months afterwards. He was reported, however, about a year after the operation as dying with a local recurrence of the disease."

² Series I., No. 295, St. Bartholomew's Hospital Museum:—"Section of the lower half of a femur surrounded and filled with 'osteoid cancer.' The whole circumference of the shaft between the periosteum and its walls is enveloped by the 'cancerous' substance, which, in a layer from half an inch to nearly two inches in thickness, forms a large firm tumour of elongated oval shape. The general or basis substance of the cancer is almost pure white, very firm and compact, but in the parts nearer to the bone it is extensively osseous, and the greater part of the bone within it appears to have extended into it from the surface of the shaft on which it rests. In the same extent to which the femur is thus surrounded with 'cancer,' its medullary canal is filled with hard, white, and finely porous bone, formed apparently by the almost complete ossification of the 'cancerous' substance. Between the laminae of the walls also similar cancerous substance exists, separating them, and at the lower part so displacing them that the morbid structures around and within the shaft are combined in a continuous mass."

three are stated in the catalogue to be periosteal ossifying sarcomata, and one is merely called an "osteoid cancer."

Several specimens that I have examined, although on the whole they may be regarded as sarcomatous, yet differ in a marked manner from any of the recognised varieties of sarcomata with which I am acquainted. In some places they have clearly the structure of the round-celled sarcomata, but in other places they consist of a highly refracting homogeneous material without any cells embedded in it, and having a very regular and closely reticulated alveolar arrangement. They are unlike the so-called osteoid chondromata in that the trabeculæ bounding the alveoli contain no cells, and the alveoli themselves neither fibrous tissue nor islets of cartilage. They resemble the sarcomata in that in places the alveoli contain cells like those of round-celled sarcomata, but are quite unlike Billoth's alveolar sarcomata, not only in the arrangement of the cells, but also in the character and arrangement of the intercellular substance. The cells, moreover, have not that intimate connection with the fibrous tissue which is considered by Billoth an important peculiarity in the histological diagnosis of these tumours.

The accompanying drawing (Fig. 1) delineates the microscopical appearance of one of these growths. The tumour from which it was taken is contained in Series I., No. 108, Museum, St. Bartholomew's Hospital.

As regards the recognition of Virchow's "osteoid chondromata," we have seen that Billoth does not think that such a class of tumours can be distinguished from ordinary ossifying periosteal sarcomata. This, however, is not the general opinion of pathologists, as not only Virchow, but Wagner, Rindfleisch, Cornil and Ranvier, and Wilks and Moxon, amongst others, described such a form.

By Virchow the term osteoid chondroma was applied to a class of tumours which he considered resembled in their minute structure the tissue found between the periosteum and the bone in rickets, which material he called osteoid tissue.

By Cornil and Ranvier growths considered of this nature are described as consisting of trabeculæ of various forms and dimensions, composed of a highly refracting homogeneous or faintly fibrillated basis substance, often infiltrated with calcareous salts, and containing angular corpuscles. These trabeculæ are separated by a fibrous tissue in which the vessels run; but the entire substance of the tumours of this name are not composed of osteoid tissue only: islets of cartilage are almost always seen scattered through the fibrous tissue, and it is only in this latter instance that observers apply the term "osteoid chondroma."

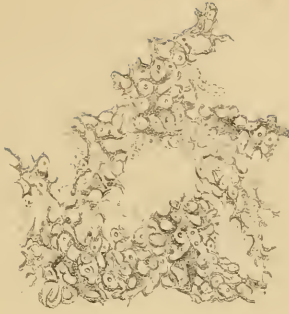


Fig. 1

($\frac{1}{4}$ in obj.)



Fig. 2

($\frac{1}{2}$ in obj.)



By Drs. Wilks and Moxon they are described as consisting of a "dense whitish fibrous tissue, grating on section, and having a close tendon-like texture. The microscope shows a structure which can best be compared to those plates of osteoid cartilage which are so common on the spinal pia mater after middle life, *i.e.*, it closely resembles bone which has been decalcified by acids and its transformation into bone is simply effected by the addition of lime salts to the matrix between the cells, which themselves become bone corpuscles." That the tumours described by the above authors as osteoid chondromata are the same as those formerly called osteoid cancers is evident, as the macroscopical characters enumerated by these observers correspond with those given by Sir James Paget.

As far as my own observations have extended, I am inclined to agree with those who think that a variety of osseous tumour, having what is called an osteoid-chondromatous structure, can be distinguished from the ordinary ossifying sarcomata. I confess, however, that I have often been puzzled whether a certain specimen should be called an osteoid chondroma or a sarcoma, and experienced pathologists to whom I have shown such a specimen have differed in the opinion they have pronounced upon it.

I do not think, however, that tumours having these characters are so common as Drs. Wilks and Moxon would have us believe. None of the recent specimens in the class of osteoid tumours in the Hunterian Museum are said to be of this nature; and there are only five in Guy's, and one in our own Museum, of which Figs. 2 and 3 are microscopical drawings.¹

That some of the so-called osteoid cancers have the structure of true carcinoma I am fully convinced. Sir James Paget, as we have seen, was inclined to regard these growths as carcinomata. Since his lectures were delivered, however, not only growths like these, but other growths in bone which would once have been looked upon as carcinomatous have been shown to have the structure of the sarcomata. At the present day there are many who, holding with Thiersch, Waldeyer, and others that carcinoma is essentially an epithelial growth, deny that primary carcinoma does or ever can occur in bone. That many of the tumours in bone, osteoid or other, which would once have been considered carci-

¹ Series I., No. 139, St. Bartholomew's Hospital Museum:—"Section of the head and upper part of the shaft of a tibia, and of an osteoid growth around and within it. The dense osseous substance, hard as ivory, and dull white like chalk or pumice-stone, occupies the place of the cancellous texture, and extends some way down the medullary cavity. The tumour around the bone consists in part of a similar osseous substance, and in part of a soft substance, spongy and cellular in some situations, and like a medullary tumour in others."

nomatous have a sarcomatous structure all will admit, but that all *primary* malignant tumours in bone are sarcomata as the above-named pathologists would have us believe, is to my mind not proven. It is certainly beyond all question that tumours having an alveolar structure and containing epithelial-like cells in their alveoli, in fact, indistinguishable microscopically from the carcinomata, do occur in bone. This the upholders of the epithelial origin of carcinoma are bound to admit. Hence such bone tumours have always been a stumbling-block to them. They are either driven to regard them as alveolar sarcomata, or else to maintain that they are secondary to a primary proliferation from an epithelial surface which has been overlooked. Although it may be impossible in some instances to say whether a given specimen should be considered as a carcinoma or an alveolar sarcoma, there can be no difficulty in distinguishing a typical example of the one from a typical example of the other. Given, therefore, a typical example of a carcinoma in bone, it only remains to be shown that there is no primary epithelial growth present to which it could possibly stand in relation as a secondary formation to prove that it is itself a primary growth. This, however, the upholders of the epithelial origin of cancer say has hitherto never been done. They affirm that in every instance in which a bone tumour with a typical carcinomatous structure has been brought forward as an example of primary cancer, that when the case from which it was taken has been thoroughly investigated, the evidence of its primary nature has been defective. Thus they say that either the notes of the case were incomplete, or no post-mortem had been made, or that the post-mortem had been made so imperfectly that it could not be positively said that some primary disease was not present in some part, as the rectum or bladder, which had not been examined. They further maintain that in those cases of *supposed primary carcinoma in bone*, where all parts of the body *have* been carefully examined, some primary growth has invariably been discovered.

I have in my possession several microscopical specimens of bone tumours, the typical carcinomatous structure of which, I think, cannot be denied. Although I have unfortunately no absolute proof that there was not some primary growth from an epithelial surface, still the presumptive evidence appears to me so strongly opposed to such being the case, that I must regard them as examples of primary carcinoma in bone. The tumours from which two of these sections were made are contained in the Museum of St. Bartholomew's Hospital, and are described in the catalogue as specimens of osteoid cancer. They were removed

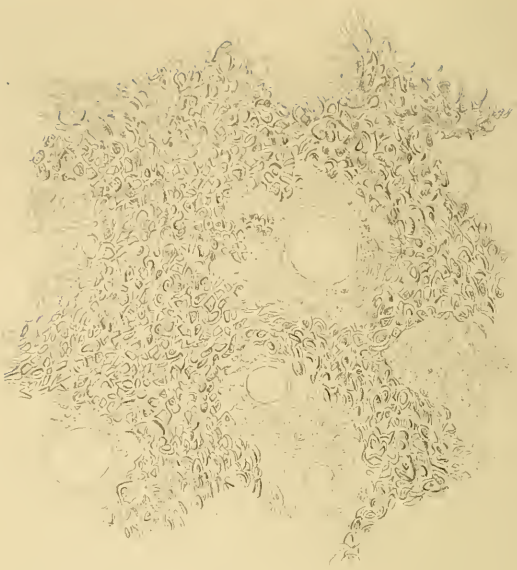


Fig. 3.

($\frac{1}{4}$ in obj)

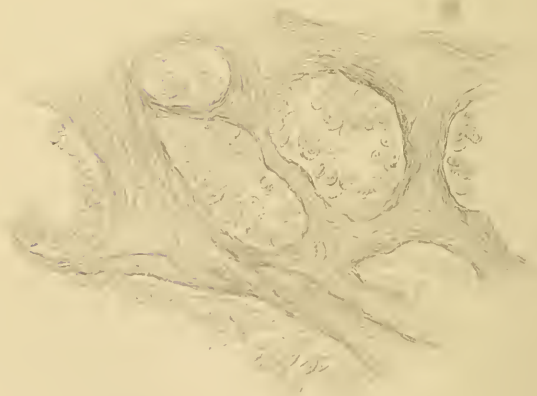


Fig. 4.

($\frac{1}{4}$ in obj)

from patients who died in the wards of the Hospital. One of them (Series I., No. 362, Museum Catalogue) is described as a specimen of osteoid cancer of the lower end of the femur. It was removed from a man aged thirty-two, who was admitted into Abernethy Ward, October 16, 1872, under the care of Mr. Savory, to whose kindness I am indebted for permission to make use of this and the following case. The tumour had grown rapidly, and had been noticed only about eight or nine weeks before admission. Amputation through the middle third of the thigh was performed on November 6th. The patient died nine days after the operation.

Secondary deposits of "osteoid cancer" (*sic*) (hard carcinoma impregnated with earthy salts) were found in the parietal layer of the pleura, and deposits of hard carcinoma, but not so infiltrated, were found in the visceral layer of the pleura. The viscera were healthy.

The second specimen (Series I., No. 358, St. Bartholomew's Hospital Museum) is described as "a specimen of a cancer, probably osteoid, of the lower end of the humerus of a man aged twenty-four."

The man from whom the tumour was removed was admitted May 4, 1872, into Abernethy Ward under the care of Mr. Savory. The tumour had grown very rapidly, having been first noticed about four months before admission. On June 8th, amputation through the upper third of the arm was performed. The patient died June 25th.

At the post-mortem examination acute pleurisy with effusion was discovered on the right side, and deposits of "medullary cancer" in the apex and in the middle and upper lobe of the right lung. Several small nodules of medullary cancer were also found in the liver, varying from the size of a pea to that of a bean. Similar masses were also discovered in the cortex of the kidneys.

The microscopical appearances of the tumours are delineated in the accompanying drawing, Fig. 4, taken from No. 358, which consist of a dense stroma of fibrous tissue alveolarly arranged. The alveoli contain epitheloid cells, for the most part regularly arranged in the form of cylinders around the circumference.

Here, then, are two specimens of what I think may be called typical examples of carcinoma in bone. What evidence is there in favour of their being primary growths? Both patients were under observation for a considerable time in the Hospital, one for a month, the other for nearly eight weeks. On both a post-mortem examination was made. In the first, with the exception of secondary deposits in the right pleura, the internal organs are stated to have been healthy. In the second, *secondary deposits*

were discovered in the right lung, liver, and kidneys. It must be admitted that in both cases, as no special mention is made of the condition of the rectum, bladder, prostate, larynx or pharynx, and as these parts are not always examined in a surgical post-mortem, it is quite possible that they were not examined in these instances, and therefore that one or other of them might have been the seat of primary cancer. No mention, however, is made in the notes of the cases of either patient having complained of any symptom indicative of disease of these parts; and looking to the fact that both patients were under observation for a considerable period in the Hospital, it is inconceivable to me that any disease of one or more of the parts could have existed without having been discovered. Under these circumstances, therefore, I think I may venture to call these specimens examples of primary cancer in bone.

If it be asked, Is there any practical advantage to be gained in thus distinguishing these different forms of malignant osteoid growths? I fear it must be answered that the life history of the various forms has not at present been worked out in a sufficient number of cases to enable us to draw any safe conclusions as to their relative degrees of malignancy and their liability to recur. Sir James Paget states that "among fourteen cases in which the ends are recorded, three died in consequence of amputation; of the other eleven, four underwent no operation, and all died in or within six months from the first notice of the disease. Of the remaining seven, in all of whom the disease was once or more removed, and in all of whom it recurred before death, two died in the first year of its existence, one in the second, and one in the third; but one lived for seven and a half years, another for twenty-four years, and another for twenty-five years." Sir James Paget did not distinguish the differences in microscopical structure which we have seen that this class of tumours possess, but it seems only reasonable to assume that those which were rapidly fatal differed in their minute characters from those which gave the patient a longer respite. Both the cases of carcinoma to which I have referred proved rapidly fatal, as did also a case of round-celled sarcoma and one of mixed sarcoma, specimens of which are contained in the Hospital Museum (No. 269 and No. 364). The termination of the other cases to which I have referred, and of others of which I am cognisant, I have unfortunately been unable to determine.

If I might venture an opinion on the subject, I should be inclined to say that those which have a true carcinomatous structure, or that of a round-celled sarcoma, are the most quickly fatal, whilst the spindle-celled sarcomata and the osteoid chondromata are probably the least so.

ON THE PATHOLOGY OF NIGHT-SWEATING IN PHTHISIS,

AND THE MODE OF ACTION OF STRYCHNIA AND
OTHER REMEDIES IN IT.

BY

T. LAUDER BRUNTON, M.D., F.R.S.

After the night-sweats which occur in phthisis the patients are very exhausted, and not unfrequently feel a certain soreness of the limbs similar to that which occurs in healthy persons after great exertion. The exhaustion produced by the sweating is sometimes attributed to the actual loss of material from the body in the perspiration, but this can hardly be the case, as the amount of nutritive matter contained in the sweat is very small, and we notice that the perspiration which occurs in healthy persons after exertion does not cause any feeling of weakness. It occurred to me, therefore, that instead of the sweating being the cause of the exhaustion in phthisis, the exhaustion and the sweat were both consequences of one common cause. In order to discover what this cause may be, it may be well to proceed to track, as it were, the process of sweating backwards, until we find some condition that may account both for it and for the weakness. Now, the production of sweat is due to the functional activity of the secreting cells in the sweat glands, which remove from the blood a quantity of water and salts, and pour it out upon the surface of the skin. For the functional activity of these cells two things are requisite: the one is a supply of blood to them which will provide them with the fluid necessary to form the sweat; the second is the nervous stimulus imparted to them by the secreting nerves, which excites them to functional activity. It is only recently that the importance of these nerves as a factor in the secretion of sweat has been fully recognised, although various circumstances seemed to point to the fact that

sweat was not dependent merely upon a full supply of blood to the sweat glands. In the perspiration which follows active physical exercise, we no doubt find that the skin is suffused with blood, and the sweat glands are therefore richly supplied with it. But in fever we not unfrequently find that the skin is even more suffused with blood, as is shown by its redness, so that the glands may have an abundant supply, and yet, notwithstanding this, the skin, instead of being covered with sweat, is perfectly dry. This shows, then, that a free supply of blood alone is insufficient to induce perspiration. On the other hand, we find that perspiration may occur freely when the supply of blood is exceedingly scanty. In persons stricken with sudden fear, or in those at the point of death, we find that the skin is pallid or livid, the surface cold, indicating that the supply of blood to it is very scanty, and yet at this very moment it may be bedewed with heavy drops of perspiration. This fact shows that perspiration may occur with a scanty supply of blood. The facts are exactly analogous to what we find in the secretion of saliva by the submaxillary gland. In this gland, irritation of the chorda tympani nerve causes dilatation of the vessels of the gland, a copious supply of blood to it and a free secretion of saliva. Irritation of the sympathetic nerve also causes secretion of saliva, but instead of the vessels being widely dilated and the circulation in the gland rapid and free, the vessels are contracted and the circulation is very slow. We find, also, that there is a similarity between the secretion of saliva and the secretion of sweat, not only in the nervous conditions under which they may occur, but in the way in which they are affected by various drugs. The effect of atropine, for example, upon the submaxillary gland, is to paralyse the ends of the secreting nerves in the glandular structure, and the consequence of this is, that when the chorda tympani is irritated after the administration of a dose of atropia, the vessels of the gland dilate as usual, blood flows freely through it, but, the secreting nerves having been paralysed, the secreting cells take up nothing from the blood, and not a drop of saliva flows from the duct. When, on the contrary, calabar bean is administered, the effect is strikingly different, for its action is not to paralyse, but to stimulate the secreting nerves. In consequence of this, the secreting cells begin actively to take fluid from the blood and to pour it out through the duct of the gland in the form of saliva. But this process does not last long, for the bean has a second action. Its stimulating power is not confined to the secreting nerves of the gland, but extends also to the vaso-motor nerves which regulate the calibre of the blood-vessels which supply it.

These vaso-motor nerves, being stimulated by the drug, cause the vessels to contract to such an extent as to cut off the supply of blood from the glands almost entirely. The secreting cells are thus deprived of the material from which the saliva ought to be formed, and thus, notwithstanding the functional activity which they are exerting under the stimulus of the secreting nerves, the formation of saliva very shortly comes to an end. In persons who are poisoned with belladonna it has been observed that the vessels of the skin were much dilated, so that the skin itself was covered with a scarlet flush, notwithstanding which the surface was dry. This dryness was not confined to the skin, but extended to the mouth, and it was caused both in the mouth and on the skin by the paralysis of the secreting nerves of the salivary and sweat glands produced by the drug. Calabar bean, on the contrary, causes a certain amount of salivation and cold sweats; and other drugs, such as pilocarpine, which does not, like calabar bean, limit its own action upon the secreting cells of the salivary glands by lessening their blood supply, causes very profuse salivation as well as profuse sweating. Now the action of pilocarpine is exerted upon the terminations of the secreting nerves in the salivary and sweat glands, and does not seem to be dependent upon any action on the nerve centres. But although pilocarpine may stimulate the sweat glands by acting upon the ends of the secreting nerves within them, it is probable that, in ordinary circumstances, the secretion is regulated, not by the condition of the terminal filaments of the secretory nerves, but by the nerve centres acting on the glands through those nerves. The nerve centres for the secretion of sweat lie partly in the spinal cord and partly in the medulla oblongata. In this respect they resemble two other important nerve centres, viz., the centre for respiration, or respiratory centre, and the vaso-motor centre—the respiratory centre, by which the respiratory muscles are innervated and the respiratory movements kept up, and the vaso-motor centre, from which stimuli constantly proceeding to the vessels keep them in a state of chronic contraction.

Both these centres were formerly supposed to be situated in the medulla oblongata alone, because when the medulla was separated from the cord by a transverse cut at the level of the occiput, respiration ceased, and the tonic contraction of the vessels in the body at once ceased, and they became dilated.

It was first shown by Schiff, however, that if part of the medulla were destroyed, so as to cause the respiratory movements completely to cease, the death of the animal, which would usually occur under such conditions, might be prevented by the

continuous use of artificial respiration for many hours. By this process time was allowed for the remaining portion of the medulla to learn, as it were, how to perform the function of the part which had been destroyed, as well as its own, so that after artificial respiration had gone on for several hours, the animal began to make feeble attempts to breathe, and these became stronger and stronger, until at last respiration was again established. It was thus shown that when a part of the respiratory centre in the medulla was destroyed, the remainder might become sufficiently powerful to perform the functions of the whole; but the experiments of Prokop Rokitanski have shown that, instead of being limited to the medulla oblongata, as was formerly supposed, the respiratory centre actually extends for some distance down the spinal cord. When the medulla is completely separated from the cord by a transverse cut of the level of the occiput, respiratory movements usually cease, and do not recommence. But if strychnia be injected into the circulation immediately after the cord has been divided, the respiratory movements again commence. It is evident that these movements in this case do not depend upon the action of the medulla at all, as they did in the experiments of Schiff, for here the whole of the medulla has been cut off from any connection with the respiratory muscles, and the respiratory movements must therefore depend upon stimuli proceeding to the respiratory muscles, not from the medulla oblongata, but from the spinal cord. It is clear, then, from these experiments, that the respiratory centre is not confined to the medulla oblongata, but extends to the spinal cord. Usually, however, the spinal part of it is too weak to keep up the respiratory movements alone without the aid of the medullary part, and can only do so when it is stimulated to excessive action by means of strychnia. This conclusion is also borne out by the fact that when strychnia is given to an animal before the division of the cord at the occiput, the respiratory movements do not entirely cease at the moment of division, as they usually do. And what is true of the respiratory hold also with regard to the vaso-motor centre. When the cord is divided at the occiput, the vessels, being no longer under the influence of the vaso-motor centre, usually dilate. But here also, after the injection of the strychnia, vaso-motor power is restored, and the vessels again contract to a greater or less extent. It is evident, then, that the vaso-motor centre, like the respiratory, extends a certain distance down the cord, and that it also, like the respiratory centre, is stimulated to increased action by strychnia.

Closely associated with these two centres appear to be the

sweat centres. It was first observed by Goltz that irritation of the sciatic nerve would produce sweating in a limb, and it was shown by Kendall and Luchsinger that this sweat was independent of any alteration in the vascular supply, for it occurred in animals poisoned with curare, where all the vessels going to the limb had been tied; and it even occurred in an amputated leg for a quarter of an hour after its severance from the body. The nerve centres by which the sweat nerves are usually excited were localised by Luchsinger in the spinal cord, but Nawrocki, who repeated his experiments, came to the conclusion that the sweat centre was situated not in the spinal cord, but in the medulla oblongata, because he found that division of the spinal cord high up arrested the secretion of sweat. The reason of this discrepancy between the conclusions of Luchsinger and Nawrocki probably is that the sweat centre, like the respiratory and vaso-motor centres, is not confined either to the medulla or to the chord, but extends through both. It is probable that, like the respiratory and vaso-motor centres, a great portion of the sweat centre is situated in the medulla, and in Nawrocki's experiments, when the influence of this part was destroyed by section of the cord, the perspiration ceased, just as respiration and vascular tone are also destroyed under ordinary circumstances. It is probable, however, that in Luchsinger's experiments the spinal portion of the vaso-motor centres was sufficiently powerful to excite perspiration, even after the separation from the medulla. These centres were found by Luchsinger to be excited, and perspiration produced by increased temperature of the blood, by increased carbonic acid in the blood, and also by nicotine which had been introduced into the circulation. Increased temperature, as we well know, causes sweating, usually accompanied with dilatation of the vessels of the skin, as when we are exposed to a hot sun or get warm from exertion. Tobacco, on the other hand causes sweating with diminished supply of blood to the skin, the countenance becoming exceedingly pale at the same time that a cold sweat breaks out, as most young smokers find out by sad experience. The effect of increased carbonic acid in the blood is visible in the cold sweats which bedew the brows of dying persons. I have watched the process, and have observed that it was just as the finger-nails, the lobes of the ears, and the lips began to get livid that the sweat drops began to appear on the forehead. It was a consideration of this fact which led me to suspect that the sweats of phthisis might be due to accumulation of carbonic acid in the blood stimulating the sweat centres. Nor would it do this only, for any imperfect aeration of the blood would lead to imperfect

oxidation of the products of tissue waste in the body, and their consequent accumulation would produce the same soreness and lassitude which come on from the accumulation through over-production by excessive muscular exertion. But it may be said, How is it that carbonic acid comes to accumulate in the blood in this way? In a healthy person no such accumulation takes place, because, although carbonic acid in the blood acts as a stimulus to the sweat centres, the vaso-motor centres, and the respiratory centres, yet the latter are more susceptible than the two former, so that whenever a slight increase of the amount of carbonic acid in the blood occurs, the respiratory centre is stimulated, the respiratory muscles are thrown into increased action, and the blood being more aerated, the amount of carbonic acid in it is once again reduced to the normal. But supposing the respiratory centre is weakened in any way so as to become less sensitive to the stimulus of carbonic acid in the blood than the other two centres, this will no longer be the case, and then we shall find cold perspirations occur. This is the condition which I believe to be present in phthisis. The constant stimulation of the respiratory centre by the irritation in the lungs, and the violent respiratory efforts which occur in coughing, so exhaust the irritability of this centre, especially during sleep, that it no longer responds in the normal manner to the stimulus of carbonic acid in the blood. The blood may thus become more and more venous, until the carbonic acid in it excites the sweat centres, and possibly also the vaso-motor centres, before the respiratory centre begins to respond.

This, then, I believe to be the pathology of night-sweating in phthisis. The respiratory centre becomes exhausted by the reflex irritation from the lung, so that it no longer responds so readily as it ought to the stimulus directly applied to it by carbonic acid in the blood circulating through the medulla and through the spinal cord. In consequence of this the blood becomes more or less venous, and to this venosity, and the consequent imperfect tissue change, and not, as was formerly supposed, to the actual loss of fluid or sweat in the sleep, are the nervous and muscular exhaustion and prostration observed in night-sweats to be attributed. If this pathology were correct, it occurred to me that night-sweating might be prevented by administering some remedy which would increase the excitability of the respiratory centre. Now, such a remedy exists in strychnia, as has been shown by Rokitanski's experiment. If then, a dose of strychnia or nux vomica were administered at bedtime, the excitability of the respiratory centre ought to be so much stimulated that any excess of carbonic acid would

excite it to increased action, and thus the accumulation of carbonic acid in the blood would be prevented, and the sweat, which I have supposed to be the consequence of such accumulation, would be arrested.

On proceeding to try it in the wards of St. Bartholomew's Hospital, this expectation was realised, as the following cases will show :—

CASE I.

Mary W. was admitted to Elizabeth Ward, July 10, 1879. Her confinement, four months previously, had been followed by septicæmia, after which signs of phthisis were developed. In the middle of August, when both lungs were much diseased, she suffered severely from night-sweats.

Ten drops of tincture of *nux vomica* in a little water were given at bedtime on the 10th of August, and repeated every night for a fortnight. There were no night-sweats during this time.

On the 24th of August and the next few days the dose was omitted. Each night the patient complained of sweating. After this the drug was again given at the same time and in the same quantity, and as long as it was taken there were no night-sweats until a few days before death, when it seemed to lose its effect.

In this case cough was not very troublesome, and the drug seemed to make no difference to it.

CASE II.

Lucy R., a patient in Elizabeth Ward during August and September 1879, had tubercular disease of the lungs and intestines, and suffered much distress from night-sweats.

On the 2d of September five drops of the tincture of *nux vomica* were given in a little water at bedtime.

The patient did not sweat at all that night, but she said that her cough, which was always troublesome, was worse than usual. The same dose was repeated for a few nights, with the same result—no sweats, but, as the patient thought, increase in cough.

On the 8th of September fifteen drops of laudanum were given along with fifteen drops of tincture of *nux vomica*. After the dose there was again no sweating, but the patient complained of her cough.

As long as this dose was given there were no sweats, and the cough remained much as it had been before any *nux vomica* had been given.

CASE III.

Frances E., aged 44, came to Elizabeth Ward on the 13th of August 1879, suffering from advanced phthisis. Sweating at night had been very severe for some weeks.

On August 14, fifteen drops of tincture of nux vomica were given at night. The sweating, however, was quite as bad as usual.

On the 16th the dose was increased to twenty drops. Still there was no difference in the sweating.

On the 18th twenty-five drops were given. That time, for the first time for weeks, there was no sweating. This dose was repeated every night, with the result apparently of stopping the sweats. On August 30, however, and following nights, they recurred in spite of the drug.

On the 1st September the dose was increased to thirty drops. On this night there was no sweating. This dose was repeated every night, but on the 14th of September the sweating recurred, and continued without being diminished by the drug, which was then discontinued. Some time later the sweating became very distressing in the daytime as well as at night, beginning early in the afternoon. A subcutaneous injection of extract of belladonna, gr. $\frac{1}{3}$, was then tried, given when the sweating began, with the effect of checking it in a few hours.

CASE IV.

Charles W., aged 23, was a patient in John Ward during July, August, and September 1879, with a large serous effusion into the left pleura, displacing the heart and causing considerable dyspnoea and cough. He complained very much of night-sweats. Ten drops of tincture of nux vomica were tried on the 29th of August. The patient did not sweat that night at all. The dose was continued every night with the same result, but on September 11th the sweating recurred. The dose was increased to twenty drops, and after this there was no sweating.

But it is evident that if strychnia increases the excitability of the respiratory centre by stimulus applied directly to it, such as the carbonic acid present in the blood, it is likely also to increase its susceptibility to reflex irritation, such as the exciting by tubercle in the lungs, and thus it might be that it would tend to increase the cough in case of phthisis. This, indeed, it appears, in some instances, to do. I have tried here to remedy this by a combination of strychnia with opium, and this appears partially to succeed. Where, however, strychnia does not appear

to suit, atropia may answer perfectly. Now, atropia, no doubt, acts upon peripheral terminations of the secretory nerves in the sweat glands, and thus it will altogether prevent sweating. But this is not the whole action of atropia. It has been noticed by Ringer that the beneficial action of atropia continues for a very considerable time after its administration. It seems difficult to believe that this is merely due to its action upon the sweat nerve, for it is probable that a great part of the atropia has been excreted from the body before the beneficial action which it produced has come to an end.

It seems not improbable, therefore, that the benefit derived from the employment of this drug in the night-sweating of phthisis is not due merely to its action upon the peripheral terminations of the sweat nerves, for, as has been shown by Von Bezold, it has a marked action in stimulating the respiratory centre. At the same time it lessens the irritability of the sensory nerves in the lung, and is thus likely to diminish the exhaustion of the respiratory centre, which the reflex irritation produced by the tubercle would otherwise occasion. It is to this stimulation of the respiratory centre, as much as to the paralyzing action on the respiratory nerves, that I should be inclined to attribute the benefit to be derived from atropia or from hyoscyamus, which acts almost in the same way as atropia, and is so frequently given, along with oxide of zinc, in sweating of this sort. In Dover's powder we have a combination having an action somewhat resembling that of atropia in certain respects, though differing from it very markedly in others. In health, Dover's powder is a powerful sudorific, but it frequently arrests, in the most satisfactory manner, as Dr. Murrell has shown, the night-sweating of phthisis.¹

This seems at first sight extraordinary, and yet it is quite natural if the view which I have advanced regarding the pathology of night-sweating in phthisis be correct. For the opium, by lessening the irritation from cough, will tend to prevent the exhaustion of the respiratory centre. At the same time ipecacuanha is a powerful stimulant to this centre, and thus we have in Dover's powder two of the actions that we have already observed in atropia, viz., a power of diminishing irritation from the lungs, with a power of increasing the activity of the respiratory centre. Unlike atropia, it does not paralyse the peripheral terminations of the secretory nerves in the sweat glands. Picrotoxine, also, has been found to be useful in night-sweating. It also is a powerful stimulant to the respiratory centre (Büchheim, *Arzneimittellehre*, 3te Aufl.), and probably it is by its

¹ Practitioner, vol. xxiii. p. 195, September 1879.

stimulating action upon this centre that it arrests sweating. But while it is probable that the night-sweats of phthisis chiefly depend upon exhaustion of the respiratory centre, and are to be arrested by stimulation of this centre, we must bear in mind that this may not be the only cause of such sweats. They may occur through stimulation of the sweating centres by increased temperature as well as by increased amount of carbonic acid in the circulating blood. In such circumstances quinine will probably be the best remedy, as Dr. Murrell has pointed out (*op. cit.*).

One of the great difficulties which we have to contend with in medicine is that of choosing the best drug in each particular case. Much may no doubt be done by very long experience, but it is hard, even for an old physician, and almost impossible for a young one. The only way in which this difficulty can be surmounted is by our obtaining an accurate knowledge of the pathology of disease, and of the mode of action of the remedies which we employ. In the night-sweat of phthisis atropia is probably the most powerful remedy which we possess, and we can well see how it should be so, for it combines the power of lessening irritability of the sensory nerves in the lung, of stimulating the respiratory centre, and of paralysing the ends of the secreting nerves in the sweat glands. But it possesses other actions which may render its employment inadvisable. It may so influence the salivary glands as to arrest their secretion, and cause very great discomfort to the patient by the dryness of the mouth thus occasioned. In such cases we may use Dover's powder, but if this, again, should interfere with digestion, we may resort to strychnia or nux vomica. The cases in which strychnia seems to be specially indicated are those in which the cough is not so violent as to be very distressing, and where the general debility and weakness of the circulation and digestion are prominent symptoms. It not unfrequently has happened, probably owing in some measure to the difficulty of obtaining correct statements from hospital patients, who are so readily influenced by any bias of the physician, that a remedy has had in the hands of its proposer a success which has not been observed by those who have tried it subsequently. It may be so with strychnia also as a remedy in night-sweating, but if this should not be the case, and it proved in the experience of others to have the same marked power of arresting the night-sweats of phthisis which it has had in the trials I have made of it, it will be interesting as being another remedy whose therapeutical use has been arrived at by a knowledge of its physiological action, and of the pathology of disease discovered by experiments upon animals.

ON
NECROSIS AT THE EXTREMITY OF THE DIAPHYSIS,
AND IN
THE EPIPHYSIS OF GROWING BONES.

BY
F. S. EVE.

During the past year my observation has been directed to cases of circumscribed necrosis at the extremities of the long bones of young subjects, and necessarily occurring during the period of growth. The necrosis was in some cases circumscribed to the extremity of the diaphysis or the epiphysis, but most frequently involved the extremity of the diaphysis, epiphysial cartilage, and adjacent portion of the epiphysis.

I am induced to publish them under the impression that the special liability to inflammation of the growing portions of bones has attracted but slight attention, and has not, so far as I have been able to ascertain, been fully explained.

CASE I.

Necrosis confined to the extremity of the diaphysis of the lower end of femur—Separation of the epiphysis—Destruction of the knee-joint.

Julius J., aged 11 years, was admitted to Abernethy Ward, under the care of Mr. Savory, March 4, 1878. A week before he sprained his knee in coming from school. A few days afterwards he complained of pain on the inner side of the joint. On admission the lower extremity of the left thigh was uniformly swollen; and there was increase of heat, pain, and tenderness above the knee on the inner side.

Morning temp. 101.6° ; evening temp. 103° .

The lower part of the thigh became more swollen; the knee-joint filled with fluid; pus formed around the upper part of the articulation, which was let out by incisions; the febrile symptoms continued.

Dec. 6.—The following note was made:—

The knee-joint is now destroyed. The tibia is displaced backwards, and the leg is in a position of extreme inversion. The position of the leg varied, sometimes being everted. The febrile symptoms were now severe, and amputation was only postponed until the acuteness of the inflammation had subsided.

Jan. 14.—Amputation of the thigh was performed in the upper third. The patient made a good recovery.

Examination of lower extremity of femur.—The condition is roughly shown in the woodcut Fig. 1. The epiphysis is separated from the diaphysis, and displaced backwards, occasioning the deformity of the leg observed. About three-quarters of an inch of the extremity of the diaphysis is necrosed. (This is shaded in the woodcut.) The lower third of the

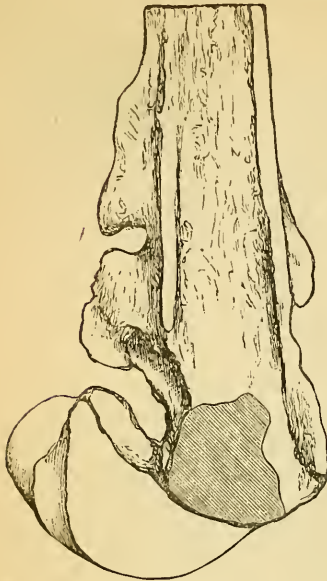


Fig. 1.

shaft is covered by a deposit of new bone, which is thickest on the posterior surface. A small portion of the compact layer on the posterior surface at the extremity of the shaft is bare and dead. The medulla was infiltrated with the products of inflammation. The knee-joint contained pus, and the cartilages were destroyed.¹

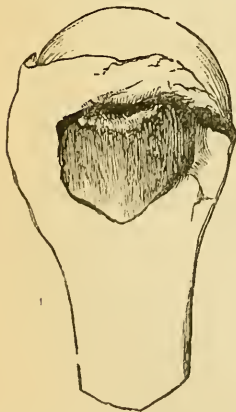


Fig. 2.

The inflammation in this case appears to have primarily attacked and spent its violence on the newly-formed bone at the extremity of the diaphysis. With the exception of the slight necrosis of the compact layer, which might have been produced by separation of the periosteum with the displaced epiphysis, the dead bone is circumscribed to the portion of cancellous tissue indicated.

¹ Dry and moist sections of the specimen are preserved in the Museum, Series I., Nos. 384 and 384 a.

There is a similar specimen in the Hospital Museum.¹ The upper part of the humerus of a child, in which the epiphysis is separated, and there is necrosis of about a quarter of an inch of the extremity of the diaphysis. The epiphysis is still connected to the shaft by one or two bands of thickened periosteum. See woodcut, Fig. 2. The sequestrum is shaded.

CASE II.

Necrosis at the extremity of the diaphysis and in the epiphysis of the upper extremity of the tibia, causing destructive disease of the knee-joint.

Charles C., aged $2\frac{1}{2}$ years, was admitted to Sitwell Ward, under the care of the late Mr. Callender, April 13, 1879. He had had inflammation of the knee-joint for no longer than a fortnight. No cause for it could be assigned. The left knee was hot and tender, the synovial membrane pulpy and distended with fluid. The leg was in a position of extreme flexion. There was a discharging sinus in the upper part of the calf.

The joint altogether presented the appearance of long-standing destructive disease.

May 10.—Amputation through the lower third of the thigh was performed, as the child's general condition was becoming worse. He made a rapid recovery.

Examination of limb.—The synovial membrane of the knee-joint was pulpy; the articular cartilage of the tibia almost completely destroyed, and that of the femur deeply absorbed in places. On making a section through the tibia, a piece of necrosed bone, about the size of a walnut, was found; it occupied the extremity of the diaphysis, passed across the epiphysial line, and involved a small portion of the ossific nodule in the epiphysis. The sequestrum is shaded in the woodcut, Fig. 3.²

The necrosis extended to the wall of the bone on the posterior surface, which was here penetrated by a small sinus. There was no communication between the cavity containing the sequestrum and the knee-joint.

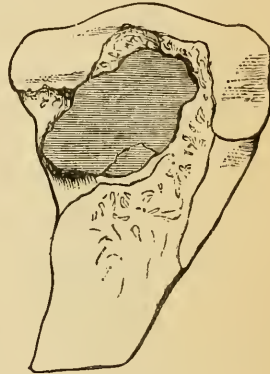


Fig. 3.

¹ Series I., No. 261.

² The specimen is preserved in the Museum, Series I., No. 390.

This case is an excellent example of circumscribed necrosis in the neighbourhood of the epiphysial line giving rise to destructive joint-disease. The process appears, from the short history of the case, to have been an acute one.

The existence of the necrosis was not in the least suspected, a section being made by myself in searching for this form of disease.

CASE III.

Necrosis in the lower extremity of the tibia.

A girl, aged 14 years, was admitted to the Hospital. The tissues above and around the ankle-joint were thickened and inflamed. There was a sinus just above the internal maleolus leading into the tibia, within the extremity of which necrosed bone was felt. The disease was supposed to have resulted from a sprain of the ankle four weeks previously. A sequestrum lying loose within the lower end of the tibia was removed by operation.

No great improvement apparently taking place, amputation through the leg was performed three months later under the impression that there was destructive disease of the ankle-joint.

Examination.—On making a section through the lower end of the tibia and ankle-joint, a cavity large enough to contain a walnut was found in the lower end of the tibia completely filled up with gelatinous granulation tissue, but still communicating with the surface by the sinus above the internal maleolus. The cavity, as in the preceding specimen, occupied the epiphysis and extremity of the diaphysis (Fig. 4).¹

The upper portion of the articular surface of the tibia was united to the astragalus by a layer of fibrous tissue. The cartilages were otherwise intact, but slightly thinned at the edges. The joint did not contain an excess of fluid.



Fig. 4.

Apart from the situation of the disease, the case is interesting from the repair which has followed the removal of the sequestrum.

¹ The specimen is preserved in the Museum, Series I., No. 394.

CASE IV.

A precisely similar specimen was removed by amputation from a man aged 37, who was lately admitted to the Hospital for caries of the lower end of the tibia. When a boy he had disease in the same situation attended with the discharge of small pieces of bone. The part had remained sound until three weeks before his admission,¹ when the same general appearances were presented as in the preceding case.

CASE V.

Circumscribed necrosis at the extremity of the diaphysis of femur
—*Disease of knee-joint—Unsuccessful resection.*

The specimen was removed by amputation from Edith J., aged 4 years. Thirteen months before the right knee-joint was excised in the country for disease of 1½ years' duration. On her admission to Stanley Ward the knee was flexed to a right angle, and there was a discharging sinus at the inner angle of the operation scar.

Examination.—A median vertical section of the bones presented the following appearances: ²—

The tibia was at right angles to the femur, and the interval between them was filled up by granulation tissue. No osseous union had taken place between the bones. Within the end of the femur, at the point corresponding to the extremity of the diaphysis, was a cavity containing a sequestrum of cancellous bone as large as a hazel-nut. A narrow sinus passed from the cavity to the free extremity of the femur. The bone around the sequestrum was sclerosed for a quarter inch or more. The epiphysis of the femur had been almost completely removed.

This case has, apart from its pathological, an important clinical interest, since it indicates one of the causes of failure of resections.

The necrosis, I think, must have been the original cause of the disease; the considerable amount of sclerosis around the sequestrum, showing long-continued irritation, lends some support to this view. But granting, on the other hand, that the necrosis was caused by resection, we have, in the limitation of the disease to the extremity of the diaphysis, the strongest evidence of the liability of the growing portions of bones to inflammation.

I will here quote a specimen in the Museum, Series II., No. 86, from a case of Sir James Paget's, as it further illustrates the facts

¹ The specimen is preserved, Series I., No. 385. See also similar specimen in the Museum, Series I., No. 319.

² The specimen is in the Museum, Series II., No. 101.

suggested by the last case. The description of the specimen in the MS. Catalogue is as follows:—

“A section of the bones of a knee on which excision was performed. The femur and tibia, where in contact, are firmly united by bone. A large sequestrum lies loose in the upper end of the tibia. The patient, a lad 14 years old, and in feeble health, underwent excision of the knee-joint, which was affected with strumous disease of long duration. Many months after the operation the knee remained large; the skin covering it was inflamed, unhealthy, and many sinuses discharged pus. Several operations for the removal of dead bone were performed from time to time; at length amputation became necessary.”

The necrosis, which appears to involve the epiphysis and extremity of the diaphysis, was believed to have followed the resection.

Among other specimens in the Museum, the following illustrates well the disease under consideration. It is described in the Catalogue as follows:¹—

“The lower end of a femur. A large canal passes obliquely through the bone from before backwards, just above the condyles, and communicates widely with a cavity occupying nearly the whole of the interior of the internal condyle. From a man aged 35 years, who had had disease of the knee-joint for twenty-five years.”

The canal, also described, occupies the position of the epiphysial line. This appears to have been originally a case of necrosis of the epiphysis and extremity of the diaphysis.

A prominent feature in the cases detailed, and in too many specimens in various London museums to enumerate, is the distinct limitation of the necrosis to the growing and recently formed bone in the immediate neighbourhood of the epiphysial line; sometimes limited to the extremity of the diaphysis, as in Cases I., V., and the specimen shown in Fig. 2, much more commonly involving the bone on either side of the epiphysial line, as in Cases II., III., IV., and more rarely the bony nodule in the epiphysis; occasionally an isolated necrosis of the bony nodule in one of the apophyses takes place, as is shown in a specimen, F. 50,² in the Children's Hospital Museum.

From the circumscribed character of the necrosis in not infrequent cases, a special liability of the growing tissue of bones to inflammation may be assumed. Of this I shall give additional proof further on. The more extensive necrosis which occurs in

¹ Series I., No. 201.

² The following is the description given in the Catalogue:—

“Section of the head of the femur from a case of ankylosis after hip-joint disease. In the great trochanter is a cavity communicating with the digital fossa. The cavity contains the necrosed ossified nucleus of the trochanter lying loose in the interior. It is separated by a wide interval from the previously diseased portion of the head.”

other and more numerous cases is not opposed to the view that the inflammation originated in the neighbourhood of the epiphysial line, as the morbid process, when once set up, has necessarily a tendency to spread. Granted, then, the special liability, there must be a common cause inherent in the tissue of the part which renders the growing bone the seat of election of inflammatory processes. This is clearly the active nutritive changes incident to the growth and development of the bone—the multiplication of cartilage cells, development of blood-vessels, and hyperæmia at the line of growth.

It is evident that the normal balance of nutrition would be more easily overturned, and the unrestrained activity, which is so characteristic a feature of inflammation, more readily excited in an actively growing than in a fully developed tissue.

Further, that a portion of developing bone, in which the vascular supply had not yet been perfected, would readily suffer necrosis.

The liability to inflammation of bone in young subjects from slight exciting causes, such as a blow, sprain, chill, or febrile attack, is thus explained. And further, I may suggest that the almost unaccountable way in which diffuse periostitis is set up in young subjects by exposure to cold or a blow is due to the active nutritive changes attending the circumferential growth of the bone.

Case I., and specimen (Fig. 2) referred to with it, suggest an explanation of the not uncommon cases of acute inflammation of joints, especially the hip and shoulder, in which the epiphysis is found lying loose in the articulation, since the first result of inflammation at the extremity of the diaphysis would be destruction of the epiphysial cartilage and separation of the epiphysis.

The inherent liability to inflammation of the growing tissue of bones is most strikingly illustrated by a disease of the bones in infants. Mr. Thomas Smith¹ first drew attention to cases of acute joint-disease in infants, the result of abscess in the articular ends of the bones, bursting in most cases into the articulation, but rarely external to it. Sometimes the epiphysis was found lying loose in the cavity of the joint. In all the cases related there is evidence that the inflammation commenced in the neighbourhood of the epiphysial line. In six cases, in which the exact position of the abscess could be made out from the descriptions and plates, it occupied the extremity of the diaphysis and encroached on the epiphysial cartilage; in one only it was situated in the epiphysis. In seven cases out of twenty-one related, the disease attacked more than one joint, and in three of the seven cases four joints were attacked.

¹ "On Acute Arthritis of Infants." St. Bartholomew's Hospital Reports, vol. x. p. 189.

The occurrence in these cases of disease in the extremities of several bones at the same time, and in precisely the same relative position, indicates clearly the special predisposition of that portion of the bone to inflammation; the portion affected being, as mentioned above, the growing and recently-developed osseous tissue in the immediate neighbourhood of the epiphysial line.

In most cases of abscess of bone in older children and young adults, the abscess will be found to occupy the same position as that described above.

In connection with this subject, it is interesting to remark the fact, pointed out by Mr. Parrot, that the syphilitic lesions in the long bones of infants occur at the extremities of the shaft.

Necrosis in the situation described appears to be not an infrequent cause of joint-disease in young subjects. In all the cases related the joint was affected. In Case IV., the removal of the sequestrum was followed by marked evidence of repair; and there is every reason to believe that in such cases the early discovery and removal of the disease would, in many instances, save the joint.

Thickening of the bone at the level of the epiphysial line preceding the inflammation of the neighbouring joint might, in some cases, lead to a diagnosis, while in others, in which the disease was further advanced, the existence of a sinus leading into a cavity containing dead bone would reveal the condition of the parts.

The cases described have all recently occurred in the Hospital, and the specimens have since been placed in the Museum.

I am indebted to the Surgical Registrars for the clinical notes.

Since writing the preceding I have found the following papers, in which the authors confirm some of the opinions deduced from the cases related:—

Professor Helferich, in a paper "On Disturbance of the Growth of the Long Bones after Necrosis of the Diaphysis,"¹ explains the frequency of disturbance of growth by the fact, at which he has arrived, that necrosis most commonly occurs at the extremity of the diaphysis.

He further adds that the frequency of necrosis in the several bones bears a fixed relation to the amount of growth in each, and not only to the growth in length,² but also to the growth in thickness.

¹ Deutch. Zeit. f. Chir., Band x.

² The amount of growth is determined by a table, quoted from C. Länger, giving the co-efficient of growth in the following bones:—

Femur, 4.38	|	Tibia, 4.32
Humerus, 3.97	|	Radius, 3.83

The tendency of either articular end of the same bone to disease bears the same proportion to the amount of growth at either extremity. He gives a table, compiled from cases, showing the relative liability of the shaft and extremities of the several long bones to necrosis.¹

The table supports his views, except in the case of the tibia, the greater liability of the shaft of which to disease may be explained by its exposure to injury.

Vogt, in a prior paper on "Acute Inflammation of the Bones during the Period of Growth,"² points to the neighbourhood of the epiphysial line as the most common situation of the inflammatory lesions of young bones, and relates a case of acute osteitis at the extremity of the diaphysis of the femur.

As slight additional proof of the liability of the extremities of the bones to necrosis, I may mention that, a few days ago, I examined the situation of all the cases of necrosis in the Hospital not due to fracture.

Unfortunately there happened to be but thirteen cases in the wards at the time. Of these, two were men; the remainder were under nineteen years of age.

In the men, the upper and lower ends of the femur were respectively affected; they had both had disease in the same situations when young.

In the younger patients the necrosis occurred in the following situations:—

Lower end of femur, 2 cases; in one of these there was necrosis at the extremity of the diaphysis, with separation of the epiphysis.

Upper end of tibia, 2; inflammation of the knee-joint in both cases.

Lower end of tibia, 2; inflammation of joint in one, absent in the other, but the necrosis was quite at the extremity of the bone.

Upper end of humerus, 2; inflammation of joint in one case.

There was necrosis of both extremities of the humerus in one case, with rigidity of the joints; but the shaft did not appear to have been affected.

In another, the upper ends of the radius and ulna respectively on both sides were necrosed, with inflammation of both elbow-joints.

One patient had necrosis of the shaft of the tibia following diffuse periostitis. This was the only case in which the necrosis approached the middle third of a bone; in all the others the necrosis evidently affected either the articular end or extremity of the shaft.

¹ TABLE SHOWING THE RELATIVE FREQUENCY OF NECROSIS.

Tibia, upper end,	29	Humerus, upper end,	16
„ lower end,	18	„ lower end,	3
„ shaft,	19	„ shaft,	1
Femur, lower end,	40	Fibula, lower end,	2
„ upper end,	3	„ upper end,	1
„ shaft,	2	„ shaft,	1
		Radius, lower end,	6

² Volkman's Klin., Band i., Chir. No. 23.

SURGICAL AND MEDICAL NOTES DURING THE WARS IN TURKEY, 1876-77.

BY

R. HAROLD A. SCHOFIELD, M.B.

During the months of October and November 1876, I worked at the hospital of the British National Aid Society at Belgrade, and in the months of July, August, and September 1877, was in the ambulance of the same Society attached to the Turkish field-army under Mehemet Ali Pasha. Even in the hospital at Belgrade, on account of the constant changes in the patients and the early dismissal of the wounded who had begun to convalesce, it was seldom possible to make complete observations.

In the field-work during the Russo-Turkish war, one's notes were necessarily of the most fragmentary nature, and this must be pleaded as my excuse for the informality of the present paper.

Servian War, October and November 1876.

The hospital of the National Aid Society at Belgrade, in respect of ventilation and general hygienic arrangements, dietary, nursing, &c., was fully equal to some of the best English hospitals. There was room for about 200 beds, but usually not more than 130 were in use at one time. The cases under treatment were almost all surgical.

Out of 42 cases of which I have full notes, I find that only three are shell-wounds and one bayonet-wound, the rest being all bullet-wounds; and this represents pretty fairly the proportion of wounds which obtains in modern warfare. Shells, though very alarming to raw troops from the great noise of their explosion, do comparatively little damage except when thrown into a dense column of infantry, and a man who is struck by a fragment of shell is usually killed outright or fatally injured. On the other

hand, troops nowadays so seldom come to close quarters that bayonet or lance wounds or sword-cuts are rarely seen.

In examining a large number of bullet-wounds in various parts of the body, one is struck at once by the following points:—

The enormous penetrative power of the modern rifle bullet, which usually traverses some part of the body, or several parts in succession. It is thus much more common to find an exit as well as an entrance wound than to find only an entrance wound, and have to search for the bullet within the body. One bullet may inflict several wounds by traversing several parts of the body in succession. Thus I have seen a Servian soldier in whom a bullet had traversed both thighs and the scrotum, causing six distinct external wounds.

In many cases the disproportion between the external wound and internal damage is most striking. Thus in the first bullet-wound I ever examined in Servia, on passing the finger into a small hole on the outer side of the thigh, I found the upper half of the femur completely shattered into a mass of sharp, jagged splinters, some of them 5 or 6 inches long, lacerating the soft parts in every direction, among which the bullet was eventually found flattened out to the size of a penny.

No less striking is the way in which large arteries and other important structures which lie in a straight line between the wounds of entrance and exit escape injury from the bullet. One is again and again surprised to see wounds traversing the neck in various directions without injury to the trachea, carotid arteries, or great nerves. The following cases, noted in the hospital at Belgrade, may be mentioned as "curiosities" in bullet-wounds:—

A bullet-wound in the back of the neck, the most careful examination of which failed to discover any bullet lodged, and from the general direction of which it was inferred that the bullet had passed out through the open mouth.

In another case a bullet had traversed the cavity of the mouth transversely, wounding both cheeks, but leaving the teeth uninjured.

In another instance a bullet had entered over the sacrum and had emerged towards the anterior part of the perineum without any appreciable injury to any of the pelvic bones or viscera. Water syringed into one opening ran freely out at the other.

We had several cases of entrance wounds over some part of the thorax in front, with exit wounds close to the vertebral column behind, in which it was certain, from the absence of symptoms, that the lung was uninjured, the bullet having run round the thorax guided by the ribs, and not traversed its cavity.

As an instance of the shocking deformities produced by bullet-wounds of the face, I may mention a Russian officer in whom a bullet carried away the outer wall of the left orbit, the eye, and the bridge of the nose. Fragments of shell may of course produce still more ghastly wounds of the face without seriously endangering life, as in the case of a Russian who was several weeks in the hospital, in whom the whole of the lower jaw except the two ascending rami was carried off; all the exterior boundaries of the mouth below the upper lip were gone, and his tongue hung down over the neck. Being an inveterate smoker, he still contrived to solace himself by applying his cigarette alternately to each nostril. Like most of the other patients, both Servian and Russian, the five cigarettes allowed daily appeared to be to him a necessity rather than a luxury.

One could not but be struck by the great slowness with which bullet-wounds in general heal, even in men of such vigorous constitutions as the Servian soldiers; but the extensive bruising of the tissues around the track of the bullet, together with the lacerations caused by fragments of bone and other substances, furnish, no doubt, a sufficient explanation. This sluggishness in healing was the most marked in wounds traversing the foot from its dorsal to its plantar aspect. In these cases, the healing of the wounds was most tediously prolonged by the gradual separation of numerous fragments of necrosed tarsal and meta-tarsal bones.

The extreme reluctance of the Servians to submit to amputations compelled us to put conservative surgery to the severest tests; and though in many cases the death which we predicted as the only alternative prospect actually occurred, yet in a few others the patients ultimately recovered. In one case, in which a bullet had traversed the knee-joint, injuring the bones, in spite of very profuse and prolonged suppuration, the patient recovered with a useful stiff leg.

Only five or six amputations were performed at the hospital, all of course secondary, and the results were such as fully to support the commonly received opinion that such operations are, as a rule, inadvisable.

In striking contrast to these cases was that of General Zach, commander-in-chief of the Servian army, an old man over seventy years of age, in whom gangrene had supervened after his horse trod on his foot. After an anxious consultation, it was decided to amputate his thigh; the stump was only dressed four to five times, and healed completely within ten days of the operation.

Two interesting cases of injury to nerves from bullet-wounds were met with in the hospital. In one, a bullet had traversed the left arm from the outer to the inner side on the posterior

aspect, and after emerging had grazed the left side of the chest; there was partial loss of sensibility in the back of the left hand, and complete loss of power in the extensor muscles; the extensor muscles of the fingers could hardly be made to act at all, and the extensors of the wrist were completely paralysed, doubtless from injury to the musculo-spiral nerve behind the humerus. A peculiar laxity and puffiness was noticed about the tissues of the affected hand. No galvanic battery was available, and in spite of vigorous daily rubbings, there was no recovery of power during the patient's stay in the hospital.

In the other case, a bullet had traversed the left thigh on its posterior aspect, entering a little below the great trochanter, and passing out high up on the inner side of the thigh; it had also wounded the scrotum and right thigh. There was partial loss of sensation on the outer side of the leg and dorsum of the foot, partial paralysis of the calf muscles, and complete paralysis of all the extensors on the front of the leg, together with considerable pain in the leg. There could be no doubt that the sciatic nerve had been seriously injured. Warm applications and subcutaneous injections of morphia relieved the pain, but there was only a very slight recovery of power six weeks after the infliction of the wound.

In spite of the fact that each patient in the hospital had one or more suppurating wounds, we had only one case of pyæmia and two of erysipelas. Only six deaths occurred in the hospital during my stay, and in each case I made a post-mortem examination. In every one the spleen was from two to four times the normal size, doubtless from numerous attacks of intermittent fever.

The following are specimens, perhaps exceptional ones, of Russian professional and non-professional surgical treatment:— A Russian surgeon, in amputating a thigh, neglected to have the femoral artery compressed; as a natural result the patient bled nearly to death during the operation. A Russian soldier fell down into the hold of a barge, bruising his back most severely. When I examined him, I found a large ecchymosed swelling with abraded surface, which his comrades were rubbing most vigorously with slices of onion mixed with salt. After I had applied a large water-dressing, they did their utmost to persuade me to bleed the unfortunate man, as an adjunct to their preceding treatment.

Bucharest and its Hospitals.

On my way home I was enabled, through the courtesy of Mons. Davila (Inspector-General of the Sanitary Corps of Rou-

mania), to visit five of the chief hospitals in the city; these contain a total of more than 1000 beds, and in addition there is also a Maternity Hospital, a large Lunatic Asylum, and an Hospital for Incurables.

There is only one Medical School, with nearly 200 medical students, and this is attached to the oldest of the hospitals. The medical wards in this hospital are very fairly lighted, spacious, and clean, and there is a general air of cheerfulness which is much rarer in Continental than in English hospitals. The surgical wards are neither so clean nor so well lighted, and in them the ventilation is decidedly defective. Many allowances, however, must be made, as it is an old building, on the eve of demolition, to be shortly replaced by a new and much larger hospital.

At the *Military Hospital*, which contains 200 beds, I had an opportunity of seeing a large part of the Roumanian ambulance. Each waggon is arranged for the transport of four severely-wounded men on stretchers slung from the roof. Each surgeon is provided with a case of amputating instruments, together with a valise containing all the necessaries for field-work, and also a large satchel, with extra lint, bandages, &c., to be carried by a soldier of the sanitary corps. There are printed lists with prices annexed of each case of surgical appliances in the ambulance waggons, as well as in the surgeon's valise. In a word, the organisation is almost perfect, but has broken down as utterly as all other ambulance organisations when engaged in actual field-work.

The *New Hospital* is a really fine building with 200 beds; the wards, in the matter of light, ventilation, and other sanitary arrangements, are equal to the best in our English hospitals.

There is further a *Children's Hospital* of 100 beds, where children are admitted up to the age of fourteen. Here fully half the cases are intermittent fever, or, as it is here called, "intoxication palustre." The cachectic appearance of these children is very characteristic—excessively anæmic with lack-lustre eyes. The enlargement of the spleen, even in children of five or six years old, is often very considerable; and in several cases I noticed great enlargement of the liver with much ascites. I observed one case of "purpura hæmorrhagica," and was informed that in Roumania it often occurs as one of the sequelæ of ague among children. Tuberculosis, rheumatism, and intermittent fever are, as might be expected, very prevalent; the last occurs frequently among horses, and in them too is sometimes treated with quinine. Photographs are preserved of all the more remarkable cases, and already there is a large and most interesting collection.

Many cases are admitted into all the hospitals which in England are usually treated as out-patients, *e.g.*, simple fractures of the arm, of the clavicle, ulcers of the leg, and slight cases of bronchitis.

All the hospitals are under the control of a governing body termed the "Ephoria," and each has to present a daily record of the number of patients, as well as a monthly abstract. Selections of the more interesting cases are published from time to time.

The "Ephoria" provides also nurses for foundling children, and also organises the distribution of relief to the destitute.

Among "curiosities" I may mention a Russian belonging to the sect of the "Skoptschy," whom I saw in one of the hospitals at Bucharest, and in whom both penis and testicles had been removed by a self-inflicted mutilation. There are thousands of them in Russia. As no surgeon has ever seen them perform this operation, one is left to conjecture the method they adopt for controlling the hæmorrhage.

Russo-Turkish War, 1877.

We had an excellent equipment of surgical and medical stores, together with large double tents in which to place the wounded. We attended to a considerable number of wounded on several occasions, dressing the wounds, extracting bullets, doing a few small amputations, and putting splints upon many fractured limbs. Among other cases was a Turkish soldier with a hernia about as big as a fist protruding through an abdominal wound: this I had some difficulty in reducing, though I enlarged the wound freely upwards. He died two days afterwards, and this was scarcely to be wondered at considering that the bowel had been protruding for twenty-four hours before I saw him.

During our stay with the field-army at Sarnasufiar, as we were the only medical officers for this whole division of Turkish troops, numbering over 10,000 men, we had a number of sick to attend to every day (usually about 70 to 80). A large number were suffering from fever, a variety of intermittent, which we found most amenable to the action of quinine.

Diarrhœa of a watery character was very prevalent: it was usually at once arrested by a dose of 25 minims of chlorodyne, followed by pil. opii gr. i. at night. We did not see one case of true dysentery.

The great rarity of lung affections surprised us much. Out of 1500 Zibecks encamped close to us, and who were absolutely without shelter from the drenching rain which continued during

the greater part of two days, we had not ten cases of bronchial or other catarrh to treat. We had also a large number of minor surgical cases, such as abscesses, boils, and carbuncles, ecthyma, stomatitis, carious teeth, conjunctivitis, corneal ulcers, cuts, bruises, hæmorrhoids, bubos, and hernia. In examining patients with these latter affections, we observed that all the soldiers conformed to the usual Turkish custom of shaving the hair from the pubes. The absence of drunkenness was most striking. We were a fortnight in a Turkish camp of 30,000 men and did not see one soldier drunk, the invariable beverage being water or coffee.

The way in which they recover from even the severest injuries astonished us greatly, and is certainly in part due to their temperate habits.

OBSERVATIONS ON THE SECRETION OF SALIVA IN A CASE OF PAROTID FISTULA.

BY

R. HAROLD A. SCHOFIELD, M.B.

The observations detailed in this paper were made during the months of February and March 1878, on Francis M. (aged 16), who was admitted into Rahere Ward, under Mr. Thomas Smith, on February 11, 1878. For many most valuable suggestions as to the best method to be pursued I am indebted to Dr. Brunton.

The following is an abstract of the surgical history of the case:—

Francis M., aged 16, admitted to Rahere Ward, February 11, 1878.

Up till twelve months ago he was quite well. In February 1877 a swelling began to appear in the right cheek, and gradually increased in size till it was about as large (he says) as a hen's egg, when it was incised (May 1877), and a quantity of clear colourless fluid let out. It healed up entirely for a week, then burst out again, and saliva has been trickling from the fistula every day since then without any very notable variations. At meal times he finds it necessary to tie a handkerchief round his neck to soak up the saliva. About six weeks ago, two setons were put through the cheek into the mouth, and kept in about three weeks, leaving after their removal the present ulcer.

Just below the malar bone there is an oval ulcer in the right cheek, about half-way between the angle of the mouth and the ear. The long diameter of the ulcer is vertical, and it is covered with pale granulations. The skin is undermined at the upper part, and from here saliva escapes and trickles down over the surface of the ulcer. Saliva also escapes from a tiny pinhole opening in the skin of the cheek, about a quarter of an inch from the margin of the ulcer.

Feb. 18.—The soft parts were freely divided by Mr. Smith

upwards, and a small sequestrum removed from the under surface of the malar bone.

Feb. 23.—Cutaneous erysipelas beginning at the operation wound.

March 5.—Erysipelas has quite subsided.

March 11.—Operation wound has cicatrised, but saliva still escapes from the ulcer. The patient was discharged for a month.

April 29.—Readmitted. Saliva still escapes freely. Collodion was now painted daily over the ulcer.

May 4.—The right parotid duct was catheterised from the mouth, collodion being still painted on externally.

May 6.—Saliva begins to flow into the mouth along the duct.

May 27.—Fistula in cheek has quite closed. No more saliva escapes externally. Ulcer almost healed.

May 28.—Discharged.

The points on which observations were made are the following:—

I. The action of various ordinary articles of food and drink in stimulating the flow of saliva.

II. The action of certain so-called sialagogues in respect of—

(a.) Rapidity of action, as measured by the time which elapsed between the administration of the medicine and the commencement of the flow of saliva from the fistula.

(b.) Total quantity of saliva secreted by the parotid gland under stimulation. To estimate this, a number of small strips of white blotting-paper (about 2 in. by 1 in.) were prepared. The edge of one of these was placed in contact with the moist granulating surface from which the saliva flowed, and when completely saturated it was removed and immediately replaced by another. Thus the quantity of saliva secreted was measured by the number of pieces of blotting-paper (of equal area) saturated, while the rapidity of its flow could be ascertained by the time occupied in saturating each successive piece of blotting-paper.

(c.) Duration of stimulation, as measured by the time during which the flow of saliva continued.

III. The excretion of iodide of potassium by the salivary glands.

The saliva collected on various occasions was found to be a slightly opalescent fluid, alkaline in reaction and capable of converting starch into sugar.

I. Usually at every meal saliva flowed copiously from the fistula and trickled down the cheek, so that the patient wore a handkerchief round his neck to soak it up.

The flow usually began in about $1\frac{1}{4}$ minute after food was first taken into the mouth, and varied in quantity from 50 minims (dinner of small piece of fish and bread) up to $2\frac{1}{2}$ drachms (dinner of large chop with bread, butter, and potatoes).

Observations were made on the following articles of food and drink:—Salt, sugar, pepper, dry bread, water, milk, lemonade.

Though the quantity of saliva varied considerably in observations made on the same substance at different times, it was found that the flow of saliva produced by *sugar* was more copious and lasted longer than that produced by any of the other substances.

In one observation, after a teaspoonful of brown sugar had been taken into the mouth, the flow of saliva lasted for twelve minutes, and saturated $7\frac{1}{2}$ of the slips of blotting-paper above described.

Salt was found to be the most rapid in its action: in one observation the saliva began to flow within five seconds after the salt had been taken into the mouth.

The stimulation of a very small quantity of *pepper* taken into the mouth was found to last for ten minutes, the saliva saturating four slips of paper, and flowing with gradually decreasing speed.

The 1st paper was saturated in 15 seconds.

„	2d	„	„	25	„
„	3d	„	„	55	„
„	4th	„	„	120	„

In the mastication of *dry bread* saliva began to flow in ten seconds, and the flow continued for $1\frac{1}{2}$ minute after mastication had ceased. The effects of water, milk, and lemonade were insignificant, and the quantity of saliva secreted in no case sufficed to saturate more than one paper.

2. The following medicines were experimented upon:—Æther, chloroform (inhaled), dilute hydrochloric acid, dilute acetic acid, oil of peppermint, oil of spearmint, oil of cajeput.

The salivation provoked by the inhalation of æther was found to be more copious and lasted longer than that caused by chloroform, but it never continued more than five minutes after the inhalation had ceased, and never sufficed to saturate more than three papers.

The effect of the *dilute acids*—acidi hydrochlorici dil., ℞x., aquæ, ʒj.—was almost instantaneous, the saliva beginning to flow within five seconds. In the case of the hydrochloric acid, the patient said he felt a slight pain in the fistula the moment after

drinking the medicine. The flow of saliva continued from five to six minutes.

In the case of the three essential oils, the oil of spearmint (*oleum menthæ viridis*) produced the most rapid effect and caused the most copious flow: the saliva flowed from five to seven minutes after one minim of the essential oil had been placed on the tongue. The duration of the flow was much the same in the case of the other oils.

3. Two observations were made on iodide of potassium, and agreed very closely with each other. In place of the simple blotting-paper slips, paper impregnated with starch-paste and moistened with chlorine-water was employed. This readily showed the presence of iodine by the deep violet tint produced when the iodine was liberated.

Five grains of iodide of potassium were given in water; after twenty minutes none of the medicine had been excreted through the fistula, for no saliva flowed. A little sugar was then given, and immediately the saliva began to flow, the starch-paper being tinged of a deep blue colour.

The patient, who had previously emptied his bladder, was now desired to pass water, and no iodine was detected in the urine.

Thus the excretion of iodide of potassium through the salivary glands was proved to precede its elimination through the kidneys.

The observations were interrupted at this point by the patient's discharge from the Hospital, and on his readmission could not be resumed, as the highly contractile collodion painted on the ulcer effectually hindered all escape of saliva externally.

M Y O I D E M A.

BY

SAMUEL WEST, M.B.

When the chest is smartly percussed over the pectoralis major muscle with the tips of the fingers, small tumours are often observed to develop at the points of percussion. To this the name of myoidema has been recently given,¹ although the phenomenon has been long known, and was described by Dr. Graves² and Dr. Stokes³ many years ago. The name is expressive and useful if it be employed in its more general signification of a swelling, *i.e.*, of a contraction, as it really is, and not of an œdema of the muscle.

Myoidema, or, as it may be called, nodular contraction, has to be distinguished from another kind of muscular contraction, also evoked under some conditions by percussion, *viz.*, the fascicular, that in which a deep furrow is produced along the whole length of the muscle by the contraction of the fasciculus which corresponds with the point percussed. It is only the former, myoidema, which will be considered in this paper—a phenomenon of great interest, if it be true, as has been asserted,⁴ that it is not only pathognomonic of phthisis, but also that it varies in amount directly with the activity of the destructive disease in the lung.

Myoidema is a local contraction of the muscle, produced by direct percussion, and causing a nodular swelling, which rises immediately after percussion, lasts a second or two, and then gradually subsides. A second or third percussion in the same

¹ Dr. Lawson Tait on Myoidema and Phthisis, 1878.

² Dublin Hospital Reports, vol. v. p. 70.

³ Stokes' Diseases of the Chest, p. 398.

⁴ Dr. Lawson Tait, *ut supra*.

spot will reproduce it, but with less intensity each time, until the power of eliciting it is for the time lost. In the pectoralis major it is most marked usually where the muscle is thin, close to its origin, near the sternum, but it occurs also commonly in the fleshier parts of the muscle. Dr. Lawson Tait states that he has observed it in the deltoids and the scapular muscles, and occasionally in the muscles of the back, but my observations have been confined to the pectoralis major.

The two kinds of contraction, the nodular and the fascicular, are not necessarily, nor as a rule, associated together.

Occasionally a wave of contraction is excited by the blow, which, starting from the point struck, passes slowly in both directions towards the origin and towards the insertion of the muscle. Its rate is slow, but it seems to vary considerably in different cases.

Of those further facts which are asserted, that the muscles show no abnormality on microscopical examination, and that they respond readily to direct faradisation, but not to stimulation through the nerves, I have no personal experience.

My observations have been made upon 245 cases taken at random in the wards of the Hospital, 165 surgical and 80 medical, to which I have added 30 more collected from other sources. Myoidema was found on the whole in one case out of every three, but it was twice as common in the medical as in the surgical wards, occurring in one case out of every two in the former, and in one out of every four in the latter.

Among the surgical cases it was present in the greatest variety of diseases. Some were in no more abnormal condition than the enforced rest and confinement of a broken leg entailed. Out of the 38 cases in which it occurred, 21 were suffering from diseases of which the only common factor was suppuration and its attendant effects upon the constitution (*e.g.*, diseases of the hip or spine, necrosis, compound fractures, amputation, &c.), and 13 from other surgical diseases unattended by suppuration, in which group would be included those already referred to who were recovering from simple fracture. The other 4 were, in addition to their surgical affection, also phthisical. Out of the 80 medical cases myoidema was present in 45, and again in a great variety of affections. Of nerve diseases, it was found in hemiplegia, paraplegia, cerebral abscess, locomotor ataxy, and muscular atrophy. It was observed in morbus cordis, both aortic and mitral, in cirrhosis of the liver and kidney, in nephritis, in diabetes, in jaundice, in rheumatic fever, in gonorrhœal rheumatism, in typhoid fever, and lastly in diseases of the lung, in pleurisy, acute pneumonia, pneumothorax, empyema,

and in phthisis. In one case of pleurisy, in one of pneumothorax and in one of empyema, it was found only on the unaffected side, and in a second case of empyema was much more marked on this than on the side diseased. It is worthy of note that in typhoid it seems to be almost constant, and that in children it is usually absent.

The chief interest of myoidema centres in its reputed relation to phthisis. Now of the 38 surgical cases in which it was present, 4 only were phthisical, and out of the 45 medical cases only 13 had any affection of the chest at all, and of these 4 were certainly not phthisical. From this it is perfectly clear the myoidema is not pathognomonic of phthisis; yet it certainly does occur very commonly in phthisis, though I have no statistics to show its relative frequency.

I have records of 30 cases of phthisis in which this symptom was noted, but it occurs much more often than this would imply. Out of these 30 it was entirely absent in 6, though 5 of these were cases of acute and rapid softening, with most marked constitutional symptoms, so that myoidema is not even a constant symptom of phthisis.

Of the remaining 24, 14 had only one apex involved. In 8 of these myoidema was present on both sides, in the other 6 only on one, while out of these it was present in 2 cases only on the side opposite to the lesion. Hence myoidema cannot be a measure of the amount of softening which is going on.

In 10 cases both apices were involved, and in all of these it occurred on both sides, though in 5 of them it was most marked on the side most affected.

With these exceptions, so far as my observations have extended, myoidema is always bilateral and symmetrical.

Dr. Lawson Tait asserts "that myoidema is one of the most certain signs of phthisis; that it is an absolutely certain indication of softening deposits, so that in exact proportion to its intensity is the amount or rapidity of lung destruction and the consequent gravity of the case; that increase of softening, increase of muscular irritability, and loss of weight always go together; and that he has been able by this symptom to diagnose between typhoid fever or acute bronchitis on the one hand, and softening tubercle on the other."

To these statements I would oppose the results of my own observations, which show, first, that myoidema occurs in many other diseases besides diseases of the chest, and in many diseases of the chest besides phthisis; that even in phthisis it is not constant, though usually present, and that when present it cannot be accepted as a certain index of the amount of tissue

destruction, for it not uncommonly occurs on both sides when only one apex is affected, or it may be absent on the affected and present only on the non-affected side.

Dr. Stokes, who first described this phenomenon, writes thus: ¹ "There is nothing in this muscular irritability peculiar to phthisis, but that it is commonly connected with irritation of the lung or pleura there can be no doubt, and in this way, like other signs of irritation, it becomes available in the diagnosis of phthisis. It is always most evident in the earlier periods; and in incipient phthisis occurs over the primary seat of irritation, while in confirmed and chronic cases we may often find it absent over the lung first diseased, and strikingly marked over the side last and least engaged." These conclusions my own observations confirm; and I would differ only in attaching to myoidema still less clinical value in the diagnosis of phthisis.

Myoidema being then a symptom common to so many diseases, it is difficult to see with what condition it is essentially associated. Unless it be a reflex act, which is improbable, it must depend upon a direct stimulation either of the muscle itself or of the nerve-endings in the muscle.

Thinness, or the absence of subcutaneous fat, is one important factor in its production; and the explanation of this is simple. A thick *panniculus adiposus* would render the blow diffuse, which, when it is thin, reaches the muscle in sufficient intensity to set up contraction. But thinness is not the only factor, or it would be constant in all thin people; and this is not the case. Something more, then, is necessary, and that something more must be sought in the over-excitability of the muscle or its nerve. I have seen it, as a part of general nervous exhaustion from overwork, disappearing after rest and a holiday. In some people it is probably physiological, in the same way that the *tâche cérébrale*, though commonly occurring in meningeal irritation, is by no means always indicative of disease. It is, however, far more commonly associated with some nutritive disturbance in the muscle itself. I have observed it in a muscle which was ill nourished for want of sufficient use, in which case it disappeared after free exercise. It is common when the muscle is degenerating. It was more marked than I had ever seen it before in a recent case of muscular atrophy, where it was associated with fibrillary twitching with fascicular contraction, and with so excessive an electrical contractility that the muscle responded to the weakest current the battery could produce. It is, again, very common, almost constant, in that atrophy of muscle which is

¹ Loc. cit.

part of the general emaciation of hectic or of severe disease, and its frequency in typhoid is suggestive when considered in connection with the degeneration of muscle so common in that fever. Lastly, it may be associated probably with the exhaustion of a muscle from overwork. In this way it seems reasonable to explain its occurrence in empyema, pneumothorax, and in phthisis on the non-affected side, and its absence on the side diseased.

Myoidema seems then to be due, apart from mere thinness, which is so important for its production, to an over-excitability of the muscle or its nerves, and it may be either physiological, or, as is more usual, evidence of some nutritive disturbance in the muscle itself, and this may depend on local disease in the muscle tissue, or be part of some general impairment of nutrition.

In any case, myoidema occurs so frequently and under such variety of conditions as to be a sign of little clinical value in the diagnosis of any one disease.

MEASUREMENTS OF THE MALE URETHRA.

BY

C. B. LOCKWOOD.

Much attention has recently been given to the subject of urethral measurement, an attention which has already borne fruit in the use of large tubes by Bigelow in "rapid lithotripsy" (litholapaxy), and in the "complete division of strictures" by Otis.

All the measurements given below have been made either with a *bougie-à-boule*, or with Otis's dilating urethrametre. This instrument is constructed so that, when it is closed, and its extremity covered with an india-rubber stall, it shall resemble an ordinary straight bougie. A screw in the handle expands the stall-covered end, making it, in fact, a *bougie-à-boule*. When closed, it measures about 9 English or 14 French,¹ but it can be dilated up to 42 French. A dial-plate at the handle registers the size the dilating end has attained.

In 65 cases the average size of the meatus was 25.71 F. (or 14 Eng.). The three largest measured 32 F., the two smallest 7 F. A larger instrument (urethrametre) can always be withdrawn through the meatus than can be passed in.

An approximate law² has been laid down, that if the penis has a circumference of 3 inches, or 75 mm., the urethra will have a circumference of 30 mm., and that for each $\frac{1}{8}$ in. increase in the size of the penis the urethra will increase 1 mm.

According to my measurements (51), the average circumference of the penis was $3\frac{3}{8}$ in., and the average size of the urethra was 34.6 mm. The two widest urethras were 42 mm. (more than 29 Eng.) at their widest part; in one case the penis was $4\frac{5}{8}$ in. in circumference, in the other $3\frac{3}{4}$ in.

The greatest distensibility was always found near the bulb; it diminished gradually towards the meatus. It is usually believed that the size of the meatus is a guide to the calibre of the urethra beyond.³ A comparison of the measurements given above shows that this is not the case. The circumference of the penis is the proper guide. In very rare cases the urethral measurement is

¹ For comparison of French and English scales, see p. 130.

² Stricture of the Male Urethra, &c. Otis, New York, 1878, p. 89.

³ Thomson, Stricture of Urethra, p. 8.

smaller than the penile one would lead us to expect, but frequently it exceeds it. In taking these measurements, the instrument was dilated as long as it would move with ease, and the patient complained of no sense of discomfort. This was evidently the rule followed by Thomson, for he says, "The question of the diameter of the urethra must be considered as resolving itself, to a certain extent, into the measure of its capability of being extended."¹

The existence of the fossa navicularis has been attributed to the pressure exerted by the urine during micturition behind a meatus smaller in calibre than the urethra beyond it.² To support this, its absence has been affirmed (Otis, quoting Professor Brown) in the fœtus; but I have observed traces of it in a child at its full term, and also in one three months old. More important still, however, is the observation of Mr. Berkeley Hill, who has pointed out that it is present in cases of hypospadias. W. T., attending as an out-patient at the Male Lock Hospital, had hypospadias involving the first inch of the urethra. A partial fossa navicularis was present.

Frequently a narrowing of the meatus will be found to be due to a thin membrane stretched across its lower half. This can easily be demonstrated with a bent probe. In cases of long-standing urethral discharge, a stricture is generally present, not necessarily one of small size. In 74 cases examined for stricture because of gleet, the urethra was below the *average size* in 30 cases. *Vide table* :—

No. of Cases.	Situation of Strictures.	Size of Strictures.
17	Meatus.	7, 14, 18, 23, 19, 24, 22, 21, 21, 16, 22, 20, 21, 7, 20, 23, 23.
4	At $\frac{1}{4}$ in. from Meatus.	25, 24, 23, 18.
1	At $\frac{1}{2}$ in. from Meatus.	21.
3	At 1 in. from Meatus.	26, 23, 18.
1	At Meatus and $2\frac{1}{2}$ in.	21, both.
1	At Meatus and 2 in.	23 and 25.
1	At Meatus and $3\frac{1}{2}$ in.	24, both.
1	At Meatus and $2\frac{1}{2}$ in.	23 and 16.
1	At 1 in. and $2\frac{1}{2}$ in.	26, both.

¹ Loc. cit., p. 7.² Otis, p. 178.

Other cases showing the position of strictures will be found farther on. In no case was there a stricture beyond $3\frac{1}{2}$ in. from the meatus. I am not aware of a case which attended at the Male Lock Hospital during the past year in which a stricture was diagnosed either close to or within the membranous urethra.

The following observations may in part explain the reason. It is maintained by Otis¹ that if a stricture be completely divided it will not recur; and he quotes a very large number of cases, both of his own and of other surgeons, showing that long after the operation no recurrence of the strictures has taken place; and, moreover, that when the strictures were "cured," the accompanying gleet ceased. Having determined to try this, until I had more experience of the operation, I divided only the penile strictures, leaving those placed deeper at the bulb to be dealt with later. I was, however, surprised to find that after the penile strictures had been divided the deeper ones disappeared. To satisfy myself that this observation was correct, I proceeded as follows in the case of James R., aged 25, who had had a gleet some time, and latterly had suffered from retention. When examined, *bougie-à-boule* 23 passed meatus urinarius, but stopped at $\frac{1}{2}$ in., 20 passed $\frac{1}{2}$ in., but stopped at $1\frac{1}{2}$ in.; 18 passed $1\frac{1}{2}$ in., but hung at $2\frac{3}{4}$ in. and 3 in.—it stopped at bulb; 16 *bougie-olivare* passed to bladder. With Otis's dilating urethrotome all his strictures were dilated and cut to 35 F. (his penis was $3\frac{3}{8}$ in. in circumference, therefore his urethra measured 33 F., according to rule given at page 125). After the operation, 18 *bougie-olivare* stopped at bulb. For a fortnight no instruments were passed to bladder. No. 24 *bougie-olivare* was then passed easily, and immediately afterwards 28 and 30 F.

The same occurred in the case of W. W., aged 20, who had had a gleet a year, followed by an attack of retention. When examined, No. 27 F. passed meatus, but stopped at $1\frac{1}{2}$ in.; 23 stopped at 3 in.; 15 passed 3 in., but stopped at bulb; 14 passed to bladder. The penile strictures were divided to 32 F. (the penis measuring 3 in.). After division, No. 21 F. could not be passed to bladder. Three weeks afterwards, 26 F. and 28 F. passed easily. In these two cases, what under most circumstances would have been termed strictures at the bulb disappeared after those in the penile urethra had been removed by division.

Strictures in the penile urethra were divided in seven other cases, and are detailed below with their results:—

¹ Loc. cit., p. 83 et seq.

Age, &c.	Number and Situation of Strictures.	Result.
<p>I. H. P., 29. Gleet 2 years.</p>	<p>23 F. at meatus. 23 F. stops at 2½ in. 20 F. passes to bladder. First operation, division to 28 F. Second operation, to 32, January 22.</p>	<p>March 10. Went home, 300 miles. No discharge; no return of strictures.</p>
<p>2. A. P., 41. Gleet 5 years. Difficulty in micturition.</p>	<p>23 stops at 3 in.; hangs at ½ in. and 2 in. 13 to bladder. March 10, division to 35 F. Strictures before operation were well defined and annular.</p>	<p>April 9. No discharge; no return of strictures.</p>
<p>3. J. B., 44. Gleet 2½ years.</p>	<p>21 at meatus; tightly held at ¼ in. 24 stops at 3 in. 23 passes to bladder. Strictures well defined. Both divided, March 1, to 30 F.</p>	<p>April 8. No gleet. 30 to bulb.</p>
<p>4. W. W., 20. Gleet 2 years. Retention and difficulty of micturition.</p>	<p>18 at meatus. 21 at 3 in. Stricture well defined. March 29, both divided to 30 F.</p>	<p>June 11. No difficulty; no discharge.</p>
<p>5. J. B., 24. Gleet 2 years.</p>	<p>21 at meatus. 20 at 2½ in. Stricture well defined. May 16, meatus divided to 32. Stricture at 2½ in. to 38. Penis 3½ in.</p>	<p>June 3. Still slight discharge.</p>
<p>6. J. L., 35. Gleet 13 months.</p>	<p>27 at meatus. 27 stops at 1 in. 26 passes to bulb. June 20, both divided to 40.</p>	<p>June 30. Discharge well.</p>
<p>7. W. M. Many strings in urine, and purulent discharge 2 years.</p>	<p>26 stops at ¼ in. 24 stops at ¾ in. 23 stops at 2½ in. 22 to bladder.</p>	<p>See below.</p>

In Case 7 the strictures at meatus and ½ in. were freely divided, and 26 *bougie-à-boule* passed with slight force to bulb, with a feeling imparted as if something had been torn through. This circumstance might possibly be explained by

reference to Specimen 37, Series 30, in the Museum of St. Bartholomew's Hospital, in which nine thick bands of lymph are stretched across the urethra. When last seen, this patient's discharge was gone, and the strings had almost disappeared from his urine. No. 30 *bougie-olivare* was passed to his bladder.

In the first of these cases, that in which spasm at the bulb was demonstrated, the discharge was not cured, probably because the strictures had partially recurred, and there was a slight chordee. This has occurred as a complication, even after the operation practised by other surgeons. In Case 5, when last seen, the discharge was still present, although no return of the strictures had taken place; however, the discharge was less, and appeared to be decreasing. The strictures were always first gently dilated to a little beyond what the urethral calibre ought to have been with Otis's dilating urethrotome, and afterwards freely divided along the roof of the urethra. There was never any hæmorrhage worth mentioning. The benefit was most complete, and occurred soonest in the cases where the strictures seemed well defined and annular.

These cases, however, have not been watched long enough to show what the ultimate result would be.

All museums contain specimens which demonstrate severe strictures deeply situated. These, however, have been taken from the very worst cases possible, and there is nothing to prove that many of them were not traumatic. Deeply seated strictures are probably rarer than is imagined. Before very deep strictures are assumed to exist, it would generally be as well, by means of the *bougie-à-boule*, to prove that they were not present in the anterior portion of the urethra. Cases can be quoted to show that even meatus strictures have been overlooked, and the chief obstruction thought to exist near the bulb. It is well known that strictures at the meatus and in the anterior portion of the urethra are not at all easily dilated by any instrumental procedure.¹ They are easily and safely divided, and after their division the spasm at the bulb, which seems always to exist, disappears.

Although probably open to a certain amount of fallacy, the *bougie-à-boule* is the most valuable means of diagnosis, and it will be seen from the above cases that the "stoppage" of the instrument, and not its "catch," was chiefly relied upon.

In conclusion, it may be observed that the French method of numbering instruments has always been adopted. This method

¹ See Thompson's Diseases of the Urinary Organs, p. 76, London, 1878.

numbers them according to their circumference expressed in millimetres. It is scientific and exact. The intervals between the instruments are not arbitrary, as is the case with those of English makers; and they ascend gradually, and not by leaps, as a comparison of the two scales show.

COMPARISON OF FRENCH AND ENGLISH SCALES.

French, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20,
 English, — — — — — 1, 2, 3, — 4, 5, — — 6, 7, 8, 9, 10, 11,
 French, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40.
 English, — 12, 13, — 14, 15, 16, 17, — 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28.

6. Codeia.
7. Lactic acid and some other modes of treatment in a case of diabetes mellitus.
8. Papaverine.
9. Coto bark.

I. VERATRUM VIRIDE.—*Tincture.*

The tincture of green hellebore was given to five patients suffering from acute rheumatism. Of these, only one, V., had not had a previous attack, the others having had the disease once, III., twice, I. and IV., and five times, II., before.

The dose generally given was five minims every three hours for the first two or three days, and afterwards every two hours. In IV. the dose was increased to ten minims every three hours on the third day; and in V. ten minims were given from the first, every four hours for one day, and every two hours after that. In all the cases, except V., the patients took the drug till the temperature reached the normal.

This took place in seven days, I., eleven days, III., fourteen days, II., and eighteen days, IV. In V. the drug was left off after eight days, the temperature being 102° at the time.

Thus the average duration of the fever after the veratrum was begun was about twelve or thirteen days, the disease having been in progress before admission—one week, I., ten days, III., and two weeks, II., IV.

The chief points attended to in respect of the action of the veratrum were the temperature and pulse, the rheumatic pains and inflammation, the state of the bowels, and last, though most important, cardiac complications.

Temperature.—The duration of the fever after beginning the veratrum has been already given. The manner of its decline was not always the same. In I. the temperature was at its height (103°) when the drug was first taken and then fell with regular morning remissions. In II., III., and IV. the temperature continued to rise for three to five days after the veratrum had been taken, and then began to fall with more or less regularity, the decline in IV. being very gradual and the morning remissions very slight. In V. scarcely any fall took place, the temperature remaining at 102° – 103° during the eight days the veratrum was given.

Pulse.—The pulse in I., II., and IV. became less frequent as the fever declined, and only in III. and V. was it affected by the drug.

In III. the pulse, which was 90 in the minute on admission, gradually fell to 48 on the day when the veratrum was discontinued. The next day it was 60, and continued at that rate for

two or three days afterwards, showing that the heart's action was depressed. During the last two days of the patient's taking veratrum, and also for two or three after it was left off, the action of the heart was distinctly irregular.

In V. the effect of the drug on the heart was still more marked. The pulse fell in eight days from over 100 to 80—its rate on the last day of taking veratrum. The next day it rose at once to 120, and kept at that rate for over a week. As the pericarditis in this case set in three or four days before the veratrum was left off, the rise in the pulse rate cannot be ascribed to that.

Joint Pains and Inflammation.—With the exception of Case IV., where the pains continued for more than a fortnight after beginning veratrum, all the patients were free from pain and inflammation of the joints in about a week.

Bowels.—The only case in which the alimentary canal was affected was III. This patient had diarrhoea during the last two days that he took veratrum, his bowels acting six or seven times in the twenty-four hours. It was on the same days that his pulse was also noticed to be irregular.

Heart.—Cardiac troubles occurred in two cases, IV. and V.

In IV. the patient's heart had been affected in his first attack of rheumatism, but on admission there was no murmur, though the apex was beating outside the left nipple line. He began to take veratrum on March 18th, and on the 20th he complained of præcordial pain and shortness of breath, and a systolic apex-murmur was heard.

The attack in Case V. was the first. After he had taken veratrum for four or five days, pericarditis came on, which in two or three days was accompanied by great delirium.

The only other effect noticed was in Case II. This man said that soon after taking each dose of his medicine he began to be giddy, and had a sinking sensation, with dimness of sight and loss of muscular power.

Hence it appears that in rheumatic fever, veratrum viride has little or no effect in reducing the temperature; that the pains subside no more quickly (?) than under other ordinary modes of treatment; that it has no power of warding off cardiac inflammations, and that its only effect, which, however, only takes place in some cases, is to depress the vascular system, as shown by slowness and irregularity of the heart's action. This depression is not accompanied by a corresponding fall in the temperature, and may be present while active inflammation is going on (Case V.).

These results are very unsatisfactory when compared with those related by Dr. Silver (Trans. Clin. Soc., vol. iv. p. 77).

CASE I.

Rheumatic Fever, Third Attack.

Ellen G., aged 26, one of the hospital nurses, was admitted into Mary Ward, February 26, 1879.

She had caught cold about a week before, and had since been suffering from rheumatic pains. She had had rheumatic fever twice before. On admission the left knee was painful and slightly enlarged. There was no increase in the extent of præcordial dulness, and the heart sounds were clear but exaggerated, the first sound afterwards becoming a little prolonged.

She complained of headache and sore throat, and of slight shortness of breath. Pulse 120, regular. Temp. evening 101°.

She was put upon milk diet.

March 1.—Began to take 4 minims of *Tr. veratri viridis* every three hours. The temp. on the preceding night had been 102.4°; this night it was 102.8°. Pulse 120.

March 2.—Does not perspire so much. Heart quieter. Pulse 100. Tongue very furred. Temp. morning 101.6°, evening 102.4°.

March 3.—Pain relieved, but still some in her right knee. Passed a good night. Pulse 100. Temp. morning 100°, evening 101.2°.

March 4.—Very good night. Tongue cleaning. Heart quieter. Pulse 92. Temp. morning 100°, evening 100.6°.

March 5.—Feels better. Appetite returning. Temp. morning 99.4°, evening 100.2°.

March 6.—Still slight pain in left shoulder. Pulse 84. Temp. morning 99°, evening 100.2°.

March 7.—The *veratrum* was discontinued, and cod-liver oil given instead. The temp. morning and evening was natural.

During the week the *veratrum* was taken, the temp. fell from 102.8° on March 1st to 98.2° on the 7th. The pulse rate also, which was 120 on the 1st, gradually came down to 84 on the 6th, while the irritable action of the heart was quieted. The amount of perspiration also became less. The case, however, was from the first a very mild one.

CASE II.

Rheumatic Fever, Sixth Attack.

George B., aged 36, a sallow-complexioned man, was admitted into Luke Ward, March 12, 1879, with an attack of rheumatic fever.

He said he had had five previous attacks, and the finger-joints of both hands were deformed.

His present illness began a fortnight ago, and on admission the joints of both arms and legs were painful and swollen.

He complained of headache, and had a foul tongue.

Pulse 96. Temp. evening 101.4°.

No heart affection.

He was put on milk diet, and ordered *Tr. veratri viridis*, 5 minims every six hours.

March 14.—Temp. morning 101°, evening 103.4°. To take the *veratrum* every three hours.

March 15.—Pulse 92. Temp. evening 101.2°. To take the *veratrum* every two hours. Slept after a morphia draught $\frac{1}{2}$ grain. The pain still continues in both knees and ankles. No heart complication.

March 16.—Temp. evening 101.2°.

March 18.—Complaining of great pain in his back, loins, and sides, but has none in his joints. No unnatural respiratory sounds, and no cough. Pulse 92. Temp. morning 99°, evening 101.4°.

March 21.—The rheumatic pains much better. Complains of giddiness and sinking sensation after each dose of the medicine. Seems to lose all power, and says his sight becomes dim. No heart complication. Temp. morning 98.6°.

March 22.—Feeling better. Fish and pudding ordered.

March 24.—Temp. evening 98°.

March 25.—Complaining simply of weakness. The *veratrum* discontinued.

Five minim doses of the tincture were given from admission, on the first two days every six hours, and on the third day every three hours, without any appreciable effect. On March 15th he began to take the same dose every two hours, and on the 18th was free from joint pains.

Temperature.—The temp. fell from 103.4° on the 14th to 98.6° on the 21st, though it rose to 99° in the evening for one or two days afterwards, reaching the normal on the 25th when the drug was left off and quinine given instead.

Pulse.—The pulse rate was not markedly affected, being 96 on the day of admission (March 12), 92 on the 18th when the joint pains ceased, and 76 on the 20th.

The bowels were regular throughout.

CASE III.

Rheumatic Fever, Second Attack.

James D., a paperhanger, aged 26, was admitted into Luke Ward, March 15, with rheumatic fever.

He had had the disease for the first time seven years ago, and

at that time had heart mischief, the marks of leech bites remaining on the præcordial region.

The present attack began ten days ago with pain in both knees and then in both ankles. On admission there were redness, swelling, heat, and pain of the right shoulder, and the left wrist, knee, and ankle, especially the last.

Sweating a good deal. Tongue presented brownish fur on dorsum, but red at tip and edges.

Heart's first sound lengthened, but faintly heard; second sound clear. Pulse soft and regular. Temp. 101° .

He was put on milk diet, and ordered tincture of veratrum viride, 5 minims every three hours, and a morphia draught at night.

March 17.—Several joints red, swollen, and painful.

March 18.—Pain still as bad as before. Scarcely any sleep during the night in spite of morphia draught.

The veratrum to be taken every two hours, and a morphia pill of $\frac{1}{3}$ grain to be given at bedtime.

March 19.—The temp. in the morning rose to 103.8° . Pulse 88.

March 20.—Pulse 80.

March 21.—Feeling better. Right knee still very stiff. Pulse 72.

March 22.—Pulse 64.

March 23.—Pulse 64. Had a good night. Has no pain.

March 24.—Pulse 56, irregular. Bowels acted three times yesterday.

March 25.—Bowels open six or seven times yesterday, having had no aperient. Pulse 48. The veratrum left off and iodide of potassium given instead.

March 26.—Pulse 60, still irregular.

Treatment by veratrum viride was begun on the day of admission, March 15th, and 5 minims were taken every three hours for three days. During this time the temp. rose, the pulse did not fall, remaining about 90, and the pain was as severe as ever.

Temperature.—On the 18th the same dose was ordered to be taken every two hours, and on the 19th the temp. reached its highest (103.8° morning), the pulse being 88. From this time the temp. began to fall with considerable morning remissions, and reached 99° on the evening of the 25th, when the veratrum was discontinued.

Pulse.—The pulse rate became less frequent, falling gradually from 88 on the 19th to 48 on the 25th.

Pains.—The pains, which were very bad on the 18th, were much less on the 21st, and on the 23rd had disappeared.

Bowels.—On the 24th and 25th, the last two days of taking the drug, the pulse became irregular, and remained so for a day

or two after it was left off. On the same two days the patient also had some diarrhoea, six or seven motions in the twenty-four hours.

On the 26th and 27th, the two days following the discontinuance of the veratrum, the pulse rate was 60 to the minute, and its rhythm irregular, as noted above.

During a mild relapse without rise of temp. (April 7th-12th), the pulse was usually about 60, and irregular.

CASE IV.

Rheumatic Fever, Third Attack—Endocarditis.

Frederick W., aged 27, was admitted into Luke Ward suffering from rheumatic fever, March 17, 1879.

He said his father was gouty.

He had been a painter since he was 14 years of age, and had first had rheumatic fever when 18, and at that time his chest was blistered. He had a second attack when 23, and his present illness began on March 3.

On admission the hands and elbows were affected on both sides. The apex of the heart was felt beating outside the left nipple-line, but no murmur could be heard. Temp. 100.5°.

He was put on milk diet.

March 18.—The temp. was 103°. He was ordered 5 minims of tincture of veratrum viride every three hours. Pulse 120.

March 19.—Temp. morning 103.2°, evening 102.8°. Pulse 112.

March 20.—Complaining of pain about his heart. A systolic apex murmur beginning to develop, but no increase of cardiac dulness.

Temp. morning 103°, evening 103.8°. Pulse 112, regular.

Blistering fluid applied to præcordial region. The dose of tincture of veratrum increased to 10 minims every three hours.

March 22.—Has pain in the left side of the chest on coughing. Breathing difficult. Suffers from constipation.

March 25.—The constipation continues. Says his urine scalds him.

A profuse rash on the back.

Urine, sp. gr. 1025, acid. More than a trace of albumen.

March 26.—Pains easier. Bowels open.

March 31.—Still has some pain in the wrist.

April 4.—No pain. Systolic apex-murmur persists.

Temp. 99°. Pulse 90. The veratrum discontinued, and iodide of potassium draught, three times a day, given instead.

On March 18, when the patient began to take 5-minim doses of the tincture of veratrum every three hours, the pulse was 120, and the temp. 103°.

Heart.—Two days after, on the 20th, he began to complain of pain about the heart with shortness of breath, and blistering fluid was applied, the dose of veratrum being doubled. A systolic apex-murmur was heard, and in the evening the temp. reached its highest—nearly 104° , the pulse ranging from 112–120.

Here, as in Case V., heart mischief came on while the patient was taking the veratrum.

Temperature—After the 20th, the temp. gradually and slowly fell with short curves, the difference between the morning and evening heat being generally less than a degree ($\frac{3}{5}$, $\frac{1}{2}$, &c.)

It was not till the morning of April 4th, the 18th day on which he had been taking the veratrum and the 16th of 10-minim doses, that the temp. reached 99° .

Pulse.—The pulse had remained very much the same, always regular and generally about 100, sometimes more, seldom less. On April 4th, when the veratrum was left off, it was 90° . If the drug had any depressing effect either on the temperature or on the vascular system, it can only have been extremely slight.

Bowels.—There was no diarrhœa at any time, and for some days (March 22nd to 25th) the bowels were constipated.

Pains.—The pains appear to have continued much the same as on admission till March 26th, when they were described as being easier; but five days later, March 31st, there was still pain in the wrist, and he was not quite free from pain till April 4th.

CASE V.

Rheumatic Fever, First Attack—Pericarditis—Delirium.

Frederick W., aged 16, an office boy, fair complexioned and well built, was admitted into Luke Ward, March 24th, 1879, with pain and swelling in both wrists, knees, and ankles.

His illness began March 21st, and he had never had rheumatic fever before. He perspired freely, his bowels were constipated, and his tongue was very thickly furred.

March 25.—After two calomel and jalap pills at night with a dose of senna draught in the morning, his bowels were opened, but his tongue remained thickly furred. The heart sounds were clear, and there were no other abnormal cardiac signs. He was ordered to take ten minims Tr. veratri viridis every four hours, and a quarter of a grain of morphia in a pill every night.

March 26.—The veratrum to be taken every two hours.

March 28.—No heart signs; feeling better.

March 29.—Perspiring freely. On auscultation a doubtful rough sound was heard at the base of the heart, and on the 30th this had developed into an unmistakable pericardial friction sound.

March 30.—The præcordial region was painted with blistering fluid, but as no blister was raised, the skin being merely reddened, another application was made, and as the effect was not different, it was put on a third time, still without raising a blister. The joint-pains were almost gone, and the swelling had subsided.

March 31.—Had passed a better night.

April 1.—He had very little sleep in the night. At 4.30 A.M. he was actively delirious, and got out of bed. This morning is sweating profusely. Says he is free from pain. The friction sound at the base of the heart very distinct. He was ordered to leave off the veratrum and to take two grains of the extract of Indian hemp at bedtime.

April 2.—Was very delirious in the night, shouting and getting out of bed. The hemp had no effect either in producing sleep or in subduing the delirium. Passed his urine into the bed. On being asked, puts out his tongue, which is dry and furred, and says he feels better. The quinine draught to be taken three times a day, and two grains of extract of Indian hemp at bedtime, to be repeated in four hours if necessary. He was put on four oz. of brandy daily.

April 3.—He took the first pill at 10 P.M., but had no sleep and was delirious till 2 A.M., when he had the second. After this, he was quieter and had about an hour's sleep. Passed his motions into the bed. Tongue dry and furred. Perspiring much. Pulse soft and regular, 120. Continual movements of hands and fingers, tossing arms about in almost a choreic manner. The skin to which the blistering fluid had been applied had begun to look grey and ashy one or two days before, and was now evidently going to slough to the extent of a circular patch over the upper part of the sternum and to its right and left, about four inches in diameter. Friction sound still loud. The brandy increased to 8 oz. To have an injection of morphia $\frac{1}{4}$ grain at bedtime, to be followed by a draught containing the same amount in three hours, if necessary.

April 4.—The injection given at 10 P.M. Slept most of the night, but was slightly delirious between 1 and 2 A.M. Took brandy and milk in the night. Tongue moister. Says he feels better. Has no headache. The slough beginning to separate.

April 5.—Slept fairly after a morphia injection. Seems better. Tongue furred and moist. No headache. Friction sound still loud. The restless movements gone. Quite conscious and answers questions readily.

April 6, 7.—Good nights after morphia. Takes his food well and has no pain.

April 8.—Had little or no sleep during the night. Was very

restless and delirious, screaming and talking all the night. The morphia draught, $\frac{1}{4}$ grain at bedtime, had no effect, though he was a little quieter after $\frac{1}{12}$ grain at 3 A.M. Very restless and inclined to wander this morning. Friction sound loud. Slough nearly separated. Injection of $\frac{1}{3}$ grain of morphia to be given at bedtime, to be repeated if necessary.

April 9.—High delirium all the night. Only slept a quarter of an hour after each of four injections of $\frac{1}{3}$ grain of morphia, given at 10 P.M., and at 1, 4, and 7 A.M. An ice cap was ordered, but his movements were so violent that it could not be kept on his head. He was moved to a padded bed in Casualty Ward in the morning, as it took three or four nurses to keep him in an ordinary bed. Pupils contracted. Slept at intervals during the day. Took his food well. Bowels acted three times. Ordered 15 grains of chloral with 30 of bromide of potassium at bedtime, to be repeated if necessary. Zinc lotion was put to the sore left by the separation of the slough instead of the poultices which had hitherto been applied.

April 10.—Passed a quieter night, and only had one draught. Complaining of headache. Lips dry and some sordes on them. Friction sound still well heard through the poultice.

April 10.—From this time to the 13th he slept well at night after chloral and bromide of potassium. The delirium had ceased, and only twitchings of the fingers remained. He took his food well. On the night of the 13th he slept well without any draught.

April 14.—He was moved to Luke Ward.

April 15.—Twitchings of the fingers almost gone. Ordered to take the quinine and iodide of potassium draught three times a day.

April 17.—The friction sound still heard at a limited spot at the base over the sternum. The heart sounds very sharp and clear.

April 18.—Physical examination of the heart, had so far been difficult on account of the large sore over the præcordium. The apex was now found to be outside the nipple-line, the impulse slightly heaving. Recession of the intercostal spaces was also observed. Over the sternum a sound was heard which seemed like the old friction sound, but was thought by Dr. Duckworth, then on duty for Dr. Gee, to be a diastolic aortic murmur.

April 22.—The sound at the base not so loud. Is heard more over the aortic region than at the base of the heart. The impulse most distinct immediately under the left nipple, but can be felt distinctly two inches to its left.

April 23.—The second sound at the base accentuated, but no murmur.

April 24.—The granulations of the sore being exuberant were touched with solid nitrate of silver, and a lotion of the same applied.

April 25.—The heart's impulse seen and felt in the fourth intercostal space, at and external to the left nipple. The area of dullness also reaches outside the nipple-line. The sounds clear.

Improvement in all material respects now continued without interruption. The sore healed steadily, and on the patient's discharge on May 17th was not larger than a crown piece. The rheumatic symptoms had long since disappeared, and the heart's position and sounds were almost if not quite natural.

From April 21st to 30th, the temperature, which had been normal since the 15th, varied from 99° – 100° , the pulse during the same time being 100–120. There were no symptoms during this slight febrile attack, which perhaps was due to the action going on in the sore, and to its being dressed with nitrate of silver.

Action of Veratrum Viride.

The patient began to take 10 minims of the tincture every four hours on March 25th, and every two hours on March 26th.

On the 26th and 27th the pulse was 104 and 108 respectively, the temperature being 102° to 103° .

On the 28th the pulse had come down to 80, the temperature having fallen also to 100° (?) though it rose again in the evening to 102.5° .

On the next four days, March 29th to April 1st, the pulse was 86, 92, 76, and 80, the temperature remaining at 101° to 102° .

On the 29th and 30th while still taking the veratrum, the pains in the joints and the other rheumatic symptoms disappeared, but at the same time the pericarditis began.

The veratrum was left off on April 1st, and on the 2nd, the temperature remaining the same (102°), the pulse rose from 80 to 120, and continued at the same rate for nearly a fortnight, occasionally being quicker, and once (April 9th, the day of highest delirium),

144.

On the 13th the pulse was 108, the temperature also falling.

If the sudden rise in the pulse rate had coincided with the onset of the pericarditis (the articular rheumatism having ceased), one might have put them in the relation of cause and effect, but as the pericarditis had been in progress for four, or at the least three days before the pulse increased in frequency, there can be no doubt that the rise was due to the discontinuance of the veratrum. This depression of the heart's action seems, however, to have been

its only effect, unless one may claim for it the rather early subsidence of the rheumatic pains and swelling, which went away a fortnight before the fever ceased. The temperature was little if at all affected by the drug, and, most important of all, it did not prevent an attack of acute pericarditis accompanied by severe delirium.

Other points of therapeutic interest in the case are :—

(1.) The uselessness of *cannabis indica* to procure sleep or check delirium.

(2.) That only a quarter of an hour's sleep was produced after each of four subcutaneous injections of $\frac{1}{3}$ grain of morphia, at intervals of three hours; the only effect being moderate contraction of the pupils the next morning.

(3.) The unpleasant result of painting on liquor epispasticus three times in succession. No blister was raised, but the proceeding ended in sloughing of the whole thickness of the skin of the painted area.

II. CALABAR BEAN.—a. *Raw Bean.*

Case VI. was one of poisoning by chewing half of one of the beans and swallowing the juice.

As the effects are described in the notes of the case, nothing further need be said here.

b. *Extract.*

This was used medicinally in Cases VII. and VIII., locomotor ataxia and spasmodic spinal paralysis respectively. The extract of physostigma was given in doses of $\frac{1}{6}$ grain every four hours, VII., and $\frac{1}{8}$, then $\frac{1}{6}$, and finally $\frac{1}{4}$ grain at similar intervals, VIII. In both it appeared to cause griping pains in the belly, but beyond this, no physiological or therapeutic action was noticed. The man with locomotor ataxia had begun to improve by rest in bed, and when taking nitrate of silver, and he continued to do so when this was changed for Calabar bean. No improvement took place in the patient with spasmodic spinal paralysis.

One-sixth of a grain of extract of physostigma, injected subcutaneously, in the case of a child, $4\frac{1}{2}$ years old, suffering from spastic paraplegia,¹ produced drowsiness, paleness, weakness of the pulse, but no effect upon the pupils. An experiment repeated six times. (Maria M., Hospital for Sick Children, October, 1878.)

¹ See Hospital Reports, vol. xiii. p. 71 (1877), for an account of this disease.

III. HEMLOCK.—a. *Extract.*

After Calabar bean had been taken for a fortnight by the patient suffering from spasmodic spinal paralysis, VIII., he began to take 10-grain doses of Squire's extract of conium four times a day. The dose was increased to 15, 20, and, on July 1, to 30 grains four times a day, but without the slightest effect.

b. *Juice.*

On July 4, the same patient left off the extract, and took 2 drams of Squire's succus conii three times a day. In two days this dose was doubled. On the 10th he took one ounce night and morning, on the 11th one ounce and a half, and on the 18th began to take two ounces twice daily, and continued with the same dose till his discharge a week later. No change whatever took place in his condition, either as to the disease or as to his healthy functions.

Note.—The extract and juice of hemlock were prepared by Mr. Peter Squire of Oxford Street, from plants grown and chosen by himself. Both preparations were excellent; it would have been impossible to have employed more perfect specimens. In this place, Dr. Gee wishes to thank Mr. Squire for his kindness in providing the drugs experimented with.

CASE VI.

Calabar Bean Poisoning.

Adam T., aged 42, a meat-porter, a strongly built and apparently healthy man, was admitted into Luke Ward, April 7, 1879.

At 9.25 A.M. that day, he took a handful of beans from a bag which was travelling on the Great Northern Railway as "Calabar bean." Thinking that they looked pleasant to the eye, he bit one in two and chewed half, remarking that it "tasted like scarlet-runner." He then spat it out and put the rest in his pocket, and these came with him to the Hospital, where they were compared with the specimens in the Materia Medica Museum, and seen to be Calabar beans without doubt. He then went to his breakfast and had some coffee. Very soon afterwards he became faint, and burst into a cold sweat, but there were no rigors or vomiting. He complained of tightness in the chest and across the epigastrium, and felt very weak, though he could walk. In this condition, and with an apparent mist before his eyes, he staggered out of the coffee-shop where he had breakfasted, and lay down on some sacks.

Shortly before 10 A.M. he was brought to the Hospital Casualty department in a state of collapse, and was seen by Dr. Wharry (acting for the Casualty Physician). An emetic of sulphate of zinc was immediately given, with the result of producing free vomiting.

His condition then and on admission to the ward was that of great prostration, especially of the vascular system. The temperature in the axilla was only 96.6°. The pulse was extremely feeble, irregular, and intermittent, beating about 50 in the minute, though the frequency varied a good deal. He was bathed in a cold perspiration, his face was sunken, and his nose congested and blue looking, though this last condition was partly due to an old injury.

The pupils were slightly unequal, but were not contracted, varying a good deal in size, being sometimes large, sometimes small, though not extremely in either direction.

He was put on milk and beef-tea and 6 oz. of brandy, and was ordered to take the ammoniated ether draught every four hours.

Towards the evening of the same day his symptoms began to disappear, the prostration passing off, and the pulse becoming regular and of good volume.

The next morning he felt quite well, having had a good night's rest. The pulse was quite regular, though still slow, about 56. Being very anxious to get to his work again, he was discharged in the afternoon, seemingly none the worse for his poisoning.

CASE VII.

Locomotor Ataxia.

George H., aged 37, a street hawker in summer and a van-driver in winter, was admitted into Luke Ward, April 28, 1879. His family history was good, and he had had no previous illness.

At the end of November, 1878, he began to drive a van, and about three weeks or a fortnight before Christmas he began to notice numbness and loss of power in the left ring and little fingers, which he attributed to the cold weather and to holding the reins.

Four months before admission, about ten days after Christmas, he ran over a child and killed it. Seeing the accident, and being much affected by it, he jumped off his seat and fell to the ground on his feet. On attempting to rise he could not do so without assistance, his legs giving way under him, and he lost all power in them for two hours, his consciousness remaining intact. He then recovered sufficiently to go to Guy's Hospital, and thence to the police station. For the next fortnight he was well and able to work, and during this time noticed nothing wrong with himself.

Darting and lancing pains then began in his knees, which were not painful on movement and had never been swollen. These pains have continued ever since, but are not worse now than before. They are most troublesome in wet weather.

A fortnight later, about three months ago, he noticed numbness of his feet, and found his legs were getting weaker. He could not lift things because his knees gave way under him. He was then unable to stand with his eyes shut or in the dark, first noticing that he was giddy on trying to dip his face into water, and that he had to sit down to do it. He had had no trouble with his bladder or rectum, no pain in the head, back, or abdomen, and no affection of any of the special senses or of the cranial nerves.

Present Condition.—Pupils contracted, the left slightly smaller than the right. Sight good, no diplopia, asthenopia, or achromatopsia, and no difference for near or distant objects. Tongue slightly coated. Appetite good. Bowels open regularly. Abdomen natural. Urine, sp. gr. 1018; no albumen or sugar. Heart and lungs natural. Pulse 78. Temp. natural. Sleeps fairly well, but is awakened generally two or three times a night by attacks of pain in his legs, which last from two to three minutes. Their onset is sudden, and they take place by day as well as by night. The pain is stabbing or darting in character, and he says it is like having a sharp knife driven through the part. It attacks both knees and both ankles, in the latter case appearing to be localised over the internal malleoli, and extending from before backwards. When it comes in the knees it spreads upwards into the thighs. He has it also in the left elbow, just behind and above the internal condyle of the humerus in the position of the ulnar nerve. The pains wander about, at night perhaps being in the ankles, in the morning in the left elbow or knees. He is quite free from pain in the intervals. For the last four months he has wasted slightly. He can stand with his eyes open, but tends to fall at once when he shuts them or when he is in the dark. On walking, the movements of the legs are extremely disorderly. They are flung about widely as he lifts them up, and the heels are brought to the ground with considerable violence. On turning round suddenly he would fall at once if not supported. Patellar reflex abolished. No so-called spinal epilepsy. Common sensation in both legs is impaired up to the knees. Sensation to cold in the same parts is excessive, and is exaggerated all over the body. There is some slight loss of power in all the muscles below the knee, and in the flexors and extensors of the thigh. He cannot tell the position of his legs in bed, or whether they are straight or flexed, without feeling them with his hands, and when walking, says he does not know what he is treading on. His legs and feet always "feel dead." The arms

are slightly tremulous, and affected similarly up to the elbow. There is loss of sensation in the finger-tips and on the palmar and dorsal surfaces of the fourth and fifth digits of the left hand. He picks up small objects like a pin very clumsily.

No evidence of any injury to the spine, which is straight, and no tenderness or pain on pressure in any part of it.

The muscles of the trunk were unaffected, and his sexual powers were natural.

On faradisation, no reaction of the muscles of the left fourth and fifth fingers could be obtained when the ulnar nerve was stimulated. The muscles of the arms and legs reacted fairly. When the current was applied to the arm, the patient felt a tingling; when to the legs below the knees, merely a sensation of cold.

He was kept in bed and put upon $\frac{1}{8}$ gr. doses of nitrate of silver. He improved a great deal, losing the darting pains in his legs, the anæsthesia, the impairment of muscular sense, and, though to a less degree, the ataxia.

On May 13th, he left off the silver and took $\frac{1}{8}$ gr. doses of ext. physostigmatis every four hours.

The pupils were rather small before he began the Calabar bean, and unequal, the right being the larger.

During the fortnight he continued to take it, no effect seemed to be produced. The pupils did not alter, and the general symptoms, though they improved, had begun to do so before it was ordered.

Towards the end of the fortnight he complained of "wind" and pain in his stomach, which he attributed to the medicine, and which ceased after its discontinuance.

When he was discharged, May 31st, he had quite lost his pains, the sensation had returned in the anæsthetic parts, the muscular sense was almost if not quite complete, and the ataxic movements of the legs were much less—so much so that he could turn round sharply when walking with a stick without fear of falling.

CASE VIII.

Spasmodic Spinal Paralysis.

Alfred H., a Lowestoft fisherman, aged 22, but looking five years or more older, was admitted into Luke Ward, May 26, 1879. His family history was very good.

He said that he was quite well till three and a half years ago, when he first began to notice his right foot becoming extended on the leg, so that he had to walk on his toes. This condition

gradually increased, and at the end of a year became so troublesome that he had his tendo-achillis divided by a Lowestoft surgeon. Shortly afterwards his leg began to jerk and jump about, and these movements were quite uncontrollable, so that he could not keep his leg still.

They ceased during sleep, were worst on waking in the morning, and were always increased on attempting any voluntary movement of the limb. They got worse as time went on.

He has never had pain of any sort in the leg, but thinks that the calf has wasted a good deal.

About the same time that the involuntary movements of his right leg began, he noticed also that when he tried to write or do any hard work, especially hauling a rope, with his right hand, that it and the arm also jerked and shook about, but they have never been so bad as the leg.

There has never been any defective or abnormal sensibility, and the muscular sense was intact. He had never had syphilis or any other disease, and had not been a great drinker. He had had no headache, sickness, or discharge from the ears; no defect of vision, hearing, or speech; he had always had perfect control over his bladder and rectum.

A strongly built, muscular, and healthy-looking man.

Pupils equal and of natural size. Eyesight good. No nystagmus.

His face breaks out into a profuse sweat during the continuance of the movement of the leg. No twitchings of the face.

Tongue protruded straight and steadily, but somewhat tremulous on the dorsum; slightly furred.

Is restless and keeps changing his position in bed.

The arms are equal in size, and there is no loss of power in the hands as tested by grasping. The right arm is quiet when at rest, but jerks on attempting combined movements. When trying to write, which seems to be a great exertion to him, all the muscles of the arm and forearm become strongly contracted; the arm is held stiffly to the side of the chest, and the pen is jerked about the paper. At the same time he breaks out into a most profuse sweat.

The right leg is being constantly extended on the thigh and then relaxes again, and at the same time it shakes. The foot is strongly extended on the leg and cannot be flexed. It is also turned somewhat inwards and looks shortened, giving the appearance of talipes equino-varus. The toes are extended at the metatarso-phalangeal articulation, and flexed at the inter-phalangeal joints. They can be freely moved. The muscles of the calf are frequently contracted powerfully into hard masses as in cramp,

but the contractions are absolutely painless. The extensors of the leg upon the thigh act strongly at short intervals, so that he cannot keep it flexed for any length of time; and at the same time the extensors of the thigh upon the trunk contract also. The muscles of the whole limb from the hip downwards then become excessively rigid. Slightly to flex the knee stops the rigidity at once both in the thigh and leg, and when the leg is extended involuntarily, the patient can always overcome it by voluntary flexion at the knee (?), but when the knee and thigh are flexed, an involuntary elevation of the right side of the pelvis occurs, the glutei of that side becoming hard and rigid and also the lumbar muscles; these latter, however, as much on one side as the other. The trunk is then somewhat arched away from the right side, but the raising of the pelvis seems to be chiefly due to the action of the glutei and the muscles attached to the great trochanter.

To attempt to produce tendon reflex in the right leg simply makes it become rigidly extended. The left leg is normal in this respect.

The administration of chloroform removes the rigidity completely, and shows that there is slight wasting of the muscles of the right calf.

The electrical reactions of the right leg natural. Temperature of the two legs equal.

The right arm never becomes rigid, but its fault seems to be an ataxy for the finer movements. No involuntary chorea.

No tenderness along spine, which is quite straight.

On walking, the extended toes of the right foot drag along the ground.

When once asleep he sleeps well, but the movements of his leg prevent him going to sleep for a long time.

Urine normal. Appetite good. Bowels generally regular.

For the first ten or twelve days after admission, he was treated simply with 30 grs. of bromide of potassium every night as a soporific.

On June 6th, he was ordered ext. physostigmatis in doses of $\frac{1}{8}$ gr. every four hours, taken as a draught.

June 10th, the dose was increased to $\frac{1}{6}$ gr. (given as a pill), and June 17th to $\frac{1}{4}$ gr. No effect on the pupils or anything else was produced, except that from the 10th to the 17th he complained of pain in his belly after taking the medicine. (See Case VII., locomotor ataxia.)

June 21.—He left off the physostigma and began to take 10 gr. doses of ext. conii four times a day. This extract was specially prepared by Squire, and was a beautiful specimen. It was given in 5 gr. pills.

June 24th.—The dose was increased to 15 gr.

June 27.—The dose was increased to 20 gr.

July 1.—The dose was increased to 30 gr.; but not the slightest effect was produced on the rigidity of the leg.

July 4.—He began to take instead of the ext. conii 2 dram doses of Squire's succus conii thrice daily.

July 6.—Dose increased to half-an-ounce.

July 8.—To take 6 drams night and morning.

July 10.—To take an ounce night and morning.

July 11.—To take an ounce and a half night and morning.

July 18.—To take two ounces night and morning.

The conium throughout seemed to have not the slightest effect.

The pupils remained equal and of a middling size, the eyesight was not affected, the muscular power was not diminished, and the special symptoms of the case underwent no change.

He was discharged July 26th, two months after admission, not improved at all in respect of his leg and arm, his general health being at the same time somewhat deteriorated by confinement to the hospital.

IV. INDIAN HEMP.—a. *Extract.*

The extract of Indian hemp was used in six cases. The drug given in the earlier cases was prepared by Mr. Squire; in some of the later ones it came from the Hospital dispensary. Unfortunately there is some doubt as to the exact number of patients who took the latter.

In all the cases, the purpose for which it was given was either to procure sleep or check delirium.

The patients suffered from the following diseases:—

Pericarditis after rheumatic fever V., acute pneumonia IX., XI., XII., chronic bronchitis X., and syphilitic cerebral disease XVI. Of these, V., XI., XII. and XVI. had more or less acute delirium, while IX. and X. complained merely of sleeplessness. The dose given was always two grains, and was repeated as often as necessary. With the doubtful exception of XI., who had one or two fair nights after taking the extract (though this was when the pneumonia was coming to an end), the drug neither caused sleep nor quieted delirium. One patient IX. complained that the pills made her worse—she got no sleep, had headache, disagreeable dreams, and woke up with uncomfortable and terrifying sensations. In Case XII. the patient took 10 grains of the extract in one night, as well as 20 grains of chloral, but without the least influence on his delirium.

Two grains of Squire's extract taken by a healthy young man, had an effect about equal to that of a small glass of sherry.

CASE IX.

Acute Pneumonia, Right Side—Bronchitis.

Ellen G., aged 30, was admitted into Mary Ward, March 12, 1879.

She had had "the cold shivers" on the 9th.

On admission she complained of pain in the right side of the chest, cough, and difficulty of breathing.

There was an eruption of herpes about the lips, and the face was somewhat livid. The sputa were rather "rusty" in colour. On physical examination of the chest, the præcordial dulness was absent; there was some impairment of resonance on the right side behind, but no bronchial breathing. Mucous rales were abundant on both sides of the chest, but more so on the right. About the spine of the right scapula some true crepitation could be heard. The angle of Ludovicus was well marked. The pulse was full and soft, 104 in the minute, and the temp. at 2.30 P.M. 102.4°.

March 13, the next day, the sputa were markedly blood-stained, and bronchial breathing with bronchophony could be heard on the right side behind. The pulse was 120, and the temp., which had been 104.6° on the previous evening, was now 105°.

March 16, the eighth day of the disease, the morning temp. had fallen to 99.2°.

March 19.—On the night of the 18th, she complained again of pain in her right side, and the next morning fine crepitation was audible.

The heart's apex beat was in its natural position, and the sounds were clear. The temp. rose again to 103°.

March 20.—Copious muco-purulent expectoration.

March 21.—She did not feel so well, and her cough was very troublesome. Pulse 120. Temp. 103.4°.

Mucous rales and bronchial breathing still heard on right side.

March 23.—Sputa very purulent. Fine crepitation persists on right side.

March 26.—Has great pain at the epigastrium, and says her breathing is much worse. Pulse 128. The temp., after having fallen again to 99°, rose in the morning to 102.6°, but fell in the evening to 101.5°.

After this she gradually improved, though the troublesome cough, with muco-purulent sputa and mucous rales, continued for several days. The temp. reached the normal on March 31, and she was discharged convalescent on April 22.

She was treated with 10-grain doses of chloride of ammonium, at first three times a day, and afterwards every four hours. She

took on the night of admission 2 gr. of Squire's extract of *cannabis indica*, but she experienced no good effect from it, and had a very bad night.

On the 21st, having had the ext. the previous night, she said she began to feel worse after taking it, and had a very restless night.

March 23.—Said she had dreams after 2 gr. of the ext.

March 24.—Had a better night without the pills.

March 25.—Took the pills again last night, and woke thinking she was tied to the bedstead and could not move. Headache this morning.

CASE X.

Chronic Bronchitis.

Andrew B., aged 62, was admitted into Luke Ward, April 5, 1879.

He had never had gout, hæmoptysis, or palpitation of the heart. For the last six or seven years he has had a winter cough, with much expectoration. Last Christmas he caught a bad cold, and since then his cough has been much worse, and the expectoration more profuse. In February his feet and legs began to swell, and afterwards his hands.

On admission, his face was rather dusky, and his lips livid. Tongue furred. Appetite fairly good: bowels confined.

Cough troublesome, and expectoration muco-purulent and very profuse. Urine scanty and high-coloured, and containing a small amount of albumen.

Pulse and temp. natural. He had bad nights.

The chest was barrel-shaped, and expanded very little, if at all, on inspiration. Percussion note low-pitched. Sonorous and mucous rales heard all over, especially in the front.

There was slight pulsation in the left external jugular vein.

The abdomen full, but no fluctuation.

Legs and feet œdematous, blue and cold.

By rest in bed, and taking 5-drop doses of tincture of *digitalis*, he improved for a time, the lividity and distress abating, the urine increasing in quantity and his nights being more comfortable. The cough and expectoration continued, however, as before; and on April 15 he began to take half-dram doses of the compound tincture of benzoin three times a day, with the hope of diminishing the amount of the expectoration, which, by the way, was never offensive. He took this for a week without effect, and on the 23rd was ordered a mixture of 5 gr. of carbonate of ammonia, 15 minims each of spirits of chloroform and tincture of squills, out of an ounce of infusion of senega, three times a day.

On the 29th he began to feel worse, his breath being shorter, his cough more troublesome; the expectoration being as profuse as ever, and his face more livid. From this time, although he changed a little from day to day, sometimes for better and more often for worse, he steadily went down hill.

On May 9 his urine was more abundant, sp. gr. only 1012, and free from albumen.

May 19.—The carbonate of ammonia was changed for chloride of ammonium.

On the night of May 21, he took a 2-gr. pill of ext. cannab. ind. at bedtime. Having no effect, the dose was repeated three hours afterwards, but without any appreciable effect.

May 22.—Auscultation. Puerile breathing right side in front, sonorous and mucous rales left side. Behind, abundant mucous rales at both bases.

The expectoration remained as great in quantity as ever, and was more decidedly purulent.

May 23.—The urine became scanty and high-coloured again. His appetite was lost, the tongue very thickly furred, the lips livid, and the strength failing. He was ordered to inhale the vapour of turpentine twice a day.

At 8 P.M. on the 27th he took a morphia draught, containing one-sixth of a grain, as he had had no sleep for some nights, and was complaining of pain in his left side.

He was drowsier than natural during the night, and instead of the usual profuse expectoration he spat up simply nothing at all. This accumulated in his bronchial tubes, and caused loud rattlings during respiration. He could not be fully roused to take food during the night.

At 6.45 A.M. on the 28th his face was dusky and livid, the pupils moderately contracted. The rattling of the mucus as it worked up and down the bronchi in respiration was very loud; he could not be roused, and died asphyxiated at 7.30 A.M. No post-mortem examination was allowed by the friends.

CASE XI.

Acute Pneumonia, both Bases: chiefly Right.

William G., aged 26, a labourer, was admitted into Luke Ward, May 19, 1879.

On the 14th he had been out in the wet all day, and on the same night was seized with rigors, frontal headache, cough, and pain at the base of the chest. He took to bed on the 16th. On the next and two following days he was sick several times. On

the 18th his sputa were noticed to be rust-coloured, and a crop of herpes appeared about his lips. The temperature on the evening of admission was 102° .

May 20.—Delirious during the night. Pulse 80. Temp. 102° .

Physical Examination.—Dulness on percussion at both bases behind, but much more extensive on the right side than on the left. Sharp rales heard on both sides behind, chiefly on the right, where also there were bronchial breathing and bronchophony, a good deal obscured by the rales, however. They were heard much better by the unaided ear than with the help of the stethoscope. At the left base there was a doubtful friction sound. Sputa viscid and rusty. Urine acid, clear, sp. gr. 1015. Contains no albumen. Evening temp. 102° .

May 21.—The previous night he took 2 grains of extract of Indian hemp. He slept after 2 A.M., but was slightly delirious. The morning temp. dropped to 99° . Pulse 64. Sputa the same.

May 22.—Quiet night after 2 grains of Indian hemp. Bronchial breathing with bronchophony heard on both sides behind, also a few crepitant rales. Sputa not so abundant and less rusty. A large crop of herpes on the left pinna, which first appeared on the morning of the 21st. Temp. natural.

May 23.—Fair night after hemp, but not so good as the two preceding. After this he slept well without any hypnotic. The physical signs gradually cleared up, though the dulness at the bases with bronchial breathing and bronchophony remained till June 3rd.

Discharged well, June 13th.

CASE XII.

Acute Pneumonia, Right Base—Delirium.

George E., aged 16, was admitted into Luke Ward, May 30, 1879.

On the night of the 29th he came home complaining of pain in the head. Being worse the next morning he was brought to the Hospital, when he was heavy and stupid. His pulse was very quick. Temp. evening 101.2° . He was delirious during the night, trying to get out of bed, and moaned a good deal. He passed everything under him.

May 31.—Seems to have great pain in his head, putting his hands to it frequently, and on being roused says he has pain all over it. No discharge from the ears. Tongue thickly furred. Pupils equal. Pulse 132. Temp. 102.8° .

Physical Examination of Chest.—Dulness on percussion of right base behind; bronchial breathing and bronchophony, and on deep inspiration a good deal of fine crepitation.

He was ordered to take 2 grains of the extract of Indian hemp at bedtime, to be repeated every three hours if necessary.

June 1.—He took five 2-grain pills of Indian hemp during the night, and also 20 grains of chloral at 1.30 A.M., but all without effect, for he made much noise during the whole night and had little if any sleep. Sputa blood stained. Temp. morning 101.2°, evening 102.6. He was to take 20 grains of chloral every four hours for three doses, and every six hours afterwards.

June 2.—Had a better night and is more rational this morning. Sputa viscid and blood stained, but not characteristically rusty. Pulse small, 108. Temp. morning 101°, evening 98.4°.

June 3.—Quite clear in his mind. Slept well. Sputa more abundant, viscid, and more “rust-coloured.” Temp. natural. The physical signs were the same as on admission. From this time he rapidly recovered, the cough becoming less and the sputa ordinary mucus free from blood.

On June 9th the dulness to percussion still remained, but there was no bronchial breathing or bronchophony, the air entering fairly well.

June 20.—He was discharged to the Convalescent Home.

b. *Tincture.*

Five patients took the tincture: of these, XIII. had mitral regurgitation, chronic bronchitis, and albuminuria; XIV. had pneumonia and was intemperate; XVII. phthisis and delirium tremens; XV. violent hemichorea; and XVI. cerebral syphilis (referred to under the extract).

The tincture, like the extract, was given in cases of sleeplessness, XIII. and XV., and delirium, XIV., XVI., and XVII. The dose used was half a dram, and was often repeated. In XIII. the effect was at first good, as he had quieter and better nights. In XV. there was some doubt as to the amount of sleep he got after taking the tincture.

In the three delirious cases, XIV., XVI., XVII., the drug had not the least controlling influence, although XIV. took 3½ and XVII. 2 drams in one night. It was thought that an injection of morphia had a deeper action in XIV. after the hemp, than if this latter had not been taken. Thirst, with dryness of the mouth and throat, was complained of by one patient, XIII., after his first dose.

CASE XIII.

Mitral Regurgitation—Chronic Bronchitis—Albuminuria.

Thomas George S., aged 48, was admitted into Luke Ward, April 23, 1879.

Previous History.—He had had five attacks of rheumatic fever:

the first, a slight one, when 7 years old; the second, a more severe one, at 18; the third at 26; the fourth at Christmas 1876, and the last at Christmas 1877.

Three years ago he had bronchitis, and has always been in poor health ever since. For the last two years he has suffered from palpitation of the heart, easily increased by mental emotion or physical exertion.

His present illness dates from last Christmas, when he was in the Victoria Park Hospital for six weeks, suffering chiefly from dyspnoea. He did not have much cough and expectoration till about a week to a fortnight before admission. Since then the cough has been more frequent, and the sputa abundant, viscid, and blood stained. For about the same time he has noticed his belly and legs swelling, and that his urine is scantier than it was.

Present Condition.—Face somewhat livid and conjunctivæ slightly jaundiced. Tongue moist, slightly furred. Pulse 120, fair volume; intermits about once in ten seconds. Resp. 36, shallow. Temp. 97.6°. He complains chiefly of shortness of breath, cough and expectoration, the dropsy, and general weakness.

Physical Examination.—The heart's impulse invisible and almost impalpable. The area of cardiac dulness much displaced, being almost entirely below the left nipple and to its left. Above this there was lung. The sounds muffled and distant. A well-marked systolic murmur, heard best three inches below and two inches external to the left nipple.

Slight pulsation of the right external jugular vein.

Lungs.—In front and behind fair resonance, with abundant rhonchus, sibilus, and mucous rales.

The belly large, fairly resonant all over (sense of fluctuation doubtful).

Legs œdematous.

Urine high coloured, sp. gr. 1020, acid, and contains about one-sixth albumen.

Appetite fair. Bowels open.

He was ordered 10 grains of chloride of ammonium, and 15 minims of spirits of chloroform out of an ounce of infusion of senega, three times a day.

April 25.—Had had a very bad night, the cough and dyspnoea keeping him awake. He talked to himself a great deal in a low muttering way, but was quite sensible and rational on being roused. He said he felt as if he was dying.

Much cough; expectoration viscid, brick-dust coloured.

Tongue large, flabby, and furred. Bowels open three times the day before. Pulse small, irregular, 112. Resp. 32. Temp. 97.6°.

Urine scantier, higher coloured. Albumen increased to one-half. Physical signs the same.

Ordered to take 5 grains of Squire's extract of hyoscyamus every night.

April 26.—Had a little better night. Cough and sputa about the same. Passing less urine. Pulse very irregular and intermittent.

April 28.—Restless night. Cough troublesome. Sputa less abundant and scarcely blood-stained. Still passing less urine. Left arm œdematous.

April 29.—Had a better night, but wandered and talked in his sleep. Cough somewhat better. Sputa neither so abundant nor so rusty. Complains of uneasiness and sense of oppression in epigastrium. Passed a little more urine, one-sixth albumen.

April 30.—Had a bad night. Was delirious, and had considerable dyspnœa.

May 1.—No sleep, and was delirious all night. Wandering this morning.

Cough less, but dyspnœa worse. Sweating a good deal.

Pulse small, 112. Resp. 46. Temp. 97°.

May 2.—Delirious, and without sleep all night. Took 20 grains of chloral, as well as 10 grains of extract of hyoscyamus, but without effect.

Pulse very small, 112. Resp. 40, gasping.

Cough and sputa less; the latter viscid, and of a dark blood colour. Is very restless; answers rationally when spoken to, but at once begins to wander again.

Pupils equal, of moderate size, and not intolerant of light.

Sordes on lips. Tongue rather dry. Not sweating as yesterday. Feet cold. Urine-albumen increased to one-fourth.

The extract of hyoscyamus was stopped after he had taken it for a week, during which the delirium seemed to increase and reach its maximum.

Half a dram of tincture of Indian hemp ordered every night.

May 3.—Took the hemp at 10 P.M., and slept after 2 A.M. Feels better, and is more sensible. Tongue dry and brown. Complaining of thirst and dryness of the mouth and throat. Sputa easier to bring up, but still bloody.

May 4.—Had a good night after the Indian hemp. The other symptoms not changed. Evening temp. 99.4°.

May 5.—Did not have such a good night. Coughed a good deal, and sputa difficult to raise. Pulse 120. Evening temp. 99.8°.

Right arm now œdematous, but to a less degree than left.

May 6.—Fair night. Feeling weaker, but more comfortable. Pulse 120.

Expectoration very bloody. Legs more swollen, and passing less urine. Evening temp. 99.8°.

May 7.—Not a good night. Rambling this morning. Evening temp. 101°.

May 8.—Took two doses of the hemp, and had a bad night.

Dyspnœa more urgent. Pulse feeble, 136.

Passes very little urine, and that into the bed.

May 9.—Had a somewhat better night after only one dose of the hemp, but is delirious this morning, and spits about the floor.

Pulse 128, very feeble. Considerable accumulation of mucus in his trachea and bronchi, which he is unable to expel.

Evidently much worse.

Died at 4 P.M.

No post-mortem examination allowed by the friends.

This man suffered from a great complication of diseases, viz., chronic bronchitis and emphysema: mitral regurgitation, dilatation of the left and probably also of the right ventricle: albuminuria, and rusty (bloody) sputa, probably due to hæmorrhagic infarction of the lung.

CASE XIV.

Intemperance—Acute Pneumonia, both Sides—Delirium—Empyema, Right Side.

Arthur F., aged 30, was admitted into Luke Ward, April 28, 1879.

He was quite well till about a week ago, but kept to his work till the night of the 25th, when he was seized with sudden and severe pain in the epigastrium, which has been getting worse since. At the same time he began to cough, which aggravated greatly the pain, and to suffer from shortness of breath. He had lived an intemperate life.

On admission his face was dusky, his breathing rapid, 52 in the minute, the *alæ nasi* dilating widely in inspiration, and he was unable to lie back in bed. He had frequent cough, but no expectoration. There were sordes on the lips, and the tongue was dry and fissured, brown in the middle of the dorsum, with a line of fur on each side. Pulse, 112. Temp. in the afternoon, 100.8°. The heart sounds were heard with difficulty.

The chest on percussion was resonant on the left side in front, but on the right there was dulness reaching upwards to about the third rib. Behind there was impaired resonance at both bases, most marked on the right. Abundant fine mucous rales were heard on both sides of the chest. The respiratory sounds were puerile on the left side in front, while at the right base bronchial breathing and bronchophony were heard.

The abdomen was full, and very painful on pressure and percussion, especially in the hepatic region. The walls rigid and unyielding. On the right side he had a large reducible scrotal hernia.

Bowels open three times that day; motions relaxed.

In the evening he began to be delirious, and wished to get out of bed to escape from imaginary enemies who were going to cut him up with wires, and who were in the opposite corner of the ward. He became so noisy and excited that he had to be removed to a strong room in Casualty Ward, and took 20 grains of chloral, but without any effect, being delirious all night.

April 29.—Was ordered to take half-dram doses of tincture of Indian hemp every two hours until the delirium should cease. He took this dose four times every two hours till 1 A.M. on the 30th, and every three hours three times afterwards, making $3\frac{1}{2}$ drams during the night of the 29th and the morning of the 30th, till ten o'clock. Pulse (morning of 29th) 120. Resp. 54. Temp. 103.2° .

April 30.—The effect was absolutely nil. He had been actively delirious the whole night, and had to be strapped down.

Tongue foul. Pulse 140. Resp. 52. Sweating very much.

Takes his food well. Passes urine into the bed.

At 10.30 A.M., a subcutaneous injection of $\frac{1}{3}$ of a grain of morphia was given, and the effect was speedy and marked. He soon fell into a deep sleep, and on waking the pupils were quite contracted. It seemed as if the repeated doses of cannabis indica had prepared the way for the action of the morphia, which appeared to have a quicker and deeper effect than one would have looked for if it had been given in the first instance.

May 1.—He slept at intervals during the night without any hypnotic, and this morning is quite free from delirium.

Tongue brown and dry. Complains much of thirst. Passes urine naturally.

May 3.—He did not cough very much, but the sputa were very difficult to get up, viscid and not rusty; after this the cough became more frequent and at the same time looser.

On May 5, physical examination of the chest as follows:—In front, on the right side, coarse breathing with rhonchus, sibilus, and mucous rales; on the left side, a few rales only. Behind, dulness on the right side up to the spine of the scapula, with bronchial breathing, bronchophony and crepitant rales. On the left side, resonance good except at the base, where there was fine crepitation. Elsewhere abundant coarse mucous rales.

May 13.—The dulness with bronchial breathing, bronchophony, and fine mucous rales still continued all down the right back. In front, on the right side, the resonance was improved and the rales less abundant.

The cough had been more troublesome for several days, frequently disturbing his sleep at night.

The pulse remained at about the same rate, from 100 to 120 in the minute. The respirations, which for the first three or four days had been over 50 in the minute, were 32 on May 5, and still kept to about that rate. The temp. from May 1 to May 10 varied from 99° to 100.5°; from May 11 to May 29 it kept more steadily between 100° and 101°.

May 16.—The signs of pneumonia seemed to be giving place to those of bronchitis, abundant rhonchus, sibilus, and mucous rales being heard all over the back on both sides. Expectoration abundant, thin, and frothy.

May 19.—The dulness of the right back still persisted, but instead of the breathing being bronchial, it was simply weak.

Bronchitic sounds on both sides.

On the 23rd, the signs were very much the same.

May 27.—Expansion of right side of chest very slight. Vocal vibrations almost absent. Dulness behind and in the lateral region. Breathing very weak.

June 3.—Physical signs same—dulness complete.

On the 6th, the dulness on the right side being absolute all over the back, extending forwards to the level of the anterior fold of the axilla, an exploratory puncture was made at the angle of the scapula with a hypodermic syringe, but nothing but blood was withdrawn.

June 7.—Had a restless night.

June 9.—The temp. rose in the evening to 103°. The physical signs remained unaltered. He complained of pain in the right side of the chest, made worse on coughing, which continued for some days.

June 10.—Morning temp. 103.4°.

June 16.—Sweats a good deal at night. Looks more pallid. Feels very weak, and says he is rapidly losing flesh.

The temp. had fallen gradually from June 10th to 12th, when it reached 101°, rising to 102° on the morning of the 14th, but being only 99° in the evening of the same day. From the 15th to the 20th it was as before, about 101°.

June 17.—*Physical Examination.*—Expansion and vocal vibrations of the right side of the chest much less than on the left. The dulness to percussion did not seem so absolute as before, and there was a fair amount of resonance in the interscapular region. The air entered more freely, and bronchial breathing could be heard with expiration all down the right back. The voice was conducted less than on the left side.

June 24.—Expansion and vocal vibrations of right side absent.

The dulness extends forwards nearly to the nipple-line. The breathing on the right side weak but not bronchial. Whispered bronchophony distinct.

In front, on the right side, the resonance good; but just below and internal to the nipple, fine sharp rales, almost crepitant, together with bronchial breathing, could be heard. With the exception of a few rales at the left base, nothing abnormal on that side.

The heart's impulse displaced downwards and to the left, outside the nipple-line.

It seemed now quite clear, notwithstanding the negative result of the exploratory puncture, that there was fluid in the right pleura, and accordingly another puncture was made and pus withdrawn. The chest was then tapped with the aspirator, and 50 oz. of healthy odourless pus removed.

The temp., which was 101° in the morning, fell to 99.4° in the evening, and on the next morning was only 98° , where it had never been for three weeks or more.

June 26.—The dulness about the same in extent. Bronchial breathing and bronchophony at the right base. Heart's impulse slightly within the left nipple-line.

June 30.—The temp., which had been below normal since the tapping (25th), rose on the evening of the 30th to 99.4° , and the next evening to 100° .

July 2.—At 7 P.M. he had the "cold shivers," and was hot and sweated afterwards. The temp. afterwards was 100.6° .

July 3.—At 11 A.M. on the 3rd it rose to 103.2° , having been only 101° at 8 A.M.

July 4.—The same took place on the 4th; 8 A.M., 101° ; noon, 104° .

July 5.—Dulness extends a little more anteriorly again. Liver depressed to level of navel.

Morning temp. 101° .

In the afternoon the chest was tapped again with the aspirator, and 32 oz. of pus withdrawn—this time slightly offensive.

The evening temp. was 99.4° , and on the morning of the 6th, 97.2° .

The pulse also fell from 120 to 80.

July 8.—Dulness still extends to anterior axillary fold; behind it is absolute up to the angle of the scapula, but fair resonance above. Breathing sounds scarcely audible. Whispered bronchophony. Sharp rales below right nipple. Heart's impulse in nipple-line.

July 9.—Morning temp. 97.6° , evening 99.4° .

July 10.—Morning temp. 99.4° , evening 100.4° . Pulse 92.

July 11.—Morning (8.30) temp. 99.8° , (11.20) 102.8° , evening 101.6° .

July 12.—Heart's impulse one inch outside left nipple-line. Physical signs unaltered.

The temp. continued about 101° in the morning and 102° in the evening till the 14th, when the evening temp. was 100°.

It was proposed on the 15th to make a permanent opening and counter-opening, and insert a drainage tube, but the patient's friends persuaded him not to submit to the operation, and he left the Hospital with a large empyema.

Nothing has since been heard of him.

CASE XV.

Left Hemichorea.

Louis M., aged 73, a Frenchman by birth and a basketmaker by trade, was admitted into Luke Ward, April 28, 1879.

He said that he had had several attacks of rheumatism. Four weeks ago his left arm began to shake and jerk about, interfering with his work, and soon afterwards the left leg became affected with similar choreic movements. They had been very much worse during the last week.

He could give no reason for the onset of the disease. He had never had any fit or loss of consciousness, and had not been subject to headache.

He was a vigorous, healthy-looking old man with ruddy complexion. Well-marked arcus senilis in both eyes. Tongue dry and foul, and not affected by the chorea. He had no difficulty in swallowing. The heart sounds clear; pulse regular and of good volume. The chorea was confined entirely to the limbs of the left side, the arm and leg being constantly and violently thrown about. The arm was generally raised to the head, and after a few jerking actions of supination and pronation of the forearm, was brought down again, the elbow striking the side with much force. He frequently rolled the left arm up in the sheet, and then held it as still as possible with his right hand.

The friction suffered by the arm and leg was so great that the skin of the most exposed parts, especially the elbow, became dry and hard, and assumed an ichthyotic character.

The movements ceased entirely during sleep, though they prevented his going to sleep, but never stopped when awake, except on one or two occasions later on, when he would lie quite still for a few minutes, his eyes being wide open. The sensibility of the left side was as good as that of the right. He was treated with chloral for about a fortnight, chiefly to give him a good night's rest, which for the first five nights it succeeded in doing.

For the next five or six nights he slept very badly in spite of 30 grains of chloral. On the night of the 8th May it was necessary to give him a subcutaneous injection of a quarter of a grain of morphia, after which he slept well. On the 9th he was able by much effort to keep his left arm still enough to raise a drinking vessel to his mouth without spilling the contents.

On May 13th, having had several bad nights in spite of chloral, he was ordered 30 minims Tr. cannab. ind. at bedtime, to be repeated in three hours if necessary.

May 14.—He said he had no sleep all the night, but there was some doubt as to the truth of this statement.

May 15.—Hemp repeated last night. Slept well after the draught till 4 A.M., when he awoke and went to stool. Not getting to sleep again, the draught was repeated at 4.30 A.M. (effect not noted).

May 16.—Took the hemp draught at 10 P.M. Had no sleep. Repeated at midnight. No sleep. Then had a morphia draught ($\frac{1}{6}$ gr.) and slept well afterwards.

Injections of morphia, gr. $\frac{1}{4}$, were the only things which were to be relied upon in procuring a good night's sleep, and they seldom or never failed.

Perhaps in the last night the previous action of the dram of Tr. cannab. ind. caused the $\frac{1}{6}$ gr. of morphia (by the mouth) to have a speedier and deeper effect than if it had been given without any such preparation. (See Case XIV.)

After this he had a morphia injection every night, and at the same time (after May 23rd) took 15, and afterwards 20 grains of chloral, three and then four times a day.

About the end of May he began to get weaker, looking more worn in the face, and passing his motions in bed, the chorea also not improving. He was also frequently sick during the last few days he was in the Hospital, which he left at his own request on June 4th.

CASE XVI.

Constitutional Syphilis—Pericranial Nodes—Epilepsy—Delirium.

George H., aged 28, employed about stables at St. Alban's, in Hertfordshire, was admitted into Luke Ward, May 12, 1879.

He had had a chancre on the penis ten or eleven years ago, but denied having had any secondary symptoms of syphilis.

For the last seven months has had severe pain in the head, frontal and occipital. During the first four or five of these months he said his vision was indistinct and that he had diplopia.

These symptoms disappeared, but the pain in the head remained as bad as ever. When the pains were worst, large tender lumps came on his head. Three or four months ago he was suddenly seized with giddiness, lost his consciousness, and dropped down in an epileptiform fit. He had never had a fit before. Since then he has had six or seven such attacks, the last one three weeks before admission.

After the second fit there was slight paralysis of his right arm and leg, which passed off in about an hour. He had no aphasia during this time.

A strong ruddy-complexioned man. Eyes natural. Tongue furred. About the right temporal region and towards the vertex of the skull three or four hard, round, smooth lumps can be felt, about half an inch in diameter.

The pain in his head is the same whether lying down or sitting up, and is worst about 3 or 4 A.M.

Heart sounds feeble but natural. Pulse small, 80. Lungs healthy. Says he has passed less urine than natural of late.

He was put upon 10 grains of iodide of potassium three times a day. On the night of the 13th he began to ramble and talk nonsense; said he had drunk something out of a glass which made him feel queer.

During the day he seemed quite rational, and it was only towards the evening that he became delirious.

May 14.—Was semi-delirious in the afternoon, putting his socks on and off several times; and in the night he tried frequently to get out of bed, talked a great deal, and kept putting his fingers down his throat, but he was not violent.

May 15.—Early in the morning, while on the night-chair, he became insensible in a sort of faint, his pulse being feeble and his face having "a queer colour." Later on he complained greatly of frontal headache and of pain in his belly.

He lay with closed eyes and wrinkled brow. Moved his left arm slowly up towards his head at times, but let it fall down without reaching it. Pulse 64.

May 16.—Had a restless night. Pain in head bad. Pulse regular, 72. To take the iodide of potassium four times a day.

May 17.—Delirious in night, talking nonsense and trying to get out of bed. Pain in head less. Pulse 72.

May 18.—Took 30 grains of chloral last night. Only quiet an hour, and tried afterwards to get out of bed. Talked loudly, &c.

May 19.—Last night he had 30 minims of Tr. cannab. ind. at 8 P.M. No sleep. Getting out of bed and talking loudly. Second dose of 30 minims at 10.40 P.M. No sleep till 1 A.M., after which he slept till 4 A.M. Troublesome again after that.

Says he feels better and has no headache. Pulse regular, good volume, 80.

May 20.—Took three doses of 30 minims each of Tr. cannab. ind. No effect at all. Highly delirious. Could not be kept in bed. Shouting and making a great disturbance all night, and had to be strapped down early in the morning.

Says this morning, however, that he feels better, has no headache, and wants to get up. Passes his urine in bed. Pulse 96. Temp. 99°.

Removed to Casualty Ward, and ordered to take 10 gr. of iodide of potassium every three hours.

May 21.—Injection of morphia, gr. $\frac{1}{3}$, at 10.30 P.M. No sleep. Wildly delirious. The injection, gr. $\frac{1}{3}$, repeated at 1 A.M. Slept from 2.30 to 6 A.M. Maniacal afterwards.

Pupils not at all contracted this morning. Says he has no pain in his head.

Made a great noise before going to sleep, and spat out everything given to him. Passed his urine in the bed.

This morning can be made to answer to the point by repeating the question. Continually rolling his head about and spitting. Makes a panting noise with each respiration.

May 22.—Had 2 gr. of Ext. cannab. ind. at 8 P.M. last night, followed at 11.20 by an injection of morphia, gr. $\frac{1}{3}$. Slept well afterwards and made no noise. Was rational the previous evening.

This morning rambling again, and very noisy at 10 A.M. Pupils dilated. Has hallucinations.

May 23.—Morphia injection at 11 last night. Slept till 4 A.M. but was noisy afterwards. Pupils dilated. No pain in the head. Urine scanty, sp. gr. 1035, high coloured, contains no albumen. To take 20 gr. of potass. iod. alternately with the same amount of chloral every six hours—*i.e.*, 80 gr. of each in the twenty-four hours.

May 24.—Had a good night, but refused to take his medicine. Wandering this morning.

May 25.—Slept well after $\frac{1}{3}$ gr. of morphia. Violent this morning on being strapped down. Is obstinate, and will neither speak nor take food.

May 26.—Slept well. Much more reasonable. Has slight pain in the head. Takes his food well. Pulse 88. After this he went on uninterruptedly well.

On the 28th he was ordered to have 30 grains of chloral at bedtime only, and to take 20 grains of potass. iod. every four hours.

He had been unstrapped altogether the day before, and on the 29th he was taken back to Luke Ward.

The nodes on the head were distinctly much less than on admission, the patient himself being also quite positive as to the fact. On the 30th he had no draught at bedtime, and slept quite well. The pain in the head had gone.

June 16.—The nodes completely disappeared. No pain whatever in the head. Sleeps quite well without any hypnotic. Is perfectly rational, and says he feels as well as he ever did in his life.

June 18.—Discharged.

CASE XVII.

Delirium Tremens—Phthisis Pulmonalis, Right Apex.

Charles P., aged 37, was admitted into Luke Ward, June 1, 1879.

He had been drinking to excess for the last six months, and was admitted in a tremulous, excitable, and highly restless condition, only just short of actual delirium. He said that he had not slept for many nights, and craved strongly for drink. He was sick several times, and had some diarrhœa during the day. He had in addition a bad cough, with expectoration, and the signs of phthisis at the right apex, dulness to percussion, weak breathing, and rales. He was given 30 gr. of chloral on admission at 10.30 in the morning, 20 at 7.30 P.M., and 30 at 10.30 P.M. As no effect seemed to be produced, $\frac{1}{8}$ gr. of morphia was given by the mouth at midnight.

June 2.—The next morning he said that he had had no sleep, but other wakeful patients said that he had. Pulse 128.

He was ordered to take half-dram doses of *Tr. cannabis indicæ* every three hours, and he took four of such doses without producing sleep or other appreciable effect.

A single dose of 20 gr. of chloral was given at 10 P.M., after which he slept till 12, and at 1 A.M. he took by the mouth $\frac{1}{3}$ gr. of morphia, and then slept till about 5.

He took his food well during the day, and wanted to have some meat.

June 3.—Began to take 20 gr. of pot. bromid. every six hours, with a morphia draught at night, and from this time the sleeplessness and other symptoms of delirium tremens began to disappear. Pulse 128.

He remained in the Hospital till July 14, the physical signs becoming more marked, and the sputa more abundant and purulent. His general health, however, improved, and he went out heavier and in much better condition than on admission.

V. HENBANE.

All the preparations of this drug employed in the following cases were made by Messrs. Squire of Oxford Street.

The account given below of the way in which the tincture of the fresh leaves was prepared is from Mr. Squire himself. At St. Bartholomew's Hospital the yearly consumption of the official tincture of hyoscyamus is from $26\frac{1}{2}$ to 28 gallons a year. Ten pounds of the leaves make 8 gallons of the tincture, and the yearly average of leaves purchased is from 33 to 35 lbs. It is to be hoped that the price of hyoscyamus leaves is not great, as the amount of good they do must be infinitesimal.

"Mr. Squire, many years ago, made preparations from all parts of the plant *digitalis*; and the fact that preparations from the *fresh* leaf did not produce the nausea caused by the tincture of the *dry* leaf, when given to lower the pulse, led him this summer to make a tincture of henbane from the fresh leaf, knowing that in drying, the leaf undergoes a marked change in its character from the action of the air. The plants he took for experiment were remarkably fine, more than six feet high, and in vigorous foliage. He gathered a given weight of leaves which were spread out singly in the shade, and when thoroughly dried, were again weighed to determine the weight of moisture lost, and thus was ascertained the weight of fresh leaf required to represent the dried leaf. He was thus able, by adding rectified spirit to the cut up fresh leaf, to form a tincture of the strength of that of the British Pharmacopœia, and the dried leaf gathered from the same plant was used in the proportion directed in the British Pharmacopœia for that tincture. These tinctures, thus carefully made under Mr. Squire's observation and direction, were put into Dr. Gee's hands to investigate their therapeutic action."

For the notes of the cases at the Hospital for Sick Children we have to thank Drs. Abercrombie, Drewitt, and Gibbons.

CASE XVIII.

Effect of Hyoscyamia upon Pupil.

James R., aged 45. Right eye a little smaller than the left. Pupils equal.

At 12.42, one drop of solution of atropine placed in right eye, and at 12.43, one drop of solution of hyoscyamia (four grains to the ounce of water) in the left.

The right pupil began at once to contract, and the left almost immediately to expand. In twelve minutes they were equal

again. In eighteen minutes the expansion reached its maximum. In two hours the left pupil remained fully dilated, while the right had slightly contracted again.

There was no inflammation of the conjunctiva.

The patient was lying on his back, and, for purposes of comparison, looked at the ceiling immediately above him.

a. *Tincture of the Root.*

Tincture of the root of hyoscyamus (one part of root to eight of proof spirit) was given in Cases XIX.—XXIII.

Of these, XIX. suffered from chronic bronchitis, while all the rest had chorea.

In XIX. a dose of two drams was given twice in one night to procure sleep. The first dose seemed to have the desired effect, but not the second.

The next morning the pupils were widely dilated and the power of accommodation impaired; he complained of dimness of vision and of feeling very ill.

In the four remaining cases, the dose was one dram at first three times a day, increased (except in XXII.) to two drams after a few days.

In all the cases of chorea, dilatation of the pupils was observed, dimness of sight being noticed also in XX.

In XXII. and XXIII. the children speedily complained of thirst and dryness of the mouth and fauces, which were seen to be red and dry.

The face also was flushed and the lips dry and cracked. They both experienced slight burning at the epigastrium.

The effect on the pulse, respiration, and temperature was practically *nil*, although it is noted that in XXIII. the heart's action was slower and weaker.

The course of the chorea under the use of the drug was not uniform.

In XXI. and XXII., both cases of slight general chorea, the movements quickly disappeared.

In XXIII., where the choreic movements were confined to the left side, they rapidly got worse while taking the drug, and as speedily went away on leaving it off and taking liq. arsenicalis.

The case of XX. was different, for at first the chorea (right sided) rapidly disappeared under the use of the henbane root, while later on, when there was a relapse, the drug seemed to aggravate the movements, which ceased when it was left off.

The most remarkable effect of the drug in this case, and one which was produced in no other, was an attack of delirium which

came on very soon after the dose was increased from one to two drams, and which ceased upon the henbane being discontinued.

After an interval of five or six days, during which he had taken two-dram doses of Squire's tincture of fresh leaves of hyoscyamus—the chorea in the meantime increasing, though there was no delirium—he went back to two-dram doses of the tincture of the root. The chorea still got worse, and in a short time he became delirious again at night-time. This ceased when the tincture of the root was changed for that of the fresh leaves.

The urine, which, if anything, was decreased in quantity in XXII., was increased in XXIII.

CASE XIX.

Chronic Bronchitis.

James G., aged 33, was admitted into Luke Ward, June 17, 1879.

Previous History.—Had been subject to winter cough for the last ten or eleven years, but it had been much worse during last winter, and had continued more or less up to the present time. For the last three weeks he had been getting much worse, and was forced to give up his work on June 14.

Chest barrel-shaped. Resonance on percussion fair in front, somewhat impaired behind, where also the breathing sounds were weak, and there were mucous rales.

The heart's impulse impalpable, and its area of dulness almost abolished. The sounds distant but clear.

His urine contained phosphates and a trace of albumen.

There was no œdema of the legs.

Tongue covered with a dirty fur.

His cough was very troublesome, and the expectoration profuse, thin, and frothy. His nights were very bad from the cough.

On the 18th he was ordered to take two drams of tincture of the root of hyoscyamus at bedtime, to be repeated in three hours if necessary. He was sleeping naturally from 8 to 11 P.M. Waking up then, he took the first dose of the tincture, and then went to sleep till 2.30 A.M., when he had the second dose. This took no effect, and he had no sleep at all after it.

The following morning (19th) he had been dozing a little.

The pupils were fully dilated and the eyesight dim.

His cough was very bad and he felt very ill.

June 20.—He had slept well without any draught. The pupils were less than on the 19th, and he was feeling better.

From this time, by rest in bed, cod-liver oil, and infusion of

senega he began to improve, the cough becoming less troublesome, the expectoration more easily raised, and at the same time thicker in consistence though still very profuse, and his sleep at night much better.

On July 18th he was discharged.

CASE XX.

Right Hemichorea.

James T., aged 18, a bricklayer, was admitted into Luke Ward, June 16, 1879.

A healthy-looking, well-nourished youth, with ruddy complexion, but a nervous, excitable subject.

History.—Was quite well till four or five months ago, when he had rheumatism. His knees and feet were chiefly affected, but he did not take to bed, although confined to the house for eleven weeks. After this he went to work, but felt weak. He had never had chorea before.

About a month ago he had noticed some twitchings of his right fingers, but they passed off again.

Some five or six days ago, on waking in the morning, he found that his right arm and leg were jerking about, and these movements have continued more or less since. Sometimes, he says, they leave off while awake, and do not prevent him from going to sleep, during which they cease.

Present Condition.—The left arm and leg are not in the least affected. The choreic movements of the right side are chiefly seen in the fingers and toes, which are extended and flexed in a jerking, irregular way. In the arm, also, movements of pronation and supination take place of the same spasmodic character.

When he walks he says that he feels as if he should fall.

There are occasional slight twitchings of the muscles of the face and corner of the mouth, but the tongue is protruded and withdrawn steadily. He only noticed these facial movements on June 15th. No defective or unnatural sensibility of the right side. Pupils equal and of middling size. The impulse of the heart, though scarcely heaving, was more forcible than natural, and the first sound was also long and loud.

In the second right intercostal space, about a finger's breadth from the sternum, was a systolic murmur, not very loud, which could be traced upwards towards the root of the neck. There was no regurgitation.

Pulse regular, 72. Temp. 99.2°.

The respiratory and digestive organs were natural.

Urine 1018. Deposits phosphates on heating. No albumen.

June 16.—Ordered three minims of liq. arsenicalis three times a day.

June 17.—He had slept well. The movements of the hand and arm were very marked.

Ordered one dram Tr. rad. hyoscyami three times a day.

June 18.—The right hand decidedly quieter. The pupils unaffected. Pulse 80.

June 19.—Right arm and leg much quieter. Pupils not more dilated. Pulse 60.

June 20.—No choreic movements. Pupils thought to be slightly dilated beyond what they were: at present, $\frac{3}{20}$ inch in diameter. Pulse 68.

Hyoscyamus to be stopped.

June 21.—No abnormal movements. Pupils about same; if anything, slightly less than on 28th. Pulse 64.

June 22.—Movements of right hand returned again.

June 23.—Movements of right hand and leg. Pulse 72, regular.

Ordered to go on with the same dose of Tr. rad. hyoscyami.

June 24.—Movements continue. Pulse 76, regular.

June 25-27.—Movements stopped. Good nights.

June 27.—Ordered to take two drams Tr. rad. hyoscyami.

June 28.—Hand and leg jerking about again.

June 29.—Movements of arm and leg increased. Complains of his sight being dim, "as if there was a film over his eyes."

Was slightly delirious last night, and thought there were all kinds of vermin running about him. Said that one of the cupboards in the ward was on fire.

This morning has headache, and suddenly began to cry without any apparent cause. Pulse 112.

Ordered to leave off the hyoscyamus, and to take three minims of liq. arsenicalis three times a day.

June 30.—Seems better this morning. Slept well, without delirium. Hand twitching.

July 1.—Hand quiet. Pupils not altered in size.

Ordered to take two drams Tr. rad. hyoscyami again.

July 2.—Ordered two drams of the tincture of the fresh leaves of hyoscyamus instead of the tincture of the root.

July 3.—Slept well. Hand and foot moving more to-day than yesterday. Pulse 76.

July 4.—Movements still more marked in hand and leg.

Ordered to take two drams of tincture of the root of hyoscyamus again.

July 5.—Hand jerking still more.

July 6.—Choreic movements more marked than at any time

since admission. Had little sleep in the night. Complains of having many and unpleasant dreams. Began to cry again this morning about going home, and said he must get out of the Hospital or something would happen to him, &c. In the evening, about six, he got up and dressed himself to go out, although he had promised his friends in the afternoon not to go before the 8th. He said that the other patients in the ward were speaking against him (a pure delusion), and that if one of the cupboards near him was looked into it would show what things were being done to him, &c. While out of bed he accidentally broke his medicine bottle, and, being Sunday, could get no more till the next day. He was got to bed again.

July 7.—He was asleep and his limbs quiet on the previous evening about 10 P.M.; but he appears to have been delirious afterwards, talking a great deal of nonsense. He said himself that he slept very well.

Choreic movements still very marked. Pupils quite natural in size, not dilated. Temp. natural. Pulse soft, 80. Ordered two drams of tincture of fresh leaves of hyoscyamus.

July 8.—Slept well, no delirium. Hand much quieter; leg still jerking, but not so much. Pupils unaltered. In the afternoon he got out of bed and dressed himself again to go out, probably expecting his friends. (Visiting day.) He said he should die if he stayed in the Hospital, and talked more nonsense.

July 9.—Slept well in the night. Movements less marked. His friends came, and being determined to leave the Hospital, he went, the chorea being little if at all different from what it was on his admission more than three weeks previously.

The chief interest of this case (beyond the strict limitation of the chorea to the right side) consists in the effects of the tincture of the root of hyoscyamus. This was begun in dram doses on June 17th, the day after his admission. On the 18th the chorea was less marked, on the 19th the limbs were very much quieter, and on the 20th the movements had ceased altogether.

It is impossible to say whether this rapid improvement would have taken place under any other or under no treatment; but since the choreic movements were, if anything, more marked on the 17th (before the hyoscyamus was ordered) than on the 16th, when he was admitted, and when one might have imagined that the excitement, &c., of being brought to the Hospital would have increased their severity, it cannot be said that the decrease in the movements from the 17th to the 20th was part of a continuous improvement since admission.

June 20, the hyoscyamus was discontinued, and on the 21st there were no choreic movements. The pupils, which had perhaps

dilated under the hyoscyamus, seemed a little smaller again; but the difference, if any, was very slight. On the 22nd the movements reappeared in the hand, and on the 23rd the leg was affected also. He was therefore ordered to take the same dram dose of *Tr. rad. hyoscyami*, for it seemed as if the movements had returned in consequence of his leaving it off.

On the 25th the movements had stopped, and they were in abeyance till the 28th. He had good nights.

On the 27th the dose of the tincture was increased to two drams, and the next day the hand and leg were jerking as before, the movements being still more marked on the 29th. He had been delirious the previous night. The hyoscyamus was left off, and he was ordered to take three minims of *liq. arsenicalis* three times a day. That night he slept well without delirium, and seemed better in the morning (30th).

July 1, his hand was quiet.

The larger dose of the tincture seemed now to have a prejudicial effect on the chorea, and in addition made him delirious. On its discontinuance the movements and the delirium ceased. The pupils were not affected.

July 2, he was ordered two drams of the tincture of fresh leaves of hyoscyamus. He slept well at night, but the chorea increased; and on the 4th he went back to the two-dram doses of *Tr. rad. hyoscyami*. On the 5th the movements were greater than before, and on the 6th more pronounced than at any time since admission. He had had a poor night (5th), disturbed by unpleasant dreams, and seemed in a restless, nervous, and excited condition in the morning.

During the night of the 6th he was delirious again; got out of bed, imagined he saw unreal things, &c.

July 7, the movements were still very marked; the pupils natural in size. He was put on the tincture of the fresh leaves of hyoscyamus, and that night slept well without delirium.

July 8, the chorea was less marked. In the afternoon he talked more nonsense, and wanted to leave the Hospital. He slept well at night, however, and the next day he went out, the chorea being less than it had been from the 4th to the 7th, but about the same as on admission.

The tincture of the root of henbane, which at first seemed to stop the chorea without affecting the mind, afterwards had no effect on the former, the movements increasing under it, whilst it twice caused delirium, which ceased on its being discontinued. The pupils were but little affected.

The tincture of the fresh leaves had no effect on the mind, and though the chorea was less during its use for the last two days

of his stay in the Hospital, this was probably due to the absence of the excited delirious state he was previously in, and which had apparently been caused by the *Tr. rad. hyoscyami*.

CASE XXI.

Chorea.

Elizabeth T., aged 10 years, was admitted into Mary Ward, July 15, 1879.

Previous History.—Two and a half years ago she was attacked for the first time with chorea, which was attributed to a fright. One year ago she had a second attack; and at about the same time had also rheumatic fever, which she said came on after the chorea.

Present Illness.—On July 1st she went to a school treat, and on the 2nd the present and third attack of chorea began. On admission the choreic movements were very slight; the facial muscles were not affected; she put out and withdrew her tongue without jerking or hesitation, and was able to walk fairly well by herself. When lying in bed she kept her right foot flexed on the leg, and the muscles of the right calf were somewhat rigid.

The child seemed to be of only limited intelligence, comprehending what was said to her with slowness.

The heart's impulse was seen and felt most just inside the left nipple, but it could be felt in the fifth interspace half an inch to its outer side. A loud systolic murmur at the apex was heard, and was conducted round to the back with much distinctness.

She complained of frontal headache.

Her appetite was good, and she slept well.

July 16.—Ordered one dram of tincture of the root of *hyoscyamus* thrice daily.

July 17.—The pupils were larger than on the day before. She slept well.

July 18.—Pupils still dilated. Dose increased to one and a half dram.

July 19.—No choreic movements. Pupils did not seem quite so large again.

July 21.—Dose increased to two drams.

July 23.—Pupils about the same. Sleeps well.

July 30.—Pupils still large.

There was nothing like delirium in this case, as in Case XX. The pupils were certainly dilated after the administration of the henbane; and the chorea, which was very slight, rapidly improved.

CASE XXII.

Chorea, chiefly Right Sided.

Elizabeth H., aged 11 years, was admitted into the Children's Hospital, July 9, 1879.

An intelligent-looking, well-nourished, but slightly anæmic child. The pupils act very readily, varying between $\frac{1}{8}$ inch in diameter when turned towards the window, and $\frac{1}{5}$ inch when turned towards a dark coat, in both cases in a diffused sunlight. She reads ordinary type at a distance of nine inches. Tongue large, moist, thinly furred. Fauces slightly redder than natural. Skin moist and cool. Pulse 90, soft. Resp. 24. Temp. 98°.

Thorax.—Heart's apex visible one inch below and half an inch within the left nipple in the fourth interspace. Cardiac dulness natural.

Loud systolic murmur with slight thrill, and also a soft diastolic murmur at the apex.

At the right base the second sound is soft and almost inaudible; at the left base it appears to vary, being short and sharp for three or four pulsations, and then changing to a softer and ill-defined sound.

Very slight *general* chorea, and marked, though not intense, chorea of the right arm, and to a less degree of the right leg.

Patient sleeps well. Bowels regular.

For two days she was treated by rest only.

At 6 P.M. on July 11 she began to take dram doses of the tincture of hyoscyamus root thrice daily.

July 12.—She complained of dryness of the throat. The pulse and respiration unaltered.

The urine passed in twenty-four hours at 6 P.M. on the 11th was 895 c.c.; to-day is only 340 c.c.

July 13.—One hour and a half after her fifth dose her face was flushed and her lips were dry and cracked. Pulse 82. Resp. 26.

The pupils were more dilated than on admission, their size, under the same conditions as before, being $\frac{1}{5}$ inch and $\frac{5}{16}$ inch in diameter.

Sleep is rather sounder than on admission.

July 14.—This afternoon complains of slight burning in the epigastrium. Pupils dilated. Cheeks flushed.

The chorea began a fortnight before admission, without obvious cause, and was said to have been increasing up to that time. During the last week she is also said to have suffered from shortness of breath.

After taking the tincture of hyoscyamus root for six days, the choreic movements became much less marked.

The table below gives the state of the pulse, &c., during that period:—

		Pulse.	Resp.	Temp.	Urine Passed.
Tr. Rad. Hyoscy.	July 11.	90	26	99°	895 c.c.
	" 12.	86	28	98°	340 "
	" 13.	82	26	97.6°	300 "
	" 14.	88	26	98°	735 "
	" 15.	80	28	98°	500 "
	" 16.	80	22	98.4°	800 "
	" 17.	80	24	97.2°	310 "

CASE XXIII.

Left Hemichorea.

Annie G., aged 10 years, was admitted into the Children's Hospital, July 14, 1879.

Her parents suffered from chronic rheumatism, and her father's father died of rheumatic fever. She had had rheumatic fever one year and nine months ago.

Her present attack of chorea, which is the second, began two weeks ago in the left arm, and has since extended to the left leg and to the face. It is getting worse.

An intelligent child, with smooth but slightly anæmic skin. Lips and fauces natural. Tongue large and clean.

There is slight chorea of the muscles of expression on the left side of the face, of the left arm and hand, of the left leg, and of the thorax and back.

She has some pain in the left side. Heart natural, but its action slow.

On July 18 she began to take dram doses of Tr. rad. hyoscyami three times a day. After the first dose she complained of warmth in the epigastrium and of great dryness of the throat. Her lips also became dry and slightly cracked, and the pupils were dilated.

In a day or two she became more accustomed to the drug, and on July 21 the dose was increased to 90 minims, and in three days' time to two drams three times a day. The same warmth in the epigastrium continued, with dryness and redness of the fauces, great thirst, and cracking of the lips. The heart's action became slower and weaker, and the chorea much more marked. The face was flushed and the pupils dilated.

It was impossible to count the respirations owing to choreic movements of the respiratory muscles. Neither pulse, respiration, nor temperature appeared to be affected by the drug.

The quantity of urine passed appears to have been increased, and the choreic movements to have become more marked.

After leaving off the hyoscyamus, and taking three minims of

liq. arsenicalis three times a day, the chorea became less marked, and in a fortnight she was able to leave the Hospital for Highgate.

The following is the daily quantity of urine passed in c.c. :—

July	17.	.	.	.	.	.	.	.	382
"	18.	Tr. rad. hyoseyami,	one dram	three times	a day	.	.	.	630
"	19.	"	"	"	"	"	"	"	704
"	20.	"	"	"	"	"	"	"	800
"	21.	Tr. rad. hyoseyami,	one dram and a half	three times	a day	.	.	.	1130
"	22.	"	"	"	"	"	"	"	800
"	23.	"	"	"	"	"	"	"	900
"	24.	Tr. rad. hyoseyami,	two drams	three times	a day	.	.	.	1320
"	25.	Medicine left off	.	.	.	.	.	.	800
"	26.	.	.	.	.	.	.	.	900
"	27.	.	.	.	.	.	.	.	700
"	28.	.	.	.	.	.	.	.	810
"	29.	Liq. arsenicalis,	three minims	three times	a day	.	.	.	
"	30.	"	"	"	"	"	"	"	500
"	31.	"	"	"	"	"	"	"	500
Aug.	1.	"	"	"	"	"	"	"	600
"	2.	"	"	"	"	"	"	"	500
"	3.	"	"	"	"	"	"	"	(?) 1600
"	4.	"	"	"	"	"	"	"	620
"	5.	"	"	"	"	"	"	"	400
"	6.	"	"	"	"	"	"	"	400
"	7.	"	"	"	"	"	"	"	400
"	8.	"	"	"	"	"	"	"	600

b. *Tincture of the Fresh Leaves.*

This was given in one case of whooping-cough, XXV., and three of chorea, XX., XXIV., XXVI. For XX., see under *Tincture of the Root*.

Beyond dilatation of the pupils, which acted slowly to light in XXV. and XXVI., little else was noticed.

The pulse seemed to be feebler in the three children, and in XXVI. became highly irregular and intermittent. This child also complained of slight dryness of the throat.

No particular effect on the course of the disease was observed.

The dose usually given was half a dram, increased afterwards to a dram, four times a day.

CASE XXIV.

Chorea.

Sarah D. was admitted into the Hospital for Sick Children, suffering from chorea, January, 1879.

On the 27th, before the first dose of henbane was given, the pulse was 96, regular and small. Tongue moist and clean. Pupils large.

2 P.M.—One dram of the tincture of the fresh leaves of hyoscyamus given in three of water.

10.5 P.M.—Pulse somewhat fuller than before dose, 96, regular, (the patient was disturbed in her sleep). Resp. 18. Pupils, nothing noteworthy.

Jan. 28.—Pulse 108, regular. Resp. 24.

3.20 P.M.—Pulse 96. Resp. 20. One dram and a half of the tincture given.

5.40 P.M.—Pulse 84. Not so much power as before the dose, but regular. Resp. 24.

10 P.M.—Pulse 84, quite regular. Resp. 18.

Jan. 29, 10.30 A.M.—Pulse 108, regular. Resp. 18. Pupils act well.

12.5 P.M.—Pulse 84. Resp. 18. Two drams of the tincture given in six of water.

10.5 P.M.—Pulse 96. Fuller than through the day, quite regular. Resp. 24. Is sleeping quietly. No complaint of anything.

CASE XXV.

Whooping-Cough.

Annie J., aged 4 years, was admitted into the Children's Hospital, January 15, 1879.

Family History.—There was phthisis in the father's family, and he died of it. The mother was subject to cough and palpitation of the heart, but there was no evidence of phthisis on her side. One of their children had died five years previously in the Children's Hospital of inflammation of the lungs.

Previous History.—Very subject to cough since birth. Had measles and whooping-cough one year ago, but no other definite illness. Had been ailing a long time, but was worse for the last ten days with cough, shortness of breath, and wheezing at the chest. No sputa. Vomited several times. Appetite poor. Bowels rather confined.

Present Condition.—Child is well nourished. Glands of the neck enlarged, especially on the right side. Tongue moist and furred. Pulse 112, regular. Temp. at time of admission, 100°. Chest barrel-shaped, too resonant all over front and back. No præcordial dulness; heart's impulse felt in epigastrium only. All over chest an abundant fine sharp rale, more marked at bases. Liver and spleen not felt. Urine not albuminous.

Turpentine liniment was ordered to be applied to chest night and morning.

Jan. 20.—Frequent violent cough like that of whooping-cough without the whoop. Lips very livid and swollen. Cough often

followed by vomiting. Sputa probably pituitous. Chest distended on both sides. Resp. 60 (not long after cough). Pulse 146. Tongue much furred and breath offensive. Pupils natural size. Began to take fifteen-minim doses of the ordinary tincture of hyoscyamus of the Hospital every four hours. Removed this day to a separate ward.

Jan. 22.—Unmistakable whoop at commencement or during the paroxysm of coughing, and not at the end only. Rather more drowsy. Still livid and lips swollen. The physical signs in the chest as on admission. Pupils a little big, sluggish. Pulse 120.

Jan. 23.—Dose of the Hospital tincture of hyoscyamus increased to half a dram every four hours.

Jan. 24, 3 P.M.—Pulse 108. Resp. 36. Pupils widely dilated, but act sluggishly.

10 P.M.—Pulse 120. Resp. 40. Pupils same, do not act rapidly to strong light.

Jan. 25, 11 A.M.—Pulse 120. Resp. 36. Very restless night. Pupils act slowly to light, not so large.

10.15 P.M.—Pulse 120, regular. Resp. 36. Pupils act. Nothing to note during the day.

Jan. 26, 10.25 A.M.—Pulse 120. Resp. 40. Had a quiet night. Pupils act slowly.

Jan. 27.—Hospital henbane has no effect. The temp. natural during these four days, and the coughing fits numbering about thirty or more in the twenty-four hours. To take half-dram doses of Squire's tincture of the fresh leaves of hyoscyamus every four hours, except during the night, *i.e.*, four doses in the twenty-four hours, at 10 A.M., and 2, 6, and 10 P.M.

Jan. 28.—Before the first dose the pulse was 120, regular. Resp. 48. Pupils rather large. Tongue moist, slightly furred.

10.15 P.M.—Pulse 120, fuller than this morning, but regular. Resp. 48. Sleeping quietly.

Jan. 29, 10.10 A.M.—Pulse 132, regular. Resp. 38. Pupils act well.

6.5 P.M.—Pulse 108, regular. Resp. 48. Nothing else to note.

10.15 P.M.—Pulse 108, quite regular. Resp. 48. Cough not so troublesome.

Jan. 30.—Pulse 108. Resp. 36. Nothing to note.

Jan. 31.—Dose of the tincture increased to one dram every four hours as before.

11.10 A.M.—Pulse 108. Resp. 36. Pupils act. Cough easier.

10 P.M.—Pulse 108, regular. Resp. 36. Pupils act. Nothing to note through the day.

Feb. 1, 10.30 A.M.—Pulse 108, regular. Resp. 36. Pupils act.

Feb. 2.—Pulse 108, regular. Resp. 42. Pupils act. Cough very troublesome.

10 P.M.—Pulse 96. Resp. 36. Child does not seem so well. Cough very troublesome. No dose given after two o'clock.

During the week in which the child took Squire's tincture, the temperature was unaffected, being natural throughout. For the first three or four days the cough was easier and the paroxysms somewhat less frequent, twenty-four in as many hours, as against about thirty-five previously. But on February 1, there were no less than fifty, though this may be accounted for by a thaw after frost; and on the 2nd there were thirty-nine, and during one of them the child's nose bled.

Feb. 7.—The paroxysms of cough not quite so numerous. Less livid. Glands of neck not enlarged. Physical signs as before. After leaving off the henbane, she was treated with a spray to the throat of extr. belladonnæ, first one, then two, and afterwards four grains to four ounces of water, twice a day.

Feb. 15.—Discharged.

CASE XXVI.

Chorea.

Lena R., aged nearly 7 years, was admitted into the Children's Hospital, January 21, 1879.

Family History.—One of five children, the others being healthy, and none of them having had rheumatism or chorea. Three died under two years of age. Father healthy and not rheumatic. Mother dyspeptic, but has had neither rheumatism nor chorea, and is not phthisical.

Previous History.—Had measles and scarlet fever two years ago. Never had rheumatism or pains in the joints. For the last year has been subject to headache, accompanied with attacks of vomiting. Chorea began three weeks ago, without any known cause, appearing first in the left hand.

Present Condition.—A moderately well-nourished child with fair complexion. Tongue protruded with hesitation. Speech slightly affected. Can walk with assistance. The chorea is general, moderately severe, and most marked in the arms. Has slight headache. Pulse 88, regular. Heart's sounds natural.

Jan. 23.—Began to take half-dram doses of tincture of the *fresh leaves* of hyoscyamus four times a day—at 10 A.M., 2, 6, and 10 P.M. At 9.45 A.M., before taking the drug, pulse 68. Pupils small.

1.45 P.M.—Pulse the same. Pupils dilated.

4.45 P.M.—Pulse 72, regular, good tone. Pupils widely dilated. No drowsiness and no complaint of anything.

11.30 P.M.—Pulse 72. Sleeping quietly.

Jan. 24, 10.25 A.M.—Pulse 84. Resp. 24. Pupils well dilated, sluggish. Had a good night.

3 P.M.—Pulse 72. Resp. 18. Pupils the same.

6.15 P.M.—Pulse 66, very feeble. Resp. 24. Pupils widely dilated, sluggish.

Jan. 24, 10 P.M.—Pulse 72, stronger (disturbed during sleep). Resp. 24. Pupils act but feebly to strong light.

Jan. 25, 10.25 A.M.—Pulse 90. Resp. 24. Pupils still well dilated, but not so much as last night. Complains of some dryness of the throat.

10.10 P.M.—Pulse 84, good strength, but irregular. Resp. 30. Sleeping quietly. No more of the tincture given.

Jan. 26, 10.25 A.M.—Pulse 68, feeble and irregular. Pupils large, act slowly to light. Vomited this morning.

11.35 P.M.—Pulse 76, irregular and intermittent. Resp. 18.

Jan. 27, 9 A.M.—Pulse 80, irregular. Resp. 24. Pupils act.

Pupils certainly somewhat larger both to ordinary and strong light than those of another child under same conditions. No rash. No effect on temperature.

Feb. 6.—In the evening took the first half-dram dose of tincture of the *seeds* of hyoscyamus, to be repeated night and morning.

Feb. 7, 10.25 A.M.—Pulse 80. Resp. 24. Pupils large, act to light slowly.

Feb. 8, 10.20 A.M.—Pulse 80, a little irregular. Resp. 20. Pupils the same.

10.10 P.M.—Pulse 72, irregular and intermittent. Resp. 18. Sleeping quietly.

Feb. 9, 10.50 A.M.—Pulse 76, irregular. Resp. 18. Pupils the same as before.

10.5 P.M.—Pulse 52, extremely irregular and intermittent. Resp. 24. Sick this evening. Sleeping.

Feb. 10.—Last dose taken last evening. Has headache, to which she is not subject. Pupils large, but not extremely, and act fairly well to light. Pulse 96, hardly irregular. No effect on temp.

Feb. 17.—Pulse 88, not quite regular.

Feb. 27.—Discharged.

Compare Florence G., Case XXXVI., in whom the pupils were more dilated, and whose heart was not affected. But she took first half-dram, then dram, and finally two-dram doses of the tincture.

c. *Tincture of the Dry Leaves.*

The effect of this, like that of the fresh leaves, was very slight. In the six cases in which it was given, XXVII.—XXXII., the

pupils were dilated in XXX. (whooping-cough), and XXXII. (chorea). In the same two cases, as well as in XXXI. (a healthy child), the pulse became irregular, intermittent, and weak, while in XXXI. and XXXII. there was slight elevation of temperature, which in the last case rose to 100° every evening during the administration of the drug, though it was normal in the morning.

Slight dryness of the throat was produced in two cases, XXVII. (simple febricula), and XXXII.

In a case of chronic bronchitis, XXVIII., the only effect of a dose of two drams at bedtime was to give the patient a headache, and in XXIX. (pleurisy), half-ounce doses given three nights in succession gave no sleep, and aggravated a headache which the man had before.

The usual dose, except in XXVIII. and XXIX., was one dram.

CASE XXVI.A.

Sleeplessness.

Genoa S., aged 19, was admitted into Mary Ward, January 9, 1879.

On January 26 she was quite convalescent from rheumatic fever, and had no pains. She was a bad sleeper. At bedtime she took two drams of the tincture of dried hyoscyamus leaves and fell asleep at midnight. She slept for four hours longer than usual and had confused dreams.

Jan. 27.—No draught. Had a fidgety night.

Jan. 28.—Draught repeated. Slept all night; dreams not troubled.

Jan. 29.—Slept equally well without henbane.

CASE XXVII.

Febricula.

Charlotte K., aged 14 years, was admitted into Mary Ward, January 15, 1879, with simple fever.

In ten days' time she was convalescent, and her condition at 11 A.M. on January 25 was thus noted:—Pulse 86, rather weak, regular. Temp. 97.8° . Has no dryness of throat, dizziness, or delirium. Pupils equal, not dilated. She then took one dram of the tincture of the dried leaves of hyoscyamus, and at 12 noon, her pulse and temperature remained unaltered. Throat a little dry. No dizziness. Pupils unchanged.

1 P.M.—No change from preceding note.

2 P.M.—Throat only slightly dry. Otherwise no change.

3 P.M.—Pulse, temperature, and pupils unchanged. Dryness of throat gone.

CASE XXVIII.

Chronic Bronchitis.

John S., aged 42 years, was admitted into Luke Ward, January 24, 1879, with chronic bronchitis.

Jan. 26.—At 9 P.M. took two drams of the tincture of dried leaves of hyoscyamus. He slept until 2 A.M., when his cough awoke him, and he had slight headache.

Jan. 27.—The same dose of henbane was repeated in the evening, and with the same result, except that his headache was rather worse, though it disappeared after more sleep.

He did not think he slept any better after taking the henbane than before his admission, and it produced no effect on any other organ or function.

CASE XXIX.

Pleurisy.

George J. was admitted into Luke Ward, January, 1879, with pleurisy.

Jan. 25.—Slept badly last night. Has bad headache. Was sick once. Bowels acted three or four times. Pulse 112, regular. Temp. 101°.

At 4.30 P.M. took four drams of the tincture of dried leaves of hyoscyamus.

Jan. 26.—Did not sleep any better last night. Headache the same. The same dose of hyoscyamus repeated.

Jan. 27.—Did not sleep all night. Headache worse. Pulse 100, regular. Temp. 101°.

Urine, sp. gr. 1010; contains no blood, but some albumen.

The hyoscyamus repeated.

Jan. 28.—Says he had no sleep last night. Headache the same. Pupils not dilated. Bowels open. Pulse 112, regular. Temp. 101°.

CASE XXX.

Congenital Syphilis—Whooping-Cough.

Catherine R., aged 2½ years, was admitted into the Children's Hospital, December 31, 1878.

The previous history of the child (taken from a neighbour) was that she was illegitimate, and that her mother was healthy. Has had sores around anus for some months, but they are better now. Has always been subject to hoarseness on exposure. She was pretty well up to a week before admission, and was then taken suddenly with difficulty of breathing and a croupy cough, which

she has had ever since. She did not get blue. Has very bad attacks of dyspnoea when asleep, but seems much better when awake.

Jan. 1.—No fever, and not cyanosed. Tongue clean. Pulse 140, regular. Breathing laboured and a little noisy. Cough quite croupy. Slight epigastric recession. No dulness over chest. Some rales over left lower back. Abdomen natural. Was put into a tent-bed with steam and ice-bags applied to the throat. A mixture of chlorate of potash to be taken every four hours.

Jan. 2.—A patch of tinea tonsurans on forehead.

No scars about mouth. Bridge of nose not broad.

Milk-teeth regular and good. Condylomata about anus.

Hyd. c. Cret. gr. i. night and morning.

Jan. 21.—Went on pretty well till the 21st, when undoubted whooping-cough began, and she was removed to a separate ward. Ordered 15 minims of the Hospital tincture of hyoseyamus every four hours.

Jan. 22.—The laryngeal symptoms more marked than for the past week or so. No physical signs in chest. Condylomata nearly healed. The tincture of hyoseyamus increased to 20 minims, and on the 23rd to half a dram.

Jan. 24.—Pulse 108. Resp. 36. Pupils dilated, act very little.

10.10 P.M.—Pulse 100. Resp. 36. Pupils dilated, but act well to a strong light.

Jan. 25, 11 A.M.—Pulse 108. Resp. 24. Passed a quiet night. Pupils not so large as last night.

10.20 P.M.—Pulse 120. Resp. 24. Pupils act to light.

Jan. 26, 10.25 A.M.—Pulse 118. Resp. 36. Pupils act slowly to light. Had a quiet night.

Jan. 27.—Hospital tincture has no obvious effect.

Half-dram doses of Squire's tincture of the dried leaves of hyoseyamus ordered at 10 A.M., and 2, 6, and 10 P.M.

Jan. 28.—Before the first dose, pulse 108, regular. Resp. 36. Tongue moist, clean. Pupils rather large.

10.15 P.M.—Pulse 80, very irregular both as to intermissions and rhythm. Resp. 28. Sleeping quietly.

Jan. 29, 10.10 A.M.—Pulse 136, regular. Resp. 34. Had a good night. Pupils act well.

6 P.M.—Pulse 96, feeble but regular. Resp. 24. Cough less troublesome.

10.15 P.M.—Pulse 80, extremely irregular and intermittent:—
1-11-1-1111-1-1-11-1. Resp. 18.

Jan. 30.—Henbane left off.

The temperature was not raised while taking Squire's tincture.

Feb. 12.—No cough to speak of. Still rather hoarse.

Condylomata quite healed. Taking cod-liver oil.
Feb. 15.—Discharged.

CASE XXXI.

Healthy Child.

Florence W., a healthy child.

On January 27, 1879, before giving the henbane, the pupils were somewhat large. Pulse 92, of good strength and regular. Resp. 24. Tongue moist and clean.

At 2.5 P.M., one dram of the tincture of the dried leaves of hyoscyamus given in half an ounce of water.

10 P.M.—Pulse 80, of good strength, but distinctly intermittent. Resp. 24. Nothing else to note, except elevation of temperature. Pupils not affected.

Jan. 28.—Pulse 82, quite regular. Resp. 28.

3.20 P.M.—Pulse being 98 and resp. 24, a dram and a half of the tincture was given.

5.45 P.M.—Pulse 104, quite regular. Resp. 24. Nothing else to note.

10 P.M.—Pulse 84, regularly intermittent (4-1). Resp. 24. Temp. slightly raised.

Jan. 29, 10.25 A.M.—Pulse 84, quite regular. Resp. 30.

Pupils act well. About the same size as before taking the drug.

12.5 P.M.—Pulse 96. Resp. 24. Two drams of the tincture given.

10 P.M.—Pulse 80, irregular, and occasionally intermittent. Resp. 24. Nothing else to note.

CASE XXXII.

Chorea.

Hannah B., aged 9 years, was admitted into the Children's Hospital, January 13, 1879.

Family History.—One of four children, the others healthy, and have not had rheumatism or chorea. None dead.

Father died of brain disease. Doubt as to the existence of phthisis in his family, but no rheumatism.

Mother healthy. Not had rheumatism or chorea. No phthisis on her side.

Previous History.—Has had measles and whooping-cough, and five years ago had scarlet fever very badly. No other illness.

Never had rheumatic fever, but this last week has complained of pains under her knees.

Three weeks ago she began to have choreic movements, but

they have been much worse during the last week. They were supposed to be due to her falling down and breaking a jug when going on an errand.

Present Condition.—Fairly well nourished. Glands in neck palpable. Tongue clean, protruded with hesitation. Pulse 120. Heart's dulness and sounds natural.

Tolerably severe chorea; arms most affected. Can sit up by herself, but not for long, and can walk with assistance. She seems worse at night.

Jan. 23.—Began to take half-dram doses of the tincture of the dried leaves of hyoscyamus at 10 A.M., and 2, 6, and 10 P.M.

10 A.M.—Pulse 118, regular. Pupils natural.

1.45 P.M.—Pulse the same, regular. Pupils somewhat dilated.

4.45 P.M.—Pulse 84, regular. Pupils dilated. No complaint. No drowsiness.

11.45 P.M.—Pulse 78. Sleeping quietly. Temp. 100° this evening.

Jan. 24, 10.20 A.M.—Pulse 84. Resp. 36. Pupils large, rather sluggish. Had a good night.

3 P.M.—Pulse 84. Resp. 36. Pupils the same. Complains of dryness in the throat, but not in the mouth.

6 P.M.—Pulse 80, feeble, and decidedly irregular. Resp. 40. Pupils widely dilated, but contract to natural size on exposure to light. Still complains of dry throat.

10 P.M.—Pulse 96, stronger (disturbed during sleep). Resp. 22. Pupils act to a strong light.

Jan. 25, 10.20 A.M.—Pulse 78, more power than last night.

Resp. 24. Pupils not so large. Says her throat is no longer dry. Dose increased to 40 minims, to be taken at the same hours as before.

10 P.M.—Pulse 72, feeble and irregular. Pupils contract to light. The dose to be taken at this hour omitted.

Jan. 26, 10.20 A.M.—Pulse 72, regular. Resp. 24. Pupils not so large. Act to light readily.

11.30 P.M.—Pulse 84. Resp. 24. Sleeping quietly.

Jan. 27, 9 A.M.—Pulse 84, weak, regular. Resp. 24. Had a quiet night. Henbane left off.

Compared with another child in respect of pupils, both as to ordinary and strong light, perhaps this patient's pupils were a trifle larger under both conditions.

The only effect of the drug seems to have been on the temperature, which rose to 100° every evening during its administration, though normal in the morning. Any other action was doubtful. The child lay in a dark bed and in dark weather.

Feb. 6.—In the evening took the first half-dram dose of tincture of the seeds of hyoscyamus, to be repeated night and morning.

Feb. 7, 10.20 A.M.—Pulse 100. Resp. 30. Pupils large, but naturally so, and act well.

Feb. 8, 10.5 A.M.—Pulse 80, regular. Resp. 24. Pupils large, and do not contract so much as natural to strong light. Dose increased to 40 minims.

10 P.M.—Pulse 72, regular. Resp. 18. Sleeping quietly.

Feb. 9, 10.45 A.M.—Pulse 84, regular. Resp. 18. Pupils the same.

10 P.M.—Pulse 96, irregular. Resp. 30. Pupils contract rather slowly.

Feb. 10.—Pulse 96, not quite regular. Pupils undoubtedly large. No effect on temperature. No hypnotic effect.

Feb. 17.—Pulse 96, not quite regular. No vomiting. Henbane omitted.

March 13.—Discharged.

CASE XXXII.A.

Left Hemiplegia.

John N., aged 54, was admitted into Luke Ward, January 12, 1879.

He complained of great pain across his brows, and slept badly.

Jan. 17.—Took two half-dram doses of Tr. cannab. ind., and slept a little better.

Jan. 20.—Very delirious last night. Had taken no drug.

Jan. 22.—Took a dram of tincture of dried hyoscyamus leaves at 8.30 P.M.

Jan. 23.—Had the same dose at 12.30 A.M.

About 10.30 P.M. January 22, he thought he was in prison, and wanted to be let out. After the second dose he had a very quiet night till 4 A.M.

Jan. 24.—At midnight (23rd) took two drams of the tincture of fresh hyoscyamus leaves. He had very little sleep; says the pain in his head not so sharp.

At 10.30 P.M. he had two drams of the tincture of dried hyoscyamus leaves.

Jan. 25.—Had a quieter night, but saw all sorts of things in the night, and would have liked to jump out of the window. This morning the pain is no better. Pupils small.

At 10 P.M. took half an ounce of the tincture of the dried leaves.

Jan. 26.—Had a very quiet night. This morning the tongue is very dry, and the pupils large. He took half an ounce of the tincture of the fresh leaves at 3 P.M., and again at 1.30 A.M. on the 27th. Slept only a little, was noisy and wandering.

At 9 P.M. took half an ounce of the tincture of the fresh leaves.

Jan. 28.—Slept well after the henbane, and had a better night than any since admission.

The drug had no effect on the delirium or on the heart, and it was doubtful if it had any on the headache. In short, the result was apparently none.

CASE XXXII.B.

Chronic Bronchitis.

A physician, suffering from chronic bronchitis, took on January 23, 1879, at 9.20 P.M., one dram of tincture of *fresh* hyoscyamus leaves in water. At 10.20 P.M. there was no effect, and he took another dram. At 10.50 P.M. still no effect, and he took two drams more, half an ounce in all. At 11 P.M. he went to bed, and after some time fell asleep. At midnight he awoke with cough, and kept awake till 2 A.M. on the 24th. He then had a good cough, and slept afterwards till 5.20 A.M., when he coughed again. In short, there was not the slightest effect of any kind, good or bad.

Jan. 24.—At 9.20 P.M. took one dram of the tincture of *dried* hyoscyamus leaves in water. At 10.20 P.M. no effect, and took another dram. At 10.50 P.M. no effect, and took two drams more—half an ounce in all. He went to bed at 11.30 P.M. No appreciable effect. Had some difficulty in getting to sleep, then slept well till 4.30 A.M. on the 25th, when he was awakened by cough, not so severe as usual. Then slept till 7.30 A.M.

Remarks by the experimenter:—

“I should say that, on the whole, both tinctures made my mouth rather unpleasantly dry in the night, but perhaps this was due to the proof spirit. Both acted as slight diuretics, carminatives, and aperients. The sedative effect of the fresh leaves was none; of the dried leaves, slight, if any. No effect on sight or pupils; no headache.”

d. *Tincture of the Seeds.*

The strength of this is five ounces of the seeds to a pint of spirit. It was given in four cases of chorea, XXVI., XXXII., XXXIV., XXXV., and in two of bronchitis, XXXIII., XXXVI. The dose at first was, except in XXXIII., half a dram, increased in XXXIV. and XXXVI. to two drams.

In all the cases except XXXIII., dilatation of the pupils more or less marked was noticed, and in him they were observed to be unequal. The other most general effect was on the heart, the pulse becoming weak, XXXV., XXXVI., and sometimes irregular

and intermittent XXVI., XXXIV. This was very highly marked in XXVI., in which case also it became infrequent at the end. The temperature in XXXVI. was 101° for the first two or three days after beginning to take the henbane. XXVI. vomited and had headache just before the drug was discontinued. In XXXIII. the tincture was given to produce sleep, which it seemed to do, causing also dryness of the mouth, and perhaps slight tendency to delirium at night. No special influence on the course of the chorea was noticed.

CASE XXXIII.

Chronic Bronchitis.

John F., aged 26, was admitted into Luke Ward, February 3, 1879.

For some years he had been short of breath and subject to winter cough. On January 26 he had some shivering, which was repeated the next day.

On admission, his face was dusky and congested, and he had bad attacks of dyspnoea. He spat up a great deal of bronchitic sputa. Urine acid, not albuminous. The heart sounds clear but indistinct. Chest barrel-shaped. Mucous rales heard all over, and bronchial breathing at both bases behind. Resp. 32. Pulse 112. Temp. morning 101.2° , evening 103° .

Feb. 4.—Was delirious in the night. Resp. 32. Pulse 112. Temp. morning 102.3° , evening 103.2° .

Feb. 5.—Took one dram of the tincture of hyoscyamus seeds at bedtime last night. Had a better night. Resp. 32. Pulse 120. Temp. morning 101.8° , evening 103° .

Feb. 6.—Slept better after the same dose of the tincture. Pupils unequal. Resp. 36. Pulse 116. Temp. morning 102.2° , evening 102.4° .

Feb. 7.—The nightly dose of tincture of hyoscyamus seeds increased to two drams. Pulse 112. Temp. morning 103.4° , evening 102.4° .

Feb. 8.—Temp. morning 103.4° , evening 102.4° .

Feb. 9.—Much better night. Temp. evening 102.4° .

Feb. 10.—Says his mouth seems quite dry after taking the henbane. Talks nonsense in his sleep. Resp. 30. Pulse 108. Temp. morning 101.5° , evening 101.6° .

Feb. 11.—Took no henbane last night. Resp. 22. Pulse 104. Temp. evening 99.4° .

The cough, with abundant muco-purulent sputa, and the occasional attacks of dyspnoea, continued till the end of March, the rales being heard also all over the back.

He was discharged, April 3, relieved, but far from well.

CASE XXXIV.

Chorea, chiefly Left Sided.

Louisa I., aged nearly 10 years, was admitted into the Children's Hospital, January 27, 1879.

An only child. Father dead; mother healthy, but subject to rheumatic pains. Has had measles and whooping-cough, but never rheumatism or pain in the joints.

Suffering from a first attack of chorea, which began about five weeks ago, but was not bad till a fortnight ago. Can walk with assistance. Speech a little thick. The left side most affected, but only slightly. Well-nourished child. Tongue clean, easily protruded. Pulse 96, regular. Glands of neck enlarged. Chest and abdomen natural. Left upper arm decidedly flabbier than right. Talipes equino-varus of left foot. Wasting of muscles of left leg and thigh.

Feb. 6.—To take half a dram of the tincture of hyoseyamus seeds night and morning.

Feb. 7, 10.25 A.M.—Pulse 92. Resp. 22. Pupils, naturally rather large, act well.

Feb. 8, 10.10 A.M.—Pulse 96. Resp. 24. Pupils same, but act well to light. Dose increased to one dram.

10.10 P.M.—Pulse 108 (disturbed in sleep). Resp. 24. Pupils large, act slowly to light.

Feb. 9, 10.45 A.M.—Pulse 84, regular. Resp. 18. Pupils larger.

10.5 P.M.—Pulse 66, irregular. Resp. 18. Sleeping quietly.

Feb. 10.—Pulse 104, irregular. Pupils decidedly large. The tincture of the seeds seems to have affected the pulse more quickly than the tincture of the leaves.

Feb. 11.—Dose increased to one dram and a half. Before it was given, pulse 90, regular. Resp. 18. Pupils natural.

11.45 P.M.—Pulse 84, regular. Resp. 24. Sleeping.

Feb. 12, 10.25 A.M.—Pulse 84, regular. Resp. 18. Pupils, a trifle larger than before, act rather slowly to light.

10.5 P.M.—Pulse 108, regular. Resp. 24. Pupils dilated, and act feebly to a strong light.

Feb. 13.—Pulse 112, rather small and weak, regular. The henbane omitted this day.

Feb. 14, 10 A.M.—Pulse 80, regular, not strong. Resp. 18. Pupils natural. Two drams of the tincture then given without any appreciable effect.

Feb. 15.—Pulse 86, regular. Resp. 18. Pupils natural.

10.15 A.M.—Two drams given.

3.45 P.M.—Pulse 80, regular. Resp. 18. Pupils slightly dilated.

Feb. 16, 10.30 A.M.—Pulse 96. Resp. 30. Pupils natural. The same dose was repeated, but nothing was observed during

the day except that the pulse is feebler. In the evening the temperature, which had hitherto been uniformly natural, rose to 102°, the result, most likely, of its being visiting day. It was natural the next morning.

Feb. 17.—No more henbane given.

March 18.—Discharged well.

CASE XXXV.

Chorea.

Annie G., aged 4½ years, was admitted into the Children's Hospital, January 31, 1879.

One of eight children, the rest healthy, and none of them have had rheumatism or chorea. The father subject to chronic rheumatism, but otherwise healthy; phthisis, however, in his family. Mother healthy; not had rheumatism or chorea, and no phthisis in her family.

Previous History.—Whooping-cough eighteen months ago. No other illness, until an attack of rheumatic fever just before the present complaint, which kept her in bed for a fortnight, with pain, redness, and swelling of the knees and ankles. Three days after getting up, now three weeks ago, she was seized quite suddenly, with choreic movements all over.

The chorea is general, and rather severe. The patient cannot talk or feed herself, and can only walk with much assistance. Appetite fair. Bowels regular. Tongue moist, furred, and protruded with a jerk. Heart's action and sounds natural.

Feb. 6.—Began in the evening to take half-dram doses of tincture of hyoscyamus seeds night and morning.

Feb. 7, 10.10 A.M.—Pulse 132. Resp. 38. Pupils rather large.

Feb. 8, 10 A.M.—Pulse 96, regular. Resp. 24. Pupils the same, do not contract so much or so rapidly as those of a healthy child under normal conditions. Dose increased to 40 minims.

10.15 P.M.—Pulse 96, regular. Resp. 18. Sleeping.

Feb. 9, 10.50 A.M.—Pulse 118, regular. Resp. 36. Pupils the same.

10 P.M.—Pulse 102, regular. Resp. 36. Pupils contract slowly.

Feb. 10.—Pupils not greatly dilated. Dose increased to 50 minims.

10 P.M.—Pulse 92, regular. Resp. 18. Sleeping quietly.

Feb. 11, 10.10 A.M.—Pulse 112, regular. Resp. 24. Choreic movements not so great.

6 P.M.—Dose given.

11.45 P.M.—Pulse 84, regular. Resp. 24. Sleeping quietly.

Feb. 12, 10.5 A.M.—Pulse 84. Resp. 24. Pupils natural, perhaps a trifle dilated.

10 P.M.—Pulse 82, regular, but feeble. Resp. 24. Sleeping.

Feb. 13.—Pulse 96, very small and weak, not irregular. Pupils perhaps dilated. No hypnotic effect. Henbane discontinued. No effect on temperature, which was natural.

CASE XXXVI.

Pulmonary Catarrh.

Florence G., aged 8 years and 10 months, was admitted into the Children's Hospital suffering from pulmonary catarrh.

She took the first half-dram dose of tincture of the seeds of hyoscyamus on the evening of February 6, 1879. It was ordered to be taken night and morning.

Feb. 7, 11.30 A.M.—Pulse 96. Resp. 36. Pupils large, do not act to strong light so rapidly as they should.

Feb. 8, 10.25 A.M.—Pulse 86, regular. Resp. 22. Pupils the same. The dose increased to one dram.

2 P.M.—Sun shining on the eyes causes pupils to contract rapidly and well.

10.15 P.M.—Pulse 92, regular. Resp. 24. Sleeping.

Feb. 9, 10.5 A.M.—Pulse 96, regular. Resp. 24. Pupils the same as yesterday.

10.10 P.M.—Pulse 84, regular. Resp. 18. Sleeping.

Feb. 10.—Pupils no doubt dilated. No dose given to-day.

Feb. 11.—Dose increased to two drams. Before the first was given, pulse 88. Resp. 18. Pupils natural.

Feb. 12.—Pulse 84, regular. Resp. 30. Pupils the same, act rather slowly to light.

10 P.M.—Pulse 86, regular. Resp. 24. Sleeping quietly.

Feb. 13.—Pulse, 92, weak, small, regular. Tongue moist. Pupils large. No hypnotic effect. The henbane omitted.

Feb. 17.—Pulse 88, not quite regular. From February 6 to 8 the temperature was about 101°. On and after the 9th it was natural.

e. Extract of Henbane.

The only patient who took this was Case XI. (see under *Indian Hemp-Tincture*), mitral disease, bronchitis, and albuminuria. As he had very bad restless nights, he was ordered to take five grains of Squire's extract of henbane every night.

At first his sleep was a little less disturbed, and the cough was eased, but on the third night he began to wander, and on the fifth and sixth was quite delirious, not sleeping at all.

On the seventh night he took 10 grains of the extract, in addition to 20 grains of chloral, but without effect. The pupils were not affected.

On leaving off the henbane and taking tincture of Indian hemp instead, the delirium and sleeplessness abated considerably for two or three nights.

The general effect of the different tinctures of hyoscyamus given in full doses (half to two drams), cannot be said to have been very striking. The majority of the cases in which they were employed were chorea in children. These did not seem to improve more quickly than under other methods of treatment, except in two slight cases treated with tincture of the root.

All the tinctures caused more or less dilatation of the pupils—slight only in the case of those of the fresh and dry leaves and of the seeds, but well-marked in the case of the tincture of the root. This last also produced more distinct dryness of the mouth and fauces, with thirst, flushed face, and cracked lips, than the other tinctures; and in one case there seemed to be no doubt about its being the exciting cause of two separate attacks of delirium.

Thus the tincture of the root seemed to be of greater power than the others in the effects produced, but in one respect it had less—viz., on the vascular system; for whereas the pulse was unaltered in the cases in which it was given, it became weak, irregular, and intermittent in several of those where the other tinctures were employed. The conclusion arrived at was, that for practical purposes the tinctures of the leaves—dry and fresh—and of the seeds were quite useless.

As the extract was only given in one case (in doses of five grains every night), it is impossible to generalise. It seemed as if the low delirium which came on after he had taken the henbane for two or three nights was to some extent due to it, though it might easily be accounted for in other ways.

VI. CODEIA.

This was given to a child with diabetes mellitus and albuminuria in half-grain doses three times a day.

The result was speedy symptoms of poisoning, viz., a weak and quiet pulse, drowsiness with inertia and prostration, and want of attention to the things taking place around her. At the same time the amount of urine passed was much diminished, and for a period of twenty hours none was voided at all.

On stopping the drug, two days afterwards, the effects soon passed off.

After a week's interval it was given again in reduced doses $\frac{1}{4}$ gr. twice a day. This time no poisonous effect was produced. The amount of sugar in the urine increasing, the codeia was given three times a day, and two days afterwards the child again passed into

the same inert and drowsy condition as before, but to a less degree.

The amount of urine was not diminished, and the codeia was given four times a day, and four days later, five times. Two days later the same condition of dulness came on, and at the same time some stomatitis, which had been set up after the codeia was first given, and had never quite disappeared. The pupils were smallish, but not to any marked extent.

The drug was discontinued after the patient had taken it for seventeen days. Eleven days later it was ordered again in $\frac{1}{2}$ gr. doses four times a day, and was left off three days afterwards. No note was taken as to its effect on this occasion.

The effect on the urine was *nil*. A quantitative estimate of the sugar in the urine was made every day, but as the results were tolerably uniform, it was not thought worth while to print the tables.

CASE XXXVII.

Diabetes Mellitus—Albuminuria.

Ellen H., aged nearly 7 years, was admitted into the Children's Hospital, August 16, 1878.

Family History.—Her mother has consumption, and two maternal aunts died of the same. One aunt had acute mania.

The father is a plumber and has gout, as also had his father and one of his brothers. No history of phthisis or nervous disorder on this side, and none of diabetes on either side.

The mother has five other children, all of whom are delicate. Some are rickety and some have chronic cough.

Previous History.—This, the fourth child, had whooping-cough, three, and measles two years ago. The latter was followed by inability to walk and polyuria, the urine being passed frequently—about every two hours, or ten times in the twenty-four hours. At night it was passed into the bed.

The child had no pain whatever. The urine was thought to be excessive in quantity, but was not measured for one and a half years. It was then found to be three pints during the day, and what was passed in bed at night was reckoned at about two pints.

The child had great thirst and would drink anything, but the mouth was dry. The appetite was variable, sometimes ravenous, and she especially liked vegetables.

The child had been wasting, had no cough, and all the symptoms had been gradually getting worse. She had been somewhat better the last fortnight, since taking milk only, and the quantity of urine had not increased for the last four months. No skin eruption.

Muscles much weaker. Had been sick three times in the last fortnight, and was so on the morning of admission.

On admission the sp. gr. of the urine was 1017. It gave a small dense deposit, containing many cylindrical casts of peculiar character, being neither granular nor epithelial. It reduced an equal bulk of standard solution of sulphate of copper and alkaline tartrate, and turned brown on boiling with liquor potassæ.

Aug. 28.—The urine passed was 1300 c.c. and gave a distinct cloud of albumen on heating. After this was removed, good sugar reaction was obtained with Moore's and Trommer's tests.

Sept. 2.—Urine contains less albumen. The symptoms slight. The nurse says that she always drinks at once when liquid is placed before her, but that she does not complain of thirst or drink a great deal. Has no pain on micturition. Has had diarrhœa. Appetite middling.

Sept. 18.—The urine contains about one-tenth albumen but less sugar.

Sept. 23.—Half a grain of codeia in solution ordered three times a day. The first dose was given at 6 P.M. The child slept during the night but was sick twice.

Sept. 24.—Sick at 7 A.M. Decidedly drowsy all day. At 4 P.M. the pulse was 144, weak and fluttering and very compressible. The child lying down quite inert and prostrate, with open mouth and eyes, the latter looking bright. She had a dreamy expression, and took no notice of her surroundings, though at the same time perfectly conscious and rational. She talked, but moved the lips little and slowly. Pupils about natural in size. Child could swallow well and seemed thirsty. Tongue red and irritable but quite moist. Temp. last evening 97.6°, this morning 97°. Had a little meat for dinner and was not sick after it. Passed a little water in bed (in the night) but none during the whole day. Suprapubic region examined at 10 P.M. No evidence of distension of bladder.

Sept. 25.—At 5 A.M. passed 470 c.c. of urine and about the same quantity at 10 A.M. From 9 A.M. on the 24th to 5 P.M. on the 25th, a period of twenty hours, none was passed. Sp. gr. 1010.

The child still drowsy, but on the whole brighter, and was singing early in the morning. Pulse 120, rather smaller. Resp. 20. A thick white patchy fur, the colour of thrush, on the tongue. Gums spongy, swollen, and dull red; the fauces also red, and the tonsils slightly enlarged.

Thirsty, and has taken very little food in the last twenty-four hours. Temp. morning 98.4°, evening 99.8°. The codeia was stopped and normal diet given.

Sept. 26.—Child brighter. Complaining of toothache; gums swollen, sore, and tender. Temp. morning 98.6°, evening 99.6°.

Sept. 27.—Temp. morning 98°, evening 100.2°.

Sept. 28.—Gums rather more healthy, but tongue very raw and irritable, with white thrush-like patches. Child tired and languid.

Sept. 30.—Cheek (on side of toothache?) swollen up considerably.

Oct. 3.—Child better again and brighter. Swelling of cheek gone down, and gums more healthy but still spongy. Teeth very bad. Tongue clean but dryish, and looks livid and shrivelled. Pulse 124, not good; not quite regular. Codeia in $\frac{1}{4}$ gr. doses twice a day ordered.

Oct. 7.—No symptoms from the codeia. Appetite bad, and does not care for bread. Amount of sugar increasing. Tongue not so red and moist. Gums much the same. Pulse 120. The codeia to be taken three times a day.

Oct. 9.—The child again in the same inert and dull condition as on the 25th September, but to a less degree. The amount of urine not appreciably diminished.

Oct. 10.—The codeia to be taken four times a day.

Oct. 14.—Codeia to be taken five times a day. Temp. natural. Bowels confined.

Oct. 15.—Temp. morning 100.6°, evening 101.4°.

Oct. 16.—Temp. morning 99°, evening 100.4°.

Child decidedly duller and inert. Tongue and gums reddish and unhealthy; viscid and offensive mucus hangs about the mouth. Quantity of urine rather less than on the 14th—1020 c.c. against 1700 c.c. Bowels confined.

Oct. 17.—Temp. morning 99°, evening 99.8°. Still drowsy. Mouth as yesterday. Pupils smallish.

Oct. 18.—Temp. morning 99.2°, evening 100.2°.

Oct. 20.—Codeia omitted to-day. Child not so drowsy.

Oct. 21.—Discharge from left ear.

Oct. 22.—Pupils contracted.

Oct. 28.—Quantity of urine in the last three days largely increased—1500 c.c. daily.

Condition still little changed. Appears heavy and ill, with little life or spirits. Bowels very confined. Urine pale coloured, like water poured into a little milk, with hardly any yellow tinge. Gums more healthy, but viscid offensive mucus in the mouth.

Oct. 31.—Codeia $\frac{1}{8}$ gr. to be taken four times a day.

Nov. 3.—Codeia left off. No note taken as to its effect, except that on the 3rd the patient had been sick and was drowsy; the pupils not contracted.

Nov. 4.—She began to take lactic acid, 20 minims three times a day.

Nov. 11.—The dose was increased to half a dram.

Nov. 25.—She took the last dose (half a dram) six times a day.

After November 25 the amount of urine was greater—about 2000 c.c. daily, as against about 1500 c.c. before. The sp. gr., however, always remained very nearly the same, that is, about 1010; the albumen being seldom more than a trace.

The child's weight increased from 24 $\frac{3}{4}$ lbs. on September 20 to 26 $\frac{3}{4}$ lbs. on December 20—2 lbs. in three months.

The patient left the Hospital, December 24, 1878.

She was pretty well till December 27, when she vomited, which she has done every day since. She used also to turn faint.

The mother has adhered to the diet ordered.

Since the evening of December 31 the breathing has been worse, and especially last night (January 2, 1879).

Jan. 3, 1879.—She was readmitted. Is quite as thirsty as before, and passes as much water. Since she has been short of breath she has been drowsy, but does not sleep well. Bowels regular, but confined.

Child is pale, looks ill, and does not like to be disturbed. Pulse 136. Resp. 48. Temp. 96°.

The respiration is peculiar, inspiration deep and expiration rather forcible. She lies on either side.

No dulness over front of chest or axillæ. A little fine rale heard at left base in front, and towards both axillary bases. Behind there is no dulness and no abnormal sound. The heart sounds natural. Spleen not felt. Urine contains sugar and a trace of albumen.

Jan. 4.—Breathing much louder and more forcible than yesterday. Had a very restless night. Pulse 160. Resp. 48. Temp. 97°. Bowels not open. Lips dry. Tongue furred and dry. Vomited twice.

Jan. 5.—Died at 3 A.M.

Examination of body thirty-one hours after death.—Body thin, weight 27 lbs. Rigor mortis present. Genu valgum of both legs. Abdomen rather big. Brain and spinal cord natural to naked eye. Brain weighs 2 lbs. 10 $\frac{1}{4}$ oz. Larynx and trachea natural. Pharynx and œsophagus natural. The left superior sympathetic ganglion rather pink. The left inferior sympathetic ganglion pinker than the right. Pericardium natural. Heart, right ventricle empty and collapsed. A white patch on the left ventricle the size of a threepenny piece. Valves natural. Heart weighs 3 oz. Lungs natural. Right weighs 6 $\frac{1}{2}$ oz., left 5 $\frac{3}{4}$ oz. Ribs not

beaded. Liver natural; no amyloid reaction; weighs 24 oz. Spleen natural, weighs 1 oz. Pancreas very soft, weighs 1 oz. Stomach dilated. Large intestine very big and full of solid feces. Suprarenal bodies natural. Some mesenteric glands enlarged and soft. Kidneys small. Capsule tears off easily, leaving a pale, smooth surface. On section, the cortex much diminished and very pale. No amyloid reaction. Sharply marked off from medullary portion. Weight $3\frac{1}{4}$ oz. Ureters and bladder dilated; walls much thickened.

VII. LACTIC ACID, SKIM-MILK DIET, &C.

These and some other methods of treatment were employed in the following case of diabetes mellitus, all without benefit. The patient rebelled, or rather pined and became despondent, during the week of exclusive milk treatment.

CASE XXXVIII.

Diabetes Mellitus.

Eliza W., aged 33, a small, spare woman, was admitted into Mary Ward, March 10, 1879.

She had been ill and had been losing flesh for two months previously. On admission she complained of great thirst, and her appetite was very good though not inordinate. Tongue and skin moist. Bowels constipated. She had not menstruated for ten or twelve months. There was no appearance of cataract. The urine was excessive in quantity, more than six pints daily on the average, and contained a large amount of sugar. Her weight was 6 st. 8 lbs. She was put upon meat diet with greens, bran bread and biscuits, and milk, and was ordered to take 15 minims of acid. phosph. dil. every six hours. On the 19th this was changed for a teaspoonful of lactic acid in half a tumbler of water three times a day. Water cresses and gluten bread were added to her diet on the 21st and 23rd respectively. On the 26th she weighed 6 st. $6\frac{1}{2}$ lbs., slightly less than on admission. Skim-milk diet was commenced on the 28th, beginning with three pints daily and increasing one pint daily to six pints, all solid food being prohibited, and no drug being taken.

April 5.—The milk diet was stopped, and full meat diet with greens, gluten bread and bran biscuits, resumed, at the same time that she went back to the acid. phosph. dil.

April 12.—She weighed 6 st. 4 lbs., and began to take 5 grains of pil. saponis co. twice a day. This was increased to three times a day on the 15th, and every four hours on the 19th, when her

weight was 6 st. 6 lbs. She was discharged on the 25th *in statu quo*, her weight being the same as on the 19th.

No plan of treatment seemed to have any effect on the disease. Meat diet without sugar or starch, skim-milk diet, phosphoric acid, lactic acid, and opium were all tried, but without apparently doing any good. During the six weeks the patient stayed in the Hospital she gained no weight, and indeed lost 2 lbs. The sp. gr. of the urine was never less than 1040, and was once 1051. On both these occasions the amount of urine passed was small, $2\frac{1}{2}$ pints when the sp. gr. was 1040, $3\frac{1}{4}$ when it was 1051, the lowest sp. gr. coinciding with the least amount of urine. The sp. gr. averaged on the forty-three occasions on which it was taken 1044.4 (as nearly as possible). The amount of urine passed bore a pretty close relation to the quantity drunk in the day. The greatest amount passed on any one day was $9\frac{1}{2}$ pints, the least $2\frac{1}{2}$. The average for forty-five days was $6\frac{2}{5}$ pints. While on the skim-milk diet, the sp. gr. was always (after the first day, when it was 1051), 1045, though the amount passed varied from $5\frac{1}{2}$ to 9 pints. During these eight days the patient was very desponding and uncomfortable, the craving for solid food being so great. Her spirits rose considerably when the meat diet was resumed.

Table showing the amount of fluid taken and of urine passed under the different modes of treatment.

Date.	Amount Drunk.	Urine Passed.	Sp. Gr.	Treatment.
March 10
" 11
" 12	10 pints.	8 pints.	1043	...
" 13	10 "	$9\frac{1}{2}$ "	1041	Phosphoric Acid.
" 14	8 "	$4\frac{1}{2}$ "	1047	
" 15	6 "	$3\frac{3}{4}$ "	1044	
" 16	$3\frac{1}{2}$ "	$2\frac{1}{2}$ "	1040	
" 17	6 "	$5\frac{1}{2}$ "	1044	
" 18	$5\frac{1}{2}$ "	$5\frac{1}{2}$ "	1044	
" 19	$6\frac{1}{2}$ "	$4\frac{1}{4}$ "	1046	
" 20	7 "	$4\frac{1}{2}$ "	1046		Lactic Acid.
" 21	$6\frac{1}{2}$ "	$4\frac{7}{8}$ "	1047	
" 22	7 "	6 "	1046	
" 23	6 "	$5\frac{1}{2}$ "	1046	
" 24	6 "	$6\frac{1}{2}$ "	1045	
" 25	$7\frac{1}{2}$ "	$8\frac{1}{4}$ "	1045	
" 26	$7\frac{1}{2}$ "	$9\frac{1}{2}$ "	1044	
" 27	6 "	$8\frac{1}{2}$ "	1042	

Date.	Amount Drunk.	Urine Passed.	Sp. Gr.	Treatment.
" 28	5 " { 3 milk. 2 tea.	{ 3 $\frac{1}{4}$ "	1051	Skim-Milk Diet.
" 29	5 $\frac{1}{2}$ "	5 $\frac{1}{2}$ "	1045	
" 30	6 "	6 $\frac{1}{2}$ "	"	
" 31	6 " { 4 milk. 2 tea.	{ 7 $\frac{3}{4}$ "	"	
April 1	6 $\frac{1}{2}$ " { 5 milk. 1 $\frac{1}{2}$ tea.	{ 9 "	"	
" 2	8 $\frac{1}{2}$ " { 6 milk. 2 $\frac{1}{2}$ tea.	{ 8 $\frac{1}{4}$ "	"	
" 3	8 $\frac{1}{2}$ "	9 "	"	
" 4	7 $\frac{1}{2}$ "	8 "	"	
" 5	6 $\frac{1}{2}$ "	6 $\frac{1}{2}$ "	"	Meat Diet and Phosphoric Acid.
" 6	7 "	6 "	1044	
" 7	6 $\frac{1}{2}$ "	6 $\frac{1}{4}$ "	"	
" 8	6 "	5 $\frac{3}{4}$ "	1042	
" 9	7 $\frac{1}{2}$ "	7 $\frac{1}{2}$ "	1042	
" 10	5 $\frac{1}{2}$ "	6 "	1048	
" 11	5 $\frac{1}{2}$ "	5 $\frac{1}{2}$ "	1044	
" 12	7 $\frac{1}{2}$ "	6 $\frac{3}{4}$ "	1041	
" 13	7 $\frac{1}{2}$ "	6 $\frac{1}{2}$ "	...	Meat Diet. Pil. Saponis Co.
" 14	6 $\frac{1}{2}$ "	5 $\frac{1}{4}$ "	1046	
" 15	7 "	6 $\frac{1}{2}$ "	1044	
" 16	7 "	6 $\frac{1}{2}$ "	1044	
" 17	7 "	5 $\frac{3}{4}$ "	1045	
" 18	6 $\frac{1}{2}$ "	5 $\frac{3}{4}$ "	1044	
" 19	6 $\frac{1}{2}$ "	6 $\frac{1}{4}$ "	1043	
" 20	6 $\frac{1}{2}$ "	7 $\frac{1}{8}$ "	1044	
" 21	6 $\frac{1}{2}$ "	7 "	1044	
" 22	6 "	6 "	1046	
" 23	6 "	6 $\frac{3}{4}$ "	1045	
" 24	6 "	6 $\frac{3}{4}$ "	1043	
" 25	7 "	6 "	...	

VIII. PAPAVERINE.

CASE XXXIX.

Chorea.

Charles S., aged 12, was admitted into Mark Ward, August, 1869.

This, the second attack of chorea, had lasted since the middle of May. It was not very severe, and the heart was sound.

Aug. 27.—He was ordered papaverine, gr. $\frac{1}{4}$, three times a day.

" 28. " " " $\frac{1}{2}$, three times a day.

" 30. " " " 1, three times a day.

" 31. " " " 1, four times a day.

Sept. 2. " " " 2, three times a day.

" 3. " " " 2, four times a day.

Sept 7.—The drug was stopped, having produced no perceptible effect of any kind. The papaverine was supplied by Messrs. Macfarlane of Edinburgh.

IX. COTO BARK.¹

Dr. Gee has given the liquid extract of coto bark in doses of 20 minims every four hours, in cases of the diarrhœa of pulmonary phthisis, empyema thoracis, typhoid fever, and lardaceous disease without the least benefit. The accidental diarrhœa of a suckling seemed to be aggravated by the drug.

¹ See Binz, *Elements of Therapeutics*, translated by Dr. E. Sparks. London, 1877, p. 316.

PIGMENTATION OF FACE AND OTHER PARTS, ESPECIALLY IN WOMEN.

BY

FRANCIS HENRY CHAMPNEYS, M.B.

The frequency with which pigmentation (especially pigmentation of the face) is observed in women, and the especial frequency with which such pigmentation comes under the notice of the obstetric physician is my excuse for a communication on this subject.

The subject of pigment in all its relations is so large, that I shall confine my attention to one very small department, namely, that of pigmentation in the human female, arising more or less rapidly, and remaining or disappearing; and shall allude to other branches of the question only incidentally.

I shall thus only refer, in passing, to the fact pointed out by Lecat (p. 91), that even in the black races the colour is in a sense not congenital, but takes some two or three days to develop itself; that it is most intense at the age of greatest vigour (about 30), and becomes pale again with old age; besides this, it is subject to variation with emotion and disease; and partial or complete congenital or acquired albinism in blacks has been not unfrequently described.

Mr. Darwin (*Descent of Man*, vol. ii. p. 318) says:—"The new-born negro child is reddish nut-brown, which soon becomes slaty-grey, the black colour being fully developed within a year in the Sudan, but not until three years in Egypt. . . . The children of the Australians immediately after birth are yellowish-brown, and become dark at a later age. Those of the Guaranyes of Paraguay are whitish-yellow, but they acquire, in the course of a few weeks, the yellowish-brown tint of their parents. Similar observations have been made in other parts of America."

Pregnancy.—The effects of pregnancy on pigmentation are well known. The pigmentation of the skin over the linea alba from pubes to umbilicus, or even to the ensiform cartilage, pigmentation of the whole of the abdomen, and of the areolæ of the breasts, are all matters of constant observation; it is also well known that the face is liable to be pigmented under this condition.

Other parts of the body may be pigmented in pregnancy. Lecat mentions a lady whose left leg always turned black when she was pregnant (p. 142), and makes a very apposite remark (suggested to him by the authority for this fact), about the connection between this case and the "*animaux qui noircissent dans le rut,*" of which we shall have more to say later on.

Abdominal Tumours.—Pigmentation has frequently been observed in abdominal tumours. I have seen as plainly marked a brown abdominal line in a little girl of nine years old as I have ever seen. In this case there was an abdominal tumour of uncertain nature, not improbably a dermoid ovarian cyst, together with some mammary development.

Menstruation.—Pigmentation is often associated with menstruation, even where this is normal, and still more where it is disordered.

Heusinger remarks that spots of pigment (ephelides) often appear before the catamenia, and that when pre-existing they generally become darker before and lighter after the monthly periods (pp. 50–52).

Again (p. 53), that at the menopause, and in women who have never menstruated, one often sees light yellow, brown, or black spots, especially round the mouth and pudenda.

It is very common to see the menstrual period indicated by dark marks under the eyes, and not uncommon to see the pigmentation extending all round the eye, commensurately with the orbicularis palpebrarum. Part of this may be due to venous lividity, but in most cases it is undoubtedly pigment which causes the colour; and the colour may be permanent, becoming darker at the monthly periods, like the ephelides mentioned above. In many cases the pigment is deposited in situations which put venous lividity out of the question.

Laycock (No. 1) mentions a family of six daughters with permanent pigmentation of the eyelids, which became darker at every menstrual period.

Billard mentions the case of a girl whose forehead, face, neck, chest, and abdomen became discoloured blue as suddenly as theameleon changes; this, however, was no doubt due to a peculiar vascular rather than pigmentary state.

The close connection between *sexuality* and pigment is seen not only in the association of pigment with pregnancy and menstruation, already alluded to, but also in the darker colour of the parts covered with sexual hair, the axillæ and groins (Laycock), in the fact, mentioned by Lecat, that the scrotum forms an exception to the law that new-born negro children are not black, for that it is black at birth; in the wedding garments of birds, beasts, and fishes, long known, but lately brought prominently and beautifully before us by Mr. Darwin in his "Sexual Selection;" and in the pigmentation of the vulva in some animals (*e.g.*, the Leporidæ) at the time of heat. This connection has been long observed, though not so long applied to man.

Heusinger remarks (p. 21) that eunuchs are generally both fair and fat. This antithesis between fat and pigment will be again alluded to.

Although the pigmentation under the eyes in men following a debauch might strictly be referred here, it probably belongs rather to the head of nervous exhaustion than of sexual excitement.

Age.—The influence of age on pigment is not always the same.

First, it is well known that old and feeble persons frequently become pigmented, and, as above remarked, that patches of pigment occur in women at the menopause.

Secondly, we need only mention gray hair, but have to remark that the cases of sudden blanching from fright (to be hereafter alluded to), and the fact that the colour of negroes becomes lighter in old age, all point to the change being one of pigment rather than of change of texture in the hair.

Lastly, there are rare cases where old people regain the original colour of their hair. Such a case is mentioned by Laycock (No. 1). A weaver, W. Strachan, died at Aberdeen, aged ninety-two. About three years before his death his gray hair became dark again, and at the same time his eyesight, which had been bad, improved very much.

This case is all the more interesting from the recovery of visual coincidentally with pigmentary vigour, proving it to be an instance so far of rejuvenescence.

We are hardly prepared, however, to endorse Professor Laycock's analogy of this with the recurrence of "true menstruation" in old age. Cases are, indeed, on record, but unaccompanied by such proofs of the elimination of error as would alone justify their name.

Disease.—The influence of disease on pigmentation is best known in connection with Addison's disease. It is found with many diseases, in those associated with changes in the blood corpuscles observed in cachectic diseases, such as chlorosis, tertiary syphilis, chronic rheumatism, cancer; and in those which are intimately connected with dyscrasis, visceral or glandular diseases,

such as those of the spleen, (*e.g.*, malaria), suprarenal bodies, lymphatic glands, &c. (Laycock).

It is often well marked in exophthalmic bronchocele, the patient having a dark pigmentary ring round the eyes.

Laycock (No. 2) mentions a case of paraplegia in a man where there was asymmetrical pigmentary mottling over both sides of the lower maxilla and over both groins. Each ramus of the jaw was natural, all the surrounding skin being dark. The upper part of each thigh and groin was white, the skin around being dark.

Erasmus Wilson found that in 20 cases the predisposing causes of pigmentation could be stated as follows:—Nervous debility in 13, nutritive debility in 4, assimilative debility in 3. The remote predisposing causes were pregnancy and uterine derangement in 9, nervous shock in 6.

Lecat (p. 96) remarks that “*Les maladies extrêmes font pâlir les negres, et quand il leur arrive de se noyer, on les trouve si changés de couleur, qu’on les prendroit presque pour les blancs.*” On the other hand, “*Ce même negre, qui a pâli pendant sa maladie, n’est pas plutôt mort, qu’il redevient plus noir qu’il n’étoit pendant sa vie.*”

Laycock believes a patch of gray hair to be a sign of a gouty diathesis. In morphea we have an instance of direct relation between nerve and pigment. With this we shall content ourselves, merely remarking the large share that seems to be taken by the nervous system in these changes; for instance, in such diseases as Addison’s disease, exophthalmic goitre, paraplegia, malaria, and the list quoted from Professor Erasmus Wilson.

For other references, see Pouchet (*loc. cit.*, No. 2, p. 37).

Nervous Influence.—The influence of the nervous system on pigment is undoubted, and although this has been most conclusively proved from vivisections on animals, the conclusions derived thence are in harmony—*mutatis mutandis*—with what we are able to observe in human beings.

The influence of the emotions is manifold. The most violent emotion being that of terror, we are not surprised to find it answerable for the most striking of the phenomena.

The best-known effect of fright is that of blanching the hair. There are several authentic instances of hair having turned white in a single night under terror or grief. The following case, in which the change was actually observed in progress, is related by Laycock (No. 2, p. 459), on the authority of Staff-Surgeon D. P. Parry of Aldershot.

On February 19, 1858, a rebel sepoy of the Bengal army was brought before the authorities and stripped naked. His hair was glossy black. He was in great terror. Presently the serjeant exclaimed, “He is turning gray!” All present saw his hair turn completely gray in half an hour.

Lecat mentions that great fear turns negroes pale (*fait pâlir les Negres*).

Heusinger (p. 39, note 2) quotes from "Annales de la Soc. de Méd. Pratique de Montpellier," tom. xx. p. 109 (which I have not been able to find), the case of a man, aged forty-five, who turned gray from fright, and in two years-recovered the original colour of his hair (brown).

Rostan relates the case of an old woman, aged seventy, who had always enjoyed good health. Her daughter had two children, which she left in charge of their grandmother. They were found to be syphilitic. Their mother accused the grandmother of being the cause of this, and jumped out of the window with both her children. The next day the old woman found herself completely black, darkest on the face, palms of the hands, soles of the feet, folds of the groins and breasts. The anterior part of the legs was dotted with white patches. She eventually died of pneumonia. It is mentioned that she was covered with lice, but not when this commenced.

Lecat mentions (p. 173) a case of pigmentation of the eyelids caused by fright, which extended to the face and arms, and eventually cured itself by desquamation. Desquamation of pigmented skin in a case of Dr. Dyce Duckworth's is related in Sir J. R. Cormack's chemical studies.

Emotion falling short of grief or terror may produce pigmentation. Alibert (p. 415) says, "Une jeune dame, très belle, d'une peau très blanche, voyait se développer à la surface de ses deux seins, ainsi qu'à la région abdominale, des petites taches, circonscrites, isolées, du diamètre d'une monnaie de dix sous, toutes les fois qu'elle éprouvait la plus légère contrariété. Mais ces tâches ne duroient que cinq ou six heures." In this case the face escaped, which is unusual. The small amount of annoyance required to produce the effect is remarkable.

If pregnancy, menstruation, and emotion are each alone capable of producing pigmentary changes, it is not surprising that these changes should follow combinations of more than one of these causes.

Rostan (p. 22) mentions a woman of feeble health, who was imprisoned in Paris during the first revolution for having spoken well of the king, and was condemned to death. The instrument of execution (*la lanterne*) was produced in her presence suddenly. Her catamenia, which were present, ceased; and although her execution was suspended by the influence of an exalted personage, she soon after became dark (*comme des negroes peu foncés*) all over, except some white patches on the legs (such as are seen in some of the American negroes), till her death, at the age of seventy-five, more than thirty years after the occurrence.

Lecat (pp. 136, &c.) relates the case of Mme. la Duchesse de D., of hysterical temperament, who, being depressed by great grief during pregnancy, became pigmented all over the forehead, eyelids, and face, with hyperæsthesia of the affected surfaces. This ended in discharge of pigment by the sweat glands (*stearrhœa nigra*), blackening handkerchiefs and eventually removing all the pigment (together with desquamation in one pregnancy). This was repeated in successive pregnancies.

Stearrhœa Nigricans (Laycock).—A few words will suffice for this affection, to which allusion has just been made. It is principally of two colours, black (*nigricans*), and yellow (*flaves-cens*). As we have just seen, it may result from fright, and, indeed, from the same causes as the other forms of pigmentation. It is seen only in women, generally in young women.

Yonge mentions such a case in the *Phil. Trans.* A.D. 1709, in a girl aged sixteen who had never menstruated.

Dr. Dyce Duckworth informs me that a case of this sort has been under his care, in which the secretion of pigment from the free surface of the skin was undoubted.

It is necessary to remark that cases have been known in which women have imitated this condition with paint by way of enhancing their personal attractions.

Antithesis between Pigment and Fat.—Heusinger, as above stated, remarks (p. 21) on this subject, that eunuchs are generally very fair and fat, that is, their pigment is diminished and their fat increased.

This is probably a real antithesis, but the dictum must not be pressed too far; for, as we have seen, pigmentation often occurs in the course of diseases, especially of debilitating diseases, which naturally are also characterised by emaciation. Again, jaundice would obviously have to be excluded.

We have seen that pigmentation is largely under the control of the nervous system; we have just seen that there is an antithesis between pigmentation and fat; it remains to mention that there is an antithesis between emaciation and a healthy state of the nervous system, or, in other words, a direct relation between a certain proportion of fat and a healthy nervous condition. This would be *a priori* probable, inasmuch as the nervous tissue is rich in fat; it is also exemplified by the great value of such a medicine as cod-liver oil as a nervine tonic, and also by the fact—for which I have the authority of a very distinguished physician expert in nervous disorders—that nervous patients require fatty food, and that the crusade against obesity, lately inaugurated under the standard of a Banting, has had for its results the replenishing of the coffers of nervous specialists.

The Connection between the Nervous System and Pigmentation.

—I shall just refer to the presence of pigment not only in the eye but in the olfactory region of the nose, and in relation with the ultimate acoustic elements of the internal ear, together with the fact mentioned by Darwin, that white cats are deaf, as a further indication of the close connection between the nervous and the pigmentary systems.

I have thought it better to reserve the cases from my own notebook thus far, rather than to distribute them under their proper departments.

CASE I.—(Dark blonde.) Scanty and irregular menstruation with headache; pigmentation of hands and face, increasing at periods; palpitation of heart.

M. A., dark blonde, with gray eyes, aged forty-two, married twenty-one years, six children, the last six years old. Catamenia always scanty, and for the last eight years very irregular, at intervals of three to ten months. When about thirty years old she noticed that the backs of the hands and the face became brown at each period, the pigmentation beginning a few days before the flow, lasting two or three days after the flow, generally darkest in the middle of the period, sometimes just at its cessation. Has always been subject to headaches, especially at the monthly period; when she has headache at this time the pigmentation is darker than usual. Never becomes pigmented except at a period which may only occur once in three to ten months. No family history of pigmentation. Subject to palpitation; heart natural. Uterine organs healthy and not tender; no cause for dysmenorrhœa discovered.

In this case we have several possible exciting causes—first, we have to deal with a nervous woman, who (secondly) is subject to headaches, and (thirdly) to irregular and scanty menstruation. That the pigmentation depended chiefly on the disorder of menstruation is shown by the fact that headaches alone did not produce pigmentation, though they increased it when they coincided with the monthly period; and this is emphasised by the fact that the pigmentation only occurred at the periods which might be three to ten months apart.

CASE II.—(Dark blonde.) Irregular and scanty menstruation; sterility; pigmentation, especially of face, axillæ, flexor surfaces of elbows and knees (but all the skin dark), increasing at periods; dyspeptic symptoms.

A. P., aged thirty, dark blonde, gray eyes; married twelve years; never pregnant. Catamenia irregular, at four to eight weeks' interval; scanty; no pain. Always very nervous; subject to palpitation (heart natural); not subject to headaches.

Two years ago noticed that face and neck, hands, and arms were brown, and became browner at the monthly periods, the change beginning about a week before the flow: they were brownest during the flow, and became lighter after its cessation. Face, axillæ, flexor surfaces of elbows and knees brownest, but all the skin seems brown. The face is not uniform, but there are irregular browner patches. Sclerotics and mucous membrane of mouth natural. No family history of pigmentation. For the last six months she has complained of pain and nausea after food.

In this case we also have a multiplicity of possible causes. The patient was nervous; her pigmentation began gradually, and most probably was connected with her imperfect uterine condition, as shown by irregular and scanty menstruation with sterility, especially as the colour became more intense at the monthly periods.

CASE III.—(Brunette.) Painful and irregular menstruation; sterility; nervousness; headaches with retching, and pigmentation of face and neck immediately preceding period.

E. A., aged twenty-nine, brunette, dark-brown eyes; married three years; never pregnant; catamenia very regular; intervals as long as three months, but generally six weeks; always much pain from the lower hypogastrium to the base of the sacrum, "as if the inside were falling out." Three days before the period she has "painful sitting." The pain of the period sometimes lays her up on the sofa the day before the flow and the first day of the flow. Always very nervous; subject to headaches, which begin three days before the period, and are situated in the forehead and vertex, beginning when she rises in the morning, and lasting two or three days, accompanied by nausea and retching; no excess of urine.

For the last two years her face has been getting brown as well as the backs of the hands; browner just before the headaches (that is, some three days before the period), and becomes lighter when the headache passes off (that is, as soon as the flow is established). Face and neck uniformly brown; so dark that I inquired into her descent; but she has no foreign blood. The brown colour extending up to the roots of the hair; backs of the hands brown; nothing unusual in axillæ, sclerotics, or mouth. Uterine cervix short; uterus antelected; cavity $2\frac{1}{2}$ inches long; sound causes the pain complained of at the period. No family history either of pigmentation or nervous phenomena.

This patient, thinking herself benefited by simple treatment, ceased attending before I had an opportunity of treating her

dysmenorrhœa with graduated bougies. I do not, however, think that curing the dysmenorrhœa would have cured the pigmentation, as this was associated with the headaches rather than with the dysmenorrhœa, though I have no doubt of the solidarity of the three symptoms of dysmenorrhœa, nervous symptoms, and pigmentation.

CASE IV.—(Dark blonde.) Menorrhagia; pigmentation of face, neck, axillæ, and backs of hands, increasing before the periods; occasional vomiting from some sorts of food, followed by increased pigmentation. A sister almost precisely similar.

A. B., dark blonde, aged forty-seven, married twenty-five years; nine children, the last thirteen and a half years ago, since when she has never been pregnant. Had flooding before her last confinement, and has been subject to it ever since, till within three months ago. Pigmentation of the face began twelve months after the last confinement over the ramus of each lower jaw, then on the forehead, then under the eyes (people used to ask her how she had got two black eyes), then a round spot on the right upper lip and on the bridge of the nose, then on the neck a little below the clavicles, in the axillæ, and on the backs of the hands. It gets darker before and lighter after each period. For the last three years any mixture of food always produces vomiting, which is succeeded by increased pigmentation. She can eat anything alone, but mixtures make her sick. For instance, she can eat meat alone and pudding alone, but a meal of meat and pudding together causes vomiting.

When seen, the pigmentation was mottled, the colour being darker on the cheeks, on the forehead (especially at the sides), under the eyes, on the right upper lip, and on the nose, which were brown. No pigmentation of sclerotics or inside of mouth.

A sister, who is two years older, became similarly affected at the same time. She has had five children since pigmentation began. She too has floodings. She "seems to get lighter with each child." She is darker before and lighter after each period. She also is subject to vomiting, after which she becomes darker. Her face is pigmented, but not her hands; the state of axillæ, &c., unknown.

This case is remarkable, the very strong resemblance between the two sisters in all respects indicating the essential connection between all the points of coincidence, namely, menorrhagia and vomiting, with pigmentation.

CASE V.—(Dark brunette.) Frequent and copious menstruation; map-like varying pigmentation of face; headache and

various nervous symptoms; nervous family history; inherited nervousness and stammering in a daughter.

M. G., an intensely dark brunette with almost black eyes, aged thirty, married fourteen years, four children, the last eleven months ago. Catamenia formerly every three weeks; for the last six months every two weeks; always copious; no pain.

Complains of feeling confused in her head since her confinement of a still-born child, which was followed by dropsy; her tongue feels all the wrong way, "as if it was not straight" (tongue objectively quite natural), knows what she wants to say but cannot say it; has restless and sleepless nights; she fidgets and feels obliged to get out of bed to ascertain perfectly unimportant things—for instance, where a thing is for which she has no necessity whatever. When a girl she had a sort of attack of aphasia which lasted about eighteen months; could not say "yes," and made faces when she tried. (Her child, aged thirteen, has had the same sort of stammering for three years, that is, at the same age as her mother had it.) For three days she dropped things out of her hands, but has been quite right in this respect both before and since then. Passes no excess of urine.

Gets brown patches of pigment on her forehead, neck, and cheeks if nervously excited; they come and go in a few days, and are worse after a bad night.

She had the same sort of attack after her third confinement.

Mother's father died insane; mother had bad headaches and eventually died of apoplexy; one of her brothers had severe chorea during which his mind was affected, but he recovered. Her daughter has inherited her mother's stammering and nervousness (see below).

When seen, she had irregular patches of brown pigment all over her face, which changed while under observation, so that they were not the same at two visits; they were map-like, and reminded me strongly of the patches I had seen at Vienna in M. Pouchet's fish, which will be hereafter described.

Treatment at one time with strychnine, at another with valerianate of zinc twice a day, and bromide of potassium at bedtime, under both of which she temporarily improved, sleeping better, feeling her tongue comfortable, and becoming lighter in colour.

Her daughter, aged thirteen, has never menstruated. She is a brunette. For the last three years she has stammered on certain words, *e.g.*, "Augusta," "giddy," "potato," "kisses;" sometimes cannot say them at all; k's always bad; has been frightened by her father and speaks worse to him; can say the words all right when singing; has been unsteady in her movements; memory good; shy, but not timid; not strong, rather overgrown.

She improved under strychnine, given with orders to her father not to frighten her.

In this most interesting case we have a history of frequent and copious menstruation, increasingly so since the last confinement, with a history of a similar attack in the last confinement but one, but also a most complete history of nervous affection, inherited and transmitted, with various manifestations, perversion of speech, perverted conscientiousness, the exacerbations plainly connected with the exacerbations of pigmentation. The inheritance by the daughter of disordered speech at the same age as that at which the mother acquired it is in accordance with the law of "inheritance at corresponding periods of life" (Darwin, No. 1, vol. i. p. 280; No. 2, vol. ii. p. 75), a law which applies with special force to nervous states, inasmuch as they are very apt to be transmitted.

CASE VI.—(Brunette.) Rheumatic fever five times; formerly hæmoptysis; amenorrhœa thirteen months; pigmentation of face three months; occasional pain at apices of lungs and under heart, after which pigmentation increases.

H. C., brunette, aged thirty-four, married twelve years; three children, the last four years ago; has had rheumatic fever five times, the last attack four years ago; has also had hæmoptysis, for which she has been under treatment at Victoria Park Hospital; amenorrhœa thirteen months (is not pregnant). For the last two or three months her friends have noticed that her face is brown. She used to turn purple in her face when a girl. At times she has periods of great weakness, with pain at the apices of the lungs and under the heart, during which her face gets browner; also she has attacks of pain in the face, which produce no effect on the pigment.

When seen, the whole of the face was uniformly brown to the roots of the hair, not the hands (?), nor axillæ, nor sclerotics. Heart feeble; no murmur; depressions beneath both clavicles, with prolonged expiration at right side; no evidence of active mischief. Thorax long.

In this case we should refer the pigmentation rather to the serious disease under which the patient had suffered, than to the amenorrhœa, which was probably another consequence of the same cause; but even thus they are associated, and the pigmentation was increased during attacks of pain.

I need only now refer to the presence, in all these six cases, of uterine disorder, generally associated with nervous phenomena.

CASE VII.—Dysmenorrhœa, dyspepsia, pigmentation of face, pains in head, face, and neck.

M. M., machinist, single, aged thirty. Catamenia regular, preceded by great pain in sacrum and hypogastrium. At Christmas, 1878, had "pleurisy," for which she was a patient at the London Hospital. After this her face became "suddenly" dark, and has remained so ever since; from that time she has also been subject to great pains, beginning on each cheek (at the site of a pigmented patch to be afterwards described), and extending over the frontal region to the back of the head, down the back of the neck, and down the shoulders, in the direction of the descending branches of the cervical plexus. These pains are usually worse every other day, but she has not been free from them since Christmas; they are worse at night. Pigmentation not affected by catamenia. Her food is apt to disagree with her, and then the skin turns yellow or brown at once. Is very nervous.

Face pigmented brown, especially a patch on each cheek, no pigmentation except on face. Three weeks ago she was "black," has been getting lighter since. Neck is painful to touch, a few round marks on it (ascertained not to be *tinea versicolor*).

A belladonna plaster on the neck seemed to relieve the pain somewhat. While under observation her legs swelled; no cause discoverable. She ceased to attend after three visits.

In this case the association between pigmentation and local pain and between pigmentation and dyspepsia were the marked phenomena. Dysmenorrhœa was present though the pigmentation seemed to be not directly connected with it. The patient was distinctly neurotic.

The associated phenomena in the case were thus nervous temperament, neuralgia, dyspepsia, dysmenorrhœa, and pigmentation.

CASE VIII.—Pigmentation of face and backs of hands connected with menstruation.

J. T., aged twenty-three, married two years, one child a year old.

Catamenia regular till eleven weeks ago, since when she has been nothing; always associated with pain in the bottom of the back, not very severe.

For the last three years she has noticed yellowness of the face and backs of the hands. She begins to get yellow a week before the period begins, and gets lighter a week after it ceases. Has always been very nervous. Hardly ever free from headaches; worse since confinement; situated in the forehead; not worse at periods.

Face brown, pigmentation darkest round the eyes and on the cheeks. None on the neck, chest, axillæ, mouth, or sclerotics. She says the lower maxillæ are darkest at times. Not at her darkest when she saw me. She only attended once.

In this case we have a nervous history, and the pigmentation was plainly associated with the menstrual period.

The question of the prepotence of the nervous or the generative system as a cause of pigmentation must be postponed till we have considered the comparative anatomy of pigment.

Pigmentation of the lower eyelid has been mentioned as a common consequence of various causes. I have seen this appear quite quickly in both sexes under depressing or annoying circumstances.

The pigmentation all round the eye, which has also been mentioned, I have seen arise suddenly in a patient of mine. After her confinement, which was short and easy, she had a perfect pair of spectacles round her eyes, up to the edge of the orbits; this gradually disappeared in a few days. The same thing developed itself suddenly during the extraction of a tooth. Here the nervous influence is plain and beyond doubt.

Comparative Anatomy.—The rapid changes of colour in some amphibia and reptiles (as the frog and the chameleon) have long been known, and even become proverbial.

Stark, in 1830, observed the changes in colour in some fresh-water fish according to the colour of the bottom. On sandy bottoms flat fish and eels are lighter than on rocky coasts. The fishermen say they take their colour from the bottom.

In 1851 Brücke established the influence of the nerves on the colour of the chameleon, and showed the change to depend on the expansion and concentration of the pigmentary cells both in the chameleon and in the frog.

In 1854 Von Wittich proved these changes to be decidedly dependent on the central nervous system, and yet to be also largely independent of it; so that after destruction of the spinal cord, after section of separate nerves, even after isolation of entire tracts of the skin, these show almost the same sensibility to mechanical, electrical, or luminous irritation as before. He concluded that the skin, like the heart, intestines, and other viscera, possesses intrinsic ganglia.

In 1858 Lister concluded, from his researches on frogs, that the cerebro-spinal axis is chiefly, if not exclusively, concerned in regulating the functions of the pigment cells though the circulation through the part also affects it. Excitement of the frog, or a violent struggle, or the access of light, all make it light in colour, the pigment molecules being seen to roll along the offshoots of the branched cells towards the centre. When the skin is pale the pigment is concentrated. Death causes concentration of the pigment, that is, the frog is light. The concentration

takes place, not to the nucleus, but to the centre of the mass of granules. If the cells are paralysed by a galvanic shock, neither diffusion nor concentration can take place. The granules do not always move all the same way; while some roll towards the centre, others roll away from it. After section of the sciatic nerve the pigment becomes diffused, and the leg and foot turn very dark. A blind frog underwent no changes in response to light. Changes occur in an amputated limb for ten days, and even in pieces of it, not all simultaneous or alike.

Lister concludes, like Von Wittich, that there are probably intrinsic ganglia in the leg.

In 1869 Hering stated his belief that the pigment cells are affected through the blood-vessels, that is, through the vaso-motor nerves.

In 1876 Pouchet, who had for some years been at work on the subject of pigment, again reviewed the matter, and gave the results of all his preceding investigations in a most valuable paper in the "*Journal de l'Anatomie et de Physiologie.*" Experimenting principally on fishes, he proved the influence of electricity and the approach of death on pigment. He proved (p. 73) that fish gain the power of changing colour quickly by practice and lose it by disuse. This is in accordance with the known law that nervous changes travel more and more easily along more and more frequently traversed routes. (See also Spencer, *loc. cit.*, vol. ii. p. 350.) A turbot (p. 76) became at once spotted brown and then black when disturbed, when a dark object or the hand was held above it, or when the vessel was struck; but throwing light into its eyes, or bringing a white disc before them, produced no change.

The rapidity of effect varies in different individuals.

The cerebral influence is considerable. Fish of the same species, taken from separate sources and placed under common circumstances, are not of the same colour, because they probably feel uncomfortable in each other's presence.

Two chameleons, which were unlike in colour when awake, became of the same colour when asleep, the cerebral influence being in abeyance.

Extirpation of the eye (which would not abolish cerebral influence but would abolish that of vision) produces in fishes a nearly fixed colour. Extirpation of one eye does not produce any effect, either one-sided or two-sided. The chromatic function and the structure of the chromoblasts (pigment cells) are most complicated in the cephalopoda.

His principal conclusions are the following (p. 160):—

The pigmentary elements are more or less endowed with

sarcodic movements. Electricity, the nervous system, malaise, the approach of death, &c., influence these movements.

The change of colour according to the bottom of the sea, known vaguely to fishermen in fish and crustacea, is widely distributed in the animal kingdom.

Some creatures have the power of simultaneously becoming lighter in one part and darker in another.

In all cases the change depends on expansion or concentration of the chromoblasts.

The chromatic function, like all others, is affected by habit.

The chromatic function in species where it is easily affected (où elle se gouverne facilement) is immediately abolished by extirpation of the eyes or section of the optic nerves.

The chromoblasts then generally remain in a medium state of expansion.

Pathological cases of lesions in fishes from disease, &c., confirm these experiments.

The chromatic function should be defined as "un ensemble d'actions réflexes sur les chromoblastes, dont le point de départ peut être l'impression visuelle résultant des propriétés actiniques du milieu ambiant."

The nerves are the conductors of this reflex action, they can produce expansion or concentration of the chromoblasts.

Section of the spinal cord does not suspend the chromatic function posterior to the section (Turbot).

Section of the intercostal nerves suspends the function in the region supplied by the nerve if made below the point of entrance of the sympathetic filament.

The destruction of the sympathetic in the lower part of the spinal canal posterior to the abdominal cavity suspends the chromatic function, but the aorta and vena cava are necessarily obliterated by the operation. This is confirmed by pathological observations.

Section of the sympathetic by the head in the turbot does not abolish the chromatic function beyond the point of section.

Section of the fifth nerve suspends the chromatic function over its distribution. This was first indicated by a pathological instance.

Section and obliteration of the submaxillary artery produces no effect on pigment.

Section of the lateral nerve does not affect the chromoblasts.

Paralysis of the chromoblasts, after section of the nerves, does not produce degeneration of the chromoblasts, which can be affected by other influences, *e.g.*, electricity.

In prawns (*Palæmon*) the effects are complicated by pigment of various colours, but, as in fish, the colour varies with the bottom.

The chromatic function in crustacea is suspended by extirpation of the eyes.

As in fish, the extirpation of one eye does not affect the chromatic function.

Section of the ventral cord or of the connecting bands in crustacea does not, any more than section of spinal cord in fish, abolish the chromatic function beyond the point of section.

The darkness of the night does not, but artificial darkness does affect the colour, that is, the fish is not affected by the natural alterations of light. The same in crustacea.

The eyeless lower crustacea have no chromoblasts, but not all crustacea with eyes have chromoblasts.

Curare and morphia have no action on the chromoblasts.

In some crustacea santonin produces incessant agitation of the limbs with dilatation of the chromoblasts.

Conclusions.—Thus, as far as these animals are concerned, the influence of the vascular system on pigment is eliminated.

As far as human beings are concerned we have proofs that various causes affect the pigmentary condition—age, sexual influences (especially menstruation and pregnancy), emotions (especially that of fright), diseases of various kinds, including many in which the nervous system is involved, fatiguing and debilitating influences of various kinds.

Whether the nervous system is or is not the first offender, the pigmentary changes are most probably produced through the nerves distributed to the part affected.

The suddenness with which violent emotions may produce their effect can hardly be explained by any other supposition than by the direct action of the nervous system.

Many of the other causes, such as various diseases, and especially changes in the sexual organs, which may at first seem to be separated from the purely nervous causes of pigmentation, are not really so, for their intimate association with the nervous system confirms the view of the essential residence of the nervous system over pigmentation.

This is confirmed by the antithesis between fat and pigment, and the association between “nervousness” and emaciation.

The face, being as it is the dial on which the inward nervous (and especially the emotional) changes are outwardly registered, is not only the place of predilection for muscular expression, but also for vaso-motor phenomena (blushing and pallor) and for

pigmentary changes, all three being probably conducted along separate efferent routes. This is true, in a secondary sense, of the other exposed parts of the body, the hands and neck.

LIST OF WORKS QUOTED.]

- Alibert*.—Précis sur les Maladies de la Peau, 1822, p. 415.
Billard.—Arch. Gén. de Méd., tom. xxvi. p. 455 (?).
Cormack.—Clinical Studies, vol. i. p. 485, &c.
Darwin—(1.) Descent of Man, 1871. (2.) Variation of Animals and Plants under Domestication, 1868.
Heusinger.—Untersuchungen über die anomale Kohlen- und Pigment-Bildung in dem menschlichen Körper, Eisenach, 1823.
Laycock—(1.) Brit. and For. Med. Ch. Review, vol. i. 1861, p. 457. (2.) Med. Times. vol. i. 1862, p. 636.
Lecat.—Traité de la Couleur de la Peau Humaine, Amsterdam, 1765.
Lister.—Phil. Trans., 1858.
Pouchet—(1.) Des Changements de Coloration sous l'influence des Nerfs. Robin's Jour. de l'Anat. et de Phys., 1876. (2.) Des Colorations de l'Epiderme, Paris, 1864.
Rostan—(1.) Bull. de la Fac. de Méd., vol. v., 1818. (2.) Nouveau Journ. de Méd. Mai, 1819, vol. v.
Spencer (Herbert).—Principles of Biology, 1867, vol. ii.
Von Wittich.—Die grüne Farbe der Haut unsrer Frösche; ihre phys. und path. Veränderungen, Müller's Arch., 1854, p. 41.
Wilson (Erasmus).—Diseases of Skin, ed. 6, 1867.
Yonge.—Phil. Trans., vol. xxvi., 1709.



ON THE TREATMENT OF VARICOSE VEINS

BY ABSCISSION OF PORTIONS OF THE
AFFECTED VEINS.

BY

HUGH PERCY DUNN.

The frequency with which varicosity of the lower limbs is met with in seamen affords in a hospital devoted to the ailments of this class of men many opportunities of practising and observing the effects of the radical cure. A sailor, whose life while at sea is necessarily at all times an active one, is soon incapacitated for his usual employment when suffering from varicose veins, and in him, therefore, for reasons which can be readily understood the removal of the veins is nearly, if not altogether, imperative. The sequence of events associated with a varicose vein is œdema of the limb, varicose eczema, and lastly ulceration; and since the most discomfort to the patient is likely to arise at the ulcerative stage, it is common to find, especially amongst the lower classes, that surgical treatment is first sought for at this period.

But what are the distinctive characters of the ulcer occurring in connection with varicose veins which justify the term "varicose" being applied to it? It is shallow, and situated generally upon the lower half and inner aspect of the leg. It is oval in shape, with the long diameter transverse, and the base is smooth, the granulations of which are in most cases just perceptible and generally irritable. There may be, however, many variations of this; but a typical varicose ulcer, which is by no means uncommon, would, I think, in most cases correspond to the description above given. If it be conceded—and the question can hardly be raised—that a varicose vein and ulcer stand in the relation to each other of cause and effect, it is conceivable that the most rational treatment to adopt is some measure for the removal of the cause; and hence the utility of the procedure which includes excision of the affected veins.

In "Guy's Hospital Reports" for the year 1874, Mr. Davies-Colley published a paper upon the treatment of varicose veins by excision, and described two cases in which the operation had been practised. The operation briefly consisted in exposing the vein for two or three inches of its course, applying a ligature to the vessel at each extremity of the wound, and removing the portion of the vein so included. Since then, however, the procedure in its details has been somewhat modified jointly by Mr. Howse and Mr. Davies-Colley, and it is this modification, such as I have seen practised by Mr. Colley at the Seamen's Hospital, which I propose describing.

The course of the vein upon which it has been decided to operate is a few days beforehand mapped out with nitrate of silver. The patient having been put under the influence of an anæsthetic, and the spray made to act fully upon the limbs, a finger of the assistant is placed upon the upper part of the vein to render it more prominent, the surgeon with a narrow-bladed sharp-pointed scalpel makes an incision through the integuments only, along the course of the vein for a distance of about one inch. The vein being exposed for the length of the incision and drawn out from its attachments, is divided with the scalpel at the lower angle of the wound. A gush of blood immediately follows, which is effectually controlled by the assistant's finger. The vessel is similarly divided at the upper angle of the wound, the piece removed, and the wound at once covered with a pad of dry or oiled gauze, pressure upon it being maintained by the hand of the assistant to restrain the hæmorrhage, which in a few moments will be found to have ceased. The surgeon then repeats the process upon other parts of the vein. Perhaps, to ensure complete obliteration, four or five of such may be performed at different points of selection. The pads are then to be removed one by one, and a single wire suture inserted at each incision. After this, the pads are replaced and the limb is enveloped in a piece of dry gauze and secured with a roller; the patient may then be removed to bed.

I am indebted to Mr. Davies-Colley for permission to publish the notes of the following case in which the operation was performed:—

Henry G., aged forty-six, was admitted into the Seamen's Hospital on April 12, 1879, under the care of Mr. Davies-Colley, suffering from varicose veins of the left leg. He stated that he first noticed some enlargement of the veins about six years ago, and that since then, in spite of bandages and other remedial measures, the enlargement has been gradually increasing.

On admission it was noticed that the integuments of the left leg were discoloured on the lower and inner half, and that about the centre of this area there was some tenderness and swelling over the situation of a distended vein, which seemed on the point of bursting. The superficial veins on the inner aspect of the limb were tortuous and enlarged, but there was one, more prominent than the rest, which had its course about a quarter of an inch internal to the crest of the tibia. The veins of the other limb were normal.

There was a large inguinal hernia on the right side, for which he stated he had never worn a truss, although he had suffered from it for the last fourteen years.

He states also that he has always been a temperate man. He had a bubo in the left groin seventeen years ago.

The left leg swells a good deal after hard work, and at these times there is much pain.

A bandage was applied to the leg, and he was ordered to keep in bed.

April 22.—Ordered R. tinct. ferri perchlor. m. xv.; acid. hydrochlor. dil. m. xv.; aq. chloroformi ad \bar{z} i t.d.s.

April 24.—After twelve days' rest in bed, the operation for the radical cure was proposed to him, to which he readily assented, and under the influence of æther it was performed in the manner described above. There were five small pieces of the enlarged vein removed, and the skin having been found much thinned over the spot which on admission was inflamed, it was scraped away and a piece of green protective applied to cover the wound. The wound so remaining, about as large as a shilling, marked in all probability the situation of a dilated venule. The hæmorrhage at the operation was very slight.

April 24, evening.—Ordered Hst. morph., gr. $\frac{1}{4}$. No hæmorrhage. T. 97.8°. No sickness after the anæsthetic. Feels comfortable.

April 25.—No hæmorrhage. No pain. Dressings to remain until discharge appears externally. Slept well after draught. T. 98°.

April 25, evening.—T. 99°.

April 26.—Feels comfortable. Leg not disturbed. T. normal.

April 28.—First dressing. No pain. Primary union.

May 1.—Second dressing. No pain. There is a little tenderness between the wounds, which are all healed, except the ulcer, which is about size of a small bean. No discharge; sutures removed.

May 12.—Ulcer healed. To get up.

May 24.—Discharged. Convalescent.

There was some swelling and pain in the limb for a few days after he got up, which was relieved by one of Martin's rubber bandages, and the patient left the hospital with an ordinary roller applied, walking well and without any discomfort. The highest temperature recorded, it will be noticed, was 99°, and this occurred on the second evening after the operation. The temperature after this was normal throughout.

Mr. Davies-Colley has been good enough to tell me that he has operated as above upon three or four cases at Guy's Hospital since Christmas of last year, and in each instance with success.

The operation for the radical cure in cases of varicose veins has, since the introduction of so-called antiseptic surgery, undergone much improvement. Instead of the Vienna paste procedure, of the efficacy of which it is said one trial was sufficient to satisfy the patient, the method of treatment has now assumed the form and dimensions of a definite operation, which, with the co-operation of antiseptics, is attended with no special risk and is advantageous in its results. I have said with the co-operation of antiseptics, for I think it will be admitted that without the confidence inspired by the antiseptic method, surgeons would hesitate to submit a patient to an operative procedure of such a nature. For a structure so full of resentment when interfered with as a vein sometimes is, calls for the exercise of no small amount of, so to speak, surgical politeness when the necessity arises for treating it surgically. Possibly the belief in the proneness of a vein to inflame, and consequently the misgivings with which its treatment is undertaken, may be exaggerated, but the fact nevertheless remains that veins are prone to inflame, and do carry the products of their inflammation into the circulation with disastrous results, and not in all instances with any visible external symptoms. I saw a few months ago the case of a man upon whom the radical cure, differing in no important particular from the operation I have described, had been performed, die—if I may say so—most provokingly. The operation wounds were doing exceedingly well, repair taking place by granulation. Suddenly his temperature, without any warning, shot up to 105°. In about three or four days' time his sputa became rust-coloured, and examination of the lungs detected a circumscribed pneumonia, pointing at once to its embolic origin.

The advantages, however, which may be justly claimed for this operation are sufficiently obvious to merit some consideration. It cannot be denied that the method of ligaturing a vein under any circumstances is not without its risks. Yet surgeons have heretofore been content to follow it, and by it have obtained good

results, and in the cases of venous excision upon which Mr. Colley first operated with success the ligature was used. But the question which suggests itself is not as to the merits or demerits of the procedure, but whether or not the ligature is necessary at all. If we consider that the hæmorrhage from a ruptured varicose vein requires no ligature for its arrest, we have a right to ask why—for the cases are closely analogous—should we ligature a venous vessel similarly situated which for a few moments has been made to bleed by the surgeon's knife? Where is the difference in the hæmorrhage in these cases which occurs spontaneously and that which is caused by the surgeon? If the difference is unappreciable, why should not the treatment in each case in effect be the same? It may be further remarked, too, that if during the operation the knife inadvertently punctures the vein, and the application of the ligature be for some reason delayed, the hæmorrhage will on subsequent examination be found to have ceased spontaneously, rendering the use of the ligature unnecessary.

There is another advantage, however, which is worth recording, and that is, that while the operation is reduced in risk, it is at the same time reduced in severity. By means of the small incisions, which, from the circumstances of the case, are admirably adapted for primary union, the constitutional effects upon the patient are more likely to be mild, in consequence of which a speedy convalescence may be looked for. It perhaps might be urged, however, that, with reference to the ligature, its use is indicated for the reason that should suppuration occur around the extremity of the vein there would be nothing to prevent it entering the general circulation. But we have to consider that the blood clot in the vein itself seals its orifice; that suppuration is extremely unlikely to ensue in a healthy subject, and that in an unhealthy man it is possible that the presence of the ligature would, acting as a foreign body, be the starting-point of a suppurative process, and lead to results which we were most anxious to avoid. In a very interesting article by Mr. Howse in the "Guy's Hospital Reports" for 1877 the treatment of varices, both of the lower extremity and of the spermatic veins, by excision is discussed at length, and numerous cases cited in support of the advantages of the plan of treatment.

It will now be worth while to consider the operation I have attempted to describe in connection with the practice of surgery. Until within a few years varicose veins were not treated by operation except as a last resource, and it was taught that reliance should as much as possible be placed in palliative measures. And

why was this? No doubt because the operative treatment of this disease was felt to be unsatisfactory. There was no so-called recognised operation, and the methods that were suggested were associated with disadvantages which, coupled with the fact that veins were the object of treatment, rendered surgeons somewhat doubtful in advising their performance. This circumstance has led to the popular belief that varicose veins are incurable, and Mr. Howse, in his article above referred to, states that he has had much difficulty in obtaining cases for treatment, the patients refusing to be operated on because they had been taught to believe in the impossibility of their being cured. But with the results which have been published by Mr. Howse and Mr. Davies-Colley, one is led to the conclusion that the operation, as suggested by these surgeons, is safe and satisfactory, and one to be relied on—not as a last resource—but in any case where varicose veins are present to the detriment of a patient's comfort.

The question, lastly, of the ultimate results of the cases which have been submitted to the radical cure has a somewhat important bearing, and it would be interesting to follow the patients up in after life, and learn from them, say at the end of a few years, how they have been benefited by the operation, and if a relapse has occurred. But this is a matter which doubtless has already received attention.

CASE OF CANCEROUS TUMOUR OF THE NECK SIMULATING MYELITIS.

BY

J. A. ORMEROD, M.B.

By the permission of Dr. Church, in whose ward the patient was, I am enabled to publish the following case. The post-mortem was made by Dr. Moore, and a further preparation of the specimen by Mr. Eve.

Francis S., age 46, came to me in the casualty department on July 21, 1879, complaining of constipation and abdominal pain. He also thought he had lost power in the left arm during the past week; he had previously had pain in the left shoulder. His tongue was flabby and furred. He was ordered *H. gent. et rhei, ter., conf. sennæ ʒi. o.m.*

On July 24 there was very evident loss of power in the arm. He stated that he had had syphilis years ago, and was therefore ordered 10 grains of iodide of potassium three times a day; the iodide was reduced, however, to five grains on his next visit, on account of increased sickness and abdominal pain.

Aug. 7.—No return of power in the arm. The upper arm is beginning to waste. He looks pale and ill.

Aug. 14.—He cannot lift the arm at all. There is marked wasting of the deltoid and biceps. These muscles do not act at all to the induced current; the triceps does. Further, the continuous current slowly interrupted, while producing no effect upon the sound arm, causes contraction of the left deltoid and biceps.

He has much pain, especially at night, about the shoulder and upper arm. The examination of his chest and neck reveals nothing. He says, however, that he is engaged in iron pipe-work, and has much to do with red lead. Six or seven years ago he had lead colic; never wrist-drop. Under the impression

that the paralysis might be due to lead-poisoning, and as his bowels were still confined, he was ordered sulphate of magnesia in drachm doses four times a day.

A fortnight longer elapsed before he could be admitted to the Hospital, and during this time he became steadily worse. The pain became worse in the arm, and especially about the centre of the neck; he had pain and numbness in the fingers; the electrical "wasting test" became more marked. The patient himself began to get much emaciated, and his skin yellow and muddy looking.

On August 28 he was admitted to John Ward, where he was at first under the care of Dr. Brunton, and subsequently of Dr. Church. For the continuation of his case I am indebted to the notes of Mr. Holland, House Physician.

Some additional facts were made out in the ward, viz., that he was quite well and muscular up to Christmas 1878, but about that time "caught cold," had pains in the abdomen, and began to fall away and lose strength. He had had pains "flying about him" about the end of June, which settled in his left arm shortly before his application to the Hospital. Nothing was made out in his chest or neck, though it was noted later on that he held his head in a peculiar manner. His arteries were very atheromatous. There was no loss of sensation in the affected limb, and he could use the muscles of the forearm a little. His pulse and temperature were natural; there was no albumen in his urine.

Further, the history of syphilis proved to be erroneous; he had had gonorrhœa only, no chancre or constitutional symptoms.

He was at first ordered five grains of iodide of potassium three times a day, and a drachm of sulphate of magnesia three times a day; opium liniment to the arm and neck.

During the first three weeks there was not much alteration except that on 4th September he complained of pain in the biceps of the *right* arm.

Sept. 17.—A blister was made on the nape of the neck and dressed with morphia, which appeared to relieve the pain.

Sept. 18.—He began to lose use of the right hand, and had pain in the right biceps.

Sept. 24.—The paralysis of the right hand and arm was increasing; he had pain in the abdomen; his feet were cold and numbed.

Sept. 25.—The urine had to be drawn off from this date. Ordered.—Liq. strychniæ, ℥ viijss., syr. ferri phosph., ℥ ij., aquæ ad ℥j. 6tis.

Sept. 26.—Paralysis of both legs, and apparently of the intercostal muscles, supervened.

Sept. 27.—Some diarrhœa ; checked by chalk and opium.

Sept. 29.—A bed sore began to appear. The paralysis was now complete in all the limbs except the right arm.

Oct. 2. — The urine had become alkaline, and contained a little pus. His pulse was small and weak ; his respiration remained much as it had been. He was losing the power of sensation in all the limbs, and had now no pain. The diarrhœa returned, and though checked at intervals by opium enemata, became finally excessive, and the motions very offensive.

On the evening of 7th October considerable embarrassment of respiration was noticed, and he died the next morning.

Post-mortem examination twenty-eight hours after death.

Cranium and contents normal.

In the neck, nothing abnormal was observed till an incision was made along the spine ; a tumour was then seen in the cervical region. It appeared at first to consist of two separate parts, lying underneath the splenii capitis, in the substance of and against the deeper muscles. These latter on the right side had a faint mottled appearance. Further dissection showed the two lobes to be continuous across the cervical vertebræ. They were of a dirty white colour, succulent, and somewhat soft in consistence, and each about as large as a guinea-fowl's egg ; the left-hand one perhaps larger than the right. The tumour extended upwards to the second or third cervical vertebra (a small process extending upwards on the left side as far as the occipital condyle), and downwards in close proximity to the spinous processes, as far as the fifth cervical vertebra. Anteriorly it reached on either side to the front level of the bodies of the vertebræ ; it was here larger on the left than on the right side. The fourth cervical nerve on the left side appeared involved, and the brachial plexus at its origin more or less pressed upon. Lower down the cords of the plexus appeared quite healthy. The muscular tissue of the left deltoid (and of the biceps so far as examined) showed no change to the naked eye. The glands and other structures in front of the neck were normal. The spinal cord was removed from the bones as far up as the cervical region ; it seemed a little soft on section, but otherwise showed no morbid change to the naked eye. The cervical vertebræ, tumour, &c., were then removed *en masse* for further dissection.

In the chest, the heart and pericardium were normal. The right lung was firmly adherent at the apex ; the left was free ; both were emphysematous and œdematous. The bronchial glands were normal. The aorta was highly atheromatous, but showed no calcareous deposit. Just beyond the left subclavian was a small aneurysmal bulging of half-a-walnut size.

In the abdomen, the pancreas was infiltrated with a whitish dense growth, softened in parts. The pylorus was not thickened. The liver was of normal size, but contained numerous white masses of new growth, none larger than a cherry-stone, some depressed, with a puckering on the surface. The gall-bladder was normal and the ducts free. The spleen weighed nine ounces, and showed a large hæmorrhagic infarction. The intestines, mesenteric and lumbar glands were normal. The kidneys were very large but red; the capsules were adherent, the surface rough, the structure of the cortex confused. The ureters and bladder were normal.

A further dissection of the tumour gave the following results. The tumour sprouted out between the spines and through the intervertebral foramina of the middle cervical vertebræ. On removing the laminae, it was found to be attached to the external surface of the dura mater from the level of the second to that of the fifth cervical vertebra. The cord was compressed slightly by the tumour from the third to the fifth cervical vertebræ. The pressure was greatest behind and on the left side. The cord was not infiltrated. The nerves forming the left brachial plexus were enlarged at their roots, and appeared infiltrated, especially the fourth nerve. The transverse process of the fourth cervical vertebra was infiltrated by the growth to such a degree that it could be cut with a knife. The remainder of the bones were healthy.

In addition I have made the following microscopic examinations:—

1. Of the tumour. This consisted of a stroma of connective tissue, disposed in tolerably thick interlacing bands, leaving interstices, on the edges of which, and forming as it were an epithelial lining, were numerous cells. These cells were of very various shape, and for the most part large, granular, and nucleated. Dr. Thin, who kindly examined the preparations with me, pointed out the fact that some of the cells in shape and general appearance greatly resembled columnar epithelium.

2. Of the fourth cervical nerve (left), near its root. This was, for the most part, so thickly infiltrated as to show little more structure than that of the tumour itself. In places, however, scattered cells could be seen lying between the fibres of the original connective tissue of the nerve.

3. Of the growth in the liver. The cells were here smaller and more closely packed; the connective tissue finer and less abundant than in the tumour of the neck.

4. Of the spinal cord below the site of the tumour, viz., in the lower cervical and lumbar regions. No morbid appearance could be made out.

5. Of the muscular tissue of the left deltoid and biceps. Apart from the wasting, this appeared healthy to the naked eye, as has been mentioned above. Microscopically, also, the structure of the fibres appeared normal in parts chosen promiscuously from the muscles.

6. Of the musculo-cutaneous nerve, just where it entered the biceps. This also was healthy.

Clinically the chief interest of the case seems to centre in the diagnosis. And it will be noticed that the symptoms in the early stage pointed more strongly to a local disease than later, when complications had set in which seemed to indicate a general disorganisation of the spine. A man presented himself with paralysis of one arm, progressive atrophy of the muscles chiefly affected by the paralysis, diminished farado-contractility and increased galvano-contractility of these muscles. These appearances indicated that the lesion was situated either on the nerves after leaving the cord, or in the cord itself, involving the anterior horns of the grey matter. Against the latter supposition was to be put the fact that one arm only was affected. A third supposition, equally consistent with the condition of the muscles, was that of lead-poisoning. Of course, a unilateral paralysis affecting chiefly the muscles of the upper arm would be an unusual form of lead-palsy; still there was a history of exposure to lead-poisoning, coupled with abdominal symptoms and an unexplained cachexia, which might suggest that this cause was still in operation. In the absence, therefore, of any tumour that could be felt or discovered by examination of the chest, syphilitic nervous lesion, rheumatic neuritis, lead-poisoning were the hypotheses suggested, and iodide of potassium and sulphate of magnesia were plied, but in vain. But when the pain and paralysis extended to the other arm, and, finally, the bladder, legs, and trunk, became involved, it seemed time to put away all these suppositions in favour of that of general disorganisation of the cord. For, as long as the patient could be examined, no tumour or glandular enlargement could be felt in the neck, and the vertebræ appeared sound. However, the palsy of the lower limbs and trunk proved to be secondary only, caused by pressure upon the cervical portion of the cord at the level of the tumour.

Pathologically the tumour proved to be a true carcinoma. As to its relation with the tumour of the pancreas, I suppose the cervical tumour must be considered a secondary growth. The reverse relation could scarcely be maintained, considering that carcinoma of the pancreas is extremely common, and carcinoma of the neck (unless it spring from the vertebra or be a secondary

deposit) is rare. Yet there still remains the curious fact that none of the intervening structures, glandular or otherwise, were the seat of secondary deposits, except the liver; and that in the liver, where secondary deposits usually grow so rapidly, the tumours were, as compared with that in the neck, extremely small. Another question remains, In what structure did the cervical tumour commence? This has not, I think, been determined with certainty. The bulk of it lay, indeed, outside the vertebral canal, yet its appearance after opening the canal, adhering to the outside of the dura mater and sprouting out through the intervertebral foramina, suggests that it began within the vertebral canal, either upon the roots of those nerves most deeply involved or from the external surface of the dura mater. The cord itself appeared to the naked eye slightly compressed but otherwise healthy; and no inflammatory or other changes were found on the inner surface of the dura mater.

CLINICAL NOTES OF SOME CASES IN MR. SAVORY'S WARDS.

BY

W. BRUCE-CLARKE, M.B.

(Mr. SAVORY, *Stanley*.)

Pyæmia after vaccination—Death.

Catherine C., aged 14 weeks.

1879, Aug. 26.—A small, ill-nourished child. Admitted with the following history:—

Was vaccinated on 11th inst. There are four well-marked vaccine pustules on the left arm in the usual situation. Nothing unusual was noticed until after the eighth day.

About the ninth day, or perhaps later, the child began to refuse its food. On searching, a tender lump in the left axilla was then noticed. It became gradually worse, and the right hand swelled up.

On Admission.—Fluctuating swelling in left axilla.

On the dorsum of the right hand and lower part of forearm is a hard œdematous swelling, occupying nearly the whole of the circumference of the arm, but less in extent on the palmar surface.

There is a similar swelling, only circumscribed and about the size of a walnut, on the anterior surface of right thigh, about the middle.

Child seems dull and heavy, half stupid, with its eyes and mouth half closed. It can be roused, but soon relapses into its former condition. Has occasional fits of crying.

Tongue furred. Bowels not open for two days.

Pulse 160, variable. Temp. 103°.

Abscess in axilla freely opened. About ℥ii. of laudable pus evacuated. Ol. ricini ℥ss. statim.

Aug. 27.—Bowels open. Child much the same. Temp. 102.6° morning; 103.4° evening.

Aug. 28.—General condition rather worse; more dull and heavy. Swelling in right wrist has increased in size, as also has that on right thigh.

A similar swelling has appeared on left wrist, and the left thigh is red, inflamed, brawny, and tender.

Ordered brandy m. x. at frequent intervals. Temp. 99.4° morning; 103° evening.

Aug. 29.—Gradually sinking. Temp. 101.2° morning; 98° evening.

Aug. 30.—Died early in the morning.

Post-mortem.—The inflamed spots on the limbs were found to contain a large amount of effusion, but no pus.

Spleen, liver, and kidney exhibited some cloudy swelling.

Pleura.—Small effusions of blood occurred, giving it the appearance of a piece of skin from a patient suffering from purpura hæmorrhagica.

(Mr. SAVORY, *President.*)

Abscess in neck—Ulceration of internal jugular vein into abscess—Death.

Mary Anne C., aged 2.

1879, Feb. 10.—Has been attending for several weeks in the Surgery with a chronic abscess in her neck.

As the abscess had all but burst of itself, it was opened by an incision about a quarter inch long.

A small amount of pus came out, followed by some clotted blood, and then a rush of dark fluid blood, perhaps $\bar{\text{z}}\text{iii}$. or $\bar{\text{z}}\text{iv}$.

The finger was placed on the wound and the abscess cavity rapidly refilled. The bleeding could only be arrested by a cork placed over the wound.

The child was very faint and blanched.

Feb. 12.—Pad and cork removed. A little dark serum oozed from wound. General condition improved.

Feb. 13.—Hæmorrhage again came on to a slight extent.

Under chloroform Mr. Savory turned out all the clots; no sooner was this done than some dark grumous-looking blood spouted from the upper part of the jugular vein, close to the transverse process of the atlas.

No bleeding point could be seized, so the cavity was plugged with lint soaked in perchloride.

Died about two hours after; had several slight convulsions.

Post-mortem examination revealed a large irregular opening in the jugular vein.

(MR. SAVORY, *Abernethy.*)

*Compound fracture of nasal, lacrymal, and frontal bones—
Mania.*

Robert S., aged 19.

Was looking down the lift shaft, when suddenly the lift came up and hit him on the nose.

Nov. 4, 1878.—Was admitted suffering from a compound comminuted fracture of both nasal and lacrymal bones.

The fracture involved also the nasal process of the frontal bone.

Several bits of bone removed and wound brought together with sutures.

Nov. 9.—Wound all united except at one spot.

Nov. 18.—The wound is progressing very favourably.

He complains of headache and of feeling very queer.

He is abusive and dirty, and dances naked in the ward.

Nov. 23.—Rather worse than he was.

Still persists in indecently exposing himself.

Is quite silly; hardly knows his own friends and relations.

No history of mental disease in his family.

Nov. 25.—Removed to St. Luke's Lunatic Asylum.

June 20, 1879.—He remained some time in St. Luke's and was then sent home cured.

A few weeks later he had to be taken in again, as he persisted in walking about with his penis hanging out of his trousers.

(MR. SAVORY, *Kenton.*)

Ulceration of tongue.

Fritz G., aged 7.

June 12, 1879.—A healthy-looking boy, well made; has always enjoyed good health.

Has two ulcers on the left side of his tongue, which is a good deal swollen.

The edges of the ulcers are slightly raised, ragged, and everted; the bases are swollen but not indurated. They are covered with foul-looking grey granulations, and each of them rather more than a quarter of an inch in diameter. Glands at angle of jaw on affected side slightly enlarged.

The breath is not foetid, and there is no affection of the fauces or palate.

Teeth rather stunted, not peg-shaped.

The fundus of the eyes is quite healthy.

History.—As far as can be learned from the father and mother, about six months ago a couple of lumps were noticed

on the boy's tongue; one of these, which was said to be like a bladder, burst and left a sore, and then the other burst later on.

The sores have remained indolent ever since, and have never caused the boy any inconvenience in eating or pain.

The boy himself gives an indistinct account of a lump a year ago on the tongue, which subsided without bursting.

Family History.—Father and mother quite healthy. They have neither of them ever been under the doctor's hands except the mother at her confinements, and the father, when he was wounded in the Franco-German war.

This child is the eldest, born ten months after marriage, and the only one living.

Since that time one miscarriage at the sixth month, and a child who died at nine or ten months of age.

The boy made a rapid recovery, and left the Hospital on July 4, with the tongue so healed that scarcely any traces of the ulcers could be seen.

The ulcers were painted daily with a solution of bicyanide of mercury, 20 grains to \bar{z} i. of water; and 9 grains of iodide of potassium were administered daily.

(MR. SAVORY, *Abernethy*.)

Swallowed set of false teeth—Lodgment at junction of œsophagus and pharynx—Extraction.

Charles W., aged 60.

Nov. 30, 1878.—Whilst at supper, he suddenly swallowed his false teeth. Is said nearly to have choked and to have got very blue in the face.

Came to the Hospital about an hour later. He did not complain of any particular pain, only of a sense of discomfort. He spat up a good deal of mucus.

An obstruction could be felt indistinctly in the neck just below the cricoid cartilage, and very distinctly at the same spot internally with a probang.

The obstruction could not be reached with any forceps.

Dec. 1.—About midday Mr. Morratt Baker made an attempt to seize the teeth with a grapnel probang, but after several attempts it became fixed, and would not move up or down.

It was decided on consultation to make another attempt, this time under chloroform, and that failing, to do œsophagotomy.

Under chloroform a little more force was used, and the teeth were brought into reach and extracted with forceps.

There was a little bleeding.

Later on in the day spat up a good deal of muco-purulent matter.

Dec. 4.—Spits much less.

Dec. 8.—All tenderness has disappeared; left the Hospital well.

The plate was made of vulcanite, carried seven teeth, and measured $2\frac{1}{4}$ inches \times $1\frac{1}{2}$ inch. It is preserved in the Hospital Museum.

(MR. SAVORY, *Kenton.*)

Railway accident—Compound comminuted fracture of humerus, radius, and ulna—Primary amputation, shoulder-joint—Secondary hæmorrhage, 36th day—Artery secured with a silk ligature, which came away on the 5th day—Recovery.

Joseph S., aged 33.

1879, Jan. 1.—A healthy muscular man. Had received the above injuries owing to being crushed by a railway truck. There was much crushing and bruising of the muscles, even of the deltoid. Was said to have lost but little blood. Did not complain of much pain; was restless, and with difficulty kept quiet. Pulse feeble and slow.

Under gas and æther, Mr. Savory performed an amputation at the shoulder-joint, making a single flap. Arteries secured with carbolised catgut. A single strip of gutta-percha tissue was employed to facilitate drainage.

Jan. 2.—Patient complains of no pain. Temp. 101.8° . *Bread poultice.*

Jan. 3.—Wound closed a good deal anteriorly. Shows signs of sloughing in the deeper parts. Temp. 103.8° . Patient easy and comfortable.

Jan. 5.—Sloughs partly removed. Temp. 100° . Patient easy. *Cataplasma carbonis.*

Jan. 9.—Sloughs nearly all come away. Wound granulating nicely. Anterior part of wound quite healed. No tenderness or discomfort of any sort. Sleeps well and eats heartily.

Jan. 17.—Sleeps and eats well. Wound rapidly closing in. *Water dressing.*

Jan. 23.—Wound much in the same condition. Aspect weak and pale; has not felt so well the last few days.

Dulness at right apex, extending to third rib anteriorly. Vocal vibrations unaltered. Absence of breathing sounds over the upper three ribs. Sputa muco-purulent, slightly rusty in places. Temp. 101.2° . Pulse 80; quiet.

Feb. 3.—The lung trouble has almost cleared up, and he seems himself again; has a good appetite and sleeps well. Wound all healed except at one spot, where there is a sinus.

Feb. 5.—About 2 A.M., when his dressings were being changed, they were noticed to be slightly stained with blood. Probably there was not more than a drachm of blood.

At midday they were again noticed to be slightly stained.

At 8 P.M. bleeding suddenly supervened, and was so violent, that before the nurse could reach him he was lying in a pool of blood. Pressure on the flap and subsequently compression of the subclavian easily controlled the hæmorrhage until Mr. Savory could arrive.

Under gas and æther Mr. Savory passed his finger into the sinus and easily tore aside the flaps of the wound. The axillary artery with its open mouth came readily and easily into view. It was seized and tied with a silk ligature. Hæmorrhage not being quite arrested, a second ligature was tied immediately above the first. It easily controlled the bleeding. A third ligature was then put on the artery about half an inch higher up, and one end was left hanging out of the wound. The other two (more distal) silk ligatures were cut off close. The wound was then secured with strapping.

Feb. 6.—Slept well. Feels easy. Temp. 100.6°. Pulse 100, easily compressible.

Ordered Tinct. ferri perchlor., m. xv., quin. sulph., grs. ii., acidi hydrochlor. dil., m. v., glycerini, ℥i., aq. ad. ℥i. bis die.

Feb. 7.—Wound washed out well with Condy's fluid and water. Discharge abundant. Temp. 102.4°. Bread poultice.

Feb. 11.—Discharge less. Patient feels comfortable. Temp. 99.6°. The ligature came away in the poultice.

Feb. 15.—Much less discharge. Granulations red and healthy. General condition good.

March 15.—He is now up and about, and the wound is all healed but a small sinus.

April 4.—There has been some induration along the edge of the pectoral muscle the last few days, which has resulted in a small abscess.

April 18.—To Convalescent Home, Highgate.

June 18.—Seems quite well and strong; wound completely healed.

(MR. LANGTON, *Abernethy*.)

Chronic disease of knee-joint—Amputation of thigh (antiseptically)—Pyæmia—Death.

Frank W., aged 39.

1878, Dec. 20.—A stout man, looks more than his age; enjoys fair health, with the exception of his right knee, which has given

him trouble for about four years. He thinks he knocked it originally. He has drunk a good deal.

The knee is much enlarged and bent at an obtuse angle; the bones entering into the knee-joint are thickened and enlarged, as also is the synovial membrane. Patella fixed.

There are several sinuses in the leg, and an abscess has been opened just below the knee-joint close to the insertion of the semi-tendinosus.

Complains of starting pains at night; can hardly sleep without an opiate.

At a consultation amputation was unanimously recommended. *Lungs and heart normal.*

Urine 1020, acid. No albumen or sugar.

Jan. 11, 1879.—Under gas and æther Mr. Langton performed an amputation of thigh antiseptically, at the junction of the lower and middle thirds. Double skin flaps. An abscess cavity was cut through, partly dissected out, and then thoroughly washed out with carbolic acid $\frac{1}{30}$. *Steam spray.*

Jan. 12.—Slept well after morphia. Temp. 99.6°. Pulse 90, quiet. Wound dressed; a good deal of sanious oozing.

Jan. 13.—Slept well. Very cheerful. Temp. 98.2°. Pulse, evening, 88, quiet.

As there was a small spot of discharge which had run through at one point, the dressing at this point was well washed with carbolic acid $\frac{1}{20}$, and a fresh piece of gauze superimposed.

Jan. 14.—General condition excellent. Wound seems all to have healed in deeper parts. Drainage tube removed. Bowels opened after enema. Temp. 98.6°. Pulse 90, quiet.

Jan. 15.—Didn't sleep so well. Looks flushed and uncomfortable. Thirsty; sick about midday and brought up his milk. Sick again in the evening and restless. Temp. 102.2°. Pulse 110; sudden rise.

Wound dressed again as the discharge ran through. Well washed with carbolic acid $\frac{1}{40}$. Quite sweet.

Jan. 16.—Slept better. Looks easier. No oozing from wound. Temp. 101°. Pulse 104, quieter.

Evening.—Sick again; brings up chiefly water.

Jan. 17.—Much the same. No more sickness. Temp. 100.4°. Pulse 100. Appetite failing.

Jan. 18.—Tongue furred. Sick a little, otherwise much the same. Bowels opened freely. Temp. 99°. Pulse 100.

Jan. 19.—Sickness again. At 6 A.M. shivered slightly for nearly half an hour. About 2.30 shivered again, and was again sick. Pulse 100. Temp. 104.4°. Tongue clearer.

Wound dressed for first time since 15th. Quite sweet, hardly any discharge; what there is, is clearer and serum-like.

Jan. 19.—In the evening bowels opened to an amazing extent. Some faeces of a very foetid odour came away. An hour later he expressed himself very markedly relieved. He says his sickness has all passed off. Looks better.

Jan. 20.—Looks better this morning. Slept well; no feeling of nausea. Later on in the day a little nausea. In the evening sweated profusely, so that his pillow was quite wet. Bowels opened again very freely. Temp. 102.4°. Pulse 100.

Jan. 21.—Slept well. No nausea. Appetite very bad. Tongue dry and furred, at edges brown. Wound dressed, looks excellent. Temp. 99.8°. Pulse 120.

Night.—Sweating again, but less than last night.

Jan. 22.—Slept well; appetite a little improved. Temp. 102.2°. Pulse 120. Aspect anxious. Complexion yellow and sunken. Tongue dry, brown, and cracked. Sweats still.

On his left hand, at the meta-tarso-phalangeal joint of the little finger, is a red swelling fluctuation.

At night.—Pain in left knee and ankle, but no redness.

Jan. 23.—Temp. 102.8°. Pulse 140, feeble running. Delirious last night. Sallow and pinched. Hand a little less swollen. A mottled discoloration on the back of both hands. Breath foul and offensive. Tongue dry and furred. Bowels open after castor-oil; two offensive motions. Urine offensive and high coloured.

Evening.—Complains a good deal of pain.

Jan. 24.—Died at 11 A.M. No discharge had come through the bandages from the wound.

Post-mortem examination.—The wound was completely healed.

The femoral vein was quite open at its lower end; the clot which had formed in it had evidently broken down, and was in a puriform condition. This debris was, however, shut off from the circulation by a well-formed clot above. There was an abscess at the meta-carpo-phalangeal joint of the little finger. No other abscesses in the other organs, which were quite healthy.

(MR. LANGTON, *Abernethy*.)

Syphilitic ulceration of leg—Amputation—Secondary hæmorrhage—Transfusion—Recovery.

Raglan T., aged 25.

Feb. 13, 1879.—A fairly healthy-looking man. Had syphilis five years ago, for which he has been under treatment ever since.

Had a slight rash and sore throat, almost immediately after which he was attacked with ulceration of his legs. This ulceration has gone on almost continuously up to the present time.

There are scars of numerous ulcers on his right leg.

On the outer side of his left was a large ulcer, which could not be got to heal. In addition to this, the greater portion of the skin of the leg in front was scar-tissue, and was adherent to the tibia.

The leg had acquired a position of equino varus from the contraction of old ulcers, and was almost useless in consequence.

It was decided to amputate it.

Feb. 26.—Under gas and æther Mr. Langton amputated the leg just below the knee antiseptically, cutting an anterior skin and posterior muscle flap. The flap anteriorly was partly formed of scar-tissue.

Feb. 27.—A little oozing of serum through the dressing. Wound re-dressed. Pulse 130, bounding.

March 1.—Dressed again. The portion of the anterior flap that was formed of scar-tissue has sloughed.

March 3.—About 5.30 A.M. secondary hæmorrhage ensued. When the dressings were removed, they were found to be soaked with a considerable amount of blood.

Bleeding had apparently stopped, so the wound was again dressed antiseptically as before.

March 4.—Wound re-dressed. Sloughing extended a little.

March 5.—About 1.30 A.M. a small amount of blood was observed running down the leg, and on further examination the dressing was found to be soaked with blood.

Under gas and æther the dressings were removed. Blood was found clotted inside them; all that had trickled through was a little blood-stained serum.

The wound was then opened up by the House Surgeon, and found to be full of clot, which was turned out, and the surface of the wound washed with carbolic acid $\frac{1}{40}$.

The anterior tibial artery spurted freely, and was tied.

Two other arteries, one in the posterior and one in the anterior flap, were also tied with carbolised catgut.

The patient then grew very faint, and the wound, after being washed out with very hot water, was speedily stitched up, dressed with carbolised oil lint, and firmly bandaged, the bandage being continued up to the groin. Leg raised.

After recovery from the gas and æther, the patient spoke but was very weak. Could not swallow any stimulants, except in very small quantities. They were not pressed lest any should run into the trachea.

3 A.M.—Pulse 160. Weaker. Foot of bed raised and brandy administered. Hot bottles in bed.

3.30 A.M.—Pulse 176. Unable to speak. Subcutaneous injection of æther m. x.

4 A.M.—Pulse 190. Respirations 10, catchy and feeble. Extremities warm. As he was getting gradually weaker, it was decided to perform transfusion without delay.

4.10 A.M.—Pulse 200. Respirations 8, very shallow.

About \bar{z} vi. of blood were obtained from two of the House Surgeons. It was defibrinated with a bunch of quill pens, and then injected into the median basilic vein at a temp. of about 100° F. with a fine-nozzle syringe.

4.30 A.M.—Pulse 184. Respiration much deeper. Marked improvement in the character of the pulse. Opened his eyes. An injection—brandy \bar{z} ii., egg i., milk \bar{z} i.—was then administered by the rectum.

5 A.M.—Pulse 160. He could speak a few words. He continued after this steadily to improve.

10.30 A.M.—He can take his food well, and does not appear much blanched. Pulse 120.

March 7.—Wound dressed with carbolised oil lint. Hardly any discharge. No more sloughing. Granulations healthy.

March 9.—Wound granulating nicely. All deep parts healed.

After this he made a good recovery, with the exception of some phlebitis of the basilic vein, where the transfusion was performed.

June 24.—With the exception of a slight ulcer of stump about the size of a threepenny piece he is quite well.

(MR. LANGTON, *Abernethy*.)

Congenital fracture of tibia—Yielding of fracture at eighteen years of age—Resection (twice performed)—Amputation—Recovery.

Henry S., aged 21.

1877, March 29.—Admitted with a congenital deformity of the right leg; it has been getting worse the last few months, and he has suffered pain in it.

The leg at the junction of the lower and middle third is bent forwards and outwards, giving the appearance of a talipes varus, with some bending of the tibia in addition. There is some callous-like thickening, as though both bones, particularly the fibula, had been fractured.

Consultation.—Generally supposed to be an old congenital fracture, which had lately begun to yield. Opinions were divided as to leaving it alone, performing osteotomy, or amputation.

May 16.—Osteotomy performed antiseptically by Mr Langton, and a wedge-shaped piece of bone removed. The bones could not, at the time of the operation, be brought quite into a straight line.

June 24.—Fracture fairly firm. Gum and chalk. To Convalescent Home at Highgate.

August 20.—Had fallen down at Highgate and hurt his leg. Gum and chalk removed. Fracture not so firm as it was. Gum and chalk reapplied.

Sept. 22.—Bandage removed. Movement of fracture from before backwards. Bandage reapplied.

1878, Feb.—Much the same, except that there is an ulcer over the seat of fracture.

1879, Feb. 14.—No union has taken place. The affected leg is $1\frac{1}{2}$ inch shorter than the other.

Feb. 28.—Under gas and æther Mr. Langton made a flap incision over the site of fracture, and took a wedge-shaped piece of bone out of the front of the tibia. The lower fragment was ill developed, harder than the upper, but not much if at all larger than a radius.

The ends of the bones were wired together with two pins driven diagonally into the bones, so as to pin them in position. Antiseptic dressing, gutta-percha tissue drainage tube. Back and side splints.

May 20.—Wound progressed very slowly. The pins were removed after about two months, and the antiseptic dressing discontinued. Several abscesses formed over seat of fracture.

July 10.—Leg healed. Movement not quite so free as it was, and less painful.

July 17.—Put up in plaster of Paris bandage. To Highgate Convalescent Home.

August 8.—Readmitted, complaining of great pain in leg. A large abscess in calf, which was freely opened.

August 23.—Under gas and æther, Mr. Langton performed an amputation at junction of upper third and middle two-thirds of leg. Antiseptic dressing.

Sept. 20.—Wound all closed. Quite well.

The bones of the leg were found to be thin and ill developed. The fibula was flexible all the way up, and not much thicker than a sheet of thick brown paper. There was only fibrous union. The old pinholes remained bare and pervious. Specimen in St. Bartholomew's Hospital Museum.

(MR. LANGTON, *Kenton*.)

Carcinoma of glands of posterior mediastinum, encircling and compressing œsophagus—Gastrostomy—Death.

John H., aged 55.

1879, Jan. 17.—*History.*—A month ago he was able to eat pretty comfortably; was quite well two months ago. Since that time he has noticed a gradually increasing difficulty in swallowing, and at present can only swallow fluids.

On Admission.—A thin, wasted-looking man ; seems otherwise in good health.

A probang passed down the œsophagus is arrested just below the cricoid cartilage apparently. No bleeding. A number 10 (catheter size) passed into stomach. Just outside the right sterno-mastoid and above the clavicle is an enlarged gland that moves up and down with the larynx. When the patient swallows milk, part of it returns. Spits up a quantity of saliva. A physical examination of heart and lung shows nothing abnormal.

Feb. 10.—At a consultation there was some difference of opinion, but it was decided to do gastrostomy at once, as swallowing was scarcely possible at all. A little bleeding after passage of number 10 (catheter size) probang.

Under chloroform Mr. Langton operated antiseptically, making an incision on the outer side of the left rectus muscle about $2\frac{1}{2}$ inches in length. The incision was parallel to the long axis of the muscle. After all arteries had been secured, the peritoneum was incised. The stomach came easily into view, and was stitched to the side of the incision, but was not opened. Wire sutures were employed, passing through the whole thickness of the abdominal wall. The patient was put moderately under the influence of opium the day before the operation.

Diet.—Morning.—4 Enemata, consisting of egg, i., brandy, \bar{z} ss., essence, \bar{z} i.

Evening.—4 Enemata of egg, i., brandy, \bar{z} ss., essence, \bar{z} i., tinct. opii, m. v.

Feb. 11.—Quiet and easy. Spits less. Temp. 98° morning ; 98.4° evening.

Diet and Medicine.—4 Enemata of egg, i., brandy, \bar{z} ss., essence, \bar{z} i., tinct. opii, m. v.

Feb. 12.—Wound dressed. No discharge. A few drops of blood. About 7 P.M. complained of choking sensation ; was relieved after opium and eructation. Temp. 97.6° .

Diet and Medicine.—4 Enemata of eggs, ii., brandy, \bar{z} i., essence, \bar{z} i., tinct. opii, m. v. ; morphia hypodermically, gr. $\frac{1}{8}$.

Feb. 13.—Looks very thin. A slight pain across lower part of abdomen. Bowels open four times. Typhoid-fever-like stool. Bowels not open previously for a fortnight. Temp. 97° morning ; 97° evening.

Diet and Medicine.—4 Enemata of eggs, ii., brandy, \bar{z} i., essence, \bar{z} i., tinct. opii, m. x. ; morphia hypodermically, gr. $\frac{1}{4}$.

Feb. 14.—Temp. 98° .

Diet and Medicine.—4 Enemata, same as yesterday.—By mouth, of milk, oss. ; lemonade ad libitum ; morphia hypodermically, gr. $\frac{1}{4}$.

Feb. 15.—Temp. 97.6° morning ; 96.8° evening.

Diet and Medicine.—Same as yesterday.

Feb. 16.—Temp. 96.4° morning; 96.2° evening. Weaker gradually.

Diet and Medicine.—Same as yesterday.

Feb. 17.—Temp. 97.6° morning; 96.4° evening. Bandage slipped, and wound became non-antiseptic.

Diet and Medicine.—Same as yesterday.

Feb. 18.—Temp. 96° morning; 97.4° evening.

Diet and Medicine.—Same as yesterday. Cannot retain enema.

Feb. 19.—Temp. 94.6 morning; 96° evening. Very weak. Aspect thin and worn. Delirium. Cannot be kept quiet except with morphia.

Under chloroform Mr. Langton made an incision into the stomach: a little greenish bile came out, reaction neutral.

An india-rubber tube, in shape like a tracheotomy tube, and about $\frac{3}{8}$ of an inch in diameter, was placed in the stomach wound, and secured with tape round the body.

The stomach only contains \bar{z} iii. of food at a time.

Diet and Medicine.—By stomach—2.30 P.M., essence, \bar{z} iss.; brandy, \bar{z} i. 6 P.M., ditto. 10 P.M., milk, \bar{z} iii.

Feb. 20.—No delirium. Can talk a little better. Decidedly improved to-day. Temp. 96°.

Diet and Medicine.—3 A.M.—By enema. Brandy, \bar{z} i., essence, \bar{z} i. 7.30 A.M., by stomach ditto. 10 A.M., by enema ditto. 3 P.M., by stomach ditto. 5 P.M., ditto. 10 P.M., ditto. 11 P.M., by enema ditto.

Feb. 21.—About 7.30 A.M. was taken suddenly with coughing and choking after having attempted to drink some brandy. Was almost pulseless, and seemed in a dying condition.

Diet and Medicine.—3 A.M., by enema ditto. 7.30 A.M., by stomach ditto. 11 A.M., by stomach, brandy, \bar{z} ii.; by mouth, brandy, \bar{z} iss.

Evening.—He is better, and has managed to sip about \bar{z} iss. of brandy during the day. He hardly recognises any one. Died about 3.30 A.M.

Feb. 22.—*Post-mortem.*—There was found to be cancer in the posterior mediastinum, encircling and compressing the œsophagus for a considerable distance. The glands at the roots of both lungs were affected, and a few tiny nodular growths occurred in the lungs themselves.

The stomach was not adherent at all to the abdominal wall, and was only held in position by the silver sutures.

The specimen is in St. Bartholomew's Hospital Museum.



THE CHIASMA OF THE OPTIC NERVES.

BY

C. W. M. MOULLIN, M.B.

The minute anatomy of the optic chiasma, the course the nerve fibres pursue as they pass back towards the brain, whether this direction is followed by them all, or part may not be diverted to form an extra-cerebral commissure, are questions which remained unsettled among anatomists from before the time of Galen until that of Wollaston and Muller; the theory which they suggested in explanation of the principle of identical spots on the retina and the phenomena of hemiopia found an acceptance nearly general. According to this, as confirmed and further elaborated by the dissections of Hannover, there are in the chiasma two structures distinct from each other:—An external, which was called the *commissura ansata*, looping round the rest from above downwards, and forming as it were a cortex for it, continuous from the *lamina cinerea* above to the *tuber cinereum* behind; and an internal, very much larger and more complex, consisting in the centre of fibres really decussating; at the sides of others joining the optic nerves with the corresponding tracts; in front of a *commissura anterior* which unites the eyes, and behind of one which serves to connect the optic centres.

In the other classes of vertebrata it was admitted this elaborate arrangement had no existence: in fishes, with the exception of the *Cyclostomata* and such as the *Plagiostomes* and *Ganoids*, the nerves either simply cross or one perforates the other. The former exception was said to be still further anomalous in this, that in them the optic nerves do not cross at all: the latter resemble amphibians in possessing an arrangement which, if somewhat more complicated, is yet beyond question the same in principle. Nor do birds form an exception to this general rule: the numerous layers of fibres into which their nerves split up as they converge are kept perfectly distinct in their interdigitation by the accompanying processes of *pia mater*; and although this help is no

longer present, it was allowed that in many of the mammalia, *e.g.*, the Leporidae, there could be no reasonable doubt that the fibres ran in groups side by side, with nothing more than layers of granules scattered here and there between them. With regard to others, however, *e.g.*, the dog, and still more with man, there was, and is still, the most extreme divergence of opinion.

The specimens I examined were taken from some large-sized puppies as soon as they could see, and others from the post-mortem room: the former, of course, having the advantage of being secured immediately after death; the latter, as a rule, not till at least twenty-four hours had elapsed. They were hardened in either alcohol or chromic acid, and horizontal sections cut and examined either at once or after teasing up, sections being cut in other directions as occasion required.



Optic Chiasma of Dog.

In the dog, the shape of the chiasma is materially different from that of man: the anterior angle, lying between the converging optic nerves, is exceedingly acute, while the lateral ones, enclosed by the nerve and tract of the same side, are nearly right angles, and consequently the posterior, between the two tracts, filled in by the grey substance forming the anterior boundary of the third ventricle, so very obtuse that the two tracts are nearly in the same line. The fibres, as they pass from nerve to tract, accordingly cannot pursue a straight or uniform course, those lying on the inner sides of the nerves, as soon as they reach the apex of the anterior angle, abruptly change their direction, describing a curve with its concavity forwards, and gathered together in bundles, so as to form a meshwork plainly visible in well-stained sections with a low power, cross the fibres of the other nerve almost at a right angle to issue from the chiasma on the outer side of the opposite tract; while the outermost, running in a curve concentric with this, but of much larger sweep, and threading through the first bundles with which they meet at the side of the chiasma nearly at a right angle, ultimately, quite in the posterior layers, meet the corresponding fibres of the opposite side so obliquely, that it is by no means difficult to picture to oneself a posterior commissure uniting the two tracts, when an anterior or lateral one would be negatived at once. I have several times succeeded in examining every horizontal section through a chiasma, but have not been able to find a trace of any fibres that could take either of those directions.

The difficulty of tracing the fibres, which as one passes up the scale has been gradually increasing, reaches its limit in the case

of man, for here the fibrils no longer run in groups, massed together for a considerable distance and forming a tolerably evident meshwork, but almost singly, interlaced and woven

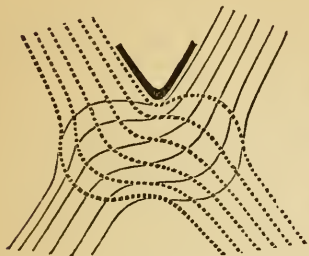
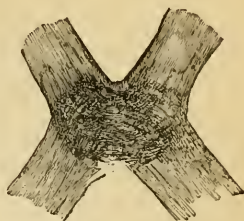


Diagram.



Optic Chiasma of Man.

together in the most intricate fashion. Nor is the difficulty in any way lessened by the fact that the course they pursue is no longer so simple or uniform in its curve : the innermost, as they approach from opposite sides, owing to the anterior angle of the chiasma being much less acute, meet more obliquely and describe a double or S-shaped curve, with first a concavity and then a convexity forwards, in passing across the opposite nerve to reach its outer side. It is on the peculiar character of this curve that the conception rests, so far as anatomy is concerned, of an anterior commissure ; for not only do the fibrils of opposite sides for the first half (*i.e.*, the concavities) of their curves run concentrically with each other at the bottom of the anterior angle, but after decussation they ascend on the opposite side sufficiently far before they turn round to give the impression of persisting in that direction. And with this danger is another, requiring even more caution to guard against, that of passing unconsciously from one group of fibrils to another as they lie side by side, following, for at any rate a short distance, the same course.

At the sides and in the posterior layers of the chiasma, the same difficulty is met ; for the innermost fibrils of one nerve, after crossing to the opposite side, lie among and almost parallel to the outer fibres of the nerve of that side, before these have run sufficiently far back to curve across towards the middle line, which, in the case of some, as is best seen in transverse vertical sections, is not accomplished till the optic tracts have apparently quite separated from each other, at the level of the canal leading to the pituitary body. The only place with regard to which

there is any very serious difficulty is immediately under the commissura ansata, in the most superior stratum of fibres. Here not unfrequently a band may be found, near the middle line, running apparently straight backwards, or with a slight outward concavity, from the inner side of the nerve to the outer side of the tract of the same side; but I have not been able satisfactorily to assure myself that this does not form part of the commissura ansata, lying immediately over it.

The posterior angle of the chiasma, marked by a number of vascular channels of large calibre, is filled in by the layer of grey substance which forms the anterior limit of the third ventricle; and in this, but separated by part of it from the optic fibres, is a true commissure which has nothing to do with the chiasma. Above the angle is a narrow slit-like opening leading into a triangular space of variable size, lying immediately on the optic chiasma, roofed in by the fibres running down from the lamina cinerea and lined by a continuation of the ventricular ependyma, which, especially at the posterior corners, is frequently thrown into regularly arranged villous processes. This space does not extend in the middle line further forward than the anterior angle, but laterally it reaches to a very variable distance along the nerves.

The structure known as the *commissura ansata* consists of the fibres forming the roof of this cavity mainly, but to some extent also of others from its floor: these loop, some round the anterior angle, others round the lateral ones to run back beneath the chiasma, and either end in the tuber cinereum or curve up in front of the pillars of the fornix as they form the corpora albicantia. It varies much in different specimens, not unfrequently being so well developed that after the pia mater has been stripped off, distinct bundles may be seen with the naked eye, crossing the slight sulcus which marks on the inferior surface the posterior limit of the chiasma, and lying between the orifices of the vascular channels. Owing to its firmer consistence, the ready way in which it may be separated, and its different reaction with staining reagents, it has been described by many as mainly if not entirely tendinous in structure; but having regard to its origin and termination, and to the fact of its containing cellular elements, triangular in shape, with a long process directed inwards from their apex, and much larger than the granules, there can be little question that it is, at least in great measure, nervous.

One pathological specimen which I had the opportunity of examining in illustration of this question was taken from a man who had some time previously had an eye removed for a

melanotic tumour. The optic nerve of that side was reduced to a flattened band, consisting entirely of connective tissue, and a similar change had invaded the neighbouring portion of the chiasma in a cone-shaped fashion ; but the opposite optic nerve did not present the slightest alteration, nor was there any marked difference, even on microscopic investigation, between the tracts of the two sides. It is true that the tract, which one would imagine would have been completely wasted, contained numerous uninjured nerve fibres, which might of course have come from the opposite nerve, and so have preserved their nutrition ; but this circumstance loses a great deal of its significance if the commissura ansata is, as from its texture and its relations it must be, nervous in character ; for then the optic chiasma would be a structure not merely at but of the base of the brain, and the preservation of nutrition, which in a peripheral nerve would be inexplicable, is then, at any rate, not without analogy, if not intelligible ; and that this view of the relation of the chiasma is really correct is borne out by some recent observations of Langenhans of Freiburg on a species of *Petromyzon*—observations which have at the same time removed an exception to the general rule no less startling than in the case of man ; for he has found that not only is there here a true chiasma, but that it has hitherto escaped observation from being still enclosed within the lobus ventriculi tertii.

From the peculiar direction the nerve fibres follow, necessitated in all probability by the close interlacement of two cylindrical bodies which would naturally throw the outermost layers into the widest curves, it is not hard to explain the ordinary phenomena of hemiopia, due to the growth of tumours or to other lesions (provided everything that might cause interference can be eliminated), producing partial pressure on the chiasma ; for any injury to one side would implicate the outer fibres of the nerve of that side before decussation, and the inner ones of the opposite after it ; and if the fibres of the nerves preserve the same relation to each other in their whole course, would consequently affect the corresponding halves of the two retinae ; while if it was the anterior angle, the inner fibres of both nerves would be the first to suffer, and similarly the outer ones in the case of the posterior.



A CASE OF LEPRO ANÆSTHETICA.

BY

W. E. STEAVENSON, M.B.

By the kindness of Dr. Gee, I am allowed to report the following case of lepra anæsthetica, which was admitted into his wards at St. Bartholomew's Hospital during the time I was his House Physician. This form of leprosy is so rarely met with in England, that we thought a record of it would be interesting to the readers of the St. Bartholomew's Hospital Reports. It was most likely common enough in the sixteenth century, and is still often met with in Norway. The following case is most typical, agreeing in nearly every particular with the descriptions given of the disease by those most intimately acquainted with it.

Akba Bin Bernardeen Ressilkhan, aged 31, was admitted into St. Bartholomew's Hospital on March 19, 1878. He was born at Ispahan in Persia. His father was a Persian, his mother a Circassian. He left Persia when he was two years old, and resided with his father, who was a coffee-planter, in the Nizam's territory of Hyderabad. He says he was first married when he was ten years old. In 1868 he went to Abyssinia with the British expedition as the representative of the "Bombay Gazette." He came to England in 1874, and has been attached to the press in this country, but is now a clerk. His mother had elephantiasis, especially of the right leg from the knee downwards. He was admitted into Pitcairn Ward under Mr. Willett in October 1874, when the bones of the little toe of the left foot were removed for necrosis consequent upon an injury. The operation was followed by erysipelas and gangrene which, spreading up the leg, necessitated its amputation at the middle of the thigh. The stump healed beautifully.

He has noticed that his left hand has been wasting for eight months; he cannot extend the fingers or grasp with it. The muscles of the ball of the thumb and of the little finger, together with the interossei, are much wasted. The right hand is affected

to a less extent, but some wasting of the corresponding muscles has commenced; he can still grasp, but with impaired force.

The anæsthesia of the left arm is almost complete up to the elbow, and sensation impaired above that to the shoulder. In the right arm sensation is diminished to a less extent.

He cannot move the toes of his right foot; the second toe is enlarged with a proliferation of the cuticle, and exhibits a tendency to ulcerate. On admission there was a small ulcer there, which healed after a few days' rest. He cannot feel the ground with the right foot, and there is complete anæsthesia to a hand's-breadth above the ankle, with a feeling of numbness and impaired sensation up to the knee.

He has always been a temperate man. He had typhus fever when in India; has never had a sunstroke; has never had rheumatism. The vertebral column is straight, and he has no pain in his back. Heart and chest sounds are normal. Urine acid, sp. gr. 1018; no albumen. There are no patches of discoloration on his skin, and no anæsthetic areæ. No filariæ could be detected in his blood. He has had bullæ rise on his hands and arms, he does not know from what cause; they sometimes leave a sore place, which heals after a short time. He has now a sore place on the index-finger of his left hand, which was preceded by a blister; the blister, he says, was caused by a burn. His hands have several times been burnt by holding them in front of the fire, as he cannot feel when they get too hot. He has tremblings and jerkings of the limbs, especially the stump of his left leg, which he ascribes to cold. All the muscles of his extremities answer to the stimulus of faradisation except those supplied by the ulnar nerve in the left hand, viz., the muscles of the little finger, the interossei, and the two inner lumbricales; these refused to answer to the strongest currents and were very much wasted. The hands could be extended by applying the poles, one to the extensors of the forearm and the other to the back of the hand. The extensors of the left hand acted vigorously to galvanism and there was very little muscular atrophy in spite of the highly marked wrist-drop. The muscles of the right hand corresponding to those paralysed in the left required a stronger current than ordinarily before they would contract.

The ulnar nerve above the elbow-joint of the left arm felt enlarged, but differences of opinion were expressed as to its being thickened or not, or whether the ulnar nerve of the left or right arm was the thicker; the change, if any, must therefore have been very small, but there certainly seemed to be some beading of the left ulnar nerve.

The arms and leg were faradised every day for from ten to

twenty minutes, and with beneficial result: before he left the Hospital (April 4) he could extend the hand at the wrist in both arms.

This patient was readmitted into the Hospital on May 23, and although not this time under my care, I have been permitted by Dr. Gee and his present House Physician to complete the report of his case, so far as it is at present possible.

On readmission his condition was as follows:—

The fingers of both hands were bent into the palms, and he was unable to extend them. They could be extended with trifling force and without causing pain. The left hand was the worse of the two. He could not extend the left wrist. The interossei of the left hand with the muscles of the thumb and little finger were atrophied. The wasting of the right hand was only slight, and the right wrist not affected. Sensation of the right hand was absent to one or two inches above the wrist, and impaired above that to the elbow; it was normal in the upper arm.

In the left arm sensation was absent to midway up the forearm, much impaired to the elbow, and impaired above nearly to the shoulder. Sensation was better on the inner than the outer side of the arm.

Both ulnar nerves were *distinctly* thickened from the inner condyles upwards to a little above the middle of the arm, that on the right side being larger; they had a varicose feeling. Pressure on the enlarged part on the right side caused no sensation of tingling in the little finger, but on the unenlarged part he could feel it. No sensation could be produced in the corresponding left ulnar nerve in any part of its course. Extensors of the wrist acted strongly to the continued current. He could not flex the foot on the leg, or the toes on the foot. Sensation was absent to nearly the middle of the leg, impaired to about the middle of the thigh, but less on the posterior surface than the anterior.

He was galvanised daily, and took five minims each of dilute phosphoric acid and tincture of nux vomica three times a day.

May 30.—Fingers of right hand can be extended voluntarily to a slight extent. Complains of pain in the right arm shooting up the course of the ulnar nerve to the shoulder, and in the leg from the sole of the foot to the groin. The stump of left leg shakes very much at night, and he cannot sleep. Can extend the toes of right foot slightly.

June 2.—Can extend the fingers of the right hand much more. No feeling in them. No improvement in fingers of left hand, but wrist-drop not so extreme. Increased power of movement of the foot; does not drag in walking, as before.

June 6.—Can extend left wrist better, also fingers slightly. No feeling in either hand.

June 13.—Extension of left wrist and fingers much improved.

Cannot write, and has no sensation in either hand. Peroneal nerve much enlarged.

June 17.—On extending fingers of right hand they become drawn backwards at tarso-phalangeal joints, while phalanges become flexed. No return of sensation. Can move fingers of left hand. Wrist-drop better.

June 27.—Sensation beginning to return in both arms, noticed now for the first time. Can extend fingers of right hand without so much claw-like appearance.

Asked to leave the Hospital, July 1.

Some of the noticeable features in this case are, that the paralysis was greatly in excess of the atrophy. In progressive muscular atrophy the loss of power is in proportion to the wasted condition of the muscles; but in this case, with the exception of some of the muscles of the left hand, there was very little wasting; the forearm appeared fairly muscular, but the wrist-drop was extreme. Nor were those movements which could be made disorderly as in locomotor ataxy, paralysis agitans, or disseminated sclerosis.

In the patient's history we ascertained that his mother suffered from elephantiasis, but none of his family, to his knowledge, ever had leprosy. He also told us that they eat a great deal of salt fish at Secunderabad. This has been ascribed as a cause for the disease. Secunderabad is situated on the opposite side of the river to Hyderabad, and is the place where our troops are stationed. The salt fish is brought up from Madras. Leprosy among the Zulus has been ascribed to the eating of decomposed fish. After the fish are caught, before using them as food, they are buried in the ground for several weeks, and then eaten in a putrid condition.

The above patient, on his first admission, was treated with the Gurjun balsam (*balsamum dipterocarpi lævis*), as used by Dr. Duckworth in his case of leprosy described in the St. Bartholomew's Hospital Reports for 1874, but not with the same satisfactory result. We obtained the same reaction as mentioned by Dr. Duckworth when testing the patient's urine after a few doses of the Gurjun balsam had been taken. By adding a small quantity of nitric acid to some of the boiling urine, a most beautiful, rich carmine-tinted precipitate was produced. The patient was afterwards ordered dilute phosphoric acid and *nux vomica*.

On his second admission, he was at once given five minims each of dilute phosphoric acid and tincture of *nux vomica* in an ounce of water three times a day, and he was allowed the ordinary milk diet of the Hospital, together with a curried chop and rice, and a pint of ale daily. The medicines given in this case seemed to have very little beneficial effect; the improvement was due chiefly to the daily galvanising.

AN UNUSUAL CAUSE OF HEMIPLEGIA.

BY

W. E. STEAVENSON, M.B.

The following case was admitted into St. Bartholomew's Hospital when I was acting as House Physician for Dr. Southey, and I have received his permission to report it.

J. D., aged 21, a gentleman's groom, was admitted into St. Bartholomew's Hospital on April 23, 1879, recovering from right hemiplegia.

About sixteen months before, at his master's residence in the country, when larking in the servants' hall, he attempted to kiss the kitchen-maid. This young person had been engaged in knitting, and had one of the knitting-needles placed behind her left ear. As the face of the groom approached that of the young woman, the knitting-needle entered his left orbit, passing between the bone and the eyeball, to the depth, it is said, of four inches, no doubt entering the brain. It must be supposed that the ardour of the young man was extreme, and that most likely the needle obtained a *point d'appui* in the lady's back hair; but such was the confusion following the occurrence that the history on these points is not very clear; but this much is certain, that J. D. retired from the encounter with the knitting-needle protruding from his orbit. He says he removed it with his own hand; it was followed by some bleeding, and he then fainted. We therefore have no accurate knowledge of the exact direction of the implement, but, from the symptoms which followed, it is very probable that it passed through the sphenoidal fissure, and must ultimately have injured the brain somewhere in the neighbourhood of the third left frontal convolution, or what is called Broca's convolution.

In the post-mortem room I have passed a knitting-needle through the left orbit of several bodies, the brains of which were

afterwards examined, and have ascertained that this part of the brain could be injured in the way described. The needle would pass through the outer angle of the sphenoidal fissure into the fissure of Sylvius, injuring the outer part of Broca's convolution. If pushed in four inches (as stated by the patient in his case), it would enter the corpus striatum. In several of the experiments I have made, the needle took this course.

It was only really by placing the needle in this position that I was enabled to injure Broca's convolution. It was not the direction taken by the needle when placed between the eyeball and the bone, and, being pushed, left to take its own course. Under these circumstances it always preferred the wider end of the sphenoidal fissure, and passed parallel with the third nerve, keeping clear beneath the base of the brain, and ultimately entering the medulla oblongata. Had the needle taken this course in the patient, I have little doubt but that it would have produced instantaneous death. I am, therefore, led to believe that it took the more unusual direction, and this seems to be borne out by the symptoms it produced.

I do not think the needle pierced the orbital plate of the frontal bone, for in all the experiments I have referred to, the needle always seemed to pass towards the sphenoidal fissure, the orbital parietes having a tendency to direct its course thither whenever it impinged upon them; and it required the assistance of a hammer to force the needle through the orbital plate.

The injury at the time caused the patient intense pain, but did not injure his sight. Up to the fifth day after the accident he could talk and use his right arm and leg. Then he lost all power over his right upper extremity, side, and leg. The lower part of the right side of his face was paralysed, and he could not whistle. The right side of the tongue was also paralysed. The paralysis came on at night. At first the paralysed parts felt cold and dead, but he did not lose sensation. He lost the power of speech for two months. On his admission to the Salop Infirmary at Shrewsbury a short time after the accident, he could only say the words "Yes, yes," which he answered to every question.

The almost total paralysis remained as long as the aphasia, viz., for two months. He never lost power over his sphincters. He is now gradually recovering power over all the paralysed parts. Occasionally he has severe aching in the back of his head and on the left side of his neck, which lasts for some hours. His memory is good. He has had three epileptiform fits since the accident, one in December 1878, one in February of this year, and one in April a few days before admission.

On admission, he had the appearance of being a strong, robust

man in perfect health, with a florid complexion. He complained of inability to use his right hand or fingers, with weakness and only partial power over his right side, arm, and lower extremity. These parts are subject to great variation of temperature. Temperature in both axillæ, 98.5°. He cannot straighten the fingers of his right hand; there is considerable rigidity of the two first fingers, and he cannot grip very strongly. There is some slight movement of the wrist, but the flexors of the forearm are partially paralysed and rigid.

The tongue is slightly furred, with two or three fissures on the dorsum; when protruded it inclines slightly towards the left side. Complains of aching in the neck. Heart and chest sounds normal. Chest well formed. Pulse 80. Abdomen natural. Skin soft and moist. Urine, sp. gr. 1030, acid, no albumen or sugar. Has never had any severe illness, and has never had syphilis.

He remained under observation about five weeks, with galvanism applied to his arm and hand, the hand placed in the intervals upon a splint to try and bring the fingers straight, but very little improvement was observed in his condition from the time when he entered the Hospital. The contraction and rigidity of the flexors of the forearm were of too old standing to expect much improvement. He had no fits while under treatment.

NOTE ON THE HISTORY OF THE DOCTRINE OF THE CIRCULATION OF THE BILE.

BY

J. WICKHAM LEGG.

More than ten years ago, Moritz Schiff announced that he had discovered a new physiological fact; that the bile, when passed into the intestine, was absorbed by the blood-vessels, carried to the liver, and again excreted into the duodenum. He found that if fresh ox-bile were injected into the duodenum of a dog, a surprising increase in the amount of bile secreted took place. Before the injection of the ox-bile, the amount was only 2 c.c. in twenty minutes; immediately after the injection, 10 c.c. of bile was collected in twenty minutes; and at the end of an hour, 8.5 c.c. in twenty minutes. The bile also changed in colour. The bile of the dog is naturally of a golden yellow; after the injection of the ox-bile, the bile of the dog became dark and brown, like that of the ox. It is also sometimes said that Pettenkofer's test gives no reaction with the bile of guinea-pigs. Schiff injected ox-bile into the duodenum of guinea-pigs, and found that the bile gave a marked reaction with Pettenkofer's test.

Upon these data Schiff declared it proved that there is a circulation of the bile as well as of the blood; and further thinks that the supply from the intestines is the chief source of the secretion, for if the bile be diverted from the intestine, but little or no bile is secreted.¹

The view was soon taken up by physicians, and applied by some to aid a theory of jaundice from incomplete destruction of the bile in the blood; and most ingeniously by Dr. Lauder Brunton to explain the action of calomel when that drug is supposed to cause

¹ M. Schiff, *Giorn. di Scienze Naturali ed Econ.* Palermo, 1869, vol. iv. p. 9. See also *Arch. f. d. ges. Phys.*, 1870, Bd. iii. p. 598.

the presence of unchanged bile in the stools.¹ Some method also for the treatment of gall-stones and biliary concretions has been based upon it.

With the trustworthiness of Schiff's statements I am not at the present moment concerned, though it may be remarked that observations not altogether favourable to Schiff's views have issued from the laboratories of Heidenhain² and Hoppe-Seyler.³ What I wish to point out is, that nearly 150 years ago views very similar to those of Schiff were held by certain physiologists. In Bianchi's "*Historia Hepatica*" will be found the following passage:—"Et sanè: Quamquam multæ in animali ejectionum sanguinis circulationes sint; circulent limphæ; circulent seminales materiæ; circulent aliæ plurimæ; circulare præcipuè superiores, & inferiores salivas, jam simus probati; Bilis tamen incessantem circuitum à sanguine portæ per hepar in intestina, & ab eisdem per venas meseraicas rursus in portæ sanguinem, & in hepar, & successivè; rationes omnes à fautoribus allatæ non probant."⁴ Bianchi gives seven reasons why the bile should circulate, but declines to accept them. The third reason is the only one which I think worth speaking of now; it is that the liver in man secretes half an ounce of bile every hour, and therefore about a pound a day. Now the whole of this does not appear in the fæces; so it may be inferred that it is again absorbed. Bianchi denies that the liver secretes so much bile; and in another part of his book he says that the amount does not exceed two and a half ounces a day, and on this ground he rejects the reasoning.

It may interest some to see here foreshadowed the observations of Bidder and Schmidt, who could account for very little of the bile, not one-seventh of the whole quantity estimated, in the fæces of dogs.

¹ T. Lauder Brunton, *British Medical Journal*, 1873, vol. i. p. 15.

² Theodor Laffter, *Versuche zur Physiologie der Gallensecretion*, Diss. Inaug. Breslau, 1873. A copy of this dissertation is deposited in the Library of the Royal Medical and Chirurgical Society.

³ Socoloff, *Arch. f. d. ges. Phys.*, 1875, Bd. xi. p. 166.

⁴ Bianchi, *Historia Hepatica*, Pars Prima, cap. xvi. § xvi. Genevæ, 1725, t. i. p. 97.

PROCEEDINGS
OF
THE ABERNETHIAN SOCIETY
FOR WINTER SESSION, 1878-79.

October 10.

Dr. Duckworth delivered the introductory address.

October 17.

Mr. Griffith showed a patient who had completely recovered vision in the right eye after a wound of the sclerotic, with loss of the vitreous humour; and another patient with external strabismus of the right eye, the internal rectus muscle of the opposite eye being paralysed.

Mr. Keetley read a paper on 'The Treatment of Inflammation by Compression,' which will be found in vol. xiv. p. 295 of these Reports.

October 24.

Mr. Heath showed a specimen of aneurysm of the thoracic and abdominal aortæ from the same patient. The one from the abdominal aorta had burst at its lower end behind the peritoneum, the blood forcing its way as high as the umbilicus between the rectus muscle and the parietal peritoneum.

Dr. Wharry then read a paper entitled 'Clinical Notes on Phthisis.'

Dr. Wharry arranged the varieties of this disease into a number of clinical groups, and showed that the hereditary predisposition to phthisis is less than is commonly supposed, and concluded by describing in detail the treatment he had found most beneficial.

October 31.

Mr. Lockwood showed a case of miliary syphilide.

Mr. King showed a patient with gangrene of the toes, who previously had lost some fingers from the same cause.

Mr. Lyons read a paper on 'Toothache.'

Toothache, like headache, is a symptom, not a disease, and as such may be symptomatic of many diseases of the teeth; as, for instance, morbid conditions of the tooth-pulp; chronic and acute periodontitis; certain conditions of the dental nerve without external lesion; exostosis; pressure arising from the difficult eruption of wisdom-teeth; dental excrescence; and again the toothache which arises from constitutional causes, such as pregnancy or rheumatism.

A patient may complain of suffering from most violent toothache during the previous night, which ceased suddenly in the morning and has not recurred. In such a case we find the offending tooth decayed, and on passing a probe into the cavity discover a most unpleasant phosphatic odour, but no sensation whatever. There has been acute inflammation of the tooth-pulp; it has passed through the stages of suppuration and gangrene. Another patient may complain of having suffered from a throbbing pain which still continues. It will be remembered in the anatomy of a tooth that the pulp is confined to a chamber. During the process of inflammation the pulp swells, and it is the pressure of the enlarged pulp against the walls which creates the pain. Sometimes there is a protrusion of the pulp through the wall in its chamber into the cavity made by caries. This is not at all uncommon.

Occasionally we see cases of inflammation of the pulp in teeth without external lesion, and this is due to dental excrescence or secondary dentine, which grows from the pulp-chamber wall and encroaches on the pulp, thus producing toothache. Another cause of pain is chronic inflammation of the pulp. In this disease it is not so violent, but is more continuous, and is likely to occur at the slightest irritation or cold.

It is not at all necessary for the pulp to be exposed to cause inflammation; it only requires a carious cavity and deposit of food or other matters in it.

Acute and chronic inflammations of the pulp are the most common causes of toothache, and the remedies suggested for their alleviation or cure are numerous; in fact, all the anodynes have been laid under contribution, and many drugs which are entirely opposite in their action.

As regards the treatment of these diseases, if the inflammation

of the pulp has extended into the alveolar membrane, which is indicated by the implication of the neighbouring teeth and periosteum, unless there be a special reason for retaining the tooth, it should be extracted. If the inflammation has not extended so far, various remedies may be applied, and in applying them, as much carious matter as possible should be excavated from the offending tooth. The non-performance of this occasions many failures, and the sacrifice of many teeth.

Arsenic, carbolic acid, and creasote are the principal remedies, and the latter appears to be the most efficacious. If the pulp is not exposed, a crystal of nitrate of silver will often cure the pain in a few minutes. This cannot be used to the front teeth, on account of the discolouration it causes.

Another not uncommon source of toothache is acute or chronic inflammation of the periodontal membrane. A patient is seen with his face very much swollen on one side, his features so much distorted that they are scarcely recognisable. He complains of a dull, heavy, throbbing pain, arising from a particular tooth, which, on examination, is found to be decayed and extremely tender to pressure. The patient cannot bear it to be touched. It is somewhat higher than its fellows, and the gum is very much inflamed around it. This patient is suffering from acute periodontitis, which arises from either constitutional or local causes, it may be either in connection with the latter, or as a sequence of some other affection; but it can also arise from a cold or an accident, such as a blow on the cheek or jaw.

When acute inflammation occurs, an abscess is formed round the region of the affected tooth or teeth. It may burst either at the labial or buccal aspect or into the *alveolus*, or burrow along the hard palate, and open at any point.

With regard to the treatment of this form of disease, it is almost the same as if the periosteal inflammation took place in any other bone. Fomentations and poultices should be applied; but it is advisable not to apply them externally. If an abscess forms it should be opened. In chronic periodontitis the gums can be painted with tincture of aconite or with iodine, and the teeth dressed with carbolic acid. Another form of treatment is extracting the tooth, swabbing the socket with some strong antiseptic, such as carbolic acid or chloride of lime, and replanting it.

An impacted wisdom-tooth is the cause of great pain. Patients are unable to open their mouths beyond a certain degree because of the agony it gives. It arises from the inflammation set up around the ramus and angle of the lower jaw, through the pressure of a wisdom-tooth during the process of its eruption. This affection is due to the form of the bone and not to the tooth, which

takes its natural direction ; but the space into which it has to force itself is insufficient. The surrounding soft tissues become inflamed and deglutition painful ; the motions of the jaw are restricted. After a time the gum suppurates, and the movements of the jaw are then less constrained. If local remedies are not successful the tooth has to be extracted. Exostosis of the cementum of the fang of a tooth is also the occasion of toothache. This pain partakes of the character of neuralgia. It is generally accompanied by caries, or may be the sequence of chronic periodontitis.

The diseases given above are the usual causes of toothache. There are others, which are obscure, and which we are seldom called upon to treat.

November 7.

Mr. Butlin introduced a discussion on 'Erysipelas,' supporting the theory of its constitutional origin and contagious nature, and discussed the modes of its propagation.

November 14.

Mr. Strugnell read a paper on 'Some Points in the Clinical History of Smallpox and Vaccination.'

When about two years ago I commenced the duties of Resident Surgeon to the Highgate Smallpox and Vaccination Hospital, I was entirely ignorant of the clinical aspects of variola, nor was my knowledge of the advantages of vaccination anything but very hazy. I suppose very many of those to whom I am now speaking are in much the same condition that I was then. In our student days we all read about smallpox and vaccination in our text-books, but in this Hospital there are necessarily no opportunities of studying the former by the bedside, and, unfortunately, no means for thorough tuition in the latter. In the hope that I may add, though perhaps only a very little, to your knowledge of these morbid states, I venture to ask you to-night to discuss some points connected with the clinical history of smallpox and vaccination.

We will then, if you please, go at once to the wards and see what we can learn.

Here is a case of well-modified confluent smallpox. The patient is in the scabbing stage. His face is fairly well covered with honey-coloured crusts, most abundant round the *alæ* of the nose. On the forehead and cheeks some of the pustules have not yet ruptured. Look at them ; they are not all of the same size, some being as large as a split pea, others no larger than a pin's head ; they have most of them a central portion of a darker yellow than the

peripheral; in a few pocks the centre only is at present occupied by the scab. Each pock is surrounded by a bright red areola, and as it is a confluent case, the areola of one pock (as well as the pock itself) runs into that of another, giving the face a flushed look. Along the margins of the eyelids are many pocks. The face is swollen so that the patient cannot open his eyes. Looking more closely, you observe that several of the spots have aborted in the papular stage. The tongue and soft palate are also fairly covered with the eruption: the pocks here are paler than those on the face, and for obvious reasons do not scab. You notice the spots are in many places arranged in a linear manner in threes and fives, sometimes in the form of a crescent: this is more marked, as you see, on the wrists and arms; here the spots are larger (which is not unfrequently the case); they are not so far advanced as on the face, some of them even being still vesicular, nor are they so abundant. The pustules are tense and cone-shaped. The chest and abdomen are less thickly covered than the wrists: the spots in these regions are smaller, and more aborted ones are observed. On the legs, ankles, and feet the eruption is more backward still. You remark here the striking way in which the spots arrange themselves. On this ankle is a distinct circle formed by the union of two separate crescents. This patient happens to have a small sore on the leg, and there the pocks have congregated like flies round a lump of sugar. This case was admitted four days ago on the fifth day of the eruption; it is now, therefore, the ninth day of the disease, counting from the day of appearance of the rash.

Let us learn our patient's history. About four or five days before the eruption appeared he felt "seedy;" two days afterwards, in the evening, he shivered two or three times; the next day suffered from some pain in the back and also in the pit of the stomach, with the other ordinary symptoms of pyrexia. Forty-eight hours after the first rigor a red mottling appeared, on the face and forearms chiefly, quickly followed by an eruption of papules, hard and shotty. The man felt much easier as soon as the spots were well out. When a child, vaccination had been performed, but there is no history of revaccination. On examining the arms you see three imperfect marks; the scars are small (not so large as a threepenny piece), only slightly depressed, and not well covered with little pin-point depressions.

What will be the probable ending of this case? In about another week the scabbing will be complete in every part of the body; on the face most of the crusts will have fallen off. He will be allowed up, and will then only have to remain in the Hospital till all peeling has ceased.

We will now look at his board. On admission he was placed on milk diet and ordered a black draught, to be followed by an effervescing mixture of bicarbonate of soda and tartaric acid every four hours. When the eruption was becoming pustular, beef-tea was added to his diet, and a mixture consisting of a drachm of tincture of bark with ten minims of dilute sulphuric acid to the ounce substituted for the effervescing mixture. As soon as all fever has left him, the patient will be placed on meat diet, with beer, and all medicine probably discontinued. The scabs are well oiled with carbolic oil, 1 in 10, or with equal parts of terebene and olive oil two or three times a day. His temperature chart shows that during the early part of the scabbing stage the temperature, which had since the appearance of the rash been only about 100° , rose to 101° and 101.5° for a day or two, but soon fell gradually to normal. This, then, is a case of confluent smallpox, well modified, running its course without complication, and with no bad symptom. You will probably see many such in practice.

Now come to the next bed. Here is a case much the same as the one you have just seen, but this patient soon after admission was very delirious. His delirium was noisy and violent. He was continually trying to get out of bed, and if not closely watched would have probably escaped from the ward, and even from the Hospital. He refused nourishment (thinking it poison), and would listen to no attempts to calm him; otherwise the case has done perfectly well. His delirium subsided under treatment, which was a drachm of syrup of poppies every three hours till sleep was obtained. I have tried, I think, all the soporifics in the delirium of the early stage of smallpox, and I find that without doubt this is the best. Opium in any other form does not quiet; chloral is almost inert, but after four or five doses of good syrup of poppies the sufferer becomes less restless, and finally quiets down and sleeps, after which all may be well. Delirium in the early stage of smallpox is often a serious symptom; it frequently means a very severe attack of the disease. If a person who is a heavy drinker be attacked with smallpox, the delirium is generally of a more muttering, busy type; in fact the patient suffers from delirium tremens. It is of great importance to remember this, as the treatment required in these cases is different. I have found it best to get the patient to take solid food if possible, or at least to give him generous diet, with stimulants if necessary; and here opium is often of great service. In the secondary fever delirium may occur, and it is then, I think, a more serious matter. It may mean high fever, some intercurrent lung mischief, or exhaustion from the severity of the disease.

Let us go on to the next patient. You see at once he is not

doing well. He is depressed and anxious. The pock, which has reached the pustular stage, is very confluent, especially on the face, hands, and feet. It is pale, pasty-looking, flat, and wrinkled. In parts where the spots are distinct they are of the same size, but not tense and yellow coloured. Here and there you notice bullæ filled with turbid serum. The areola round the spots is dusky claret coloured, and the lips are of a bluish tinge. The spots in this case, where they were discrete, were markedly umbilicated, but as the suppuration increased the central depression was destroyed. The scabs, which are just forming on the face and fore-arms, are pale, or else dark from blood-staining, and inclined somewhat to a rupial form. The treatment here indicated is eggs, beef-tea, wine; and for medicine, carbonate of ammonia in large doses, with bark. In cases such as this, stimulants are of great service. If this patient does not improve on the four or six ounces of wine he is now having, in twenty-four hours he will be ordered six or seven ounces of brandy instead, increased, if necessary, to ten, twelve, or fourteen ounces in the twenty-four hours. This is evidently a case of confluent smallpox quite unmodified, in a severe form. The man may die. If he have power to rally from the severity of the attack, he will probably soon suffer from numerous cellular abscesses, about the size of a hen's egg, occurring chiefly on the arms, legs, and buttocks; they will form quickly, and will require early and free openings. Their contents will be, at first, sanious pus, or even dark coagulated blood. Gradually each abscess will contain more healthy pus, till at last no more are formed. In many cases as many as twenty or thirty of these abscesses will form. They usually occur in the parts above mentioned, though occasionally attacking the face, rarely involving the joints or internal organs. They may continue to form for two or three weeks. Steel, or bark and acid, is the best medicine; cod-liver oil is often of great service.

Perhaps here we might discuss some of the other rather less frequent complications which may arise in the later stages of smallpox. Pneumonia and pleurisy, as you might suppose, are not uncommon, and beware of giving a favourable prognosis when they occur. I know of no disease in which inflammation of the lung advances with such fearfully rapid strides as it does in a case of smallpox. You examine a patient's chest because he complains of some shortness of breathing, or of some pain in the side. You find slight dulness at the base of one lung, with a fine crepitant râle and probably a friction rub, and in twenty-four hours the man is dying, the whole of that side of the chest being dull to percussion, with bronchial breathing and the other ordinary signs of pneumonia; and perhaps the other lung is already slightly involved. If I were asked

which was the less dangerous, pneumonia or pleurisy, I think I should say the latter. I have certainly seen more patients recover from an attack of pleurisy than from an inflammation of the lung substance; this may be partly due to the fact that it is rather more common. I do not mean you to infer that all cases of pneumonia occurring in smallpox are of this fatal type, but I think I am justified in saying that, as a rule, the prognosis is very grave.

Another not uncommon complication is erysipelas, generally (at least in my experience) not very severe, though this is by no means always the case; most frequently involving the head and neck, occasionally the arms and legs.

Sloughing of the skin and cellular tissue has occurred in a few cases, its favourite seat having been the instep. It happens only after very severe attacks of smallpox, and is of course a most serious complication. In a boy who was slowly rallying from an attack of severe unmodified smallpox, the whole of the lower part of the scrotum became gangrenous. The case did uninterruptedly well.

Ulceration of the cornea sometimes occurs during the secondary fever, and is very destructive, frequently involving the whole cornea. Atropine and warm applications to the eye, a blister to the temple, with tonics, wine, and liberal diet form the best treatment. Carefully distinguish between this complication and the pock which may form, in the early stage of the disease, on the conjunctiva—not on the cornea—generally at the inner canthus. This is of no moment; it will probably not even become pustular, and will certainly do no harm.

Not seldom, in confluent cases especially, soon after the scabbing has been thoroughly established, an erythematous rash appears over the whole body; it soon passes off. It is an indication, I believe, of a septicæmic condition. I have known it mistaken for scarlet fever.

Pregnant women generally abort if the disease be very severe. The event usually happens suddenly, and at an early period of the eruption, very rarely accompanied with much hæmorrhage at the time, and in no case yet have I seen flooding to occur afterwards. Of course this accident greatly increases the gravity of the prognosis. I have not yet seen the child born with any marks of smallpox on it. In some instances the infant has been alive, and has not died for perhaps twenty-four hours; this has been the case at least three or four times when the child was only about seven months old. There are one or two interesting questions connected with smallpox and pregnancy which I shall be glad if any member of this Society can decide. A woman seven months "in the family way" was a patient in the Hospital with a mild attack of confluent modified smallpox. She did not miscarry, and

soon after being discharged wrote to me to say she had been delivered of a perfectly healthy child at the full term. The questions arise—(1.) Has that child had smallpox? (2.) Will that child be susceptible to the poison of smallpox? (3.) Will that child be susceptible to vaccination?

We will now proceed to the next bed. This patient has hardly anything the matter with him. There are five or six spots on the face and a few on the wrists and forearms. The trunk is almost free from eruption. The rash is at present in the vesicular stage. Many of the pocks will not develop further, but will dry up or scab; many have already aborted in the papular stage. The man has never felt ill, and beyond a slight feverishness and feeling of malaise before the appearance of the spots, he noticed nothing. It is a mild case of discrete smallpox, well modified.

With this next patient you notice something peculiar about the spots at once; they are completely raised on little bullæ about the size of large white currants, filled with clear serum. This condition did not occur until after the pock had become vesicular; otherwise the case is a very mild one; the spots are discrete, and the patient will do perfectly well. It is not a very uncommon appearance. I cannot give you any reason for the peculiarity; it does not, as far as I have seen, indicate want of power. In some modified cases, usually when the rash is discrete or semi-confluent, the pock is arrested in the papular stage, and remains thus for some while, resolving only very slowly. You will hear this condition sometimes spoken of as the "horny pock."

Here is the last patient I shall ask you to look at. You see at once he is fearfully ill, but you remark he has no distinct rash on him, as you have seen in all the other cases. He only came into the Hospital this morning, having been taken ill three days ago. He is very calm and his manner quite collected. He will tell you he is in very little pain, and only feels dreadfully weak and low; still he is dying. You observe the whole of the skin is of a livid red hue, the conjunctivæ of both eyes filled with blood, his sputa is bloody and frothy; there is bloody sordes round the lips and teeth; he is passing blood per rectum, and the urine is deeply blood-stained and scanty. If such an attack of the disease had occurred in a woman, there would have been metrorrhagia as well. The respiration is somewhat laboured and sighing, and the general appearance of the poor fellow indicates great loss of blood. If you were to examine the lungs, you would find the bases dull, with absence of breathing there. The patient will be dead in twenty-four or thirty-six hours, having succumbed to an attack of malignant hæmorrhagic smallpox. Nothing can be done for him; all drugs are powerless. Perhaps his life will be a little prolonged

by the large doses of brandy and egg he is having. There are no marks of vaccination on the arms, or perhaps at best one or two very bad ones, though he may tell you he believes he was vaccinated when a baby; he has never been revaccinated. At the commencement of the attack there was very intense pain in the back.

All hæmorrhagic cases are not so severe as the one we have just examined. In some, besides the true variolous pocks, there may be purpuric spots scattered over the body, chiefly over the lower parts of the trunk; in others, the pocks themselves may several of them contain bloody matter; and again, large blebs filled with blood-stained serum may be observed in many parts of the limbs. I have seen all the fingers and toes encased, as it were, in a glove by large blebs. In some hæmorrhagic cases there is violent delirium.

You will probably have remarked how very little pain any of the patients you have seen appear to suffer; the itching of the spots is not excessive, and otherwise, unless there be severe throat complication, they only complain of the stiffness and swelling of the face, and often of the tenderness of the skin.

An important question will perhaps arise in your minds, When is a patient who is convalescing from an attack of smallpox free from infection? I believe not till all desquamation is over. In confluent cases this may take three weeks or more after the scabs have fallen off. In some cases, usually in severely confluent ones, the whole skin desquamates, and the patient has all the appearance of suffering from a bad attack of acute eczema; the scales come off in large flakes, leaving the skin beneath of a bright red. Arsenic will sometimes markedly benefit these cases.

Cases of the following diseases, diagnosed to be smallpox, have been sent to the Hospital:—Rötheln, measles, scarlet fever, varicella, urticaria, herpes, lichen simple and specific, and rheumatic fever. In the first three the rash has usually been mistaken for the somewhat measely-looking rash that so often occurs in smallpox just before the papules appear. Varicella, urticaria, herpes, and lichen, you can understand *may* be occasionally confounded with smallpox in the early stage, especially the first. One case of sub-acute rheumatism was sent up for admission; the practitioner, knowing that much smallpox was in the neighbourhood, suspected his patient had caught the disease because of severe pain in the back. Careful attention to the characters and position of the eruption, to the history, and especially as to whether the patient has been recently vaccinated or not, will generally save you from a wrong diagnosis; but if in doubt, wait a few hours and you will then almost certainly be able to decide.

A patient with syphilitic lichen was admitted into the Hospital, and for some days the case was a puzzle; the spots were few, hard, almost shotty, situated chiefly on the wrists and face. There was a look about them that made one doubtful as to the diagnosis; the history was not of much assistance. There was some slight febrile disturbance, but the strongest argument against the eruption being variolous was that eleven months ago the man had been revaccinated and the scars were visible. The patient was simply ordered the effervescing mixture. After about nine days, as no change had occurred in the papules, two grains and a half of mercurial pill was prescribed to be taken night and morning, and the improvement was at once most marked.

Let me put together a little more tersely some of the points we have been talking over.

1. Pain in the back, mostly in the lumbar region, deep-seated, rarely quite absent; its severity usually corresponding to the severity of the disease, most intense before the appearance of the eruption, absent after the spots are well out.

2. Pain in the pit of the stomach; a symptom of some value in diagnosis.

3. Delirium, of common occurrence in the early stage of the disease, noisy and violent, onset sometimes sudden, adding to the gravity of the prognosis. Occasionally present during the secondary fever, then quiet and muttering.

4. The pock, if firm, tense, with perhaps marked umbilication, filled with clear serum, and afterwards with healthy-looking pus; with the areola round it of a bright red hue, the case will probably do well. If flat, flabby, pasty-looking, the contents bloody serum or sanious-looking pus, with the areola around of a dusky claret coloured hue, perhaps with ecchymatous blebs present, the prognosis should be very guarded.

5. The scabs, if honey coloured, semi-transparent, of a firm consistency, the case is progressing favourably. If rupial-looking, dark-brown (perhaps surrounded by an ulcerating edge), or pale and soft, the case is a dangerous one.

6. Swelling of the face and tenderness of the skin, most intense during the maturation of the eruption, usually showing a fairly severe form of the disease, often accompanied by salivation. They indicate that there is power to ripen the pock, and therefore are of value in prognosis.

7. Chief complications or sequelæ:—Abscesses (usually situated in the cellular tissue of the skin), erythema, erysipelas, sloughing and gangrene, pleurisy, pneumonia, œdema of the larynx.

8. Death may occur in forty-eight hours after the first symptoms from the violence of the poison. In severe hæmorrhagic

cases usually within seven days; in confluent cases generally during the secondary fever; in other cases, again, from one of the many complications.

We will now for a few minutes discuss some points of practical interest in regard to vaccination; and first its influence on a case of smallpox.

Thorough vaccination modifies an attack of smallpox in many ways. There is much less initial fever; the eruption comes out sooner; the spots are rarely confluent, usually discrete, of unequal size, some aborting in the papular, others in the vesicular stage. Scabbing commences earlier, perhaps about the fifth or sixth day of the eruption; sometimes the whole of the rash dries up in three or four days. The secondary fever is very mild, often almost absent. Generally there are no complications; and as the spots do not involve the deeper layer of the skin, there is usually no permanent pitting.

Unfortunately, vaccination is very often anything but thorough, and therefore according to the degree of goodness of the vaccination so is the modification of the attack of smallpox. It is not always easy to decide at first if a given case will be modified or not, and one has often to wait till the eruption has become vesicular before giving an opinion. The papules may be irregular in size and present a modified appearance, but as the case proceeds the vesicles become confluent, and by their characters show that vaccination has not affected the attack.

What are the proofs of thorough vaccination? The only sure one is the presence of good cicatrices. A perfect vaccination leaves a clear, distinct, punctated cicatrix, about the size of a threepenny piece or a little larger, having a fairly well-defined edge. If you find three or four of these on the arms of a patient who is suffering from smallpox, you may be quite certain the attack will be a very mild one. Frequently the cicatrix is a mere scar, and between this and a good mark there is every gradation. This brings us to another point. A primary vaccination in infancy does not ensure immunity from smallpox during a whole lifetime. I believe that every person on reaching the age of fourteen or fifteen should be revaccinated, whether the marks are found to be good or no; and I would make revaccination compulsory by law in much the same manner as primary vaccination is now. It is my firm opinion that if primary vaccination were more carefully performed and revaccination thoroughly enforced, smallpox would be entirely stamped out. How then, you argue, is it that an epidemic of smallpox is more severe among the poor than among the middle and upper classes of a community; and yet, as the children of the poor are taken to a public vaccinator, and

those of the richer classes are vaccinated by the family doctor, the former will almost certainly be better protected from smallpox than the latter? Granted; but, putting aside the important matter of hygiene, the chief reason is, I think, because the children of the poor are rarely revaccinated.

If a case of smallpox break out in a house, revaccinate all the inmates at once; it is found that vaccination protects the individual when the stage of areola is reached, which occurs about the eighth day from the insertion of the vaccine virus, and, if this period can be attained before the symptoms of smallpox become manifest, the person (although even having taken the infection of the disease) is safe. The incubative stage of smallpox being twelve days, three days may intervene between the reception of the variolous poison and vaccination with subsequent safety to the person.

You will, I think, see it mentioned in the text-books that if a patient is suffering from any other fever or skin disease, the vaccine virus will not take effect nor offer immunity from smallpox. I will give you my experience on this point and leave you to draw your own conclusions. A patient was admitted into the Hospital with measles; the next day she was sent to the London Fever Hospital; a fortnight afterwards she was readmitted with confluent smallpox, and ultimately died; she had not been revaccinated on her first admission. Since then, twelve cases of other disease have been admitted, all of whom were revaccinated within twenty-four hours; not one of them had smallpox.

Vaccination should be performed in four or five places, and it is advisable to operate on only one arm, as the child can then take the breast and lie on one side without discomfort. I find it quite sufficient to scratch the arm with a charged lancet, hardly drawing blood, and then to rub the lymph over the place. I do not puncture at all now, as I think it causes rather more distress to the infant, and, though it is a small matter, it is quite as well to vaccinate a child without making it cry, if only for the mother's sake. I always make five separate places (arranged like the five in a pack of cards), nearly over the insertion of the deltoid muscle. One word on using charged points. The best plan is to dip the point in water, then shake it so as to remove any superfluous fluid, and after a few seconds take off the moistened lymph with the lancet, and proceed as if using recent vaccine. I would advise you not to trust in vaccinating to any of the various instruments which are advocated; the ordinary lancet is by far the simplest and best. Above all things, do the operation very carefully and thoroughly, remembering that your careless vaccination in his infancy may cost the person his life in after years.

I have carefully refrained from touching on any 'booky' questions (if I may so speak) in connection with smallpox and vaccination, thinking it would be perhaps more profitable if I tried to put before you a few practical points. I feel conscious of the many imperfections of this short sketch; but if it lead to other members of this Society giving us their experience and opinions on this subject, this evening may be, I trust, not altogether barren of result.

November 21.

Mr. Bruce-Clarke read a paper on 'Sympathetic Amaurosis.'

Amaurosis, or blindness, has been divided into various forms, according to its origin, such as cerebral, orbital, &c.

The term sympathetic amaurosis is usually confined to cases in which the blindness seems to be dependent upon the inhibition of the optic nerve. It is a form of blindness which usually depends upon some irritation of the fifth nerve or vagus, and in females often of the sexual organs. Recovery is usually quite complete after a period of greater or less duration. This form of blindness is, as a rule, unaccompanied by any visible pathological changes in the eye.

The fixing of an artificial tooth upon an old stump has been known to give rise to blindness, which vanished as soon as the source of irritation was removed. Blindness, too, has been recorded as the result of impacted fæces, worms, gastric irritation, tumours on the head, splinters in the teeth, &c.; and in all the cases it has vanished completely a few days after the removal of the exciting cause.

In addition to such cases as these, and of much more common occurrence, are the instances of impaired vision during lactation, often associated with ulcers of the cornea. Such cases are usually speedily cured by good food and a little quinine.

In the same category, too, may be placed the cases of epi-scleritis in connection with disordered menstruation, which usually yield very readily to treatment.

In a few remarkable instances, the administration of certain drugs, such as quassia and centaury, has been known to produce blindness.

In all such cases the main difficulty is to detect the source of reflex trouble, and in many it remains undetected until at last nature effects a cure before the seat of trouble is revealed.

November 28.

Mr. Gabb showed a patient who had made a good recovery after fracture of the skull with loss of brain substance.

Mr. Griffith showed a patient with vertical nystagmus, apparently caused by a difference of refraction in the two eyes.

Mr. Heath showed a heart with congenital constriction of the mitral valve, from a woman, aged twenty-one, whose whole development was arrested before puberty.

Mr. Roeckel read his paper on 'Syphilis.'

The author began by considering the points most interesting to students, and, among the first, the diagnosis of a soft from a hard sore. He stated that this diagnosis should be made with the greatest reserve, as the most typical soft sore was liable to become hard on or after the twenty-fifth day. The term "mixed sore" he thought an extremely bad expression, as there was as much mixing between the soft sore and the infecting chancre as there was in a scrotum between a hernia and a hydrocele. The accident of locality was the only thing they had in common. If it were not so, the mixed sore would be a contradiction to the dualist theory. What would happen if you were to inoculate a person free from syphilis with pus taken from a so-called mixed sore? A soft sore, which would run its course, and twenty-five days later in the same spot an infecting or hard sore. The soft sore might be healed by that time, but the hardness would supervene nevertheless. If a syphilitic subject were inoculated with the same pus, he would gain a soft sore, but no hardness would ensue.

M. Grassi's experiments at the Hotel Dieu on the blood of syphilitic subjects were next considered. He made his analyses before the appearance of secondary symptoms, and found that red blood corpuscles were diminished as low as 170 in the 1000 parts by weight. We had here a simple explanation of the adverse symptoms prevalent in the early stages of syphilis.

Touching next on treatment, the use of caustic was condemned because it could only be used with reason by those people who believed that syphilitic virus set at defiance all the laws of absorption by blood and lymph, and remained intact at the seat of inoculation during the incubative period of twenty-five days or longer. Equally, in a soft sore, we should be as little able to decide the amount of tissue that would be destroyed as we could foretell the line of demarcation in a case of gangrene. It would be as unreasonable to use caustic in the one as to amputate in the other. In the use of mercury, delay was advised until the fact of infection was established, on the ground that the harm done by mercury where no syphilis was present exceeded the good it would do in an illness the duration of which is counted by years, during the few days that might elapse before the fact of infection was established. He next condemned the habit of giving mercury until the gums were touched, a physiological event produceable in any person,

whether affected with syphilis or no, and throwing no light whatever upon the influence the drug was exercising on a pathological condition like syphilis.

December 5.

Mr. Heath showed a patient with multiple sarcomata, whose eye had been removed four years before for melanotic disease.

Mr. Dingley showed a patient with hæmorrhagic diathesis, who made a good recovery after fourteen attacks of hæmorrhage from a wound in the hand.

Dr. Marshall read his paper on 'Observations on the Anatomy and Physiology of the Olfactory Organ.'

Until quite recently the nerves of vertebrates, whether cranial or spinal, were described as arising in the mesoblast, and as acquiring their connection with the brain and spinal cords by growing inwards towards these structures, whilst by growth at their opposite or peripheral ends they were brought into contact with their terminal end-organs, motor or sensory. Of the cranial nerves, however, two—the optic and olfactory—were said to differ completely in their mode of development from the others; instead of, like these latter, arising in the mesoblast and only acquiring a secondary connection with the central nervous system, the two nerves in question were said to appear as hollow outgrowths from the anterior part of the brain, and were, by reason of this peculiarity, contrasted with all the other nerves in the body, as being not of mesoblastic, but of epiblastic origin, and as being more properly parts of the brain than nerves in the true sense of the word.

Recent investigations have, however, shown that all the nerves, instead of, as previously supposed, arising in the mesoblast, are in reality outgrowths from the central nervous system, and therefore of epiblastic origin. It becomes now a matter of considerable interest to inquire whether this discovery has confirmed or invalidated the sharp distinction hitherto drawn between the optic and olfactory nerves on the one hand and the remaining nerves of the body on the other. The present paper is occupied with an examination of this point, so far as the olfactory nerve is concerned.

In the first place, accepting for the moment the current account of the development of the olfactory nerve, it is clear that the olfactory can no longer be contrasted with the other nerves as an outgrowth from the brain, inasmuch as we have just seen that all the cranial nerves, without exception, are outgrowths from the brain. Still, however, a distinction of no slight importance remains to be considered, for the olfactory nerve is said to be a hollow outgrowth, while all the other nerves are from their earliest

appearance solid. The olfactory is also said to arise much later than the other nerves, and to differ from these in sundry other points of minor importance. These statements have now to be considered in order to determine whether the olfactory nerve is or is not strictly comparable with the other nerves.

In an adult vertebrate, the olfactory nerve is commonly described as consisting of three parts—a proximal hollow portion, presenting all the characters of a hollow outgrowth of the cerebral hemisphere, and actually arising as such; a distal portion, having the structure and appearance of a true nerve; and an intermediate ganglionic enlargement at the point of junction of the two other parts. These three parts are called by Stannius *tractus olfactorius*, *nervus olfactorius*, and *bulbus olfactorius* respectively. According to the ordinary accounts, the earliest of these three elements to be developed is the proximal *tractus olfactorius*, which is said to appear in the chick as “a small somewhat elongated vesicle on the under surface of the cerebral hemisphere towards the end of the third day.” Were this account correct, it would indeed be true that the olfactory nerve develops after a type totally different from the other nerves, so different, indeed, as by itself to render futile any attempt to establish a strict comparison between the olfactory and the remaining cranial nerves.

However, a careful investigation of the early stages of development has shown that the ordinarily received accounts are erroneous. In the chick, the third or distal element, the *nervus olfactorius* of Stannius, is the earliest to be developed; it arises in exactly the same manner as the other cranial nerves, and agrees completely with them in general relations and in histological structure; it is clearly recognisable at the fiftieth hour of incubation, at which date it differs in no appreciable manner from the other cranial nerves. The proximal element, the hollow outgrowth of the cerebral hemisphere, the *tractus olfactorius* of Stannius, does not appear till towards the close of the seventh day, and is even at that late period extremely small. What has been described by various observers as the olfactory vesicle on the third day is in reality merely the depression of the external epiblast forming the olfactory pit, the rudiment of the olfactory organ of the adult chick; and the mistake appears to be due to the authors thereof having relied exclusively on surface views of whole embryos to the neglect of the method of investigation by means of sections.

As in the chick, so in the dogfish the olfactory nerve proper, the *nervus olfactorius*, arises very early; at the same time, in fact, as the other cranial nerves, and in precisely the same manner. And again, as in the chick, the olfactory vesicle, or *tractus olfac-*

torius, does not appear till an exceedingly late period of development, investigations on other vertebrate embryos, including the salmon, trout, lizard, frog, and axolotl, have all led to the same result. It would therefore appear to be established that the olfactory nerve does not differ in its early stages in any appreciable manner from the other cranial nerves; and that the olfactory vesicle either does not appear at all, as in the trout, or else appears so exceedingly late that its existence can in no way militate against the establishment of a complete homology between the olfactory and the other cranial nerves.

The olfactory must therefore be considered as the most anterior of the true cranial nerves. Such being the case, it must have very definite relations to the most anterior segment; and, in fact, arguments of considerable weight can be adduced in favour of considering the olfactory organ itself as the homologue of a visceral cleft or gill slit, and the olfactory nerve as the segmental nerve whose branches supply the opposite sides of that cleft in the manner well known as characteristic of the segmental nerves in the remaining part of the head.

December 12.

Dr. West read his paper on 'Cough, its Causes and Treatment.' Dr. West described the mechanism of cough, and explained its cause in the various diseases of the respiratory apparatus.

January 16.

House Physicians' Evening.—Discussion on Typhoid Fever.

The House Physicians—Mr. Kidd, Mr. Heath, Mr. Holland, and Mr. Steavenson—gave details of the cases, 140 in number, which had been in the Hospital during the past nine months—mentioning the most interesting points in connection with these cases, together with the chief complications and sequelæ.

From April to December 1878 there were thirty-two cases of typhoid fever in Dr. Southey's wards, of which twenty were males and twelve females. Twenty of the cases were admitted between the end of August and the end of October. Most of the remaining cases occurred in November and December, whilst from April to September there were only five or six cases. The youngest patient was a girl aged two years, the oldest a man aged thirty-eight years. The following table shows that although there was at least one case for nearly every year from two to twenty-four, yet nine of them, or twenty-eight per cent. of the whole, occurred in the five years from nineteen to twenty-three.

	1	2	3	4	5	6	7	8	9	10	11	12	13
M.	...	...	...	...	1	1	...	...	...	...	...	1	1
F.	...	1	...	1	1	1	...	1	1	...	...	...	...
	14	15	16	17	18	19	20	21	22	23	24	25	26
M.	1	1	1	1	1	2	...	1	...	2	1	...	...
F.	...	...	...		...	...	1	...	2	1	...	...	1
						5 years 9 cases, 28 per cent. of whole.							
	27	28	29	30	31	32	33	34	35	36	37	38	
M.	...	...	...	...	...	1	...	1	...	...	...	1	
F.	...	...	...	1	...	1	...	...	...	...	...	...

On admission it was found difficult in the greater number of cases to fix the exact day of the disease, but as far as could be made out most of them were admitted from about the sixth or seventh to the tenth day. A few patients in whom the disease began with more violent symptoms were admitted earlier, one on the third, two on the fourth, and one on the fifth day.

Two patients—the only two that had hæmorrhage from the bowels, were admitted later, one at the end of the third week, in an extremely feeble state. Copious hæmorrhage came on after eight days, ending in death in twelve hours. This patient's temperature throughout was very high, varying between 104.5° and 105.5°. In fact, he was one of the few patients in whom a high temperature was at all a marked feature of the disease. The other patient was admitted in the fifth week. On the day of admission he had two attacks of hæmorrhage, losing perhaps two pints of blood, but this was effectively controlled by a mixture of acetate of lead and opium. He had no further bleeding, but his convalescence was prolonged, and although interrupted by an acute attack of tonsillitis, he eventually recovered completely.

The evening temperature on the day of admission in none of the cases was very high—the highest, evening, 104.8°, in a patient admitted on the ninth day. In very few cases was the temperature very high for many days together. In fact, in four only was it ever above 105°. Two of these patients died, the others recovered after a prolonged convalescence. The state of the bowels varied greatly in the different cases, constipation being marked in six; moderate diarrhœa, from three to six stools in the twenty-

four hours, occurring in eighteen cases, whilst in eight only was the diarrhœa profuse.

Rose spots were abundant in eight cases, two were visible in thirteen, whilst in eleven there were none at all. In one case—the patient who died from hæmorrhage—in addition to the rosy, lenticular spots, there was an abundant subcuticular mottling over the whole body, and on the back, abdomen, and inner sides of the thighs there were many distinct hæmorrhages. The other patient was a woman aged thirty years, who, though dangerously ill for many days, eventually recovered.

Delirium at night occurred in most cases, but in two only was it prolonged and severe and continued during the day, and it is worth noticing that this occurred in the two patients who had the purple mottling of the skin before mentioned, and in whom the nutrition and circulation in the brain was probably as much affected as that of the skin. In one of these cases a condition of imbecility followed on the delirium, and continued until the end of the eighth week, long after the patient was convalescent, when his friends took him home because he had been removed to Casualty Ward on account of the noise he made. Five weeks later he came again to the Hospital to show himself, and he appeared quite well in mind and body.

Deafness was well marked in six cases, but all recovered except one, the patient last mentioned, who had an abscess in right ear which burst and discharged externally. He had previously had mischief in the same ear, and had been deaf in it for some years. The delirium was, of course, in this patient looked at with suspicion for some time, as he might have had some meningeal inflammation commencing at the temporal bone, but he had no signs of irritation of nerves or other signs of meningitis, so that it was probably due directly to the fever and consequent alteration in circulation and nutrition of the brain.

Some of the chief sequelæ were—

1. Periostitis of the shin, which occurred in two patients. Abscesses formed and were opened; recovery was complete; no necrosis followed.

2. Thrombosis of the external popliteal vein occurred in one case; the patient made a good recovery.

3. Three patients had rather severe tonsillitis, a frequent affection, as mentioned by Trousseau.

4. One boy at the end of the third week had sudden and general œdema without albuminuria. This lasted three or four days, and disappeared completely. It did not seem to affect his general condition at all; in fact, he was cheerful, and said he felt quite well the whole time.

5. Abscesses occurred on the scalp of one patient and on the cheek of another.

6. Imbecility followed in one case, as before mentioned, but the patient recovered completely.

Relapses.—Two patients had each one mild relapse. Fresh spots appeared in both, but the temperature was normal again at the end of a week.

Three-fourths of all the cases were convalescent about the fifteenth or sixteenth day.

Treatment.—As a rule, patients were put on the ordinary milk diet of the Hospital, with beef-tea, essence, eggs (or stimulants), as the necessities of the case required; but, as a rule, stimulants were not given, or, if at all, not until the end of the second or beginning of the third week of the disease. The conditions which were taken as indications for brandy—which was the chief stimulant given—were a feeble, very rapid, and perhaps intermittent pulse; an absence of the first sound at the apex of the heart; signs of great muscular debility, and congestion of the bases of the lungs. The quantity given was from three to six ounces a day, the quantity being diminished gradually as the condition of the patient improved. It was frequently found that when the tongue became very dry, and continued so for a day or two, that a little brandy with the milk seemed to moisten it again, and help it to regain its natural condition, probably by stimulating the gastric mucous membrane to more healthy action. In children stimulants were very little used, and only in the worst cases. In them wine was generally preferred to brandy, partly perhaps because they liked it better, partly because it seemed to suit the digestive system better, and to be less exciting than brandy.

Treatment by Drugs.—In nineteen cases patients were treated with sulpho-carbolate of sodium in from 5 to 15 grain doses every six hours. In six cases sodæ salicylate in from 5 to 10 grain doses was administered every four hours. Five patients had the *Hst. acidi nitro-hydrochlorici* of the Hospital Pharmacopœia; whilst the other two patients had mixtures containing bicarbonate of soda or potash.

So far as I could make out, the patients treated with sodium sulpho-carbolate did quite as well, but no better, than those treated by the acids. During the height of the fever, the tongue perhaps remained moister in those who took the sodium sulpho-carbolate; but in the convalescent stage the acid, with *nux vomica*, seemed best suited.

Sodium sulpho-carbolate is said to liberate carbolic and sulphureous acids in the intestines, and thus to act as an antiseptic; but I should think this is extremely doubtful. However, the fact

remains that the patients did very well when taking this, as well as the other drugs mentioned.

Baths of various sorts were employed when the temperature of patients rose above 104° . In men in a nervous, restless state, the cold dip was used, *i.e.*, the ordinary slipper bath of the ward was filled with water at about 65° , and brought to the bedside. The patient was then stripped and put in the bath; left there for half a minute, and then put back to bed, and wrapped up in a blanket. This treatment in many cases lowered the temperature often two, three, or more degrees, not immediately, but in from half an hour to an hour afterwards. The temperature, as shown by a large number of charts I made, remained thus lowered for three or four hours, but then gradually rose up to, or nearly to, its former height. It was often found that the cold dip had a very soothing effect on the patient. Those who before it had been hot and restless dropped off to sleep soon afterwards, and always woke more or less refreshed. In women and children the shock of the cold bath seemed too great, and for them, instead of it, tepid baths at a temperature of about 95° were used, in which the patient was kept from five minutes to a quarter of an hour, the water not being cooled down artificially whilst the patient was in it. This mode of bathing seemed equally beneficial as the cold dip in cooling the patients, but it was also found that in these patients too the temperature was lowest, not immediately after the bath, but about an hour after it; and though often from this time the temperature gradually, though usually slowly, rose again, yet sleep was procured meanwhile and often real and permanent benefit to the patient seemed to have been obtained. I may here state that I think all the good that is to be gained from baths can be obtained from one of the two methods here spoken of, and that without any of the danger of pneumonia or hæmorrhage being produced by cooling the patient down with ice whilst he is in the water. This last is, I think, a dangerous mode of proceeding, and although it is generally only in dangerous cases that such treatment is adopted, yet I think that the dangers are greater than the advantages to be gained; in fact, I have seen two cases in which pneumonia followed soon after this rapid cooling, with death in both cases; the pneumonia, I cannot help believing, was caused by the means employed in cooling the body, and I think might have been avoided by the use of tepid baths, which are quite as efficient, as I said before, for permanent cooling, without being attended with any risks.

In one or two cases where the patient was too ill to be moved into a bath, sponging in bed was employed, and I must say that

from the apparent comfort it gives to the patient, I am very fond of this, perhaps now old-fashioned, plan of lessening the fever.

Two minor points of treatment, which add considerably to the comfort of the patient, I think ought to be mentioned. One is the cleansing of the tongue, not merely the first thing in the morning, but four, five, or more times in the day, or as often as it gets thickly coated, and especially before giving the patient food, which he relishes then all the more. The best thing for this purpose is, I think, a slice of lemon or the solution of tartaric acid kept in the ward, or the *Lotio boracis et potassæ chloratis* of the Hospital Pharmacopœia.

The other point is as to the passage of the rectum tube when there is much flatulent distension of the bowels. For this purpose, one of the largest solid india-rubber catheters is attached to a piece of india-rubber tubing, and is then passed up the rectum for about eight or ten inches, whilst the abdomen is gently pressed with the flat of the hand. By this means large quantities of flatus escape and the painful distension subsides. In one patient especially did this means afford great relief. For when, late in the disease, about the beginning of the fourth week (for it was a prolonged case), after the diarrhoea had to a certain extent ceased, the intestines, from paralysis of their walls, had become greatly distended, the rectum tube was passed as directed twice a day, large quantities of flatus escaped, together with a little fluid fæces, the abdomen diminished considerably in size and the patient expressed himself as feeling much more comfortable. I believe that by this means the gas in the small gut as well as that in the colon escapes through the tube, as the ileo-cæcal valve would almost necessarily be wide open. And here I may state that I believe that mere distension of the gut is enough in itself to prolong its return to its normal condition, as when it is so distended its walls cannot be so well supplied with blood, nor can the cicatrization of the healing ulcers go on so readily; and besides, we know that mere over-distension of a hollow viscus, such as the bladder, is in itself enough to paralyse its muscular coat, so that for many reasons it will be seen that it should be of great benefit to the patient, as in the case above quoted, if cautiously and carefully done. Dr. Southey had seen many such good results before from the employment of this means, but in the case in which I tried it, it was only necessary to adopt it for two days, and once on the third day, when the intestines recovered their lost power and the distension did not recur.

The *diagnosis* in most cases was not difficult to make out. The only case in which it was at all doubtful was in a boy aged seventeen, a milk-carrier, who died from acute tuberculosis. He

had been ailing three weeks before admission, and a fortnight before profuse diarrhoea set in, lasting a week. For the last week he had been in a typhoid state, but his diarrhoea had ceased. On admission, he presented many of the appearances of a case of typhoid fever, but he had no spots nor any pain, and but very little distension of the abdomen. His motions were not passed frequently, but when passed they were loose and powdery. For a day or two, considering how prevalent typhoid was at that time, this was looked upon probably as a case of that disease; but then his temperature did not present the ordinary remittent type, and although he had no cough nor any marked signs of consolidation in his lungs, yet his respirations became gradually more and more hurried, so that now the diagnosis was found to be wrong, and the true nature of the disease was discovered. After being in about ten days he died, and at the post-mortem examination the mesenteric glands were found to be caseous, whilst his lungs were stuffed with grey miliary tubercles, and his other organs presented the ordinary appearances of acute tuberculosis.

Remarks.—In conclusion, I think that, considering the small number of deaths that have occurred, the comparative lowness of temperature of most of the patients, and the fact that three-fourths of the cases were convalescent at about the fifteenth or sixteenth day, we must look upon this as a mild epidemic of typhoid fever. Another feature to be noted is constipation, which occurred in more than one-third of Dr. Southey's patients, and I believe even in greater proportion in those of some of the other physicians. Rose spots, too, were not at all uniformly present. A third at least of Dr. Southey's cases had none.

The locality whence most of the cases come should, I think, be carefully inquired into, so that if we find that most of the patients come from one particular quarter, it should be our duty to communicate with the sanitary officers of that district, in order to discover, if possible, the cause of the outbreak of this dangerous disease. I found that a large proportion of Dr. Southey's cases came from the neighbourhood of Bethnal Green, whilst another batch were admitted from near the City Road and Islington. I do not know where the majority of cases in the other wards came from, but if my colleagues have found that they come from the same districts, it should be our duty, I think, to make known the fact to the proper authorities of those districts, in order to find out the cause of this, and prevent if possible a fresh epidemic.

January 23.

Mr. Lockwood showed a specimen of pigmentary change in hair. The specimen of hair shown, presented alternate lengths of light

and dark, in such a manner as to make it resemble a porcupine's quill in the arrangement of its colours. It was obtained from the head of a young woman aged twenty-eight. She formerly had ordinary fair hair, but in her twenty-third year observed it become darker on her temples. During the next five years the alteration in colour extended over the whole head. The hair was easily seen to present the appearance described above. There are similar specimens in the Museum of the Royal College of Surgeons, Nos. 595 and 535; also in the Museum of St. Bartholomew's Hospital. No. 595 is named 'Atmothrix (Wilson), from the appearance of the white segment being consequent on the diffusion of gaseous matter in minute globules through the tissue of the hair, No. 535 is named 'Tricho dyschroia,' and the white segments are attributed to the sudden production of air globules, which veil the pigment from view. The specimen in St. Bartholomew's Museum is not described. In the specimen mentioned above, the dark segments were due to accumulations of pigment in the medullary axis of the hair. The white segments present the appearance of ordinary light hair. By soaking in dilute acids the pigment was removed. No appreciable quantity of air could be discovered. Many specimens of normal hair which were examined presented the same peculiarity, *i.e.*, an unequal distribution of pigment, but in a smaller degree. A better name for the specimen than Tricho dyschroia would be Tricho dischroia ($\Delta\iota\varsigma$). A child of this woman's, aged five years, had hair which presented the same peculiarities.

He then read notes on 'Otis's Treatment of Gleet and Stricture of the Urethra,' and exhibited the instruments used for the purpose. (*Vide* paper in the present volume, page 157.)

Mr. Garstang read the notes of a case of 'Craniotomy,' and showed the instruments used in the operation.

The patient, a primipara, aged twenty-five, recovered without a bad symptom.

Mr. Bruce-Clarke read the notes of a man, aged fifty-six, who had swallowed a set of seven false teeth, which had become impacted in the œsophagus, just below the cricoid cartilage. Mr. Baker passed in Pollock's probang, and, after considerable difficulty, succeeded in dislodging the teeth and bringing them within reach of a pair of long curved forceps, by which they were removed.

January 30.

Mr. Mills read a paper on 'Anæsthetics.'

February 6.

Surgical Discussion—Subject, 'Stimulants,' introduced by Mr. Bruce-Clarke.

The discussion was limited to—

- a. Alcohol.
- b. Its use in disease only.
- c. Whether it be a food or no.

The chief point raised was as to the food properties of alcohol, this being the opinion of the majority of those present.

February 13.

Mr. Heath showed the heart of a man, aged thirty-seven, who died suddenly from pulmonary embolism, which showed a congenital deficiency of the septum ventriculosum, a narrow pulmonary orifice, and the aorta apparently arising from both ventricles.

Dr. Abercrombie showed the heart of a child, aged two and a half years, with much the same malformations, its weight being only four and a half ounces.

Mr. Day showed a twin monstrosity, which he had dissected, to show the relation and condition of the different organs and cavities.

Dr. Harris read a paper on 'Palpitation of the Heart.'

The author stated that the laity and a good many medical men considered that palpitation is sure evidence of organic heart disease, but that in reality it was anything but an infallible diagnostic symptom. He then went on to say that patients who suffer from palpitation generally describe their feelings by such expressions as 'a thumping sensation in the chest;' 'a feeling as though the heart were going to burst' or 'rise up into the mouth,'—all these subjective sensations being very disagreeable; the physical signs which are usually observed in connection with these sensations are:—

An extensive cardiac pulsation, not more marked at the normal apex-beat than elsewhere, reaching upwards sometimes even to the first interspace, more marked to left of sternum.

A slight thrill, sometimes uncertain as to time.

Evident pulsation of vessels of neck.

Flushed face or unusual pallor.

No increase in percussion dulness.

Heart sounds thumping, first sharp and quick, like the second, the 'tic-tic' sounds; sometimes the first or second sound double.

The breathing shallow and rapid.

Going on to the definition of palpitation, Dr. Harris said that there were discrepancies, some counting palpitation simply as increased force of the cardiac contractions, others as increased frequency only, others as an increase both in the force and frequency; at any rate, that there appeared to be two classes of cases:—(1) Where there is increased force, with or without increased frequency; (2) where there is no increase of force. To the first

of which belong the increased stroke of an hypertrophied heart; and patients, as a rule, hardly notice this at all, or feel it as disagreeable, unless the hypertrophy is becoming non-compensatory. Dr. Harris considered that true palpitation, being for the most part a disagreeable subjective sensation, only comprised the second class, where, in addition to increased frequency, there very often is irregularity. That one or two explanations have been given of the cause of palpitation—either that the vagi or inhibitory nerves of the heart have been paralysed, or that the accelerator nerves have been over-stimulated, or that both these circumstances have occurred. Again, it is possible to suppose that some poison has, by circulating in the blood, deranged the equilibrium of the cardiac ganglia themselves, independently of, or conjointly with, the other circumstances. As to the general causes of palpitation, the most frequent is *indigestion*; and, roughly speaking, palpitation is more frequently diagnostic of this than of *morbus cordis*. Generally it acts by pressure from the stomach being filled with gas, principally that which arises from the putrid decomposition of the food. Next to indigestion, *smoking in excess* Dr. Harris considered to be most likely to produce palpitation; and, afterwards, *tea and coffee* when taken in large quantity. Tobacco and tea acting differently to the mechanical or pressure-cause (from distended stomach), probably by their effects upon the vagi, much in the same way as atropine acts. The next variety of palpitation considered was that sometimes observed in Grave's disease, which is now considered to be an effect of disturbance of the accelerator nerves of the heart. The theory that palpitation is due to spasm of the arterioles was next considered, and it was shown that this ought to produce, not increased frequency, but rather slowing of the heart, as the drugs which dilate the arterioles, *e.g.*, nitrate of amyl and nitro-glycerin, produce severe palpitation, so that the nervous palpitation is not unlikely due to watery or not sufficiently corpusculated blood. After a short account of the treatment of the symptom, Dr. Harris epitomised his paper thus:—

- (1.) *That the symptom of palpitation is hardly ever due to organic disease of the heart.*
- (2.) *That there are various forms of true palpitation* (or increased frequency without increased force), which may be divided into:—(a.) *mechanical*, (b.) *toxic*, (c.) *nervous*.
- (3.) *That these act in various and distinct ways.*

February 20.

Mr. Bruce-Clarke showed a case in which adhesions of the shoulder, elbow, and wrist joints had been successfully treated by forcible movements under chloroform, after the manner of bone-setters.

Mr. Eve showed dissected specimens of dislocations of the shoulder and hip.

Mr. Rice read the notes of a case of pyæmia after amputation, treated antiseptically, in which the wound throughout presented a perfectly healthy appearance.

Dr. Stowers read a paper on the 'Nature and Treatment of Parasitic Skin Diseases,' and commenced by dividing them into two groups, viz. :—

1. Those due to the presence of an animal parasite.
2. Those associated with the presence of a vegetable parasite, whether cause or effect.

Concerning the parasitic animals which infest the human integument the chief are the entozoon folliculorum, the acarus, the pediculus, the pulex, the cimex, the filaria medinensis, and the cestrus.

1. The Entozoon folliculorum occurs in the sebiferous follicles, and was first discovered by Gustav Simon of Berlin. The animal, belonging to the class Arachnida, presents several forms, which correspond with the different stages of development.

2. The *Acarus autumnalis*, or harvest-bug, is met with abundantly on chalky soil during harvest-time.

3. Of pediculi there are three kinds which occur upon the human body.

a. *Pediculus capitis*, or head-louse.

b. *Pediculus corporis*, or body-louse.

c. *Pediculus pubis*, or pubic or crab-louse.

Concerning these it is a curious fact that the three species, while differing anatomically from each other, should live in such close proximity to one another, and yet in no case leave their preserves for the purpose of poaching on that of their neighbours. With reference to the common head-louse, Leuenhock had put their power of procreation to the test of experiment. He took two females and placed them in a black silk stocking, which he wore day and night, that they might have the benefit of feeding upon him. He found that in six days each laid fifty eggs without exhausting its store; and in twenty-four days the young were capable of laying eggs themselves; and carrying on the calculation, he estimates that the two females conjointly might produce 18,000 in two months. The author stated that it had been computed that the second generation of a single louse may furnish 2500, and the third 125,000 lice.

4. *Pulex irritans*, or flea.

5. *Cimex lectuarius*, or bug.

6. *Filaria medinensis*, commonly met with in India.

It is a small worm, and has the power of penetrating and secreting itself in the subcutaneous tissues.

7. *Cæstrus*, or gadfly, seldom attacks the human subject, but its ravages are of common occurrence in cattle and horses.

8. *Acarus scabiei*, or itch insect, the earliest information concerning which was recorded as far back as the time of Aristotle, 350 years before the Christian era. The male *acarus* was first described by Kraemer in 1845.

Dr. Stowers next proceeded to describe the second great group, or *Dermatophyta*, of which the following are most commonly met with :—

1. *Achorion Schonleinii*, producing disease known as *Tinea favosa*.

2. *Trichophyton*, giving rise to— *

a. *Tinea tonsurans*, ringworm of head.

b. *Tinea circinata*, ringworm of body.

c. *Tinea sycosis*, ringworm of beard.

3. *Microsporon furfur*, causing affection known as *Tinea versicolor*.

4. *Microsporon Audouini*, a vegetable parasite, which has been alleged by a few observers to be present in the disease known as *Alopecia areata*.

After giving a detailed description of each parasite animal and vegetable, Dr. Stowers concluded with a few special directions upon the subject of treatment, and mentioned various formulæ which he had found to be most useful in practice.

February 27.

Mr. Heath showed a patient with paralysis of the external muscles, the iris and ciliary muscle of the right eye, due probably to syphilitic disease in the brain, which was greatly improved by the use of iodide of potassium.

Mr. Gill showed a man with complete webbing of some of the fingers and toes.

Mr. F. Rushworth showed a patient who had recovered very free movement in the knee after a wound, followed by suppuration in the joint.

Mr. Garstang showed a small fibrous polypus which had protruded from the urethra of a woman, from whom it was removed by the *ecraseur*. It had given rise to considerable hæmorrhage, and was supposed to have been attached to the fundus of the bladder.

Dr. Darbishire read a paper on 'Preventive Medicine.'

March 6.

House Surgeons' Evening.—Subject for Discussion, 'Treatment of Wounds.'

The House Surgeons, Mr. Douglas, Mr. Clarke, Mr. Gabb, and Mr. Burn, discussed freely the various modes of treating wounds and their complications; and whilst agreeing that for certain cases, such as wounds of the peritoneum, of joints, or in the treatment of compound fractures, Lister's plan of treatment was preferable, yet for ordinary wounds, rest, thorough drainage, and cleanliness was equally satisfactory.

March 13.

Mr. Griffith showed a patient with paresis of the ciliary muscle of one eye, coming on five months after a blow.

Also a patient who had been operated on successfully for convergent strabismus, one eye being hypermetropic to 2 D., and the other myopic to 6.5 D., the glasses found useful being + 1.5 D. and - 2.5 D.

Mr. Moullin read a paper on 'Delirium Tremens.'

Delirium tremens, as it occurs in surgical wards, is the outcome of two distinct conditions, of which sometimes one, sometimes the other, has a predominating influence.

The one is the prolonged abuse of a poison, in its real nature narcotic, at once the immediate cause of many of the symptoms, and the source of that characteristic facies, the stamp which marks it as something definite; the other, that condition of profound anæmia which may be taken to be the sum of the influences which have worked together to effect the common ruin—the combined result of defective supply of all that is essential, and increased use of that which is injurious, with the consequent visceral degeneration, and imperfect elimination of waste.

The poison is a narcotic, not a stimulant one; for its effects in all but the smallest doses are phenomena of paralysis, of loss, not of increase, of power in mind as well as body. The increased rapidity of ideas, so far from being the result of a stimulus, is but due to the impairment of those inhibitory forces called reason and will; and is quickly followed by the latter stage of confusion, just as the impaired inhibition manifested in the flushing of the face soon extends to the more delicate and then to the coarser co-ordinating powers. And the senses follow the same law; dull and dim from the very first, at no time is sensation or perception rendered more acute. All the symptoms, in fact, are those of diminished nerve control, of loss of power, due to a narcotising and not to a stimulating influence.

Now delirium tremens represents the sum of the phenomena of a condition of anæmia which can only be compared with the debility of convalescence after a continued fever; only they are coloured, as it were, by those of alcoholism, appearing slowly and acting continuously, but in reality the same as are presented by the acute form.

It is true that acute alcoholism ends in coma, while the characteristic trouble of the chronic form is its sleeplessness; but the relationship between these two conditions is more close than that between sleep and coma, and they at least as often, in the exhaustion of overwork, succeed each other.

The tremor is the offspring of that impairment of co-ordination present alike in the course of the attack and the recovery from it: the delirium is the natural outcome of a continuance of that involuntary reminiscence which must result from the loss of control over ideas, and accordingly it often recalls previous occupation, while its main characteristic, its 'busy nature,' finds a counterpart often in the senseless persistence and activity of the drunkard.

Hallucinations certainly do not occur in the acute form: possibly coma comes too soon; and the part played by simple anæmia in their production must not be overlooked: possibly they are in great measure due to this, the poison but colouring them.

Equally a phenomenon of diminished nerve power is the hyperæsthesia of this disorder; for even if sensibility is increased (as, for example, in an inflamed finger), sensation certainly is not; nor should the significance of the local hyperæsthesia often present after injury to the spinal cord be forgotten.

For the rest, the vascular dilatation on the face, the loss of arterial pressure, quickened pulse, diminution of heat and the cold clammy skin, are common to both; while the vomiting, gastritis, loss of appetite, headache, dizziness, and tremor which mark the recovery from an acute attack, are the almost constant attendants on the victim of chronic excess.

In short, alcoholic abuse may cause acute and uncomplicated symptoms, or, in a constitution somewhat predisposed, a condition, the delirium ebriosorum, which can hardly be distinguished from the ordinary form. In a victim still more worn out, such excess is no longer needed; the sudden call made on the system by some febrile or inflammatory affection, together with the alcohol already present, is all that is required; while in the last stage, even this may be dispensed with; as the resisting power becomes weaker, the less is needed an exciting cause.

If delirium tremens is, then, in a great measure due to chronic

narcotism, surely nothing can be more injurious in its treatment than the use of narcotics, such as opium in large doses? or of a drug such as chloral, which lowers a blood pressure already low enough, and weakens an already enfeebled heart?

Undoubtedly the main reliance must be on stimulants; food as the best; by the rectum if the gastritis is severe; and with food, and as food, alcohol in small doses, never approaching narcotism, and sometimes, if well borne, opium in the same way.

Heroic treatment is utterly out of place; it is of no service to induce coma when sleep is required. Patients, somewhat fortunately, do usually recover, on any treatment, or on none: it is as impossible to cure one as it is to administer an antidote to a confirmed opium-eater.

March 20.

Annual meeting for the election of officers. The following were elected:—

PRESIDENTS, . . . Mr. Bruce-Clarke; Mr. Moullin.
 VICE-PRESIDENTS, Mr. Heath; Mr. Dingley.
 SECRETARIES, . . . Mr. Day; Dr. Marshall.

March 28.

Special meeting to receive the report of the sub-committee appointed to investigate as to the application of the funds at the Society's disposal. The sub-committee recommended the investment of surplus funds, and a sub-committee was appointed for this purpose.

WALTER S. A. GRIFFITH, } *late Hon. Secs.*
 W. L. HEATH, }

EXAMINATIONS, 1876-77.

—♦♦♦—

Lawrence Scholarship and Gold Medal—
(No Candidate.)

Brackenbury Medical Scholarship—

W. L. HEATH, } Equal.
P. A. STEEDMAN, }

Brackenbury Surgical Scholarship—

G. O. MEAD.

Senior Scholarship in Anatomy, Physiology, and Chemistry—

R. GILL.

Open Scholarship in Science—

A. M. MARSHALL, } Equal.
S. NALL, }

Preliminary Scientific Exhibition—

E. CLARKE.

Jeaffreson Exhibition—

W. J. COLLINS.

Kirkes Gold Medal—

W. L. HEATH.

Bentley Prize—

W. S. A. GRIFFITH.

Hichens Prize—

W. WICKHAM.

Wix Prize—

(Not awarded.)

PRACTICAL ANATOMY.

SENIOR.

*Foster Prize—*A. A. BOWLBY.
2. { G. E. FOOKS.
C. C. SHEPHERD.
4. H. C. NANCE.
5. H. T. PRESTON.
6. A. J. WHARRY.
7. M. PEARLESS.
8. W. T. FREEMAN.

JUNIOR.

*Treasurer's Prize—*J. BARRATT.
2. { J. E. RISK.
W. T. WYATT.
4. { J. HARPER.
R. JONES.
S. WESTCOTT.
7. E. CLARKE.
8. C. S. SPACKMAN.

EXAMINATIONS, 1877-78.

Lawrence Scholarship and Gold Medal—

M. PRICKETT.

Brackenbury Medical Scholarship—

S. S. BURN.

Brackenbury Surgical Scholarship—

A. DINGLEY.

Senior Scholarship in Anatomy, Physiology, and Chemistry—

D. A. KING.

Open Scholarship in Science—

W. A. HOYLE.

W. OVEREND.

Preliminary Scientific Exhibition—

P. S. ABRAHAM.

Jeaffreson Exhibition—

G. F. HERRINGHAM.

Kirkes Gold Medal—

C. A. D. CLARKE.

Bentley Prize—

T. W. H. GARSTANG.

Hichens Prize—

H. SMITH.

Wix Prize—

A. C. BULLER.

Prox. accessit.—D. A. KING.

PRACTICAL ANATOMY.

SENIOR.

- Foster Prize*—W. T. WYATT.
 2. D. D. DAY.
 3. S. WESTCOTT.
 4. W. J. COLLINS.
 5. { C. SANDARS.
 { E. RICE.
 7. { E. CLARKE.
 { J. HARPER.
 9. { R. JONES.
 { J. E. RISK.
 11. G. T. HOCKEN.

JUNIOR.

- Treasurer's Prize*—C. L. H. TRIPP.
 2. J. W. FIELD.
 3. A. C. ROPER.
 4. J. E. SQUARE.
 5. B. RICE.
 6. F. J. SHORT.
 7. { C. J. MURIAL.
 { T. MUDGK.
 9. W. A. HOYLE.

EXAMINATIONS, 1878-79.

Lawrence Scholarship and Gold Medal—

T. KIRSOPP.

Brackenbury Medical Scholarship—

C. P. LUKIS.

Brackenbury Surgical Scholarship—

H. W. T. MUDGE.

Senior Scholarship in Anatomy, Physiology, and Chemistry—

D. D. DAY.

Open Scholarship in Science—

A. J. ANDERSON.

J. BERRY.

Preliminary Scientific Exhibition—

J. R. FORREST,	} Equal.
A. HILL,	

Jeaffreson Exhibition—

A. SHADWELL.

Kirkes Gold Medal—

G. BARLING,	} Equal.
W. T. WYATT,	

Bentley Prize—

HENRY SMITH.

Hichens Prize—

R. JONES.

Wix Prize—

R. JONES.

PRACTICAL ANATOMY.

SENIOR.

*Foster Prize—*C. L. H. TRIPP.

2. F. J. SHORT.
3. W. A. HOYLE.
4. C. A. MORTON.
5. A. C. ROPER.
6. { E. G. COLVILLE.
- { A. T. G. HEATH.
8. { F. W. ALEXANDER.
- { J. W. FIELD.
- { C. A. JAMES.

JUNIOR.

*Treasurer's Prize—*J. BERRY.

2. F. F. WALKER.
3. C. J. STANSBY.
4. A. S. NANCE.
5. H. RAYNER.
6. A. W. WHEATLEY.
7. R. W. JALLAND.
8. J. PAYNE.

ST. BARTHOLOMEW'S HOSPITAL & COLLEGE.

THE MEDICAL AND SURGICAL STAFF.

Consulting Physicians—Sir G. Burrows, Bart., D.C.L., F.R.S.,
Dr. Farre, Dr. Martin, Dr. Harris.

Consulting Surgeon—Sir J. Paget, Bart., D.C.L., LL.D.,
F.R.S.

Physicians—Dr. Andrew, Dr. Southey, Dr. Church, Dr. Gee.

Surgeons—Mr. Holden, Mr. Savory, F.R.S., Mr. Thomas
Smith, Mr. Willett.

Assistant-Physicians — Dr. Duckworth, Dr. Hensley, Dr.
Brunton, F.R.S., Dr. Wickham Legg.

Assistant-Surgeons—Mr. Langton, Mr. Marrant Baker, Mr.
Marsh, Mr. ———.

Physician-Accoucheur—Dr. J. Matthews Duncan.

Assistant-Physician-Accoucheur—Dr. Godson.

Ophthalmic Surgeons—Mr. Power, Mr. Vernon.

Dental Surgeon—Mr. Coleman.

Administrator of Chloroform—Mr. Mills.

Casualty Physicians—Dr. V. D. Harris, Dr. J. A. Ormerod,
Dr. S. West.

Medical Registrar—Dr. Champneys.

Surgical Registrars—Mr. Macready, Mr. Harrison Cripps.

LECTURES.

Medicine—Dr. Andrew, Dr. Gee.

Clinical Medicine—Dr. Andrew, Dr. Southey, Dr. Church,
Dr. Gee.

Surgery—Mr. Savory, F.R.S.

Clinical Surgery—Mr. Holden, Mr. Savory, F.R.S., Mr.
Thomas Smith, Mr. Willett.

Descriptive and Surgical Anatomy — Mr. Langton, Mr.
Marsh.

General Anatomy and Physiology—Mr. Marrant Baker.

Histology—Dr. Klein, F.R.S.

Chemistry and Practical Chemistry—Dr. Russell, F.R.S.

Materia Medica—Dr. Brunton, F.R.S.

Forensic Medicine and Hygiene—Dr. Southey.

Midwifery and the Diseases of Women and Children—Dr.
Matthews Duncan.

Botany—Rev. George Henslow.

Pathological Anatomy—Dr. Wickham Legg.

Comparative Anatomy—Dr. Moore.

Ophthalmic Medicine and Surgery—Mr. Power.

Dental Anatomy and Surgery—Mr. Coleman.

Mental Diseases—Dr. Claye Shaw.

DEMONSTRATIONS.

Morbid Anatomy—Dr. Moore.

Diseases of the Skin—Mr. Marrant Baker.

Orthopædic Surgery—Mr. Marsh.

Diseases of the Ear—Mr. Langton.

Diseases of the Eye—Mr. Vernon.

Practical Surgery—Mr. Butlin.

Practical Anatomy and Operative Surgery—Mr. Cumberbatch,
Mr. Walsham.

Assistant Demonstrators—Mr. Shuter, Mr. Röeckel.

Mechanical and Natural Philosophy—Mr. Macalister.

Practical Physiology—Dr. V. D. Harris.

Assistant Demonstrator—Mr. D'Arcy Power.

Medical Tutor—Dr. S. West.

COLLEGIATE ESTABLISHMENT.

Warden—Dr. NORMAN MOORE.

Students can reside within the Hospital walls, subject to the College regulations.

Ten Scholarships, varying in value from £20 to £100, are awarded annually.

Further information respecting Scholarships, Pupils' Appointments, and other details, may be obtained from Dr. Norman Moore, and at the Museum or Library.



STATISTICAL TABLES

OF THE

Patients under Treatment

IN THE WARDS OF

ST. BARTHOLOMEW'S HOSPITAL

DURING 1878.

BY

THE MEDICAL REGISTRAR,

FRANCIS H. CHAMPNEYS, M.B. (Oxon.)—M.R.C.P.;

AND

THE SURGICAL REGISTRARS,

HENRY T. BUTLIN, F.R.C.S.,

AND

J. MACREADY, F.R.C.S.

LONDON:

HARRISON AND SONS, ST. MARTIN'S LANE,
Printers in Ordinary to Her Majesty.

1879.



PREFACE.

No changes have been made in either the Medical or Surgical Tables.

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ST. BARTHOLOMEW'S HOSPITAL.

1878.

Number of Beds in Medical Wards (including 14 for Diseases of Women)	230
" " " * Surgical " { including 6 for Diseases of Women }	405
" " " Unassigned	18
	653

GENERAL STATEMENT OF THE PATIENTS UNDER TREATMENT DURING THE YEAR.

Patients remaining January 1st, 1878 :

Medical	156	} 410
Surgical	254	

Admitted during the year :

Medical	2272	} 5243
Surgical	2971	

Discharged Cured and Relieved :

Medical	1652	} 4265
Surgical	2613	

Discharged Unrelieved :

Medical	222	} 367
Surgical	145	

Died :

Medical	374	} 527
Surgical	153	

Remaining January 1st, 1879 :

Medical	180	} 494
Surgical	314	

Patients brought in Dead	....	....	....	....	37
Number of Post-mortem Examinations	....	....	....	....	525

* The number of Surgical Beds varied during the year.

OCCUPATIONS OF MALE PATIENTS.

Accountants	3	Canvasser	1	Dock labourers	10
Actor	1	Captains	3	Drapers	13
Agents	3	Carmen	107	Draymen	6
Agricultural implement maker	1	Carpenters	48	Dredgers	2
Appollinaris water maker	1	Carriers	6	Drover	1
Apprentices	5	Carters	2	Druggists	2
Architect	1	Carvers	5	Dustmen	3
Artificial florists	2	Cats'-meat men	2	Dyers	2
Artists	4	Cattle dealers	4	Engine drivers	4
Bacon driers	2	Cellarmen	11	Engineers	25
Bag makers	2	Cement maker	1	Engine fitters	4
Bag-pipe player	1	Chaff-cutters	2	Engravers	2
Bakers	12	Chairmakers	6	Errand boys	22
Bargemen	6	Cheesemongers	6	Excavators	3
Barmen	13	Chemical worker	1	Factory hands	3
Barrister	1	Chemists	8	Fancy-box makers	4
Basketmakers	3	Chimney sweep	1	Farm bailiffs	2
Bathmen	2	Chocolate makers	3	Farmers	6
Beadle	1	Cigar-box maker	1	Farriers	12
Bell-hanger	1	Cigar makers	6	Felon	1
Billiard markers	2	Clerks	66	Felt maker	1
Billposters	2	Clickers	2	Fibre drawer	1
Bird stuffer	1	Clockmakers	3	Figure makers	2
Blacksmiths	19	Cloth workers	3	Fire-hose maker	1
Boiler makers	2	Coachmakers	4	Firemen	8
Bonnet-shape maker	1	Coachmen	12	Fishing-rod maker	1
Bookbinders	21	Coach painter	1	Fishmongers	12
Bookkeeper	1	Coalheavers	18	Flower-stand maker	1
Book moulder	1	Coal porters	4	Footmen	4
Booksellers	3	Coastguard	1	Foremen	3
Boot finishers	6	Coffee-house keeper	1	Foundrymen	8
Boot-lace cutter	1	Coffee-plate painter	1	Frame makers	2
Bootmakers	14	Collar makers	2	French polishers	8
Boot riveter	1	Combmaker	1	Fruiterer	1
Bottle washers	2	Commercial travellers	20	Furniture dealer	1
Box carrier	1	Commission agents	4	Furniture grainer	1
Box makers	9	Commissionaire	1	Furniture polisher	1
Braid designers	2	Compositors	15	Furriers	4
Brass finishers	5	Confectioners	4	Gamekeeper	1
Brass founder	1	Constables	4	Gardeners	20
Brewers	9	Cooks	11	Gas engineers	2
Bricklayers	46	Coopers	12	Gas factor	1
Brickmakers	5	Coppersmiths	2	Gasfitters	13
Broker	1	Copyist	1	Gas stoker	1
Brush makers	3	Corn dealers	4	Gatekeeper	1
Builders	5	Costermongers	10	General dealers	6
Butchers	35	Cowherds	2	Gentlemen	2
Butlers	6	Crossing sweeper	1	Gilders	4
Button makers	3	Curriers	2	Gingerbeer makers	3
Cabinetmakers	29	Custom-house officer	1	Glassblowers	5
Cabmen	27	Cutlers	2	Glass cutters	2
Calico bleacher	1	Dairyman	1	Glass dealer	1
Calico cutter	1	Decorators	2	Glass-shade maker	1
Cane makers	2	Designer	1	Glass writer	1
		Distiller	1	Glaziers	2

OCCUPATIONS OF MALE PATIENTS (*continued*).

Goldbeaters 2	Machine boys 2	Pipe maker 1
Gold and silver lace maker 1	Machine makers 7	Plasterers 8
Grainer 1	Machine rulers 4	Platelayers 10
Greengrocer 1	Mail-cart driver 1	Plumbers 16
Grocers 8	Municipal in college 1	Policeinen 7
Grooms 14	Map mounter 1	Pork butcher 1
Guards 2	Marble polisher 1	Porters.. 89
Gunsmiths 3	Marine-store dealer 1	Portmanteau makers .. 2
Guttapercha maker .. 1	Marqueterie inlayer .. 1	Postmen 3
Guttapercha printer .. 1	Masons.. 16	Post-office sorters .. 4
Hairdressers 8	Master mariner 1	Potato salesmen 2
Harmonium maker 1	Match makers.. .. 2	Potmen 8
Harnessmakers 2	Meat examiner 1	Poulterers 4
Hatters.. 4	Mechanic 1	Press cutter 1
Hawkers 23	Merchants 2	Press maker 1
Haybinder 1	Messengers 6	Printers 68
Horse dealers 3	Metal polisher.. .. 1	Prisoner 1
Horse keepers 7	Milkmen 5	Publicans 5
Hosiers.. 2	Millers.. 4	Pugilist 1
House decorators .. 2	Miner 1	Quarryman 1
Ice carrier 1	Mineral-water bottler.. 1	Rag sorters 2
Indiarubber makers .. 2	Mineral-water makers 2	Railway guard 1
Ink maker 1	Musicians 6	Railway pointsmen .. 2
Instrument makers .. 3	Naval officer 1	Railway porters 10
Insurance agent 1	Navvies 10	Reader.. 1
Ironmonger 1	Newspaper proprietor 1	Relieving officer .. 1
Iron moulders 2	Newsvendors 2	Riggers 2
Ivory carvers 2	Night watchmen 4	Riveters 4
Ivory turners 4	Oakum pickers 2	Roller maker 1
Japanners 2	Office boy 1	Rope maker 1
Jewel-case makers .. 2	Oilcloth makers 2	Sadler 1
Jewellers 8	Omnibus conductors .. 2	Safe makers 2
Joiners.. 9	Omnibus drivers 2	Sail makers 6
Keepers 2	Organ grinders 2	Sailors 29
Kitchen boy 1	Ostlers 21	Sausage maker 1
Labourers 286	Packers 7	Sawdust dealers 2
Lace maker 1	Packing-case makers .. 6	Sawyers 18
Lamplighters 3	Pages 5	Scaffolders 11
Lamp makers 2	Painters 44	Scale makers 2
Lapidaries 2	Paper-collar maker .. 1	Schoolboys 213
Last maker 1	Paper colourers 3	Schoolmasters 4
Lath cutter 1	Paper glazer 1	Scullion 1
Law writers 2	Paperhangers 9	Sculptor 1
Lawyers 2	Paper marbler.. .. 1	Sealskin dressers .. 2
Lead-cup maker 1	Paper ruler 1	Searcher of records .. 1
Lead worker 1	Paper stainers.. .. 3	Servants 5
Leather-case makers .. 7	Pauper 1	Sewerman 1
Leather cutters 3	Pavior 1	Sewing-machine maker 1
Leather dressers .. 2	Pawnbrokers 2	Shepherds 3
Leather finisher .. 1	Perfumers 3	Ship stewards 4
Leather workers .. 3	Photographers.. .. 4	Shipwrights 2
Letter-carriers.. .. 3	Pianoforte makers .. 5	Shoeblocks 5
Lightermen 7	Piano-key maker 1	Shoe finisher 1
Linendrapers 2	Piano-truss carver .. 1	Shoemakers 34
Lithographers.. .. 5	Piano tuners 3	Shop boys 5
Locksmith 1	Picture dealers 2	Shopmen 10
Lodging-house keepers 4	Picture-frame maker .. 1	Shorthand writer .. 1
Looking-glass makers.. 4	Pig driver 1	Sieve maker 1
	Pilot 1	Signalman 1

OCCUPATIONS OF MALE PATIENTS (*continued*).

Sign writer 1	Sweeps 5	Warehousemen .. 23
Silk spinners 2	Tailors 41	Warders 3
Silk weavers 2	Tallow chandlers .. 2	Watchmakers 8
Silversmith 1	Tea mixer 1	Watchmen 5
Slaters 4	Telegraph clerks .. 3	Waterman 1
Slaughterman 1	Telegraph-wire examiner 1	Weavers 3
Smiths 13	Tie cutter 1	Whalebone cutter .. 1
Soap maker 1	Timekeepers 2	Wheelwrights 3
Soda-water maker .. 1	Tinfoil workers 8	Whipmakers 2
Soldiers 15	Tinmen 6	White-lead carrier .. 1
Solicitor 1	Tin-plate worker .. 1	White-lead drier .. 1
Sorter 1	Tobacconists 3	White-lead grinder .. 1
Stationers 6	Tobacco-pipe maker .. 1	Whitesmiths 4
Stereotypers 3	Toy makers 3	Wine bottler 1
Stevadores 13	Tramway conductors .. 3	Wine cooper 1
Stick dressers 3	Train conductor .. 1	Wine merchants 2
Stick makers 3	Turf bookmaker .. 1	Wireworkers 3
Stockbrokers 2	Turners 12	Wood carver 1
Stokers 8	Typefounders 8	Wood choppers 4
Stone cutter 1	Umbrella makers .. 5	Wood cutters 2
Storekeeper 1	Umbrella-stick maker .. 1	Wood turners 2
Street musicians .. 2	Undertakers 3	Wool factor 1
Students of medicine .. 8	Upholsters 5	Wool sorter 1
Sugar chopper 1	Van boys 29	Writers 2
Surgeon 1	Varnish maker 1	Zinc workers 3
Surgical-instrument makers 2	Vat maker 1	
	Waiters 19	

OCCUPATIONS OF FEMALE PATIENTS.

Artificial-flower makers	22	Fishmonger	1	Oyster seller	1
Artificial-leaf shader ..	1	Fishwife	1	Packers	3
Artist	1	Flower seller	1	Paper colourers	3
Baby farmer	1	Frame maker	1	Paper glazer	1
Bag makers	6	French polisher	1	Paperhanger	1
Ballet girl	1	Frilling maker	1	Pauper	1
Barmaids	9	Fringe maker	1	Percussion-cap maker ..	1
Basket makers	4	Frisette maker	1	Pin maker	1
Bonnet makers	4	Furriers	8	Playing-card cleaner ..	1
Bookbinders	2	Fur sewer	1	Pocket-book maker ..	1
Bookfolders	22	General dealers	8	Printer's reviser	1
Bookkeeper	1	Goldbeater's-skin maker	1	Probationers	2
Boot closers	6	Governesses	2	Rag sorter	1
Boot fitter	1	Gunpowder packer	1	Sail makers	2
Boot trimmer	1	Haberdasher	1	Saleswoman	1
Bottle washer	1	Hairworkers	2	School girls	144
Box labeller	1	Harlots	4	Schoolmistresses	4
Box makers	17	Hat makers	2	Scrubber	1
Brace maker	1	Hawkers	11	Semptresses	22
Brush makers	3	Hop picker	1	Servants	268
Brush polisher	1	Hotelkeeper	1	Shirt maker	1
Button maker	1	Hosier	1	Shoebinder	1
Cabinet maker	1	Housekeepers	17	Shoe cleaner	1
Cap maker	1	Housemaids	14	Shoemakers	7
Card maker	1	Housewives	697	Shopwomen	6
Chair caners	3	Ironers.. ..	15	Sieve maker	1
Charwomen	68	Japanners	2	Silk weavers	5
China merchant	1	Jewel-case maker	1	Silk winders	7
Cigar maker	1	Knitter.. ..	1	Skin dresser	1
Clothworker	1	Label makers	3	Stationers	2
Coal dealer	1	Lady	1	Straw-hat maker	1
Coffee-house keeper ..	1	Lady's maid	1	Straw plaiter	1
Coffee-stall keeper ..	1	Lace maker	1	Staymakers	6
Collar stamper	1	Lacquerer	1	Tailoresses	22
Confectioners	2	Laundresses	71	Teachers	3
Cooks	45	Leather cutters	2	Tea-stall keeper	1
Cotton winders	3	Lodging-house keepers	9	Tie makers	7
Distiller	1	Machinists	39	Tobacconists	2
Doll maker	1	Maid	1	Tooth-brush drawers ..	3
Drapers	4	Mangler	1	Trimming makers	6
Dressmakers	23	Mantle makers	5	Umbrella makers	3
Dress-suspender maker	1	Match makers.. ..	2	Upholstresses	2
Dust sifter	1	Matron.. ..	1	Valentine maker	1
Dyers	3	Midwife	1	Vocalist	1
Elastic-stocking maker	1	Milliners	13	Waistcoat makers	3
Envelope folders	5	Missionary	1	Waitresses	2
Envelope maker	1	Musician	1	Ward maids	13
Errand girls	2	Needlewomen	54	Waterproofers	1
Factory hand	1	Net maker	1	Wax-taper maker	1
Fancy-box makers	7	Nurses (hospital)	32	Weavers	4
Farmer.. ..	1	,, (lunatic asylum) ..	1	Widow.. ..	1
Feather cleaners	4	,, (monthly)	14	Wire maker	1
Feather curler	1	,, (private)	46	White-lead carriers ..	11
Feather sorter	1	Nursery governesses ..	3	Wood choppers	2
Feather worker	1	Oil maker	1	Wool cleaners.. ..	2
Firewood maker	1	Old-clothes merchants	3	Worsted winder	1

MEDICAL REPORT.

TABLE I.

Showing the Total Number of Cases of each Disease under Treatment during the Year 1878, with the Results.

(The numbers after the names of the Diseases refer to the Appendix at the end of the Table.)

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1878.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
GENERAL DISEASES, A.										
Small Pox	1	1	1	..	..	1	..	..	..	..
Sequelæ of Small Pox (1)	..	1	..	1	..	..	..	..	..	..
Chicken Pox.. .. .	1	2	1	2	..	..	..	..	..	..
Measles (2)	6	3	5	2	..	..	1	..	..	1
Scarlet Fever (3)	32	36	26	30	..	..	4	3	2	3
Sequelæ of Scarlet Fever (4)	..	24	12	17	10	..	..	4	..	3
Typhus (5)	4	4	1	3	3	1	..	..	..
Enteric Fever (6)	103	64	82	49	..	..	12	6	9
Sequelæ of Enteric Fever	..	1	4	1	3	..	..	..	..	1
Fæbricula	21	12	21	12	..	..	..	..	..
Ague (7)—										
Tertian	3	..	3	..	..	..	..	..	..
Quotidian	1	1	1	1	..	..	..	..	..
Irregular	3	1	3	1	..	..	..	..	..
Sequelæ of Ague	2	..	2	..	..	..	..	..	..
Diphtheria (8)	6	4	..	2	..	..	6	2	..
Sequelæ of Diphtheria (9)	..	1	..	1	..	..	..	..	..	..
Hooping-cough	2	4	1	3	..	..	1	1	..
Mumps	1	1	..	1	..	..	..	..	1
Pyæmia (10)	4	..	..	..	..	..	4	..
Puerperal Fever	1	..	..	..	..	..	1	..
GENERAL DISEASES, B.										
Rheumatism—										
Acute (11)	77	83	67	68	1	1	2	4	7
Subacute (12)	9	14	8	13	..	..	..	..	1
Gonorrhœal (3)	10	..	10	..	..	..	..	..	..
Muscular	2	..	1	..	..	..	..	1
Lumbago	1	..	1	..	..	..	..	..
Chronic (14)	15	18	14	18	..	..	..	..	1
Gout—										
Acute (15)	7	1	7	1	..	..	..	..	..
Chronic (16)	5	4	3	3	1	..	1	..	1

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1878.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
GENERAL DISEASES, B										
<i>(continued).</i>										
Chronic Osteo-arthritis	4	1	4	1	..	..	..	..	..	..
Cancer—										
of Larynx	1	..	..	..	..	..	1	..	..	..
of Lungs (17)	2	1	..	..	1	..	1	1	..	..
of Mediastinum (18) .. ..	..	1	..	..	..	..	..	1	..	..
of Abdomen (19)	6	1	..	..	1	..	5	1	..	..
of Œsophagus	1	..	..	..	1	..	..	..	..	..
of Stomach (20)	3	4	..	..	..	1	3	2	..	1
of Liver (21)	4	5	..	..	..	2	4	3	..	..
of Intestines (22)	1	2	..	..	..	2	1	..	..	..
of Rectum .. ..	..	1	..	..	..	1	..	..	..	..
of Kidney (23)	1	..	..	..	..	..	1	..	..	..
of Pelvis (24) .. ..	..	4	..	..	..	4	..	..	..	..
of Uterus (25) .. ..	..	27	..	..	..	25	..	1	..	1
of Bone (26)	2	1	..	..	..	1	2	..	..	..
Epithelioma—										
of Cervix Uteri (27) .. ..	..	13	..	8	..	5	..	..	..	..
Lupus .. ..	..	1	..	1	..	..	..	..	..	..
Scrofula	2	1	1	1	..	..	..	..	1	..
Local Scrofulous Affections—										
Tubercular Meningitis (28) ..	3	4	..	..	..	..	3	4	..	..
Phthisis Pulmonalis (29) ..	56	32	17	11	6	4	32	15	1	2
Acute Miliary Tuberculosis (30)	9	3	4	..	..	..	5	2	..	1
Tabes Mesenterica .. ..	..	1	..	1	..	..	..	..	..	..
Tubercular Peritonitis (31) ..	1	..	..	..	..	..	1	..	..	..
Tuberculosis of Kidneys (32) ..	1	..	..	..	..	..	1	..	..	..
Rickets	5	1	3	1	..	..	..	..	2	..
Diabetes (33)	11	1	4	..	2	..	4	1	1	..
Purpura—										
Simple .. ..	..	2	..	2	..	..	..	..	..	..
Hæmorrhagic	1	5	1	4	..	..	..	1	..	..
Scurvy	1	..	1	..	..	..	..	..	..	..
*Anæmia	1	16	1	14	..	1	..	..	..	1
Chlorosis .. ..	..	5	..	5	..	..	..	..	..	..
*General Dropsy	2	..	..	..	1	..	1	..	..	..
LOCAL DISEASES.										
DISEASES OF THE NERVOUS SYSTEM.										
DISEASES OF THE BRAIN AND ITS MEMBRANES.										
Meningitis (Simplex) (34)	7	3	3	1	1	1	2	1	1	..
Softening .. ..	..	1	..	..	..	1	..	..	..	..

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1878.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF THE NERVOUS SYSTEM (continued).										
Apoplexy—										
Sanguineous (35)	8	6	..	..	..	1	8	5	..	..
Sunstroke (36)	2	..	2	..	..	..	..	..	..	..
Chronic Hydrocephalus	3	..	..	..	1	..	2	..	..	..
Tumour (37)	3	..	2	..	..	..	1	..	..	..
Cerebral Affection	3	..	1	..	1	..	..	..	1	..
DISEASES OF THE SPINAL CORD AND ITS MEMBRANES.										
Inflammation—										
Myelitis	2	1	1	1	1	..	..	..	..	..
DISEASES OF THE NERVES.										
*Paralysis—										
Hemiplegia (38)	31	25	18	15	6	8	2	1	5	1
Paraplegia (39)	10	3	2	2	6	..	1	..	1	1
Locomotor Ataxy (40)	8	..	6	..	2	..	..	..	..	..
Infantile paralysis	7	3	5	1	2	2	..	..	..	..
Local Paralysis—										
Facial Paralysis	1	..	1	..	..	..	..	..	..	..
Other Paralyses (41)	4	2	3	..	1	1	..	..	..	1
FUNCTIONAL DISEASES OF THE NERVOUS SYSTEM.										
Tetanus (42)	2	..	2	..	..	..	..	..	..	..
*Infantile Convulsions	2	3	1	2	1	1	..	..	..	..
Epilepsy (43)	23	19	22	15	1	3	..	..	..	1
Epileptic Vertigo	2	..	2	..	..	..	..	..	..	..
Epileptic Hemiplegia (44)	1	..	1	..	..	..	..	..	..	..
Laryngismus Stridulus	1	..	..	..	..	..	1	..	..	..
Spasm of Muscles (45)	3	..	..	..	3	..	..	..	..	..
Paralysis Agitans	1	1	..	1	..	..	..	..	1	..
Chorea (46)	7	21	6	16	..	1	..	1	1	3
Hysteria (47)	3	33	3	30	..	3	..	..	..	..
Hysterical Paralysis (48) .. ..	..	2	..	1	..	1	..	..	..	..
Neuralgia—										
Various (42)	1	3	1	3	..	..	..	..	..	..
Brow Ague	1	..	..	..	1	..	..	..	..	..
Sciatica	7	1	7	1	..	..	..	..	..	..
Pleurodynia	1	5	1	4	..	1	..	..	..	..
Hypochondriasis	4	..	3	..	1	..	..	..	..	..

TABLE I (continued).

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1878.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF THE NERVOUS SYSTEM (continued).										
Obscure Nerve Disorder ⁽⁵⁰⁾ ..	12	5	4	2	8	3	..	..	..	..
DISORDERS OF THE INTELLECT.										
Mania ⁽⁵¹⁾	4	1	..	..	4	1	..	..	..	..
Melancholia ⁽⁵²⁾	1	1	..	..	1	1	..	..	..	..
Dementia ⁽⁵³⁾	2	..	1	..	1	..	..	..	..	..
DISEASES OF THE CIRCULATORY SYSTEM.										
DISEASES OF THE HEART AND ITS MEMBRANES.										
<i>Diseases of the Pericardium.</i>										
Pericarditis ⁽⁵⁴⁾	3	3	3	3	..	..	..	..	..	..
Adherent Pericardium	1	..	1	..	..	..	..	..	..	..
<i>Diseases of the Endocardium.</i>										
Valve Disease ⁽⁵⁵⁾ —										
1. Aortic	20	5	11	2	1	..	6	3	2	..
2. Mitral	25	39	16	26	..	..	8	9	1	4
3. Pulmonary	1	..	1	..	..	..	..	..	..	..
4. Complicated	11	9	7	3	..	..	4	6	..	..
5. Congenital	3	1	1	..	1	..	1	1	..	..
<i>Diseases of the Muscular Structure of the Heart.</i>										
Dilatation ⁽⁵⁶⁾	4	1	1	1	..	..	3	..	..	..
Fatty Degeneration ⁽⁵⁷⁾	2	..	1	..	..	..	1	..	..
*Angina Pectoris .. .. .	..	1	..	1	..	..	..	..	..	..
DISEASES OF THE BLOOD VESSELS.										
<i>Diseases of the Arteries.</i>										
Aneurism—										
of Aorta ⁽⁵⁸⁾	18	5	6	1	5	1	5	2	2	1
of Abdominal Arteries	2	1	2	..	..	1	..	..	..	..
Epi-gastric Pulsation	1	..	..	..	1	..	..	..	..	..

TABLE I (continued).

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1878.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF THE BLOOD VESSELS (continued).										
<i>Diseases of the Veins.</i>										
Obstruction ⁽⁵⁹⁾	3	3	3	2	..	..	..	1	..	..
DISEASES OF THE ABSORBENT SYSTEM.										
Hypertrophy of Glands ⁽⁶⁰⁾ ..	8	9	1	6	5	2	2	..	..	1
DISEASES OF DUCTLESS GLANDS.										
DISEASES OF THE THYROID GLAND.										
Hypertrophy	1	3	..	1	1	1	..	..	..	1
Exophthalmic Bronchocele..	..	2	..	..	..	1	..	..	..	1
DISEASES OF THE RESPIRATORY SYSTEM.										
DISEASES OF THE RESPIRATORY SYSTEM NOT SIMPLY LOCAL.										
Croup ⁽⁶¹⁾	3	3	1	1	..	..	2	2	..	..
DISEASES OF THE LARYNX.										
Laryngeal Catarrh .. .. .	..	1	..	..	..	..	..	1	..	..
Laryngitis—										
Acute ⁽⁶²⁾	1	4	..	1	..	..	..	3	1	..
Chronic ⁽⁶³⁾	2	..	1	..	1	..	..	..	..	..
DISEASES OF THE TRACHEA AND BRONCHI.										
Bronchial Catarrh	6	4	6	3	..	..	..	1	..	..
Bronchitis—										
Acute ⁽⁶⁴⁾	10	11	10	9	..	..	..	1	..	1
Chronic ⁽⁶⁵⁾	24	39	14	23	..	..	7	13	3	3

TABLE I (continued).

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1878.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF THE RESPIRATORY SYSTEM (continued).										
DISEASES OF THE TRACHEA AND BRONCHI (continued).										
Asthma ⁽⁶⁶⁾	1	..	1	..	..	..	..	..	..
DISEASES OF THE LUNG.										
Pneumonia ⁽⁶⁷⁾	51	20	37	15	1	..	9	3	4	2
Lobular	3	2	1	1	..	..	2	1	..	..
Pleuro-Pneumonia ⁽⁶⁵⁾	25	9	20	9	1	..	3	..	1	..
Gangrene ⁽⁶⁹⁾	2	1	..	..	..	..	2	1	..	..
*Hæmoptysis ⁽⁷⁰⁾	10	2	10	2	..	..	..	..	..	..
Cirrhosis	1	1	1	..	..	..	..	1	..	..
Emphysema ⁽⁷¹⁾	4	3	3	2	..	..	1	1	..	..
DISEASES OF THE PLEURA.										
Pleurisy ⁽⁷²⁾	43	7	32	6	..	..	3	1	8	..
Chronic Pleurisy	3	1	3	..	..	..	..	..	..	1
Empyema ⁽⁷³⁾	7	3	4	2	..	..	3	1	..	..
Sequele of Empyema	1	1	1	..	..	1	..	..	..	..
DISEASES OF THE MEDIASTINUM.										
Tumour ⁽⁷⁴⁾	2	..	..	..	..	..	..	..	..	..
DISEASES OF THE DIGESTIVE SYSTEM.										
DISEASES OF THE STOMACH.										
Gastritis	1	2	1	2	..	..	..	..	..	..
Chronic Ulcer ⁽⁷⁵⁾	8	4	7	2	..	..	..	1	1	1
*Hæmatemesis ⁽⁷⁶⁾	4	5	4	5	..	..	..	..	..	..
*Stricture	1	..	..	..	..	..	1	..	..	..
Dyspepsia	4	13	4	13	..	..	..	..	..	..
Gastrodynia .. .. .	..	1	..	1	..	..	..	..	..	..
*Vomiting	1	2	1	2	..	..	..	..	..	..

TABLE I (continued).

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1877.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF THE DIGESTIVE SYSTEM (continued).										
DISEASES OF THE INTESTINES.										
Enteritis	2	..	1	..	..	..	1	..	..	..
Typhlitis (77)	1	1	1	..	..	..	..	1	..	..
Dysentery	1	3	1	2	..	..	..	1	..	..
Ulceration (78)	2	3	1	1	..	..	1	..	..	..
Perforation (79) .. .. .	..	1	..	..	..	..	..	1	..	..
Inflammation of the Subperitoneal Tissue	3	2	3	2	..	..	..	..	..	..
*Tyimpanites	2	..	2	..	..	..	..	..	..	..
*Obstruction (80)	2	2	1	1	..	..	1	1	..	..
Diarrhœa (81)	8	7	8	7	..	..	..	..	..	..
Colic	5	..	5	..	..	..	..	..	..	..
Constipation	6	5	6	5	..	..	..	..	..	..
Diarrhœa and Vomiting	1	3	1	3	..	..	..	..	..	..
DISEASES OF THE LIVER.										
Abscess (82)	2	..	..	..	1	..	1	..	..	..
Cirrhosis (83)	21	13	5	5	3	1	12	7	1	..
Fatty Liver	1	..	1	..	..	..	..	..	..	..
Lardaceous Liver (84)	1	..	..	..	..	..	1	..	..	..
Parasitic Disease—										
Echinococcus Hominis (85)	5	4	4	2	..	..	1	1	..	1
Jaundice	2	8	1	8	..	..	..	..	1	..
Enlargement	4	..	1	..	1	..	1	..	1	..
DISEASES OF THE HEPATIC DUCTS AND GALL BLADDER.										
Gall Stones	2	1	1	..	1	..	..	..	..	1
DISEASES OF THE SPLEEN.										
Hypertrophy	1	..	..	..	1	..	..	..	..	..
Leucocythæmia (86)	1	..	..	..	..	..	1	..	..	..
DISEASES OF THE PERITONEUM.										
Peritonitis (87)	6	12	4	4	..	2	2	6	..	..
*Ascites	2	4	1	2	1	2	..	..	..	..
Tumours (88)	5	18	..	2	5	16	..	..	..	..

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1878.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF THE URINARY SYSTEM.										
DISEASES OF THE KIDNEY.										
Bright's Disease—										
1. Acute ⁽⁸⁹⁾	17	10	13	8	..	..	3	2	1	..
2. Chronic ⁽⁹⁰⁾	45	35	30	18	2	..	11	15	2	2
Abscess ⁽⁹¹⁾	1	..	..	..	..	..	1	..	..	..
Pyelitis ⁽⁹²⁾	3	2	1	1	..	..	1	..	1	1
*Hæmaturia Renalis ⁽³⁾	3	1	1	1	1	..	..	..	1	..
*Hæmaturia ⁽⁴⁾	4	..	3	..	1	..	..	..	..	..
*Diuresis ⁽⁹⁵⁾	1	..	1	..	..	..	..	..	..
DISEASES OF THE BLADDER.										
*Hæmaturia (Vesical) ⁽⁹⁶⁾	1	..	..	..	..	..	1	..	..
DISEASES OF THE GENERATIVE SYSTEM.										
DISEASES OF THE FEMALE ORGANS OF GENERATION IN THE UNIMPREGNATED STATE.										
DISEASES OF THE OVARY.										
Inflammation ⁽⁹⁷⁾	10	..	10	..	..	..	..	..	..
DISEASES OF THE BROAD LIGAMENT.										
Inflammation—										
Pelvic Peritonitis ⁽⁹⁸⁾	20	..	19	..	..	..	..	..	1
Pelvic Cellulitis ⁽⁹⁹⁾	18	..	18	..	..	..	..	..	..
Abscess ⁽¹⁰⁰⁾	4	..	4	..	..	..	..	..	..
Pelvic Hæmatocele .. .. .	..	3	..	3	..	..	..	..	..	..
DISEASES OF THE UTERUS, INCLUDING THE CERVIX.										
Catarrh .. .. .	..	13	..	13	..	..	..	..	..	..
Inflammation ⁽¹⁰¹⁾	7	..	7	..	..	..	..	..	..
Congestion .. .. .	..	2	..	2	..	..	..	..	..	..
Hypertrophy ⁽¹⁰²⁾	3	..	3	..	..	..	..	..	..
Non-Malignant Tumour—										
A. Fibrous Tumour ⁽¹⁰³⁾	14	..	8	..	4	..	2	..	..
B. Polypus ⁽¹⁰⁴⁾	11	..	11	..	..	..	..	..	..

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1878.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF THE GENERATIVE SYSTEM (continued).										
DISPLACEMENTS AND DISTORTIONS.										
A. Retroversion ⁽¹⁰⁵⁾	3	..	3	..	..	..	..	..	..
B. Antelexion	2	..	1	..	1	..	..	..	..
C. Retroflexion	3	..	3	..	..	..	..	..	..
D. Prolapsus ⁽¹⁰⁶⁾	2	..	2	..	..	..	..	..	..
Procidentia ⁽¹⁰⁷⁾	5	..	5	..	..	..	..	..	..
DISEASES OF THE VAGINA.										
Inflammation ⁽¹⁰⁸⁾	10	..	8	..	..	..	..	..	2
Laceration ⁽¹⁰⁹⁾	1	..	1	..	..	..	..	..	..
Malformations ⁽¹¹⁰⁾	4	..	3	..	1	..	..	..	..
DISEASES OF THE VULVA.										
Inflammation of Labia ⁽¹¹¹⁾	3	..	3	..	..	..	..	..	..
Pruritus	1	..	1	..	..	..	..	..	..
Hypertrophy of Labia ⁽¹¹²⁾	2	..	1	..	..	..	1	..	..
Persistent Hymen ⁽¹¹³⁾	1	..	1	..	..	..	..	..	..
Tumour of Urethra	7	..	7	..	..	..	..	..	..
Mucous Cyst ⁽¹¹⁴⁾	1	..	1	..	..	..	..	..	..
Malformation of Urethra ⁽¹¹⁵⁾	1	..	1	..	..	..	..	..	..
Verruæ	2	..	2	..	..	..	..	..	..
FUNCTIONAL DISEASES OF THE FEMALE ORGANS OF GENERATION.										
Amenorrhœa	1	..	1	..	..	..	..	..	..
Dysmenorrhœa	5	..	5	..	..	..	..	..	..
*Hæmorrhage ⁽¹¹⁶⁾	19	..	16	..	1	..	..	..	2
AFFECTIONS CONNECTED WITH PREGNANCY.										
Pregnancy ⁽¹¹⁷⁾	5	..	..	..	5	..	..	..	..
DISORDERS OF THE DIGESTIVE SYSTEM.										
Nausea and Vomiting	1	..	1	..	..	..	..	..	..
DISORDERS OF THE URINARY SYSTEM.										
Albuminuria ⁽¹¹⁸⁾	1	..	1	..	..	..	..	..	..
DISORDERS OF THE GENERATIVE SYSTEM.										
Retroversion of Gravid Uterus ⁽¹¹⁹⁾	1	..	1	..	..	..	..	..	..
Abortion ⁽¹²⁰⁾	6	..	6	..	..	..	..	..	..
Extrauterine Gestation ⁽¹²¹⁾	1	..	1	..	..	..	..	..	..
Vesicular Mole ⁽¹²²⁾	2	..	2	..	..	..	..	..	..

TABLE I (continued).

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1878.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
AFFECTIONS CONNECTED WITH PREGNANCY (continued).										
AFFECTIONS CONNECTED WITH PARTURITION.										
Retention of Part of the Ovum ⁽¹²³⁾	..	2	..	2	..	..	..	..	..	..
Hæmorrhage .. .. .	..	1	..	1	..	..	..	..	..	..
AFFECTIONS CONSEQUENT ON PARTURITION.										
Subinvolution .. .. .	..	1	..	1	..	..	..	..	..	..
DISEASES OF THE ORGANS OF LOCOMOTION.										
DISEASES OF BONES.										
Mollities Ossium .. .. .	..	1	..	..	..	..	..	..	..	1
DISEASES OF MUSCLES.										
Progressive Muscular Atrophy ⁽¹²⁴⁾	3	2	1	2	2	..	..	..	..	..
DISEASES OF CELLULAR TISSUE.										
Obesity .. .. .	..	1	..	..	..	1	..	..	..	..
DISEASES OF THE CUTANEOUS SYSTEM.										
Erythema—										
E. Læve ⁽¹²⁵⁾	3	..	3	..	..	..	..	..	..
E. Nodosum ⁽¹²⁶⁾	1	6	1	5	..	..	..	..	..	1
Roseola ⁽¹²⁷⁾	1	1	1	1	..	..	..	..	..	..
Psoriasis .. .. .	..	2	..	1	..	1	..	..	..	..
Herpes ⁽¹²⁸⁾	2	1	2	1	..	..	..	..	..	..
Pemphigus	2	..	2	..	..	..	..	..	..	..
Eczema ⁽¹²⁹⁾ —										
E. Simplex	3	2	3	1	..	..	..	..	..	1
E. Exfoliativum	1	..	1	..	..	..	..	..	..	..
E. Chronicum	4	9	4	7	..	..	..	..	..	2
Ichthyosis .. .. .	..	1	..	..	..	1	..	..	..	..
Aene ⁽¹³⁰⁾	1	..	1	..	..	..	..	..	..	..
Elephantiasis Arabum .. .. .	..	1	..	1	..	..	..	..	..	..
PARASITIC DISEASE OF THE SKIN.										
Scabies ⁽¹³¹⁾	1	..	1	..	..	..	..	..	..	..

TABLE I (continued).

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1878.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
CONDITIONS NOT NECESSARILY ASSOCIATED WITH GENERAL OR LOCAL DISEASES.										
Debility ⁽¹³²⁾	17	40	15	40	1	..	..	..	1	..
Pain ⁽¹³³⁾	3	12	2	11	1	..	..	..	..	1
Malingering ⁽¹³⁴⁾	3	2	1	1	2	1	..	..	..	..
Unknown	17	20	..	..	..	..	..	..	17	20
Nil	2	4	..	..	2	4	..	..	..	..
POISONS.										
METALS AND THEIR SALTS.										
Lead ⁽¹³⁵⁾ —										
Lead Colic	13	6	13	6	..	..	..	..	..	..
Lead Palsy	2	..	2	..	..	..	..	..	..	..
CAUSTIC ALKALIES.										
Potash ⁽¹³⁶⁾	1	..	..	..	..	..	1	..	..	..
ACIDS.										
Carbolic Acid ⁽¹³⁷⁾	1	1	1	1	..	..	..	..	..	..
VEGETABLE POISONS.										
Opium ⁽¹³⁸⁾	1	..	1	..	..	..	..	..	..	..
Alcohol—										
Intoxication	3	3	3	3	..	..	..	..	..	..
Delirium Tremens ⁽¹³⁹⁾	18	8	18	8	..	..	..	..	..	..
Belladonna ⁽¹⁴⁰⁾	1	..	1	..	..	..	..	..	..

ABSTRACT OF TABLE I.

DISEASES.	Total number of cases under treatment during the year.		Number of cases discharged, cured and relieved.		Discharged unrelieved.		Died.		Remaining in the hospital at the end of the year 1878.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
GENERAL DISEASES, A	212	155	166	120	3	2	28	19	15	14
Do. B	241	256	145	154	14	47	68	36	14	19
LOCAL DISEASES—										
Diseases of the Nervous System ..	166	139	97	95	42	29	17	8	10	7
Circulatory System ..	92	70	52	40	8	2	27	23	5	5
Absorbent System ..	8	9	1	6	5	2	2	..	..	1
Ductless Glands ..	1	5	..	1	1	2	..	..	..	2
Respiratory System ..	198	113	144	75	3	1	34	30	17	7
Digestive System..	105	114	65	69	13	21	23	21	4	3
Urinary System ..	73	50	48	29	4	..	16	18	5	3
Female Organs of Generation ..	..	178	..	163	..	..	..	3	..	5
Affections connected with Pregnancy ..	..	16	..	16	..	..	..	..	..	..
Diseases of the Organs of Locomotion ..	3	3	1	2	2	..	..	..	..	1
Cellular Tissue ..	..	1	..	..	..	1	..	..	..	..
Cutaneous System ..	16	26	16	20	..	2	..	..	..	4
CONDITIONS NOT NECESSARILY ASSOCIATED WITH GENERAL OR LOCAL DISEASES	42	78	18	52	6	5	..	..	18	21
Poisons	39	19	38	19	..	..	1	..	..	..
	1196	1232	791	861	101	121	216	158	88	92
	2428		1652		222		374		180	
			1874						2428	

APPENDIX TO TABLE I.

NOTE.—The references to “Reports” allude to *St. Bartholomew’s Hospital Reports, 1878.*

1. *Sequela of Small Pox.*—Bedsore and anasarca in a girl, aged 13.

2. *Measles.*—The fatal case was marked by a hæmorrhagic condition, the hæmorrhages occurring from nearly all the mucous passages and under the skin. The patient was a boy, aged 9.

Post-mortem examination showed grey deposit on both tonsils and the pharynx, but no false membrane; a small slough at the base of the epiglottis; larynx natural. Ecchymoses in trachea, both pleuræ, visceral layer of pericardium, endocardium, substance of lungs, stomach, intestines, pelvis of kidneys and bladder. Liver pale yellow; acini indistinct; tissue friable; kidneys structure confused; no distinction of colour between cortex and pyramids. Spleen very firm; malpighian bodies very small.

3. *Scarlet Fever.*—One case which recovered had uræmic convulsions. The patient was a boy, aged 15.

Another, girl aged 15, had well marked intercurrent typhoid seven days after admission.

Another case (a man, aged 22) had pericarditis. Two cases were caught in the Hospital: one was a probationer in a general medical ward, the other a patient in a surgical ward.

Of the fatal cases, 1 had cervical abscess; 1 had pleurisy; 1 had phthisis; and a girl, aged 6, had double pleurisy with pyæmic abscesses in both lungs.

4. *Sequela of Scarlet Fever.*—Of the cases which recovered, 1 had pneumonia; 2 had convulsions; 2 had intercurrent varicella; 2 had cervical abscess. In a girl, aged 9, hyperpyrexia was accompanied by lethargy. In a boy, aged 5, cervical abscess was accompanied by double otorrhœa, deafness, and left facial palsy. This was a case in which the patient contracted varicella in the Hospital.

Among the fatal cases was one complicated with left pleurisy, and hæmorrhage into the bronchi.

Post-mortem examination showed extensive ulceration of tonsils and nasal passages. Left pleurisy. Ecchymoses on anterior part of pericardium. The left bronchus contained an old clot extending nearly up to the bifurcation, which could be traced to the lower lobe, where it became granular and partly decolorised. No clots in pulmonary vessels. The whole of the lower lobe was solid, and resembled a whole lobe affected with pulmonary infarction, but the solid hæmorrhagic parts seemed in small nodules and more discrete. In the right lung small subpleural ecchymoses. Spleen very large, firm, red; malpighian bodies not to be distinguished. Liver large and pale. Kidneys large, very pale, surface smooth; cortex as pale as pyramids, and broad.

Another had pneumonia and peritonitis.

5. *Typhus*.—One case admitted into a surgical ward with varicocele, was found to be suffering from typhus, and was removed to a Fever Hospital.

6. *Enteric Fever*.—Of those who recovered, 1 case was complicated with sub-maxillary abscess; 1 with morbis cordis; 1 was admitted with a relapse; 1 had melæna; 1 eventually recovered after two relapses; 1 had periostitis of the right tibia. A man, aged 23, became maniacal after the abatement of the disease.

Of the fatal cases, 2 had hæmorrhage; 1 had pneumonia; 1 had phthisis; 1 had peritonitis; 1 had pus in the urine.

The brother of one patient was in a general ward suffering from meningitis of unknown origin; one patient was ward maid in a surgical ward.

One fatal case was caught from a private patient by a professional nurse.

With regard to the distribution of cases in locality:—2 came from 30, Cock Lane, Holborn, where 5 people were said to be ill; 4 came from 32, St. Helen's Place, Clerkenwell, where 9 in all were said to be ill; 2 came from 31, Waterloo Street, St. Luke's; 3 came from 3, Gresham Place, Moor Lane, E.C., of whom 2 died; 4 came from Hosier Lane, Smithfield; 2 came from 5, Turner's Place, Shepherdess Walk, City Road; 2 came from 8, Half-Moon Passage, Aldersgate Street; 3 came from 13, Bishop's Court, Old Bailey; 1 came from a house in Wharcliffe Street, Bethnal Green, where 5 were said to be ill; 1 came from 20, Henstridge Place, St. John's Wood, where another case of typhoid had been. Of the rest, more than one came from several streets, especially the neighbourhood of Aldersgate Street; St. John Street, Clerkenwell, &c., but not from the same house.

With regard to the distribution in time:—In January were admitted 10 cases, of which 2 died; in February, 9, of which all recovered; in March, 6, of which all recovered; in April, 7, of which 1 died; in May, 4, of which all recovered; in June, 2, which recovered; in July, 8, of which 2 died; in August, 27, of which 5 died; in September, 37, of which 4 died; in October, 21, 3 of which remain in, the rest recovered; in November, 19, of which 2 died, 5 remain in; in December, 14, of which 1 died, 8 remain in.

7. *Ague*.—A father and son were in the Hospital together. The paroxysms in the father were quotidian; in the son, a child of 3 years, tertian in character. It was stated that all the family had it, and that it was contracted in the Sussex Marshes, many of the neighbours being similarly affected. One case was caught in Algiers, 1 in Java, 1 in the West Indies, 1 in India and South America. This last case, at first tertian, became irregular.

8. *Diphtheria*.—Three cases of tracheotomy: all died. One of them had double pleurisy with lobular pneumonia; false membrane was found to extend as far as the second bifurcation of the bronchi.

In another fatal case there was sloughing of the tonsils, pharynx, and larynx, the cartilages being exposed.

In another the velum palati was much thickened and covered with grey exudation, as were the tonsils, but there was none in the œsophagus; solid exudation was found in the larynx and trachea, and ecchymoses in the pericardium and endocardium.

In another there was false membrane on the velum palati and base of the uvula, which was easily removed. The tonsils were ulcerated; there was no exudation on them or in the œsophagus. False membrane was easily removed from the under surface of the epiglottis, from the larynx and upper part of the trachea, as far as the finer bronchi.

In another were found recent adhesions to both pleuræ, hæmorrhages throughout both lungs, with collapse. The kidneys were congested in parts; patches of false membrane not leaving any abrasion were found on the roof of the soft palate and posterior arches, also on the posterior wall of the pharynx, from which they could not be removed; also on the anterior surface of the epiglottis, leaving a raw surface on removal; also a few on the posterior surface, none below.

In another the fauces, pharynx, and œsophagus, as far as the stomach, were covered with thick false membrane, beneath which there was some destruction of tissue.

9. *Sequelæ of Diphtheria*.—In one case, a man, aged 29, the tongue felt numb three days after the commencement of the attack; two months later the arms began to fail.

10. *Pyæmia, with Icterus Gravis*.—A fatal case during pregnancy, complicated with icterus gravis, for which premature labour was induced. The patient, who was a woman, aged 34, married one year, had a miscarriage three months later, in the second month, with jaundice. Admitted with a history of three months' pregnancy, jaundice (slight), vomiting, headache, and nocturnal delirium for five weeks. No pyrexia; pulse 108; no increase of hepatic or splenic dullness. Urine contained bile pigment, albumen to $\frac{1}{5}$, epithelial casts, and blood cells. Constant vomiting, hiccough, purple discolorations of the inner sides of the thighs. Drowsy and wandering. All the symptoms, but the amount of bile and albumen in the urine (which diminished), increased. Abortion was attempted by a laminaria tent and subcutaneous injections of ergotin. She died the same day. The post-mortem appearances were as follows:—

The uterus was about the size of a cricket ball, and its surface was congested, as were the adjacent coils of intestine. The liver was small and weighed 2 lbs. 2 oz., very soft in texture, quite slabby to the touch, partly green in colour, especially round the edge; partly brown. No evidence of congestion, portal vein patent, gall bladder fairly full of normal bile, capsule of liver not loosened from its attachments. On section the liver yielded to the knife like lung or any air-containing similar tissue; the colour was remarkably uniform, no trace of lobules to be seen; its colour at first greenish brown, becoming darker on exposure. An enormous amount of air present in the tissue, which resembled aerated bread, except in colour, being full of variously sized foramina, each containing air. The structure of the whole liver quite uniform: it floated in water. The spleen was likewise full of air, as were also the kidneys, which had indistinct structure, but showed congested cortex at base of pyramids. The uterine cavity contained air; placenta 2 inches in diameter, easily separated. A fœtus much decomposed about the sixth week. The stomach wall contained air, as did the left common iliac vein.—*Medical Times and Gazette*, Jan. 18, 1879, p. 57.

11. *Rheumatism, Acute*.—The number of first attacks was 69; ages ranging from 8 to 63. Of these, heart disease was noted in 11, whose ages ranged from 12 to 47. Of these, 7 had pericarditis; 1 with endocarditis; 1 with pleurisy; 1 with pneumonia of the left side; 1 developed mitral regurgitation; 1 had intercurrent typhoid. Of the others, 1 followed confinement; 4 women were suckling; 1 of whom developed chorea; 1 had delirium tremens; 1 was marked by profound anæmia and thrombosis of the veins of both legs; 1 case had singular congenital deformity of both external ears, with probably deformity of the right internal ear, which was deaf.

Of these, 9 were admitted in January, 9 in February, 5 in March, 4 in April, 4 in May, 4 in June, 2 in July, 6 in August, 4 in September, 3 in October, 6 in November, 13 in December.

The number of second attacks was 38; ages varying from 11 to 54. The heart was affected in 6, ages varying from 11 to 34; pericarditis in 3, with endocarditis in 2; in 2 aortic and mitral valvular disease.

The number of third attacks was 21; ages from 10 to 47. Of these, the heart was affected in 6; in 1 there was albuminuria and hæmaturia.

The number of fourth attacks was 8; ages from 19 to 53: the heart being affected in 3.

The number of fifth attacks was 4, the heart being affected in 1; ages from 22 to 42.

The number of sixth attacks was 4, the heart being affected in 1; ages from 23 to 29.

There was 1 seventh attack, in a girl aged 17; 1 ninth attack, in which the heart was affected, the patient being a girl aged 19; and 1 of an indefinite number, in a boy aged 17, the heart being affected.

Of the fatal cases, 4 had the heart affected; 3 having pericarditis; 1 with double pneumonia; 1 had mitral disease, with aphasia; it was for the aphasia that he sought admission: no post-mortem examination was allowed. In another, there was recent right pleurisy, adherent pericardium, the heart very fatty, dilated, especially the right auricle, with vegetations on the mitral and aortic valves.

12. *Sub-acute Rheumatism*.—In one case, with chronic bronchitis and albuminuria.

13. *Gonorrhæal Rheumatism*.—In one case there was also pericarditis and endocarditis.

The joints affected were the following:—In 1 both knees, both ankles, right shoulder; in another, both knees and both shoulders; in another, the left knee; in another, both hips, both knees, right elbow (this case had also double ophthalmia); in another, both hips were first attacked, then both knees, then both elbows; in another, the left knee and ankle. Thus, in no case did both knees escape. The ankles were affected in 2, the elbows in 2, the hips in 2.

14. *Chronic Rheumatism*.—One case had carbuncle; 1 had erysipelas of the face; 1 had chronic œdema of the right thigh and leg; 1 had inflammation of the left sternoclavicular articulation.

15. *Acute Gout*.—Two acute attacks supervened on a state of chronic gout; 2 cases had albuminuria; 1 had femoral thrombosis.

16. *Chronic Gout*.—In one case with symptoms of acute rheumatism; in another, with chronic nephritis and hypertrophied left ventricle.

The fatal case was complicated with mitral regurgitation and albuminuria.

17. *Cancer of Lungs*.—The fatal case was one of cancer of both breasts, skin, omentum, liver, both lungs, and pleuræ, pericardium, right auricle, and both ventricles of the heart, intestines, stomach, prævertebral glands, kidneys, and uterus. The growths of the internal organs were in many cases pigmented and pedunculated.

18. *Cancer of Anterior Mediastinum*.—In the fatal case (a woman aged 46), nearly all the organs were affected.

A large tumour, size of a goose's egg, in the middle line of the belly, near the ensiform cartilage; others in the left breast, over the left masseter muscle, in the left axilla, on the ribs of both sides and the left clavicle, distinctly involving the bones. Traces of infiltration with new growth on the mucous membrane at the bifurcation of the trachea, new warty growths on left pleura and on some old left pleural adhesions; two pints of bloody fluid in left pleura. The left branch of the pulmonary artery narrowed by new growth. A collar of new growth round the pulmonary artery, where it leaves the pericardium.

In the anterior mediastinum a large white firm tumour, encroaching on the left lung and pleura. A small firm white tumour, size of a filbert, at the top of the spleen. A few small growths in omentum and mesentery. A few small growths in capsule of liver, size of mustard seeds. One very minute growth in mucous membrane of stomach.

The lower part of vena cava inferior nearly filled with a disintegrating thrombus for about an inch, disintegrating clots in both common and external iliac arteries. A large mass of new growth in the place of the left suprarenal capsule; the right capsule infiltrated with new growth. Two spots in kidneys, which may be old infarcts or new growths. Small encapsuled new growths in both ovaries, size of a marble.

19. *Cancer of Abdomen*.—A fatal case was that of a man aged 43. The body was studded over with many bosses, some hardly to be felt, others as large as a pigeon's egg; most numerous in the trunk and proximal segments of limbs; in the rest of the limbs, few in number and large in size. None on the face. The right eye had been removed.

Many of the tumours were decidedly melanotic; others were not, and both sorts were mixed. Many small tumours in the anterior mediastinum, the posterior mediastinum, both lungs; fewer in the liver, some of larger size towards its posterior part; it weighed $10\frac{1}{2}$ lbs. The peritoneum, the kidneys, the capsule of the spleen, contained growths. The stomach, transverse colon, pancreas, and duodenum were involved in a tangled mass, probably originating in a tumour growing from behind in the neighbourhood of the pancreas; this was much softer than the rest, and resembled encephaloid. Old adhesions to the skull along the pæchionian bodies; a large space of pia mater over the vertex of each hemisphere was opaque, not separating from the cortex. The inner surfaces of the hemispheres adhered over the corpus callosum. Similar but less marked changes at the base of the brain. The right optic nerve, as far as the commissure, was reduced to a mere riband; farther back no change was apparent. Only one small deposit in the peduncle of the left lobe of the cerebellum; melanotic in character. The cavity of the right orbit contained a cicatricial mass unlike the tumours.

In another fatal case, a man aged 34, the disease was found to have affected the mesenteric glands, head of the pancreas, and left spermatic cord. The left testicle had been removed some half year before. The disease was medullary.

In another, the omentum, liver, lumbar glands, and lungs were affected. There was an undescended left testicle. The patient was a man aged 33.

In another, man aged 43, the anterior mediastinum and lungs were involved. All the abdominal contents, except the bladder and colon, were involved in one cancerous mass. The canal of the small intestines opened in many places into a cavity, which occupied the centre of the tumour, containing the contents of the intestine, with débris.

20. *Cancer of Stomach*.—In one fatal case, a woman aged 50, the disease was confined to the pylorus, round which the peritoneum was also affected.

In a man, aged 64, there was cancer of the cordiac end of the stomach, of the lower end of the œsophagus, of the spleen and pancreas. There was also an abscess in the spleen, communicating with the stomach.

In a woman, aged 50, the stomach, pancreas, duodenum, liver, lumbar, cervical, and bronchial glands were involved.

21. *Cancer of Liver*.—In a man, aged 29, the peritoneum and omentum were involved. The kidneys were granular.

In a woman, aged 50, the gall-bladder was involved, the diseased liver pressed on the pylorus and obstructed it. The left ovary was cystic.

In a man, aged 56, the head of the pancreas and lungs were affected.

In a woman, aged 68, the pancreas was involved, the hepatic duct was obstructed; there were many gall-stones in the gall bladder.

In a woman, aged 60, the pancreas was affected, as also a few lumbar and inguinal glands. A small cyst with clear fluid was found below the pancreas.

22. *Cancer of the Intestine*.—A woman, aged 36, had a cancerous fistula between the intestine and bladder; fæces passed through the urethra.

23. *Cancer of Kidney*.—In a man, aged 55, there was a new growth in the wall of the right ventricle, white, somewhat hæmorrhagic, the size of a nut. The disease involved the peritoneum and liver. There were ante-mortem clois in the vena cava inferior. The right kidney and ureter were cancerous, the ureter obliterated, the right renal vein was blocked. The left ureter was cancerous, and the pelvis of the kidney dilated.

24. *Cancer of Pelvis.*—One was a case in a woman, of 27, of an osteo-sarcoma growing from the sacrum and occluding the pelvis.

25. *Cancer of Uterus.*—*Injection of Perchloride of Iron.*—*Embolism of Pulmonary Artery.*—This fatal case occurred in a woman aged 59, the disease affecting the body of the uterus. Nitric acid was first injected through a hollow probe, and subsequently perchloride of iron. The first injection of perchloride of iron produced no untoward symptoms, but after a second injection of about two drachms, the patient walked from the operating theatre, and while doing so complained of breathlessness, and a sense of impending death. The face was pale, the lips livid, the extremities white and cold, pulse rapid and feeble, respiration sighing. This, however, she recovered. Two days later she became suddenly collapsed and died in a few minutes.

Post Mortem.—At the bifurcation of one of the terminal branches of the left pulmonary artery supplying the upper lobe of the lung, and in size equal to a crow-quill, was found impacted a firm, adherent, greyish-white clot, homogeneous throughout, and extending for half an inch into the branches, into which the artery divided. Continuous with the embolus, the terminal branches of the artery were stuffed with black clot. The area of lung supplied by the occluded artery was rather dark, containing but little blood or air, but not notably different from the healthy portions of lung. Similar embolic clots were found in the lower lobe of the same lung and in the upper lobe of the right.

The uterus was enlarged to about twice its natural size. The anterior surface when exposed showed a black spot of the size of a five-shilling piece, looking like a commencing slough. This blackness was continued irregularly through the substance of the walls on to the internal surface, which exhibited spots of patchy blackness on both the anterior and posterior walls. In the cavity was about two drachms of fetid blackish-grey puriform fluid. The posterior surface of the uterus and Douglas' pouch was injected and covered with recent lymph. Blackness was also found in a patch the size of a shilling in the left broad ligament, corresponding to the venous plexus in it; the vessel contained firm black clots, which could be traced into the uterine walls, and extended as far as the ovary. The walls of the uterine vessels were especially stained black. The right broad ligament was natural; the left ovary redder than the right. No thrombosis in iliac veins or vena cava.—(See *Edin. Med. Jour.*, Feb., 1879.)

In another case, which was discharged, there was evidence of the liver being involved.

In another case, the skin of the abdomen was affected.

26. *Cancer of Bone.*—A fatal case, in a man aged 49, presented the following appearances:—Lungs nearly everywhere adherent. Apex of right lung, tearing across, displayed a large irregularly lacerated hole, the walls partly formed of a new growth, continuous with the wall of the thorax in the supra-clavicular region. Both lungs were full of firm new growths, white on section. Several small deposits in the liver. One or two old cicatrices in both kidneys. Spleen normal. A large tumour under the right deltoid, extending up behind the clavicle far up the neck, forwards under the pectoralis major to the wall of the thorax, and through the supra-clavicular region to the pleura. A fracture of the humerus was found at the surgical neck. The bone about its centre was soft and thin.

In another fatal case, a man aged 66, the anterior part of the bodies of the second and third cervical vertebrae was softened, a large growth projected forwards, and pressed on the œsophagus and trachea. There was no ulceration.

In a case not fatal, a woman aged 39, cancer of the spine recurred after removal of the left breast.

27. *Epithelioma of Cervix Uteri.*—In one case, the growth being removed by the écraseur, Douglas' pouch was opened. No symptoms whatever followed.

28. *Tubercular Meningitis*.—In one fatal case the bronchial and mesenteric glands were cheesy; there were tubercles on the intestine, peritoneum, and left kidney.

In another, in which the tubercles of the meninges were especially numerous in the Sylvian fissure and in the choroid plexuses, there was ulceration of the tonsils. The lungs were natural; on the surface of the liver were minute tubercles.

In a man, aged 20, a few small tubercles were found in the lungs, the bronchial glands were caseous. Some small tubercles were found on the surface of the spleen and kidneys. In the head the tubercles studded the choroid plexuses, the Sylvian fissure, and the sides of the hemispheres. There was much lymph about the optic commissure.

In a child, aged 2, a small caseous gland was found at the root of the right lung. Much bloody fluid was found in the cerebral ventricles, the convolutions were flattened, a few tubercles in both Sylvian fissures, many in the velum interpositum; the other organs were healthy.

In a child, aged 4, there was a cavity in the lower lobe of the left lung; the bronchial glands were caseous. Many tubercles in the intestines, ulcers on the colon at the side of the ileo-caecal valve and in the transverse colon, none in the small intestine. The mesenteric glands were caseous. There were tubercles with effusion at the base of the brain.

29. *Phthisis*.—There was a case of progressive muscular atrophy, which died of phthisis. The patient was a man aged 31. The muscles of the ball of the thumb and little finger, of the forearms, and about both shoulders, especially the left, were much wasted. The platysma myoides on both sides thick and of a good colour; so were the hyoid muscles, the sterno-mastoids, and the serrati magni. The recti and obliqui abdominis very pale and wasted, and both pectorals, especially the right. The left pectorals showed alternate bundles of good and pale colour, most marked at the upper border. The left trapezius much wasted; the right natural. The other muscles of the back natural. Both deltoids wasted; left triceps very pale and wasted; the right wasted, but less so. The biceps natural on both sides. All the muscles arising from the left inner condyle much wasted, as also the deep muscles on the back of the forearm, but each supinator longus quite natural. Diaphragm natural. Cervical enlargement of spinal cord showed the grey matter pinkish; below this it was very indistinct and confused for 7 inches; below which point the structure was natural. Brain and membranes natural. The air passages contained blood, traced to the right lung, especially the upper and lower lobes. Contained a cavity the size of an orange filled with blood. Cheesy masses scattered through the substance.

Of other fatal cases there was tuberculosis of the intestine in 5; of the larynx in 6; amyloid disease in 2, of these the spleen was affected in one, in the other the spleen, kidneys, and intestines.

One man, aged 48, had phlegmasia of the veins of both legs. One case had chronic nephritis; another had non-tuberculous ulcer of the stomach, together with tuberculous ulceration of the intestines; another had an intercurrent attack of pneumonia; another, renal calculus; another, caries of the sternum and ribs; another, cirrhosis of the liver; another, left empyema with albuminuria; another had peritonitis and meningitis, together with lead poisoning.

In one man, aged 25, an empyema had opened opposite the right nipple; the right apex was one large cavity; a smaller cavity at the left apex. Ulcers in the small intestine; an old clot in the left iliac veins leading to the vena cava.

Another (woman) was admitted for menorrhagia, perhaps depending on heart disease. She had an aneurism of the septum ventriculorum, which is thus described:—"The flap of the tricuspid which covers the unprotected space is adherent to the wall of the ventricle, and shows two small bladders the size of peas, which communicate with the left ventricle. The left auricle, left ventricle, and mitral valve natural, but in the unprotected space is a circular opening communicating with the projector in the tricuspid, and crossed by septa and trabeculae."

Of the cases not fatal, 1 had albuminuria; 1 had a small ovarian tumour; 1 gave evidence of amyloid changes in the internal organs: in all, the larynx was involved. One woman miscarried at the fourth month; 1 had mitral regurgitation.

In the cases not fatal, the right side was affected in 11, the left in 11, both in 11.

In the fatal cases, the right side was affected in 3, the left in 9, both in 26.

30. *Acute Tuberculosis*.—In one case this supervened on phthisis, described as chronic. The patient was a boy, aged 8.

Of the fatal cases, 1, in a boy aged 3, showed affection of the lungs and peritoneum, with caseous bronchial glands.

In another, the mesenteric glands were caseous, but the lungs only were tuberculous.

In another, there was a cavity of the right lung, and tubercles were found in both lungs, in the right pleura, and left kidney.

In another, the lungs, pleuræ, peritoneum, spleen, and pia mater, were all tuberculous.

31. *Tubercular Peritonitis*.—In this case a peritoneal abscess communicated with the intestine; there was tuberculosis of both lungs, and pleura.

32. *Tuberculosis of Kidneys*.—In this case the bladder, both ureters, and left testicle, were tuberculous.

33. *Diabetes*.—In one fatal case the lower lobes of both lungs and the liver were adherent to the diaphragm. There was double phthisis and endocarditis of the mitral valve.

In another, a woman aged 30, the brain was hyperæmic; a dilated vessel ran over the floor of the fourth ventricle. The kidneys were large and pale, the cortex narrow and pale, consistence flabby, structure confused.

34. *Meningitis Simplex*.—One case, which recovered, followed a blow on the head.

One fatal case followed habits of chronic intemperance.

Another, in a child aged 3, followed a fall in the street.

Post Mortem.—No marks of injury to the head were found. No tubercles. Yellow lymph all over the vault and base of the brain and on the cerebellum. The ventricles distended; general softening. Bronchial glands caseous, but no tubercles in the lungs.

In a woman, aged 27, who suffered during life from epileptiform convulsions, the following were the post-mortem appearances:—

No tubercles anywhere. Slight adhesions between the skull and dura mater about the pachionian bodies, and in one or two other places. Pia mater of base of brain thickened and opaque; veins congested. All the convolutions of the hemispheres much flattened; the pia mater lining each side of the Sylvian fissure had coalesced, and required to be cut. The same with the adjacent surfaces of the hemispheres, concealing the corpus callosum. The lateral and third ventricles, with the aqueduct of Sylvius, were distended with a rather turbid serous fluid, the choroid plexuses quite collapsed, and the ependyma ventriculorum thickened and opaque. This change extended down through the fourth ventricle and into the cavity lying between the cerebellar peduncles, but was abruptly limited by a dense membrane extending from the posterior part of the median lobe of the cerebellum to the posterior pyramids of the medulla oblongata. This membrane was thick, opaque, vascular, and continuous with the pia mater. No alteration in the central canal of the spinal cord.

35. *Apoplexy*.—In one fatal case the hæmorrhage occurred outside the left corpus striatum and optic thalamus, also into the pons varolii. The kidneys were contracted, and the left ventricle hypertrophied.

In another it occurred outside the left corpus striatum, where a clot was found as large as an apple. Another, outside the right corpus striatum and optic thalamus, which, however, was old, but at the same spot was a new hæmorrhage the size of a split pea. In this case also the kidneys were granular, and the left ventricle hypertrophied. The aortic valves were fused.

In another the site of the hæmorrhage was the anterior lobe of the left cerebral hemisphere.

In another it occurred outside the left corpus striatum and optic thalamus. The kidneys were granular, and the left ventricle hypertrophied.

In another the right corpus striatum and optic thalamus, and also round the cerebellum. An old clot in the left corpus striatum.

In another the left corpus striatum. In another the right corpus striatum and upper part of the right crus cerebri.

All the above were men.

Of the fatal cases in women, in one the hæmorrhage occurred into the left corpus striatum, optic thalamus, crus, and lateral ventricle, and through its roof, also into the pons.

In another into the pons and left crus. This case had granular kidneys and general atheroma.

In another (also with granular kidneys) into the left optic thalamus.

In another into the left crus, right crus, and right hemisphere.

In another into the pons and fourth ventricle.

Thus, in 9 cases the left side was chosen; in 4 the right; in 4 the pons. The site of predilection was the optic thalamus and corpus striatum.

36. *Ictus Solis*.—Two cases occurred during a short period of intense heat in June. In both of them there was marked pain in the head; in one of them slight delirium, but no paralysis.

37. *Tumour of Brain*.—The fatal case was apparently syphilitic. A large scar was found on the glans penis; many scars on the liver. In the brain, the sides of the left Sylvian fissure were firmly adherent; along the edge of the fissure were many small hard growths. A large tract of the right hemisphere was softened; the right middle cerebral artery was occluded by a gumma the size of a hazel nut, which was the origin of the adhesion described above.

In a case not fatal, in a man, aged 21, there was probably a syphilitic tumour of the cerebellum.

38. *Hemiplegia*.—The right side was affected in 30: 14 were men, 16 were women. In 11 of these speech was affected; in 10 there was aphasia. In 3 the face was affected. In 1 of them facial palsy of the left (opposite side). In 2 others the face of the same side. In 1 of them the lower part only. In 2 the mind was affected.

In 2 of these there was evidence of syphilis; in 1 albuminuria; in 1 twitching of the mouth on the same side; 1 occurred after cerebral hæmorrhage; 1 was accompanied by hemianesthesia of the same side.

In a fatal case (in a woman aged 60), cerebral hæmorrhage caused the fatal result. There was general atheroma of the cerebral arteries; a hæmorrhage outside the left optic thalamus and corpus striatum. There was pus in the fourth ventricle, and the meninges at the base of the brain, especially below the cerebellum, were covered with exudation.

The left side was affected in 19: 11 were men, 8 women.

In 3 of these speech was affected; in none aphasia; in none face involved; in 1 the mind affected.

Two were old cases ; one with an exacerbation.

In 2 cases rigidity of the same side ; in 2, hemianesthesia of the same side.

One had rheumatic gout and symptoms of softening. One was partial and was syphilitic. In one there was difficulty of swallowing with difficulty of speech.

One case, which was partial, occurred post partum, and was accompanied by hemianesthesia of the same side. The right side was decidedly weakened. It occurred after premature labour, followed by puerperal fever.

39. *Paraplegia*.—In 4 cases partial ; 1 with cystitis : 1, perhaps, reflex, for the patient had oxaluria. In 1 there was spinal curvature ; in 1 the onset was sudden.

The fatal case (a man aged 22) was complicated with pneumonia of the right side, with a sloughing cavity. There was a perineal abscess, the bladder was thickened, the ureters dilated, as also the pelvis of the kidneys. There was suppuration and softening of the spinal cord opposite the 6th, 7th, 8th, 9th, and 10th dorsal vertebrae.

40. *Locomotor Ataxy*.—In 1 the speech was affected : 1 case had effusion into the left knee joint and right ankle joint.—(Reports, p. 276.)

41. *Other Paralyzes*.—In 2 cases general spinal paralysis ; in 1 case, left arm and leg ; in another, paralysis of the median and musculo-spinal nerves. In another case (a boy aged 14), which began as left hemiplegia, both legs and left arm were affected. It was probably to be connected with the valvular heart disease present.

42. *Tetanus*.—Both cases idiopathic : both recovered.

43. *Epilepsy*.—In 2 cases after a blow on the head ; in 2 cases followed by dementia. In 1 of these the fits always occurred at night : there were sometimes as many as 12 fits during the night. In 1 case there was constant tremor ; in another, arterial sclerosis was noted : another followed intemperant habits ; another privation ; 1 was syphilitic ; in 1 the right leg was specially convulsed. 1 case (a woman, aged 24) had had fits since an attack of small-pox, at the age of 1 year, followed by slight hemiplegia, which persists, and affection of the speech, increasing.

44. *Epileptic Hemiplegia*.—In a case of a man, aged 57, there were spasmodic movements of the left arm, leg, and side of face, with coma and albuminuria.

45. *Spasm of Muscles*.—One case of writer's cramp in a short-hand writer ; in one the cervical muscles ; in another the sterno-mastoid affected.

46. *Chorea*.—12 first attacks ; 2 second attacks ; 1 third attack ; 1 fourth attack. In 2 a history of fright ; in 2 morbus cordis ; 1 of them mitral disease. In 1 of them, in which the right arm was the worse, there was a double mitral murmur venous pulse in the neck, and an intercurrent attack of left pleuro-pneumonia. In another the right side was the more affected ; 1 followed rheumatic fever.

The fatal case was a third attack in a girl, aged 15. There was a history of fright in the first attack. No autopsy allowed.

47. *Hysteria*.—One of these had a nerve stretched in a surgical ward, with relief. In another there was a stricture of the œsophagus, which disappeared after passing a bougie. One was a case of anæsthesia ; 1 of photophobia ; in 1 hemianalgesia of the left side, including the special senses ; the field of vision was much smaller on the affected side.

48. *Hysterical Paralysis*.—One case of paraplegia in a girl of 9 ; another case of paralysis of the leg in a girl of 12.

49. *Neuralgia*.—One case of neuralgia of the hip ; 1 of the rectum.

50. *Obscure Nerve Disorder*.—Two cases of pseudo-hypertrophic paralysis in boys, aged 13 and 14. Five cases of sclerosis ; 3 cerebro-spinal, 2 spinal. A case of spasmodic affection of the 7th and 8th cranial nerves ; spastic rigidity of the forearm with clonic movements ; syphilitic spinal and cerebral meningitis, the ocular muscles being affected ; 1 of supposed diffuse encephalo-myelitis (general paresis with tremor) ; another of unusual ataxic symptoms ; another of general paresis with mental derangement ; 1 of aphasia ; 1 of paralysis of the right arm, following loss of sensation and motion in the left arm 18 months previously ; 1 of vertigo, which had some resemblance to Menière's disease.

An interesting case of lightning-stroke occurred during a violent storm in June. The patient was a potman, who was outside a public-house, and "saw the lightning enter the ground close to him." He was knocked down, though not struck by the bolt. Constant tremor of the right forearm persisted, even through sleep, for 3 days. He was discharged cured.

An interesting case of syphilitic disease—probably cerebro-spinal meningitis—affecting all the limbs and optic discs (hæmorrhage), and improving under treatment, is described in Reports, p. 270.

A case of disseminated sclerosis, presenting points of resemblance to an old case of paralysis agitans, is related in Reports, p. 277. Another doubtful case of the same disease, at p. 279.

51. *Mania*.—A man, aged 69, who had been mad for 10 years, jumped over Blackfriars Bridge.

52. *Melancholia*.—In a woman, aged 22, it had followed marriage within 14 days. The first symptom was constant insomnia for 10 weeks.

53. *Dementia*.—In one case which followed a blow on the head, relief followed after rest in the Hospital for 10 days.

54. *Pericarditis*.—In a scaffolder, aged 46, it followed a blow over the præcordium from a scaffolding pole.

55. *Valve Disease (Aortic)*.—In a fatal case (a man aged 46) there was an aneurism of the mitral valve.

Post Mortem.—The right Sylvian artery was blocked, and the brain supplied thence yellow and soft ; a similar spot on the left side, but firm, the artery blocked. Mitral orifice unchanged, but both flaps showed great changes ; the smaller flap much larger than natural, and showed along the border in the middle some granulations. In the centre of the large flap, a bulging on the auricular surface about the size of a pea ; this corresponded to a nest of vegetations on the ventricular side, about the size of a threepenny piece, into which a probe could be introduced. On the auricular surface of the valve, near the border, was another nest of vegetations, but nothing corresponding to it on the ventricular surface. The unprotected space covered with granulations, and on the auricular surface of it, was also a bulging. The aortic valves simply destroyed, hanging in shreds and rags, to which masses of fibrin were attached. An old infarct in spleen, several in kidneys.

Of other fatal cases, one had Bright's disease. In one there was also dilatation of the tricuspid orifice, pulmonary infarcts in both lungs. The aortic valves, especially the anterior, rigid and much shortened ; the anterior coronary artery obliterated.

In another, there was also extensive disease of the aorta, almost amounting to an aneurism.

In another, there were multiple embolism in the brain, heart, larynx, pericardium, spleen, and kidneys.

55. *Valve Disease (Mitral).*—In 3 cases the murmur was double; in 7 it was præstolic.

In 1 there was phthisis; in another, an adherent pericardium; in another, measles was caught in the Hospital; in 1 there was nephritis; 1 had a musical murmur; in another, femoral thrombosis followed.

One boy aged 19, was admitted for the 8th time, and was twice in the Hospital during the year. There was old left pleurisy in his case.

Of the fatal cases, 1 had nephritis; 1 had pneumonia; 1 had old cervical caries; 1 had infarcts in the spleen and kidneys; 2 were cases of mitral stenosis.

In 1 the heart was enormously dilated on the right side, especially the auricle. The tricuspid valves were thickened and fused; the right ventricle and pulmonary artery much dilated, a button-hole mitral which did not admit the tip of the little finger. The left ventricle not dilated, rather wasted. The aortic valves rather thickened.

One case was interesting, as being a successful case of ovariectomy. The uterus and right ovary lay in their natural place, the left ovary wanting; a scar in the ligament close to the uterus on the left side; round ligament natural.

55. *Valve Disease (Complicated).*—In all the cases not fatal the valves affected were the aortic and mitral. One followed a second attack of rheumatic fever.

Two were cases of double aortic and mitral systolic murmur; 1 of double mitral and aortic diastolic murmur; 1 of double mitral and double aortic murmur.

Of the fatal cases, 3 were cases of aortic and mitral disease; 1 with adherent pericardium. Three of mitral and tricuspid disease; 1 of them with mitral stenosis and tricuspid dilatations; 1 (syphilitic) had mitral constriction and vegetations on the tricuspid valve; 1 had a button-hole mitral, tricuspid constriction, and right pleurisy.

One fatal case of mitral and tricuspid disease presented a dilated and hypertrophied right heart; tricuspid valve thickened and shortened, admitting four fingers; the mitral valve a mere chink, bordered by fine granulations; the aortic valves much thickened; nutmeg liver, contracted kidneys.

One case of aortic and tricuspid disease presented a dilated tricuspid orifice, with thickened valves, old decolorised thrombi in the right appendix, the aortic valves fused, right heart dilated, hæmorrhagic infarcts in both lungs, nutmeg liver.

One case of aortic mitral and tricuspid disease presented a pericardium adherent to the ribs and heart. The tricuspid orifice contracted, not admitting two fingers; the mitral very constricted, not admitting one finger; the aortic valves fused and stiff; the valves incompetent; old fibroid phthisis at the left apex; an old infarct in the right base.

Another similar case presented a tricuspid orifice, admitting only the tips of two fingers; a mitral orifice, admitting only the tip of one finger; aortic stenosis, the valves being fused; several infarcts in the right lung, one in the left.

55. *Valve Disease (Congenital).*—A case of obliteration of the aorta presented the following appearances:—

Heart weighed 17 oz.; pericardium and semilunar valves competent; right ventricle thicker than left; conus arteriosus rather small, pulmonary orifice provided with only two valves and much constricted, but the valves were competent. Behind the flap of the tricuspid valve which lay nearest to the pulmonary orifice and against the septum ventriculorum, there was a passage leading into the aorta; on splitting up this it was found provided with normal valves, and to be placed exactly over the septum, which ended below it with a free, smooth, crescentic margin, so that the aorta communicated equally with either ventricle.

In a fatal case, a girl aged 19, there were signs of old double pleurisy; recent pericardial effusion; much clear fluid in abdomen. Great dilatation of right heart, tricuspid orifice contracted, one cusp held firmly back by a greatly hypertrophied musculus papillaris and chorda tendinea, so as to render the valve incompetent; both venæ cavæ much dilated; pulmonary orifice natural; left ventricle small, but wall thick; mitral orifice much contracted, valve much thickened. Two aortic valves adherent, all thickened; orifice narrowed, valves competent. Uterus only $\frac{3}{4}$ inch long; ovaries ill-developed. During life there were enlarged veins over the abdomen, præcordial bulging, a loud double murmur at the apex as far as the sternum; apex beat $1\frac{1}{2}$ inch outside the nipple in the fifth space; a very plain and strong thrill at the apex; the systolic part of the mitral murmur heard behind.

56. *Dilatation*.—In this case (a man, aged 37) there were thrombi in the left ventricle; there was chronic nephritis. The liver was curiously deformed, the left lobe being a mere auricle to the right lobe, which showed many fissures and scars, and was very firm in texture.

57. *Fatty Degeneration*.—In a woman, aged 35, the kidneys were also in a state of fatty degeneration.

58. *Aneurism of Aorta*.—In a man, aged 50, the following were the post-mortem appearances:—

A large extravasation between the peritoneum and the abdominal muscles. The abdominal contents pushed forwards, and stretched over a large swelling, situated chiefly on the left side of the belly, over which the pancreas and left renal vein (which was thrombosed) were tightly stretched, the thrombus extended into the vena cava. The pleuræ showed some old firm adhesions; the base of the left lung was adherent to a tumour the size of an orange, springing from the thoracic aorta, just above the diaphragm. Heart flabby, not contracted; aortic valves atheromatous, two of them grown together; aorta much dilated. Left kidney, on the outer side of the large tumour, natural but much pressed. The aneurism was seen to spring just above the diaphragm, and to have laid bare and eroded the vertebrae, and to pass on the left side to the back, where a cavity was found, covered only by skin. The aorta, on passing through the diaphragm, opened into a large sac, which had eroded the lumbar vertebrae and was coated with laminated fibrin. It had burst into the subperitoneal tissue, and passed down along the psoas muscle, whence it had turned up to the front of the belly.

A case, in a woman aged 50, presented the following appearances:—

A large bulging on the right wall of the chest, below the clavicle, as large as a child's head, only covered by skin. Excess of fluid in both pleuræ, especially the right. Left side of heart not dilated; right side natural. The aorta only slightly dilated just above the valves, but about an inch above them a sac sprang from the right side, extending up to the origin of the innominate, but no farther. The sac springing from the right side was marked off from the larger sac forming the external tumour by a very distinct constriction. The aorta atheromatous as low as the cæliac axis; below this it is normal. Spleen large and firm. Kidneys contracted. Death occurred with symptoms of dyspnoea.

In a fatal case, in a man, aged 31, there was an aneurism as large as a child's head, occupying the position of the right pulmonary apex above the clavicle, and bulging the sternum forward.

In another man, aged 41, there was an aneurism of the whole inner aspect of the arch of the aorta, from the aortic valves to the origin of the left subclavian artery, the arteries themselves not being involved. The aneurism was as large as a man's fist, and was filled with tough laminated fibrin. The left lung was airless; the left bronchus was pressed flat; the trachea and œsophagus being free.

In a case not fatal there were signs of dilatation of the aorta, and innominate; there were a double aortic and a mitral regurgitant murmur.

59. *Obstruction (Thrombosis of Vena Cava Inferior), with Perityphlitic Abscess.*—The following post-mortem appearances were found in a girl, aged 17 :—

Right leg and belly much swollen; left thigh and leg swollen, but less. Lineæ albicantes on belly, calf of right leg, upper part of both thighs; hymen intact, opening smaller than a fourpenny piece. On opening the belly, a great quantity of very clear colourless fluid escaped. Over the whole of the peritonæum the veins were injected; some of the omental vessels contained clots, which were not adherent. A large perityphlitic abscess. A suppurating thrombus in the portal and upper part of superior mesenteric veins; an ordinary ante-mortem thrombus in the last $\frac{1}{4}$ inch of the splenic and branches of the superior mesenteric veins. The upper half of the portal vein with the right and left branches were filled with ordinary ante-mortem thrombus. The vein of Sappey well marked. Liver very small and cirrhotic. The vena cava inferior held a loose jelly-like clot continuous with a clot in the right auricle; no nucleus of old clot. At the fork of the vena cava was an old clot firmly adherent, about the size of a sixpence; the clot passed down into the middle sacral vein, which was plugged by an old clot, and opened into a varicose cyst, near the rectum. The perityphlitic abscess occupied nearly the whole of the psoas muscle: there was no necrosed bone. There were hæmorrhages in the retinæ.

Of cases not fatal, 2 were cases of thrombosis of the veins of the left leg; 1 of the right leg, apparently with inflammation of the coats of the veins; 1 of the iliac veins occurred during pregnancy; 1 patient was gouty.

60. *Diseases of the Absorbent System.—Hypertrophy of Glands (Lymphadenoma).*

The following were the post-mortem appearances in a man, aged 50 :—

All the accessible lymphatic glands enlarged. Excess of fluid in both pleuræ; none in peritonæum. Liver of natural size, but lobules marked out with whitish lines. Spleen large, quite yellow; held some old infarctions. Prævertebral and portal glands large.

In another man, aged 48, they were as follows :—

Echymoses on the right side of the neck and shoulder, swellings in axillæ and groins. Belly much swollen. Both tonsils somewhat enlarged. Left pleura filled with clear fluid; two pints in right pleura. Thymsus gland persistent. Heart small but natural. Left lung quite collapsed; many cheesy nodules at apex; lower lobe of right lung collapsed; cheesy nodules in apex. Both lungs remarkably pigmented; pleuræ of a slaty blue colour. Spleen large, firm; weight 13 oz. Malpighian bodies size of mustard seeds. Last Peyer's patch in small intestine ulcerated; a yard higher were three flattened nodules, size of peas, one of them ulcerated. Lymphatic glands in hilus of liver, large and white. Liver weighed 9 lb., capsule smooth, edge rounded, tissue firm, marked by white broad lines, so that the body had a mottled nutmeg appearance; in a few places the white tissue formed small masses, but not very markedly. Prælumbar and mesenteric glands much enlarged.

There was 1 case of lymphadenoma, and 1 of leukæmia lymphatica which did not prove fatal.

61. *Croup.*—One case (a child of 3) recovered after tracheotomy. The croup, however, was spasmodic. Lobular pneumonia of the left side followed.

In one of the fatal cases tracheotomy was performed.

In another fatal case, false membrane was found on the vocal cords only; the bases of the lungs were collapsed.

62. *Acute Laryngitis.*—In a case of an infant, aged 3, accompanied by spasm tracheotomy did not avert death.

63. *Chronic Laryngitis*.—In 1 case (a man, aged 61) there was ulceration of the vocal cords with thickening.

64. *Acute Bronchitis*.—In 1 case with spinal curvature; in another, with collapse of the base of the left lung; in another, following the swallowing of a glass bead—in a girl aged 7.

65. *Chronic Bronchitis*.—In 2 cases with tracheitis; 1 of them with enlarged thyroid.

Four cases had albuminuria; 1 also had asthma; 1 chronic rheumatism; 1 had pneumonia; 1 had chronic laryngitis; 1 had sciatica with a systolic apex murmur.

Of the fatal cases, 1 had an aneurism of the right auricle of the heart; 1 had epistaxis; 1 had dilatation of the heart; 1 had chronic nephritis.

66. *Asthma*.—The case of spasmodic asthma was excited by a heavy meal, and was successfully treated by the subcutaneous injection of $\frac{1}{3}$ grain of morphia, an ether draught, and $\frac{1}{16}$ grain of atropia, injected under the skin. The patient was a girl, aged 17.

67. *Pneumonia*.—Of the cases not fatal, the right side was affected in 28, the left in 24, both in 1.

There was mania in 1 case, a man, aged 33; acute tuberculosis in another; empyema in another; and nephritis in another.

The complications of fatal cases were endocarditis in 1 case; tuberculosis in 1; nephritis in 1; meningitis in 1.

68. *Pleuro-Pneumonia*.—Of cases not fatal, the right side was affected in 16, the left in 12, both in 2.

One of the unilateral cases had pleurisy of the other side; another ended in empyema; another had pneumonia of the opposite side; another had intercurrent small-pox, for which he was removed.

The bilateral cases were brothers.

Of the fatal cases, 1 was a case of pleuro-pneumonia of the right side, with pleurisy of the left; another had aortic disease.

In 1 right-sided case there was great increase of interstitial fibrous tissue, and a small encysted empyema at the right base.

69. *Gangrene of Lung*.—The following were the post-mortem appearance in a woman, aged 54:—

On drawing back the muscles covering the belly, a large sinus covering the upper part of the left lobe of the liver was uncovered. This sinus passed along the upper part of the stomach, and entered the left pleura by several small openings. The lower part of the left lung shreddy, fetid, sloughing; above the sloughing part a few small abscesses, and one in the lower part of the upper lobe. The upper part of the spleen formed the floor of the sinus. No amyloid reaction. An old cicatrix on the back wall of the stomach, about the size of a shilling.

Another fatal case had also an empyema.

In a third, the whole of the posterior part of the right lung was destroyed. There was a diverticulum in the intestine $2\frac{1}{2}$ feet above the ilco-cæcal valve.

70. *Hæmoptysis*.—In 1 case, probably from the cavity of an empyema.

71. *Emphysema*.—In 1 case with phthisis; in another (which was fatal), with cancer of the pylorus.

72. *Pleurisy*.—Of cases not fatal, the right side was affected in 18, the left in 19, both in 1.

The bilateral case was one of chronic pleurisy of the left side, with recent effusion on the right.

The complications were mitral disease in 2; albuminuria in 2 (1 was a case without effusion); jaundice in 1; fistula in ano in 1.

Of fatal cases, the right side was affected in 1; the left in 2; 1 was complicated with ascites.

73. *Empyema*.—In cases not fatal, the left side was affected in 5; 3 were encysted; 1 had albuminuria; 1 had old aortic and mitral disease.

One of the fatal cases was bilateral, the right side being affected secondarily.

74. *Mediastinal Tumour*.—In a man, aged 20, the following were the post-mortem appearances:—

On the left side of the sternum a bulging, the size of half a goose egg, about the second and third cartilages. On opening the belly a white soft growth was seen to involve the xiphoid cartilage, and on removing the sternum the same white firm growth is seen to fill the anterior mediastinum. The pleuræ filled with clear fluid; the pericardium much thickened, almost an inch thick in parts and filled with bloody fluid, but no clots. The surface of the heart covered with new growths on the fore surface; it is small, but the aorta only is compressed. The new growth was adherent to the vertebræ. No compression on the trachea, bronchi, and gullet. Both vagi involved in the mass, and so were the crura of the diaphragm.

75. *Chronic Ulcer of Stomach*.—In a fatal case (a woman, aged 46) there were many adhesions of the stomach to the surrounding parts. A large ulcer as big as the palm of the hand was found on the posterior wall of its cardiac end, the base of it being formed by the left lobe of the liver. No malignant deposits.

In 1 case not fatal there was mitral disease.

76. *Hæmatemesis*.—In 2 cases with morbus cordis.

77. *Typhlitis Abscess of Cæcum*.—A girl, aged 11, died with suppuration of the vermiform appendix, from perforation by a nail. Thrombosis of right auricle and ventricle; abscesses in both lungs and in the brain; infarcts in the liver and parenchymatous nephritis. There was no peritonitis.

78. *Ulceration*.—In 1 case not fatal, the ulceration was probably seated in the duodenum.

In a fatal case, both small and large intestines were ulcerated; the patient had phthisis, but the ulcers were not tubercular.

In another, the vermiform appendix was the part affected. There was peritonitis, but no foreign body was found.

In another, the colon was ulcerated. There was a faecal abscess over the left kidney, opening in the left thigh; pus in the splenic, superior mesenteric, and portal veins; amyloid reaction of intestines, liver, and kidneys.

79. *Perforation*.—The fatal case was one of ulceration of the vermiform appendix in two places, with perforation. In it was found a faecal concretion.

80. *Intestinal Obstruction*.—A fatal case (in a woman, aged 20) presented the following post-mortem appearances:—

Great distension of the intestines above a spot 18 inches above the ileo-cæcal valve; below this they were collapsed. At this point the ileum was constricted between two coils of intestine near the cæcum, which were joined together by old adhesions. On unravelling the collapsed part of the intestine an abscess near the cæcum was opened, in the wall of which lay the tip of the appendix vermiformis ulcerated and shreddy. The appendix near the tip was crossed by a firm band of tissue, running along the brim of the pelvis. On opening the cæcum and appendix in situ no change was found in the mucous membrane. On taking away the sigmoid flexure of the colon, a large abscess in the pelvis, at the back of the uterus, about the size of a cricket-ball, was opened. No disease in the ovaries, uterus, vagina, bladder, or rectum. A patch of intestine, about 6 inches above the ileo-cæcal valve, forming part of the wall of the abscess, showed softening. The dilated part of the intestine showed several patches of sloughing from distension.

In another fatal case death followed the use of nitrous oxide and ether during an operation for the relief of the obstruction.

81. *Diarrhœa*.—In a woman, aged 30, the diarrhœa had lasted two years, and was accompanied by œdema of the feet and legs.

82. *Abscess of Liver*.—In a man, aged 41, who had been tapped during life, the following were the post-mortem appearances:—

The whole of the right pleura filled with reddish-coloured purulent fluid; the lung pushed back against the spine, the lower lobe adherent to the diaphragm. Beyond this line of adhesion, between rib and lung, was a large hole in the diaphragm as large as half-a-crown, leading to a large cavity at the back of the right lobe of the liver. The left lobe natural, except a small adhesion to the diaphragm. Recent pericarditis.

Another case refused treatment, and left the Hospital.

83. *Cirrhosis of Liver*.—One man who left the Hospital at his own request died three days later.

One case had phthisis of both lungs; 1 was tapped twice; another three times, with relief; 1 case had albuminuria; another epistaxis; 1 was hypertrophic.

One fatal case had also cancer of the abdomen; 1 had pleurisy; 1 had xanthelasma over the inner side of both eyelids.

84. *Lardaceous Liver*.—In this case there was necrosis of a rib, and lardaceous disease of liver, spleen and kidneys.

85. *Echinococcus Hominis*.—In 1 case there was occlusion of the common and cystic bile ducts by hydatid cysts.

86. *Leucocythamia*.—The fatal case in a man, aged 53. No superficial glands enlarged. Excess of fluid in both pleuræ. Greenish-white clots in the heart, looking like turtle fat. (The date of the notes of the autopsy is Nov. 7.) There was a large spleen weighing 4½ lb.

87. *Peritonitis (Perityphlitis)*.—A fatal case, in a man aged 30, was complicated with suppurative thrombosis of the portal vein. A circumscribed abscess round the appendix vermiformis about the size of a fowl's egg. No opening from the appendix, which was bent on itself. From the abscess a thrombosed vein extended along the mesentery for about 2 inches, when it opened into a small collection of pus, and then into the trunk of the portal vein, which was filled with ill-formed pus up to its first and second divisions. Many abscesses in the liver round the branches of the portal vein, which were very large in the right lobe. Spleen very large and soft; kidneys showed very marked cloudy swelling.

In another case it followed Caesarian section in a woman, aged 27, whose conjugate measured under $1\frac{1}{2}$ inches. Sutures were put into the uterine wound, which nevertheless gaped after death, the stitches having torn out. Death occurred on the third day.—*Medical Times and Gazette*. Nov. 2, 1878, p. 509.

Two fatal cases of chronic peritonitis had pleurisy; 1 on the right side, 1 on both.

Another fatal case was interesting. The woman was aged 46, and had been tapped 25 times. A loculated purulent peritonitis was found, bounded in front by the peritoneum of the anterior abdominal walls, behind by the intestines, below by the upper surface of an uterine fibroid growing from the fundus of the uterus. It probably began as general peritonitis and became loculated and purulent after tapping.

Of other cases not fatal, 1 had phthisis; 1 had partial intestinal obstruction; 1 had a fistulous passage communicating with the colon in the left flank; 1 was syphilitic, and there was evidence of lardaceous liver.

88. *Abdominal Tumour*.—Three were pelvic tumours: 1 behind, 1 in front of the uterus; 1 probably malignant. Two were probably ovarian; 1 was probably malignant.

89. *Acute Bright's Disease*.—In 1 case (not fatal) with aortic disease; in 1 with pregnancy.

One fatal case had pericarditis; 1 had double neuro-retinitis; 1 had bronchopneumonia.

90. *Chronic Bright's Disease*.—In 1 with epilepsy; in 2 morbus cordis; 1 of them mitral, 1 aortic also; 1 with right-sided pleurisy; 1 with right pleuropneumonia; 1 with retinitis albuminacea and amaurosis; 1 followed scarlet fever 6 months previous. A girl, aged 15, who recovered, had uræmic convulsions and coma. One man had chronic bronchitis with phthisis.

In a fatal case (a man, aged 23) there was found a perforation of the mitral valve. The heart was very large, great distention and dilatation of the right ventricle; left ventricle much hypertrophied. Tricuspid and pulmonary valves natural. The left dilated auricle natural; the mitral orifice natural. On examining the valve the edge was found studded with granulations about the size of mustard seeds. In the valve, which did not show two distinct flaps, was a large hole, the size of a sixpence, the edge of which was likewise surrounded by granulations; into this edge were set chordæ tendinæ from papillary muscles arising under the mitral valve; the hole was apparently caused by the fusion of the larger and smaller flaps; it was formed just at the place where they are commonly divided, and a narrow strip of tissue joined the two flaps by their edges. The aortic valves showed marked granulations; two were joined together by their edges; the muscular walls were very firm; that of the left ventricle very thick, but pale brown in colour and firm, resisting pressure. The kidneys were contracted.

In 5 fatal cases the heart was affected; in 3 of them by hypertrophy of the left ventricle.

In 1 the right ventricle was adherent to the pericardium with some plates of calcification, the left ventricle being nearly free. There was also an old hæmatocele of the right testicle.

In 2 there was peritonitis; in 1 case with right pleurisy, a patch of grey hepatisation in the upper lobe of the right lung; the spleen was large.

There was 1 case of uræmia; 1 of dysentery; 1 of bronchitis; 1 of pleurisy and phthisis; 1 of cirrhosis of the liver.

91. *Abscess of the Kidney*.—In the fatal case with old phthisis of both sides. No amyloid change. The side affected was the left.

92. *Pyelitis*.—In 1 case of pyonephrosis the tumour was tapped, giving exit to a quantity of inspissated pus with relief. The patient was a girl, aged 19.—*Medical Times and Gazette*, Nov. 16, 1878, p. 564.

93. *Hæmaturia Renalis*.—In 2 cases paroxysmal; 1 patient had been in India, and had had ague several times; he had only three attacks of hæmaturia, *i.e.*, on three successive days.

94. *Hæmatinuria*.—In this case, also paroxysmal, the patient was a man, aged 40, who had been in India, Burmah, and China, and had had "fever and ague." Three months before admission he had ague again, with pain in the back, shivering, &c.; blood appeared in the urine one day after exacerbation. On admission the conjunctivæ were icteric, spleen and liver slightly enlarged, no red corpuscles, but colouring matter in the urine. The paroxysms lasted eight days.

95. *Diuresis*.—With cirrhosis of the liver, in a woman, aged 44.

96. *Hæmaturia (Vesical)*.—In the fatal case no autopsy was allowed.

97. *Inflammation of the Ovary*.—In 2 cases both ovaries were affected; in 2 cases there was also perimetritis; in another, metritis; 1 followed inflammation of the vagina.

98. *Pelvic Peritonitis*.—In 1 case following the passage of a sound; 1 was of old date; 2 were accompanied by catarrh; 1 was a curious case of a woman, aged 20, who had an attack of diarrhœa, with jaundice and peritonitis, five weeks after a natural and favourable confinement. Another was a case of "serous perimetritis;" a large cyst lay behind the uterus, displacing it forwards like a post-uterine hæmatocele, or full abscess. On tapping, clear straw-coloured fluid flowed, which proved to be serum.—*Medical Times and Gazette*, Feb. 1, 1879, p. 112.

99. *Pelvic Cellulitis*.—In 2 cases terminating in abscess of the right inguinal canal along the course of the round ligament; in 1 case terminating with fibroid tumour.—*Medical Times and Gazette*, Feb. 15, 1879, p. 167.

100. *Pelvic Abscess*.—In 1 case discharging into the bladder, pyæmia followed, and suppuration about both elbows; 1 was perimetritic in character, and opened in the left groin; in 1 there was also a fibroid of the uterus.

101. *Inflammation of Womb*.—Three cases of endometritis purulenta, treated with intra-uterine injections of nitrate of silver; 1 case of inflammation of all the internal genital organs.

102. *Hypertrophy*.—In 1 case, associated with retroflexion. Dilatation with sponge tents, followed by ergot, resulted in cure of both conditions.

103. *Fibrous Tumour*.—In 1 case of soft fibroid, in a woman, aged 45, there were two distinct masses, which contracted at different times: a souffle could be heard in it. It was much contracted by the subcutaneous injection of ergotin.

Another remarkable case, in a woman, aged 49, presented a huge swelling in the vagina, resembling the inverted uterus; the os uteri was found in front of it. The

mass contained a body harder than itself within an œdematous capsule, and was probably a fibroid of the posterior lip with œdema round it. As it caused no urgent symptoms it was not interfered with.

There was a third remarkable case, in a woman, aged 38, of a huge fibroid which had inverted the uterus, and was sloughing. This was enucleated with the fingers, and reposition of the uterus was attempted by manual efforts, but unsuccessfully. Afterwards a stethoscope-shaped instrument was applied, with elastic straps attached, and the uterus went back in 24 hours. This was followed by a septic attack, redness over the joints, &c., but the woman recovered. The uterus had probably been down four months. Her complaint, on admission, was of painful and frequent micturition, and occasional loss of blood for five weeks.—Reports, p. 97.

One fatal case, in a woman aged 40. The cervix was incised, with a view of enucleating the tumour. Hemorrhage violent. Coma and convulsions followed, ending in death. Post mortem, right pleural effusion was found, both lungs œdematous, old peritonitis; hydronephrosis of both kidneys, ureters tortuous and dilated. Thrombosis of the junction of the left external and internal iliac veins. The tumours filled the whole of the pelvis, weighed 4 lbs. 10 oz., pushing the bladder to the left. The cavity of the uterus was to the left of the tumour. In the right ovary a recently ruptured Graafian follicle.

104. *Polypus*.—In 2 cases attached to the fundus uteri, and enucleated by force. In 1 case it was probably a sarcoma; in 1 case growing from the fundus uteri; the microscope showed a structure resembling exuberant decidua (not pregnant), with many uterine follicles lined by columnar epithelium, and long nuclei, probably of plain muscular fibre. “Adenoma polyposum corporis uteri.”

105. *Retroversion*.—In 1 case with left oophoritis.

106. *Prolapsus*.—In 1 case with vaginal inflammation.

107. *Procidentia*.—In 1 case the patient was pregnant: she aborted, and septicæmia followed, but she recovered.

108. *Inflammation of Vagina*.—In 1 case with inflammation of the urethra and bladder. Solution of sulphate of quinine, subnitrate of bismuth in powder, and carbolic acid were injected into the bladder. The patient was relieved.

109. *Laceration of Vagina*.—A painful fissure at the posterior aspect with inflammation of the vagina. The patient had been married eight months.

110. *Malformations of Vagina*.—In 1 case atresia of the vagina. In 1 absence of the vagina. This was a case where the middle part of the vagina was congenitally absent in a woman of 25. A vagina was burrowed out as far as the upper cul de sac, which was small but existed, and was kept open with dilators, but closed quickly if their use was suspended. There was a history of menstruation for some years, which must have been imaginary. Two pints of thick treacly blood were let out by the operation. In another case the vagina and uterus were congenitally absent.

111. *Inflammation of Labia*.—In 1 case with sloughing of the right labium majus: the patient was pregnant. One case was recurrent and was probably lupoid. One was a case of chronic inflammation of the pudenda.

112. *Hypertrophy of Labia*.—In 1 case fatal through septicæmia, without any operative procedure. There was extensive ulceration.

113. *Persistent Hymen*.—In a patient, aged 21, the symptom complained of was dysmenorrhœa. On examination the vagina was apparently impervious half-way. On ocular examination this was found to be due to a fleshy persistent hymen, so elastic that it could be inverted thus far. There were two small perforations in it side by side. There was no complaint of dyspareunia. It was dissected off, and the patient discharged cured.

114. *Mucous Cyst*.—A mucous tumour of the posterior wall of the urethra.

115. *Malformation of Urethra*.—The urethra was misplaced to the right of the middle line, the orifice very small, the urethra dilated behind it. The symptoms were extremely frequent, painful micturition with occasional incontinence. Incision and rapid dilatation cured this condition and removed the symptoms.—*Medical Times and Gazette*, Nov. 16, 1878, p. 565.

116. *Uterine Hæmorrhage (not Pregnant)*.—In 1 case there was mitral disease with retroflexion. The patient was aged 15. In 1 case the hæmorrhage was an oozing from the outer side of the cervix. One patient had hysterical paralysis of the right leg.

117. *Pregnancy*.—In 1 case, with contracted pelvis, the patient was removed to Queen Charlotte's Hospital, where premature labour was induced.

118. *Albuminuria*.—In this case uræmic convulsions came on; premature labour was induced after the sixth month; the child was dropsical.

119. *Retroversion of the Gravid Uterus*.—In this case there had been some retention of urine for three weeks. No history of exertion. The uterus was replaced by an air-ball in the rectum. In the first 24 hours after replacement 22 pints of pale urine, of special gravity 1005, were passed; in the next 22 hours, 7 pints; in the next 24 hours, a slightly large quantity; after that a normal amount of normal urine. In the first 24 hours great thirst.

120. *Abortion*.—In 2 cases in the fourth month; in 1 in the fifth.

In 1 case there had been amenorrhœa for five months, hæmorrhage for 14 weeks. The os uteri was dilated and a fœtus of 2½ months, with its membrane, expelled.—*Medical Times and Gazette*, December 28, 1879, p. 730. ("Missed Abortion.")

121. *Extrauterine Gestation*.—This patient menstruated last in April; fœtal movements were plain till November 24, then she was frightened by a scream in the ward. She felt the fœtus kick and her abdomen "seemed to turn over." She turned white; no more fœtal movements were felt nor heart sounds heard. Head-ache, which had been absent during pregnancy, but to which she was subject at other times, returned; the abdominal enlargement shrank and became more bossy, as if from absorption of liquor amnii. Left femoral thrombosis followed, but of that she was relieved, and left the Hospital not inconvenienced by her abnormal condition.

122. *Vesicular Mole*.—There were 2 cases in women, aged 27 and 29. In 1 menstruation ceased for ten weeks; then sudden hæmorrhage repeated five times in three weeks, at length becoming continuous. She passed a mass of hydatids the day after admission. Some fever and offensive discharge followed.

In the other case there had been a confinement ten months previously, but in spite of suckling, no amenorrhœa, but enlargement of abdomen and vomiting for one month. Large masses of "hydatid" passed five days after admission. In this case also there were fever and offensive discharge.

123. *Retention of Part of the Ovum*.—A placental polypus resulted. There was an intercurrent attack of typhoid.

124. *Progressive Muscular Atrophy*.—In 1 case probably depending on previous acute myelitis.

125. *Erythema Læve*.—A recurrent case of erythema with purpura, in which there was also nephritis with albuminuria, which persisted for some 27 weeks. The patient was a girl, aged 9.

126. *Erythema Nodosum*.—One case contracted varicella in the Hospital.

127. *Roseola*.—One case of copaiba rash in a man, aged 24; 1 case of roseola aestiva (prickly heat) in a woman, aged 19.

128. *Herpes*.—Labialis et zoster thoracis.

129. *Eczema*.—One case with epilepsy; 1 with acute nephritis.

130. *Acne* after iodide of potassium.

131. *Scabies* exciting facial erysipelas.

132. *Debility*.—In 4 cases from privation, in 1 case with delirium; after epistaxis 2 cases; with amenorrhœa, 1 case; after puerperal thrombosis, 1 case; after over-sucking, in 1 case, with diarrhœa; with phosphatic urine, 1 case; after typhoid (?), 1 case; with spinal curvature, 1 case; after tonsillitis, 1 case; after cancerum oris, 1 case; after stomatitis, 1 case; after rheumatic fever, 1 case; after syphilis, 1 case.

One case was complicated with gangrene of the left big toe, probably from weakness of circulation. The patient, a girl, aged 16, was liable to have all her extremities turn blue on slight exposure. The heart was weak, but nothing more. She was admitted in the month of January, but not during or after any very severe weather. Abscess of the cervical glands developed while in the Hospital.

132. *Pain*.—In the head, 2 cases; in a tooth, 1 case; in the left kidney ("Aching Kidney," *Medical Times and Gazette*, Nov. 16, 1878, p. 564), 2 cases; in the back, 1 case; coccydynia, 1 case; in the muscles, 1 case; in the back, 1 case; in the uterus, 1 case; in the right sacro-iliac synchondrosis, 1 case; in the chest, 1 case; in the stomach, 1 case, with xeroderma.

134. *Malingering*.—One case of "hæmoptysis" was produced by sucking the gums; the patient was a girl, without occupation, aged 18.

POISONS :

135. *Lead*.—The occupations were as follows:—White lead carriers, 4 women; white lead drier, 1 man; white lead grinder, 1 man; painters, 4; type founders, 2; gasfitter, 1; artificial leaf shader, working with "flake white," 1; cooper at lead mills, 1; looking-glass maker, 1. In the remainder no connection between occupation and disease could be found: 1 was a servant, 1 a chimney sweep, 1 a stick dresser who "had nothing to do with lead."

The complications of the cases of palsy were as follows:—Lupus non exedens of 2 years' duration; albuminuria; convulsions—of each, 1 case. Slight palsy, 2 cases.

136. *Potash*.—The fatal case was that of a boy, aged 5, who feeling thirsty in the night, got up and drank a mixture of soap suds and potash prepared for washing the next day. Death occurred the next day.

The Post Mortem appearances were as follows:—Slight pleurisy with effusion. The attachment of the omentum to the stomach was blown up with air bubbles. On lifting up the stomach, there was seen, near the attachment of the omentum to the stomach on its back surface, in the pyloric half, a large ecchymosis on the peritoneal surface, about the size of a florin. Intestines, beginning at the duodenum, showed large solitary glands and Peyer's patches, but no other disease. Contents of small intestine very yellow; large intestine natural. Liver marked by numerous old scars.

Tongue somewhat injected, tonsils large, ulcerated, on section showing yellow masses. Isthmus faucium injected, and about the level of the cricoid cartilage the mucous membrane of the gullet showed yellowish patches arranged lengthwise; mucous membrane not destroyed. Contents of stomach acid, its mucous membrane blown up with air in the cul de sac. On the part of the mucous membrane corresponding to the ecchymosis was a patch 90 m. m. long, by 55 m. m. broad, the ring being a deep brown-black; on washing, this tissue came away, leaving behind a black charred membrane like leather. The kidneys showed well-marked cloudy swelling, the cortex pale and broad, the surface pale, mottled with stellate veins.

137. *Carbolic Acid*.—Mistake in a boy, aged 4; attempted suicide in a girl, aged 18.

138. *Opium*.—A man, aged 35, took chlorodyne while drunk.

139. *Delirium Tremens*.—With cirrhosis of the liver, a man and a woman; 1 man, aged 32, a leather cutter, had albuminuria and a blue line on his gums. It was ascertained that he used lead as a block on which to cut the leather.

140. *Belladonna*.—A girl, aged 5, took a liniment by mistake. The quantity taken was about equal to $\frac{1}{4}$ grain of atropin. She had bronchial catarrh: the temperature reached 103.4° .

T A B L E I I.

Showing the comparative Frequency and Mortality of each Disease at different Ages.

DISEASES.	Under 5.		5-10.		10-15.		15-20.		20-		30-		40-		50-		60-		70 and upwards.		TOTAL.	
	Died.		Died.		Died.		Died.		Died.		Died.		Died.		Died.		Died.		Died.		Died.	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
GENERAL DISEASES, A.																						
Small Pox	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Sequelæ of S. P.	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Chicken Pox	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2
Measles ..	2	1	..	1	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	5	2
Scarlet Fever	6	8	1	10	8	1	2	5	2	..	..	..	..	1	..	..	..	..	..	..	26	30
Sequelæ of S. F.	4	3	2	11	6	2	2	1	..	4	5	..	..	1	1	..	..	..	..	..	17	10
Typhus ..	..	..	..	..	..	..	1	..	..	2	..	..	..	..	..	..	..	..	..	..	4	4
Enteric Fever	3	5	..	14	5	1	17	7	3	13	16	3	3	2	1	2	..	..	..	..	82	49
Sequelæ of E. F.	..	..	..	..	1	..	1	..	..	1	..	..	..	2	1	..	..	..	..	..	1	8
Febricula ..	..	..	..	3	1	..	4	4	..	2	4	..	6	2	..	1	..	..	1	..	21	12
Ague— Tertian ..	1	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	3	..
Quotidian	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	1	1

DISEASES.	Under 5.		5-10.		10-15.		15-20.		20-		30-		40-		50-		60-		70 and upwards.		TOTAL.	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
GENERAL DISEASES, A (continued).																						
Ague (continued)—																						
Irregular							2				1	1									3	1
Sequelæ of A.									1					1							2	2
Diphtheria	4	1			1	1															1	1
Sequelæ of D.									1												1	1
Whooping-cough	1	2																			1	3
Mumps		1																			1	1
Pyæmia																						1
Puerperal Fever										1												1
GENERAL DISEASES, B.																						
Rheumatism—																						
Acute							11	16	30	27	3	14	9	2	6	5	1				68	69
Subacute							3	7	4												8	13
Gonorrhœal							2		7												10	10
Muscular									1													1
Lumbago																						1
Chronic							3	2	5	6	4	3		3	1	1	1	2			14	18

DISEASES.	Under 5.		5-10.		10-15.		15-20.		20—		30—		40—		50—		60—		70 and upwards.		TOTAL.		
	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	
GENERAL DISEASES, B (continued.)																							
Gout—																							
Acute ..																							
Chronic ..																							
Osteo-Arthritis..																							
Cancer—																							
of Larynx																							
of Lungs																							
of Mediastinum																							
of Abdomen																							
of Osophagus																							
of Stomach																							
of Liver..																							
of Intestines																							
of Rectum																							
of Kidney																							
of Pelvis																							
of Uterus																							
of Bones																							
Epithelioma—																							
of Cervix Uteri..																							
Lupus ..																							

TABLE II (continued).

DISEASES.	Under 5.		5-10.		10-15.		15-20.		20—		30—		40—		50—		60—		70 and up-wards.		Total.	
	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	M	F
DISEASES OF THE CIRCULATORY SYSTEM (continued).																						
<i>Diseases of the Muscular Structure of the Heart.</i>																						
Dilatation ..									1												1	3
Fatty Degeneration ..																					1	1
*Angina Pectoris ..									1												1	1
DISEASES OF THE BLOOD VESSELS.																						
<i>Diseases of the Arteries.</i>																						
Aneurism—of Aorta ..									2			2	6	2	2	1					11	5

DISEASES.	Under 5.		5-10.		10-15.		15-20.		20—		30—		40—		50—		60—		70 and up-wards.		TOTAL.	
	Died.		Died.		Died.		Died.		Died.		Died.		Died.		Died.		Died.		Died.		Died.	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
DISEASES OF THE RESPIRATORY SYSTEM (continued).																						
DISEASES OF THE LUNG.																						
Pneumonia ..	2	2	6	2	2	2	5	1	10	6	5	3	6	1	2	1	1	1	1	1	38	15
Lobular ..	2	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1
Pleuro-pneumonia.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gangrene ..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
*Hemoptysis ..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cirrhosis ..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Empysema ..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
DISEASES OF THE PLEURA.																						
Pleurisy ..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chronic Pleurisy	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Empyema ..	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Sequelæ of E.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TOTAL.																						
Died.																						
Discharge.																						

DISEASES.	Under 5.		5-10.		10-15.		15-20.		20—		30—		40—		50—		60—		70 and up-wards.		TOTAL.			
	Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
DISEASES OF THE DIGESTIVE SYSTEM (continued).																								
DISEASES OF THE LIVER.																								
Abscess ..										1				1								1		
Cirrhosis ..									1				3											
Fatty Liver ..									1															
Lardaceous Liver..																								
Parasitic Disease—																								
Echinococcus ho-																								
minis ..									1	2				1										
Jaundice ..										3														
Enlargement ..																								
DISEASES OF THE HEPATIC DUCT & GALL BLADDER.																								
Gall Stones ..																								
DISEASES OF THE SPLEEN.																								
Hypertrophy ..																								
Leucocythæmia..																								

TABLE II (continued)

DISEASES.	Under 5.		5-10.		10-15.		15-20.		20-		30-		40-		50-		60-		70 and up-wards.		TOTAL.	
	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	Discharged.	Died.	M	F
DISEASES OF THE URINARY SYSTEM (cont'd).																						
Pyelitis ..								1										1				1
*Hæmaturia Renalis ..											1											
*Hæmatinuria ..							1															2
*Diuresis ..										1												4
DISEASES OF THE BLADDER.																						
*Hæmaturia (Vesical) ..																						1

Table showing the Average Stay of the Medical Cases in Hospital, &c.

Within—Weeks of admission.	Discharged.		Died.		Deaths within 1 week of admission.				DEATHS.			
	M.	F.	M.	F.	Day.	M.		Total.	The total number of <i>Deaths</i> during the year was 387			
						M.	F.					
1	76	66			1	11	2	13	Of these there occurred within 24 hours of admission 13 = 3 per cent.			
2	158	190	31	36	2	13	18	31				
3	127	202	28	19	4	14	3	17	Within one week of admission .. 149 = 38 ..			
4	190	143	24	19	5	17	8	25	" a fortnight 216 = 55 ..			
5	102	109	16	7	6	11	3	14	" three weeks 263 = 68 ..			
6	69	78	10	3	7	17	3	20	" a month 306 = 78 ..			
7	66	57	6	7	93			43				
8	52	43	4	5	136			136				
9	30	23	6	2							The average time of fatal cases in Hospital was in days } 24	
10	18	21	2	3								
11	17	17	2	1								
12	13	7	..	2							DISCHARGES.	
13	5	8	2	1							The total number of <i>Discharges</i> during the year was 1,911	
14	9	7	2	..							Of these, the number discharged within 24 hours was 8	
15	1	..	1	..							Within 1 week 142	
16	3	6	..	..							" 2 weeks 490	
17	5	2	..	..							" 3 819	
18	3	..	1	..							" 4 1,075	
19	3	5	2	1							" 5 1,286	
20	..	..	1	..							" 6 1,433	
21	..	..	1	..							The average stay in Hospital of patients discharged was, in days 29	
22	..	..	1	..							The average time of all the Medical cases in the Hospital was, in days.. .. . 30	
23	1	1	..	..						
24	1	1	1	1								
25	..	..	..	..							PERNOCTATIONS.	
26	..	..	..	..							There are 230 beds in the Medical Wards, giving the number of possible pernoctations for the year, 230 × 365, or 83,950; but of the 10 Medical Wards, 8 were closed during a portion of the year. This would take away about 3,814 pernoctations, leaving 80,136	
27	..	..	..	..							The actual number of pernoctations has been as follows:—	
28	..	2	..	..							Of cases admitted in 1877 or 1878 and dis- charged during 1878. 57,444	
29	..	..	1	..							Of cases remaining in at the end of the year 1878 6,888	
30	..	1	..	..							Of fatal cases 9,290	
31	1	..	..	..							73,622	
35	1	1	..	..							Giving a difference of 6,514	
41	..	1	..	..							This gives a nightly average of about 17 empty beds.	

SURGICAL REPORT.

TABLE I.

Showing the Total Number of Cases of each Disease under Treatment during the Year 1878, with the Results.

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1878.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
GENERAL DISEASES.										
Phagedæna	2	3	2	3	..	..	..	..	..	..
Erysipelas—										
<i>a.</i> Simple	12	16	11	16	..	..	..	..	1	..
<i>b.</i> Phlegmonous	28	6	21	6	..	..	3	..	4	..
<i>c.</i> Diffuse Inflammation .. ..	..	1	..	1	..	..	..	..	..	..
Pyæmia	1	..	1	..	..	..	..	..	..	..
Syphilis—										
A. Hereditary Syphilis	1	1	1	1	..	..	..	..	..	..
B. Secondary Syphilis—										
Local Syphilitic Affections—										
Brain .. .. .	..	1	..	1	..	..	..	..	..	..
Palate and Pharynx .. ..	..	2	..	2	..	..	..	..	..	..
Larynx	1	4	1	2	..	..	1	..	..	1
Rectum	1	2	1	1	..	..	..	..	..	1
Bone	9	2	7	2	1	..	..	..	1	..
Skin	6	15	6	12	..	..	..	..	..	3
Testis	2	..	2	..	..	..	..	..	..	..
Muscle	2	1	2	1	..	..	..	..	..	..
Cancer—										
A. Scirrhus—										
Rectum	1	2	..	..	1	1	..	1	..	..
Female Breast .. .. .	..	44	..	31	..	7	..	2	..	4
Thyroid	1	..	..	..	1	..	..	..	..	..
Glands .. .. .	..	2	..	2	..	..	..	..	..	..
Skin.. .. .	1	1	..	..	1	1	..	..	..	..
Scar.. .. .	1	2	1	2	..	..	..	..	..	..
B. Medullary Cancer—										
Rectum	1	..	..	..	1	..	..	..	..	..
Testis	2	..	..	..	..	..	1	..	1	..
Upper Jaw	1	..	1	..	..	..	..	..	..	..
Glands .. .. .	..	1	..	..	..	1	..	..	..	..
Ovary .. .. .	..	1	..	..	..	..	1	..	..	..
Bladder	2	..	..	..	1	..	1	..	..	..

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1878.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
GENERAL DISEASES (continued).										
Cancer (continued)—										
c. Epithelial Cancer—										
Lip	9	..	6	..	1	..	..	..	2	..
Tongue	13	..	8	..	..	..	1	..	4	..
Mouth	5	1	2	..	2	1	..	..	1	..
Face	6	1	3	..	2	1	..	..	1	..
Vulva .. .. .	..	5	..	3	..	..	..	1	..	1
Scrotum	2	..	2	..	..	..	..	..	..	..
Penis	3	..	1	..	1	..	1	..	..	..
Scalp	2	..	1	..	..	..	..	..	1	..
Larynx	1	..	1	..	..	..	..	..	..	..
Œsophagus	1	1	1	..	..	1	..	..	..	..
Rectum	3	5	1	1	1	1	1	2	..	1
Skin.. .. .	2	1	2	1	..	..	..	..	..	..
Glands	2	..	..	..	1	..	..	..	1	..
Lupus	1	4	1	4	..	..	..	..	..	..
Rodent Ulcer	3	1	2	1	..	..	..	..	1	..
Scrofula										
Lymphatic Glands .. .. .	..	4	..	4	..	..	..	..	..	..
Testicle	5	..	3	..	..	..	..	..	2	..
Joints	45	19	24	14	..	..	1	..	20	5
Skin	3	3	3	3	..	..	..	..	..	..
Nose .. .. .	..	1	..	..	..	1	..	..	..	..
Bone	1	..	1	..	..	..	..	..	..	..
DISEASES OF THE EYE.										
A. Conjunctiva—										
Catarrhal Ophthalmia	9	5	9	5	..	..	..	..	..	..
Purulent	6	7	6	7	..	..	..	..	..	..
Granular	2	3	2	3	..	..	..	..	..	..
Gonorrhœal	3	2	3	..	..	2	..	..	..	..
Phlyctenular .. .. .	..	1	..	1	..	..	..	..	..	..
Rheumatic	4	1	4	1	..	..	..	..	..	..
Pterygium .. .. .	..	1	..	1	..	..	..	..	..	..
Chemosis	1	..	1	..	..	..	..	..	..	..
B. Cornea—										
Keratitis	17	17	15	12	1	1	..	..	1	4
Do. Interstitial	2	6	..	6	1	..	..	..	1	..
Hypopyon	1	..	1	..	..	..	..	..	..	..
Ulcers	6	5	3	5	1	..	1	..	1	..
Opacity	5	2	4	2	1	..	..	..	..	..
Staphyloma	4	5	4	4	..	1	..	..	..	..
c. Iris—										
Irideremia	1	..	1	..	..	..	..	..	..	..
Serous Iritis .. .. .	..	1	..	1	..	..	..	..	..	..

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1878.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF THE EYE (continued).										
c. Iris (continued)—										
Iritis	9	9	7	9	2	..	..	..	..	..
Rheumatic Iritis	2	..	2	..	..	..	..	..	..	..
Irido-choroiditis	4	5	3	5	1	..	..	..	..	..
Synechia	5	2	5	2	..	..	..	..	..	..
Irido-cyclitis	2	1	2	1	..	..	..	..	..	..
Occluded Pupil	2	..	1	..	1	..	..	..	..	..
Mydriasis	1	1	1	..	..	1	..	..	..	..
d. Crystalline Lens—										
Cataract—										
Hard	23	14	20	12	1	2	..	..	2	..
Soft	2	4	2	2	..	2	..	..	..	..
Traumatic	4	..	4	..	..	..	..	..	..	..
Congenital	1	2	1	1	..	1	..	..	..	..
Lamellar	3	2	3	2	..	..	..	..	..	..
Dislocation of Lens	3	1	1	..	1	1	..	..	1	..
Opaque Capsule	1	2	1	2	..	..	..	..	..	..
e. Diseases of Retina and Optic Nerve—										
Retinal Apoplexy .. .. .	..	1	..	1	..	..	..	..	..	..
Glioma	2	..	2	..	..	..	..	..	..	..
Optic Neuritis	2	4	1	3	1	1	..	..	..	..
Retino-Choroiditis	1	1	1	..	..	1	..	..	..	..
White Atrophy of Optic Disc	2	2	..	2	1	..	..	..	1	..
Albuminuric Retinitis	3	..	..	..	3	..	..	..	..	..
Detached Retina	2	1	..	1	2	..	..	..	..	..
f. Diseases of the Choroid—										
Choroiditis	2	1	1	1	1	..	..	..	..	..
g. Diseases of Vitreous—										
Opacities .. .. .	..	1	..	..	..	1	..	..	..	..
Hæmorrhage into Vitreous	1	..	1	..	..	..	..	..	..	..
h. General Affections of the Eye—										
Glaucoma	11	9	7	9	4	..	..	..	..	..
Sympathetic Ophthalmia	3	1	1	1	2	..	..	..	..	..
Panophthalmitis	1	..	1	..	..	..	..	..	..	..
Sarcoma	1	..	1	..	..	..	..	..	..	..
Shrivalled Globe	2	2	2	2	..	..	..	..	..	..
i. Strabismus—										
Internal	17	26	17	25	..	1	..	..	..	..
External	2	4	1	3	1	1	..	..	..	..
j. Hypermetropia and Asthenopia										
Hypermetropia	3	1	3	1	..	..	..	..	..	..
Astigmatism	1	..	1	..	..	..	..	..	..	..

TABLE I (continued).

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1878.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
DISEASES OF THE EYE (continued).											
J. Hypermetropia and Asthenopia (continued)—											
Myopia	3	1	2	1	1	..	..	..	..	..	..
Amblyopia	1	4	1	2	..	2	..	..	..	..	..
Diplopia	1	..	1	..	..	..	..	..	..	..	..
K. Diseases of the Lachrymal Apparatus—											
Lachrymal Obstruction ..	1	1	1	1	..	..	..	..	..	..	..
Dacryo-Cystitis	4	3	3	2	..	..	..	..	1	1	..
L. Diseases of the Eyelids—											
Entropion	1	4	1	4	..	..	..	..	..	..	..
Ectropion	3	..	1	..	2	..	..	..	..	..	..
Epicanthus	1	..	1	..	..	..	..	..	..	..	..
Nævus	1	..	1	..	..	..	..	..	..	..	..
Tarsal Tumour	1	3	1	3	..	..	..	..	..	..	..
Ptosis	1	..	..	..	1	..	..	..	..	..	..
Blepharospasm	1	1	..	1	1	..	..	..	..	..	..
M. Diseases of Orbit—											
Congenital Cyst	1	1	1	1	..	..	..	..	..	..	..
Neerosis .. .. .	..	2	..	..	..	2	..	..	..	..	..
DISEASES OF THE EAR.											
Otorrhœa	2	..	1	..	1	..	..	..	..	..	..
Polypus	1	1	1	..	..	1	..	..	..	..	..
DISEASES OF THE NOSE.											
Gangrene	1	..	1	..	..	..	..	..	..	..	..
Polypus .. .. .	..	2	..	1	..	1	..	..	..	..	..
Epistaxis	6	2	4	2	..	..	2	..	..	..	..
Ozæna .. .. .	..	2	..	2	..	..	..	..	..	..	..
Lipoma	1	..	1	..	..	..	..	..	..	..	..
DISEASES OF THE CIRCULATORY AND ABSORBENT SYSTEMS.											
Aneurism—											
Popliteal	4	..	2	..	..	..	..	..	2	..	..
Traumatic—											
Occipital	1	..	1	..	..	..	..	..	..	..	..
Ulnar	1	..	1	..	..	..	..	..	..	..	..
Varicose Veins	2	2	1	2	1	..	..	..	..	..	..
Thrombosis	1	6	1	5	..	..	..	..	..	1	..
Secondary Hæmorrhage ..	1	..	1	..	..	..	..	..	..	..	..
Hæmorrhage from Varicose Vein..	2	..	2	..	..	..	..	..	..	..	..
Lymphatic Glands—											
Abscess	3	1	3	1	..	..	..	..	..	..	..
Enlarged Glands	2	1	2	1	..	..	..	..	..	..	..
Lymphangitis	3	3	3	3	..	..	..	..	..	..	..

TABLE I (continued).

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1878.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF THE LIPS.										
Malformations—										
Deformity of Lip .. ..	..	1	..	1	..	..	..	..	..	..
Single Harelip	3	6	3	6	..	..	..	..	..	..
Double „	4	1	4	1	..	..	..	..	..	..
Carbuncle	1	..	..	..	..	..	..	..	1	..
DISEASES OF MOUTH AND CHEEK.										
Abscess	1	..	1	..	..	..	..	..	..	..
Ramula	1	1	1	1	..	..	..	..	..	..
Cancerum Oris .. ..	..	3	..	2	..	..	..	1	..	..
Carbuncle	1	..	1	..	..	..	..	..	..	..
DISEASES OF GUMS AND JAWS.										
Phosphorus Necrosis	1	1	1	..	..	1	..	..	..	..
Epulis	1	4	1	3	..	..	..	..	..	1
Cystic-Sarcoma .. ..	..	2	..	1	..	1	..	..	..	..
Dental Abscess	3	..	3	..	..	..	..	..	..	..
Sarcoma	3	1	1	1	1	..	1	..	..	..
Carious Tooth .. ..	..	2	..	2	..	..	..	..	..	..
Enchondroma of Upper Jaw ..	1	..	1	..	..	..	..	..	..	..
DISEASES OF PALATE AND FAUCES.										
Cyst of Thyroid	1	..	1	..	..	..	..	..	..	..
Enlarged Thyroid .. ..	..	1	..	1	..	..	..	..	..	..
Enlarged Tonsils	1	3	1	2	..	..	..	..	..	1
Tonsillitis .. ..	..	17	..	16	..	..	..	..	..	1
Cleft Palate	7	12	7	11	..	..	..	..	..	1
Abscess, Retro-Pharyngeal..	..	1	..	1	..	..	..	..	..	..
Perforation of Palate	1	1	1	1	..	..	..	..	..	..
Ulcer of Tonsils .. ..	..	2	..	2	..	..	..	..	..	..
Gangrene of Palate.. ..	1	..	..	..	1	..	..	..	..	..
DISEASES OF THE TONGUE.										
Glossitis	1	..	1	..	..	..	..	..	..	..
DISEASES OF SALIVARY GLANDS.										
Abscess of Parotid	1	..	1	..	..	..	..	..	..	..
Parotid Glandular Tumour ..	..	1	..	1	..	..	..	..	..	..
Adeno-fibroma of Submaxillary Gland .. ..	..	1	..	1	..	..	..	..	..	..
DISEASES OF THE INTESTINES.										
Hernia—										
Umbilical	2	6	2	6	..	..	..	..	..	..

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1878.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF THE INTESTINES (continued).										
Hernia (continued)—										
Inguinal	25	1	22	..	..	..	2	1	1	..
Femoral	4	20	3	15	..	..	..	4	1	1
Ventral	2	..	2	..	..	..	..	..	..	..
Fæcal Fistula	2	..	..	..	1	..	1	..	..	..
DISEASES OF RECTUM AND ANUS.										
Imperforate Anus .. .. .	..	1	..	1	..	..	..	..	..	..
Fistula in Ano	13	8	11	5	..	1	1	..	1	2
Hæmorrhoids	16	8	14	6	..	1	..	..	2	1
Fissure of Anus	2	2	2	2	..	..	..	..	..	..
Ulcer of Rectum	1	1	1	1	..	..	..	..	..	..
Ischio-Rectal Abscess	7	..	5	..	..	..	..	..	2	..
Recto-Vaginal Fistula .. .. .	..	3	..	2	..	1	..	..	..	..
DISEASES OF URINARY SYSTEM.										
Ectopia Vesicæ	2	..	1	..	..	..	..	..	1	..
Cystitis—										
Acute	1	1	1	1	..	..	..	..	..	..
Chronic	1	10	1	6	..	2	..	1	..	1
Renal Calculus	3	..	1	..	2	..	..	..	..	..
Calculus Vesicæ—										
a. Uric Acid	2	1	1	1	..	..	..	..	1	..
b. Oxalate of Lime	3	..	2	..	..	..	..	..	1	..
Tubercular Disease of Urinary Tract										
Bladder, Paralysis of	1	..	..	..	1	..	..	..	..	..
Gum Catheter in Bladder	1	..	1	..	..	..	..	..	..	..
Symptoms of Stone.. .. .	1	1	1	1	..	..	..	..	..	..
<i>Diseases of Prostate Gland.</i>										
Enlarged Prostate	10	..	9	..	..	..	1	..	..	..
<i>Gonorrhœa and its Complications.</i>										
Gonorrhœa	5	2	4	2	..	..	..	..	1	..
Prostatitis	1	..	1	..	..	..	..	..	..	..
Bubo	1	1	..	1	..	..	..	..	1	..
Perineal Abscess	3	..	3	..	..	..	..	..	..	..
Orchitis	3	..	3	..	..	..	..	..	..	..

TABLE I (continued).

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1878.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF URINARY SYSTEM (continued).										
<i>Diseases of Urethra.</i>										
Urethritis	1	..	1	..	..	..	..	..	..	..
Stricture—										
<i>a.</i> Organic	44	..	35	..	1	..	4	..	4	..
<i>b.</i> Traumatic	4	..	3	..	..	..	1	..	..	..
<i>c.</i> Congestive	3	..	3	..	..	..	..	..	..	..
Urinary Fistula	10	..	6	..	..	..	2	..	2	..
Extravasation of Urine	8	..	5	..	..	..	2	..	1	..
Retention of Urine	5	..	5	..	..	..	..	..	..	..
Urethral Calculus	3	..	2	..	..	..	..	..	1	..
<i>Diseases of the Penis and Testis.</i>										
Malformation—										
Phimosis	23	..	23	..	..	..	..	..	..	..
Hypospadias	1	..	1	..	..	..	..	..	..	..
Contracted Prepuce	3	..	3	..	..	..	..	..	..	..
Paraphimosis	3	..	3	..	..	..	..	..	..	..
Hæmatocele	3	..	3	..	..	..	..	..	..	..
Hydrocele	12	..	12	..	..	..	..	..	..	..
Hernia Testis	1	..	1	..	..	..	..	..	..	..
Orchitis	2	..	2	..	..	..	..	..	..	..
Sarcoma Testis	1	..	..	..	..	..	..	..	1	..
Varicocele	2	..	2	..	..	..	..	..	..	..
Sloughing of Serotum	2	..	2	..	..	..	..	..	..	..
Abscess of Penis	2	..	2	..	..	..	..	..	..	..
Undescended Testis	1	..	1	..	..	..	..	..	..	..
Congenital Lipoma of Perinæum	1	..	1	..	..	..	..	..	..	..
DISEASES OF FEMALE ORGANS OF GENERATION.										
Diseases of the Ovary .. .. .	..	24	..	8	..	6	..	8	..	2
<i>Diseases of the Vagina.</i>										
Vesico-Vaginal Fistula .. .. .	..	9	..	6	..	1	..	..	..	2
<i>Diseases of Vulva.</i>										
Abscess of Labium .. .. .	..	2	..	2	..	..	..	..	..	..
Imperforate Hymen .. .. .	..	1	..	1	..	..	..	..	..	..

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1878.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF FEMALE ORGANS OF GENERATION (continued).										
<i>Diseases of Vulva (continued).</i>										
Fibrous Tumour	2	..	1	..	..	..	..	..	1
Hypertrophy of Nympha	1	..	1	..	..	..	..	..	..
<i>Affections connected with Parturition.</i>										
Ruptured Perinæum	4	..	3	..	1	..	..	..	..
DISEASES OF THE FEMALE BREAST.										
Abscess	14	..	11	..	..	..	..	..	3
Ulcer	3	..	3	..	..	..	..	..	..
Non-Malignant Tumours—										
Cysts	6	..	6	..	..	..	..	..	..
Mammary Glandular	10	..	9	..	..	..	..	..	1
Sarcoma	1	..	1	..	..	..	..	..	..
DISEASES OF THE ORGANS OF LOCOMOTION.										
<i>Diseases of Bones.</i>										
Ostitis	1	..	1	..	..	..	..	..	..
Periostitis	7	5	7	5	..	..	..	..	..
Chronic Abscess	2	1	2	..	..	..	..	..	1
Diffuse Periostitis—										
Acute Necrosis	14	3	5	2	..	..	3	1	6
Caries	11	8	9	6	..	1	1	..	1
Necrosis	29	16	23	12	..	..	2	..	4
Perforating Ulcer	5	3	4	1	..	1	..	..	1
Inflamed Stump	1	..	..	..	1	..	..	..	..
Tumours—										
a. Exostosis	4	5	..	5	1	..	..	..	3
b. Sarcoma	3	5	..	..	2	2	..	3	1
Old Amputations	1	3	1	3	..	..	..	..	..
Deformities after Fracture, &c.	4	3	4	3	..	..	..	..	..
" from Rickets	2	1	1	1	..	..	..	..	1
Painful Stump	3	1	2	1	1	..	..	..	..
<i>Diseases of Joints.</i>										
Rheumatic Synovitis	9	6	9	6	..	..	..	..	..
Acute Synovitis	30	13	27	10	..	..	..	..	3
Chronic Synovitis	10	11	9	11	..	..	..	..	1

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1878.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF THE ORGANS OF LOCOMOTION (continued).										
<i>Diseases of Joints (continued).</i>										
Chronic Disease	88	39	55	32	9	1	4	..	20	6
Ankylosis	7	8	7	7	..	..	..	..	..	1
Knock-Knee	7	5	4	2	..	..	..	..	3	3
Disease of the Sacro-Iliac—										
Synchondrosis	2	1	1	..	1	..	..	..	..	1
Loose Cartilage in Knee ..	2	..	2	..	..	..	..	..	..	..
Bow Legs	1	..	..	..	1	..	..	..	..	..
<i>Diseases of the Spine.</i>										
Caries	37	22	29	18	2	1	3	..	3	3
Psoas, Lumbar, and other Abscesses	7	4	5	4	1	..	..	..	1	..
Lateral Curvature	2	6	2	6	..	..	..	..	..	..
Spina Bifida	2	1	2	..	..	..	..	1	..	..
<i>Diseases of Muscles, Tendons, &c.</i>										
Congenital Deformity of Legs ..	2	1	2	1	..	..	..	..	..	..
Flat Foot	2	3	2	3	..	..	..	..	..	..
Contraction of Tendons, Fasciæ, or Muscles	5	2	5	2	..	..	..	..	..	..
Club-Foot—										
<i>a.</i> Talipes Equinus	5	3	5	2	..	..	..	..	..	1
<i>b.</i> Do. Equino-varus	15	7	11	6	..	..	..	..	4	1
<i>c.</i> Do. Varus	1	3	1	2	..	..	..	..	..	1
Wry-neck	1	3	1	3	..	..	..	..	..	..
Enlarged Bursa Patellæ	3	5	2	5	1	..	..	..	..	..
Inflammation and Suppuration of Bursa Patellæ	11	23	10	19	..	..	..	..	1	4
Do. do. of other Bursæ ..	4	1	4	1	..	..	..	..	..	..
Ganglion	1	..	1	..	..	..	..	..	..	..
Bursal Tumour .. ..	..	3	..	3	..	..	..	..	..	..
Teno-Synovitis	3	1	3	1	..	..	..	..	..	..
Ossified Tendon of Rectus Femoris	1	..	..	..	1	..	..	..	..	..
DISEASES OF THE CELLULAR TISSUE.										
Abscess	92	58	80	54	..	..	3	1	9	3
Connective Tissue Tumours—										
<i>a.</i> Fatty	11	14	10	11	..	2	1	..	..	1
<i>b.</i> Sarcoma	4	4	2	2	1	1	1	1	..	..
<i>c.</i> Fibrous	2	1	2	1	..	..	..	..	..	..
<i>b.</i> Myxoma	3	..	3	..	..	..	..	..	..	..

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1878.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF THE CELLULAR TISSUE (continued).										
Sebaceous Cysts	8	10	6	10	..	..	..	..	2	..
Dermoid Cysts	1	1	1	1	..	..	..	..	..	..
Simple Cysts.. .. .	2	2	2	1	..	1	..	..	..	..
Hygroma	3	..	3	..	..	..	..	..	..	..
Painful Subcutaneous Tumour ..	..	2	..	2	..	..	..	..	..	..
Hæmatoma	1	..	1	..	..	..	..	..	..	..
DISEASES OF THE CUTANEOUS SYSTEM.										
Ulcer	38	32	31	29	..	..	1	2	6	1
Carbuncle	7	1	6	1	..	..	1	..	..	..
Boil	1	2	1	2	..	..	..	..	..	..
Gangrene	8	2	6	2	..	..	1	..	1	..
Nævus	3	7	2	7	1	..	..	..	..	..
In-growing Toe-nail	10	6	10	6	..	..	..	..	..	..
Cicatrix	4	..	2	..	2	..	..	..	..	..
Onychia .. .. .	..	1	..	1	..	..	..	..	..	..
GENERAL INJURIES.										
Burns and Scalds	36	40	23	22	..	..	11	10	2	8
Contusions	33	8	31	8	..	..	..	..	2	..
LOCAL INJURIES.										
<i>Injuries of the Head—</i>										
Contusion	1	2	1	2	..	..	..	..	..	..
Scalp Wound	42	15	39	14	..	..	2	..	1	1
Concussion of Brain	50	7	48	6	..	..	..	1	2	..
<i>Fracture of Vault of Skull—</i>										
Simple .. .. .	..	1	..	1	..	..	..	..	..	..
Compound	9	..	4	..	..	..	4	..	1	..
<i>Fracture Base of Skull</i>										
Gunshot Wound of Skull	11	2	1	..	..	..	10	2	..	..
.. .. .	2	1	..	..	..	..	1	1	1	..
<i>Of the Face.</i>										
Contusion	5	..	5	..	..	..	..	..	..	..
Wound	18	4	17	4	..	..	..	..	1	..
Fracture, Lower Jaw	10	3	9	3	..	..	..	..	1	..
Fracture of Nasal Bones	1	..	1	..	..	..	..	..	..	..

TABLE I (continued).

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1878.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
<i>LOCAL INJURIES (continued).</i>										
<i>Injuries of the Eye.</i>										
Foreign Body in Eye ..	5	1	5	1	..	..	..	..	..	..
Burns	4	2	4	2	..	..	..	..	..	..
Wound of Eye	21	1	19	1	..	..	..	..	2	..
Contusions of Globe ..	9	1	8	1	..	..	..	..	1	..
<i>Injuries of the Neck.</i>										
Sprains	2	1	..	1	..	..	..	..	2	..
Scald of Throat	1	2	1	2	..	..	..	..	..	..
Cut Throat	3	2	3	2	..	..	..	..	..	..
Foreign Body in Oesophagus	3	..	3	..	..	..	..	..	..	..
Pistol Wounds .. ..	..	1	..	1	..	..	..	..	..	..
Contusions	3	..	3	..	..	..	..	..	..	..
Burn from Nitric Acid ..	..	1	..	1	..	..	..	..	..	..
<i>Injuries of the Chest.</i>										
Contusions	4	1	4	1	..	..	..	..	..	..
Fractured Ribs and Sternum	15	6	14	6	..	..	1	..	..	..
Do. Lung Wounded ..	6	..	5	..	..	..	1	..	..	..
<i>Injuries of the Back.</i>										
Contusion	3	1	2	1	..	..	1	..	..	..
Fracture of the Spine ..	4	..	..	..	..	..	4	..	..	..
Concussion	4	..	2	..	..	..	..	..	2	..
Wound	2	..	2	..	..	..	..	..	..	..
Sprain	3	..	3	..	..	..	..	..	..	..
Dislocation	1	..	..	..	..	..	1	..	..	..
<i>Injuries of the Abdomen.</i>										
Contusion	11	2	10	2	..	..	1	..	..	..
Do. with Rupture of Viscera	1	..	..	..	..	..	1	..	..	..
Wound	3	..	2	..	..	..	1	..	..	..
Pistol-shot Wound ..	1	..	1	..	..	..	..	..	..	..
<i>Injuries of the Pelvis.</i>										
Contusions	3	2	3	2	..	..	..	..	..	..
Contusion of Penis ..	1	..	1	..	..	..	..	..	..	..
Wound of Scrotum ..	1	..	1	..	..	..	..	..	..	..
Wound of Vulva .. ..	..	2	..	2	..	..	..	..	..	..
Ruptured Urethra ..	5	..	4	..	..	..	1	..	..	..

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1878.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
<i>LOCAL INJURIES (continued).</i>										
<i>Injuries of the Pelvis (continued).</i>										
Fracture of Pelvis	3	..	3	..	..	..	..	..	..	..
String round Penis	1	..	1	..	..	..	..	..	..	..
Wound of Buttock	2	1	2	1	..	..	..	..	..	..
<i>Injuries of the Upper Extremity.</i>										
Contusion	21	..	19	..	..	..	..	..	2	..
Poisoned Wounds	1	..	1	..	..	..	..	..	..	..
Needle in Hand .. ..	..	1	..	1	..	..	..	..	..	..
Wound—										
Of Arm	5	1	3	1	..	..	1	..	1	..
Of Forearm	7	3	5	3	..	..	..	..	2	..
Of Hand	19	..	17	..	..	..	..	..	2	..
Of Elbow Joint	3	..	2	..	..	..	..	..	1	..
Fracture of—										
Clavicle	8	2	7	2	..	..	1	..	..	..
Scapula	1	..	1	..	..	..	..	..	..	..
Humerus—										
Simple	4	3	4	3	..	..	..	..	..	..
Compound	4	..	4	..	..	..	..	..	..	..
Ununited	1	1	1	..	..	1	..	..	..	..
Forearm—										
Simple	6	4	5	4	..	..	..	..	1	..
Compound	1	..	1	..	..	..	..	..	..	..
Ununited	1	1	1	1	..	..	..	..	..	..
Dislocation of—										
Clavicle	1	1	1	1	..	..	..	..	..	..
Humerus	4	5	2	4	1	..	..	..	1	1
Phalanx	2	..	2	..	..	..	..	..	..	..
<i>Injuries of Lower Extremity.</i>										
Contusions	15	10	13	10	..	..	..	..	2	..
Sprained Ankle	16	5	15	5	..	..	..	..	1	..
Impacted Needles .. ..	..	3	..	3	..	..	..	..	..	..
Wounds—										
Of Thigh	12	1	10	1	..	..	1	..	1	..
Over Knee	13	1	12	1	..	..	..	..	1	..
Of Leg	10	4	8	3	..	..	1	1	1	..
Of Foot	5	..	5	..	..	..	..	..	..	..
Of Knee Joint	1	..	1	..	..	..	..	..	..	..

DISEASES.	Total number of cases under treatment.		Discharged cured and relieved.		Unrelieved.		Died.		Remaining in at the end of the year 1878.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
<i>LOCAL INJURIES (continued).</i>										
<i>Injuries of Lower Extremity (continued).</i>										
Fracture of Femur—										
Simple	69	24	58	21	..	..	2	1	9	2
Compound	3	..	2	..	..	..	1	..	..	..
Fracture of Cervix Femoris—										
Intracapsular	1	7	1	6	..	..	..	..	..	1
Extracapsular	4	2	2	1	..	..	2	..	..	1
Fracture of Patella	21	10	14	8	..	..	..	..	7	2
Fracture of both Bones of the Leg—										
Simple	96	39	80	33	..	..	3	3	13	3
Compound	15	3	10	2	..	..	..	..	5	1
Ununited	1	..	..	..	1	..	..	..	..	..
Fracture of Tibia alone—										
Simple	36	10	32	10	..	..	..	..	4	..
Compound	1	1	1	..	..	..	..	1	..	..
Ununited	1	..	1	..	..	..	..	..	..	..
Fracture of Fibula alone—										
Simple	43	5	42	3	..	..	..	..	1	2
Fracture of Bones of Foot—										
Simple	3	1	3	1	..	..	..	..	..	..
Dislocations—										
Hip	3	1	2	1	..	..	1	..	..	..
Foot	1	..	1	..	..	..	..	..	..	..
Patella .. .. .	..	1	..	1	..	..	..	..	..	..
Phalanx	1	..	1	..	..	..	..	..	..	..
<i>Diseases and Injuries not classified.</i>										
Nihil	4	3	4	3	..	..	..	..	..	..

ABSTRACT OF TABLE I,

With Average Duration of Surgical Patients in the Hospital.

Discharged Cured or Relieved	..	..	..	..	..	..	..	..	..	$\left\{ \begin{array}{l} \text{M.} = 1645 \\ \text{F.} = 968 \end{array} \right.$
Discharged Unrelieved	..	..	..	..	..	..	..	..	..	$\left\{ \begin{array}{l} \text{M.} = 82 \\ \text{F.} = 63 \end{array} \right.$
Died	..	..	..	..	..	..	..	..	..	$\left\{ \begin{array}{l} \text{M.} = 101 \\ \text{F.} = 52 \end{array} \right.$
Remaining in at the end of the year 1878	..	..	..	..	..	..	..	..	..	$\left\{ \begin{array}{l} \text{M.} = 216 \\ \text{F.} = 98 \end{array} \right.$
Average stay in the Hospital	..	..	..	..	..	..	..	..	..	$\left\{ \begin{array}{l} \text{M.} = 33\cdot49 \text{ days.} \\ \text{F.} = 34\cdot30 \text{ ,,} \end{array} \right.$

Average stay in the Hospital of all Surgical Patients = 33·89 days.

APPENDIX TO TABLE I.

GENERAL DISEASES :

Cancer of the Sigmoid Flexure.—A hop-picker, aged 40, had had constipation and abdominal pain for eight days before admission. She had not till then noticed any difficulty in defecation. As the symptoms of internal obstruction became urgent, the abdomen was opened between the Umbilicus and the Pubes. At the Sigmoid Flexure of the Colon an annular Cancerous stricture was found occluding the gut. An artificial anus was made in the middle line. No antiseptics were used. The patient made a good recovery without symptoms of Peritonitis.

DISEASES OF THE CIRCULATORY AND ABSORBENT SYSTEMS :

Aneurism.—Two cases of spontaneous aneurism were treated during the year.

A ship's stoker, aged 38, who some years previously had served in the army, became the subject of a popliteal aneurism three weeks before admission. He had bruised his leg and knee three months before by falling a distance of two feet as he was going down a ladder to the stokehole, but had quite recovered from that injury when the tumour in the ham appeared. He was a man of intemperate habits when opportunity offered, but he had never been affected with Syphilis, nor was there any history in his family of Rheumatism or Gout. A large tumour completely filled up the right popliteal space, which had the usual distensile pulsation and other characteristics of aneurism. It was very tender on pressure, though not apparently inflamed. A pulse was felt in the Tibial arteries of the foot. As no improvement occurred after several days' rest in bed, digital pressure was resorted to. It was generally used daily for about 12 hours. On the fifth day the pulsation had entirely ceased in the tumour, but, after the patient had been to stool, the pulsation recurred and the pressure was therefore resumed. After a period of compression amounting to 74½ hours in all, the aneurism was cured and pulsated no longer.

The second case was treated with Esmarch's bandage. The patient was a labourer, aged 40, who had been discharged from the army in 1869. He noticed a swelling in the right ham seven months before admission, which had increased but little during that period. He did not remember to have injured the leg. He gave no history of syphilis, and stated that his health had been invariably good. For six weeks the tumour had been the seat of an occasional shooting pain, often so severe as to disturb his sleep. A rounded swelling projected from the right ham, and filled up the popliteal space. On the inner side of the space it passed an inch or two down the leg, but this process seemed to be rather a thickening of natural tissues than a part of the swelling in the ham. The tumour was tense when the leg was extended, and its presence prevented complete extension. Flexion was easy, and the swelling then became soft. It was well defined, elastic, and "fluctuating" in all directions. A very faint arterial pulse was felt during extension, which became more marked, but was still faint on flexing the leg. The impulse, though feeble, was distensile. It ceased on compressing the femoral artery in the groin, and then the tumour became soft but could not be materially reduced in size. It merely changed from a tense to a soft swelling, and still gave a sense of fluctuation. No bruit was at first heard, but on the seventh day after admission one was detected. Esmarch's bandage was applied for 35 minutes without effecting any change in the part. Four days afterwards it was again employed for 65 minutes. The femoral artery was then compressed for 40 minutes. Esmarch's bandage was resumed for 35 minutes, and the femoral again controlled for 25 minutes.

Pulsation had then entirely ceased. Two months afterwards the tumour was the size of a hen's egg, and had no pulsation. It was still a fluctuating swelling, tense during extension, and soft during flexion of the leg.

A case of traumatic aneurism of the left occipital artery was treated by laying open the sac and delimiting both ends of the vessel. The patient, aged 19, was struck on the back of the head with the fist five weeks before. A swelling at once formed at the seat of injury, which became painful at the end of a fortnight. It presented the usual characters of aneurism.

A boy, aged 14, cut his hand seven weeks before admission, and developed a traumatic aneurism of the ulnar artery in the palm. It was treated by pressure, at first by his friends, and afterwards in the hospital.

DISEASES OF THE INTESTINES :

Hernia.—In a case of irreducible Hernia, the sac was opened and a mass of Omentum cut away. The patient was 48 years of age, and had had a rupture for 28 years. Though he had a worn a truss, the swelling had not been entirely reducible for some years. All efforts at reduction of the Hernia, which was of the oblique inguinal kind, having failed, the sac was opened, and a mass of old consolidated omentum, as large as an orange and closely adherent to the neck, was dissected away, after a ligature had been applied to it high up. The man made a good recovery, and no further protrusion was noticed.

DISEASES OF THE URINARY ORGANS.

Congenital Tumour.—A congenital tumour of the perinæum was removed from a boy 5 months old. It formed a globular swelling about the size of a nectarine, and was attached by a very short pedicle to the left side of the perinæum. A small process of skin about three-quarters of an inch long projected from its upper part, so that the tumour at first sight bore some resemblance to a second set of external genitals. It consisted of fat, and near its attachment a rod of cartilage entered it from the direction of the Coccyx. The swelling was enclosed in natural skin, having the characters of that in its neighbourhood.

DISEASES OF THE FEMALE ORGANS OF GENERATION :

Diseases of the Ovary.—Ovariectomy was performed successfully in 4 cases, and with a fatal result in 1. Four patients were relieved by paracentesis, and 3 others died after that operation. Of 10 cases that were deemed unfit for treatment, 4 died from bursting or suppuration of the sac.

DISEASES OF THE ORGANS OF LOCOMOTION :

Acute Necrosis.—A labourer, aged 45, was admitted with acute Necrosis of the Humerus, which simulated malignant disease. He was in his usual health five weeks before, and then felt pain in the arm, and noticed a swelling above the elbow. These symptoms increased and he lost flesh. The lower half of the arm was enlarged by a tumour which appeared to spring from the deep structures, as the Biceps and Triceps muscles could be traced over it. A fracture of the Humerus had taken place at the lower part of the swelling, which had occurred spontaneously on the morning of admission. The tumour had no definite limit above or below, but rose imperceptibly from the Humerus. It was firm, and was covered by pale and slightly œdematous skin. The patient's temperature was slightly raised. On the fifth day an incision was made into the swelling, and much pus was evacuated. The bone was found necrosed for a length of three or four inches. The fracture had occurred in the middle of the necrosed portion, and was very oblique. The surface of the bone was much eroded—"worm-eaten"—and the medullary cavity contained pus. The arm was amputated below the shoulder, and the patient made a tedious recovery, suffering Necrosis of the sawn end of the bone.

In the case of a man, aged 20, the left half of the lower jaw and the bones entering into the formation of the temporal fossa were necrosed and the maxillary articulation completely destroyed. The disease appeared to have arisen in

connection with the last left molar tooth, which had a carious cavity in the centre. The gum around it was separated, and the socket necrosed. The alveolar process elsewhere was not diseased. The patient had been exposed to cold a month before his death, when attending his father's funeral. An abscess had burst on the cheek and one on the temple before he came to the Hospital, to which he was admitted in a dying condition. Numerous secondary abscesses were found, on post-mortem examination, in the Lungs and Spleen.

Congenital Deformity of the Leg.—The patient was a girl of 9 years. The left Leg was altogether out of the line of the Thigh. It hung on the posterior surface of the external Femoral Condyle, and was placed at right angles to the Thigh. It was very small, ill-nourished, and measured three to four inches less than the right in length. The foot was in the position of Talipes Equinovarus. The Patella was felt between the condyles of the Femur, which projected beneath the integuments, and appeared to be much widened. On dissection, the Tibia was found to be absent. A large and strong Fibula articulated with the external condyle of the Femur, and at the lower end with a bone representing the Astragalus, Os Calcis, and Scaphoid bones. The internal Cuneiform bone was absent, and the inner Metatarsal was very ill-developed, and articulated almost altogether with the middle Cuneiform. The other bones of the foot were well formed. Two main arteries traversed the limb in the course of the anterior Tibial and Peroneal vessels.

Ossification of the Tendon of the Rectus Femoris.—This occurred in a man, aged 33, who had had Rheumatic Fever four years before admission, and since that illness had suffered from pain in the right Hip, and had noticed a creaking at the joint on movement. A hard substance occupied the upper part of the Rectus Femoris: it was $4\frac{1}{2}$ inches in length, and $\frac{3}{4}$ of an inch in thickness, and it tapered at the lower extremity. It moved with the Rectus muscle. Fifteen months before he came under observation the mass was cut down upon at Portsmouth, and a bony fragment was said to have been removed from the lower end.

Talipes Varus.—A case of Talipes Varus was treated by excising a wedge-shaped piece of the Tarsus. The patient, aged 11, had been at various times under treatment, but the deformity persisted. Both feet were affected, the left foot chiefly. The arch of the foot was high, the sole turned inwards, and the boy could place only the fore part of the foot to the ground in walking. An incision $2\frac{1}{2}$ inches long was made on the outer side of the foot and a second, an inch in length, on the inner aspect. A wedge-shaped portion of the Tarsus was then removed through the outer incision. At the end of three months he could walk easily with his heel well on the ground. There was still slight tendency to Varus.

LOCAL INJURIES :

Hæmorrhagic Diathesis.—A man, aged 20, received a small punctured wound of the right upper eyelid four days before admission, which had bled ever since. When he was 10 years old, a small wound inside his mouth bled so frequently that he remained an in-patient at the London Hospital for three months. His father was an Italian, and his mother an Englishwoman. Both parents died of consumption in his infancy. He was not acquainted with his family history further than that his only brother was a bleeder like himself. The bleeding was at first stopped by pressure. It recurred several times in spite of the use of styptics. On the 14th day the wound was treated with the Benzine Caustery, and afterwards left exposed to the air. No further hæmorrhage occurred.

Compound Depressed Fracture of the Vault of the Skull.—Occurred in a youth, aged 13, who was struck by a falling chimney-pot as he was walking in the street. He sustained a compound and comminuted depressed fracture of the right Parietal bone at its back part near the middle line. He was conscious on admission. Next day the wound was enlarged, and the depressed fragments of bone removed. In the evening he complained of "pins and needles" in the

left leg, and was found to have lost all power in the left arm. Sensation was unimpaired. On the 10th day power began to return in the arm, and at the end of two months he had recovered its use entirely. The wound did well throughout.

Pistol Shot Wound of the Neck.—A girl, aged 19, was shot in the neck by her brother, who accidentally discharged a pistol as he was standing in front of her. An irregular punctured wound, large enough to admit a pea, was found on the right side of the neck, a little below the level of the upper border of the Thyroid cartilage, and internal to the border of the Sterno-mastoid muscle. The bullet, as was afterwards discovered, passed subcutaneously round the right side of the neck nearly to the middle line behind. Free hæmorrhage occurred before and once after admission. It was controlled by a pad. On the 28th day the wound had healed, and the bullet was removed from the back of the neck. A small swelling, about the size of a marble, could be felt over the carotid artery at the site of the wound. It pulsed visibly, and a systolic murmur was heard in it on auscultation. It was obliterated by controlling the artery below. Its pulsation was not distensible.

INJURIES OF THE CHEST :

Hernia of the Lung.—A costermonger, aged 68, fell across his barrow on his right side. He sustained a fracture of the third and seventh ribs in the anterior axillary line, and a fracture of the sixth rib just external to the cartilage. No symptoms of injury to the lung were noticed. He was suffering from Bronchitis and Emphysema. On the 18th day he sat up in bed for the first time after the accident, and soon afterwards a swelling appeared in the third intercostal space. The tumour used to appear on coughing, and to subside suddenly as expiration ceased. It was oblong in form, and bulged out of the third interspace of the right side, extending from the nipple upwards, outwards, and backwards for a space of three inches. It filled the interspace, and seemed to overlap the lower border of the third rib. It was of soft consistence, resonant on percussion, not tender on pressure, nor painful. The lower border of the third rib was much more easily felt than those of the other ribs.

INJURIES OF THE ABDOMEN :

Wound of the External Iliac Vein.—A cabinetmaker, aged 22, sustained a penetrating wound of the abdomen from a chisel that a fellow-workman threw at him. The wound was on the left side of the abdomen, about an inch in extent, and exposed the outer edge of the rectus muscle. The upper angle of the wound was $\frac{1}{2}$ an inch below the line joining the two anterior superior iliac spines. A knuckle of intestine with some omentum protruded from it. When these were reduced, a large gush of dark blood occurred. The wound was enlarged upwards and downwards, and after much difficulty, owing to the depth of the opening and the constant hæmorrhage, which was little affected by tourniquets, a slit, an inch in length, was detected in the external iliac vein, about $1\frac{1}{2}$ to 2 inches above Poupart's ligament. The vein was tied above and below the wound. The patient died of Peritonitis and exhaustion from loss of blood.

INJURIES OF UPPER EXTREMITY :

A man, aged 52, fell whilst carrying a load on his head. His elbow struck the ground, and the weight came down upon the left palm, bending it forcibly backwards. Immediately he lost the power of movement in the hand and forearm, and all sensation from the elbow downwards. Sensation began to return on the fourth day over the last two phalanges of the fingers, and was completely restored by the twenty-first day. He only began to recover motion in the arm a month after sensation was fully re-established.

DISLOCATIONS :

Hip.—All the dislocations of the Femur were upon the Dorsum Ilii.

TABLE II (continued).

DISEASES.	Under 5.		5-10.		10-15.		15-25.		25-35.		35-45.		45-55.		55-65.		65-75.		75 and up-wards.		TOTAL.			
	Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
GENERAL DISEASES (continued).																								
Syphilis (continued)																								
Local Syphilitic Affections (continued) —																								
Testis ..									2															
Bone ..								3	1															
Skin ..								3	1															
Brain ..																								
Muscle ..									1															
Cancer—																								
A. Scirrhous—																								
Rectum ..									4															
Female Breast ..																								
Scar ..									1															
Skin ..																								
Glands ..																								
Thyroid ..																								
B. Medullary—																								
Testis ..																								
Bladder ..																								
Glands ..																								

DISEASES.	Under 5.		5-10.		10-15.		15-25.		25-35.		35-45.		45-55.		55-65.		65-75.		75 and upwards.		TOTAL.			
	Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
DISEASES OF THE ORGANS OF LOCOMOTION (contd.).																								
<i>Diseases of the Spine (contd.).</i>																								
Lateral Curvature.	1	1	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Spina Bifida, &c.	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
<i>Diseases of Muscles, Tendons, &c.</i>																								
Deformity of Legs	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Contraction of Tendons, Fasciæ, or Muscles	1	1	1	1	1	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Flat Foot.	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Club Foot—	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
a. Talipes Equinus	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
b. Do. Equinovarus.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
c. Do. Varus.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Wry Neck	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

TABLE II (continued).

DISEASES.	Under 5.		5-10.		10-15.		15-25.		25-35.		35-45.		45-55.		55-65.		65-75.		75 and upwards.		TOTAL.				
	Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		Discharged.		Died.		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Tumours (continued)—																									
<i>b.</i> Sarcoma ..	1				1				2	1	1	1		1								3	1	1	
<i>c.</i> Fibrous ..									1	1	1											2	1		
<i>d.</i> Myxoma ..								2					1									3			
Sebaceous Cysts ..	2				1	4		2	1		2		1	2	1							6	10		
Dermoid Cysts ..						1		1														1			
Simple Cysts ..						1		1			1											2	2		
Hygroma ..	2																					3			
Painful Subcutaneous Tumour ..														1										2	
Hæmatoma ..																						1			
DISEASES OF THE CUTANEOUS SYSTEM.																									
Ulcer ..	2					3	2		6		8	6		5	11	2	3		8	1	1	31	29	1	
Carbuncle ..														1								6	1	1	
Boil ..						1					3	1		1		2					1				
Gangrene ..																1						1	2		
Cicatrix ..	1								1					2	1			1				6	2	1	
Nævus ..	3	7							1													4			
In-growing Toe-Nail ..						9	5		1													3	7		
Oncychia ..							1															10	6		
																							1		

TABLE II (continued).

DISEASES.	Under 5.		5-10.		10-15.		15-25.		25-35.		35-45.		45-55.		55-65.		65-75.		75 and upwards.		TOTAL.			
	Discharged.		Discharged.		Discharged.		Discharged.		Discharged.		Discharged.		Discharged.		Discharged.		Discharged.		Discharged.		Discharged.			
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
GENERAL INJURIES.																								
Burns and Scalds..	10	6	10	5	2	2	6	1	3	1	1	1	2	1	2	2	1	1	1	1	23	22	11	10
Contusions ..	4	2	3	3	4	1	10	1	3	2	5	1	1	1	1	1	1	1	1	1	31	8	..	
LOCAL INJURIES.																								
<i>Injuries of the Head.</i>																								
Contusions ..	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	..
Scalp Wounds ..	2	..	4	..	6	1	7	..	5	2	8	4	2	5	4	1	1	2	..	1	39	14	2	
Concussion of Brain	5	1	11	2	7	1	10	..	8	1	5	..	1	1	2	..	..	..	..	48	6	..	
Fractures of Skull.	1	1	1	1	1	1	2	4	2	2	3	1	2	1	2	..	..	..	..	5	1	15	3
<i>Injuries of the Face.</i>																								
Contusions ..	1	..	2	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	5	..	..	..
Wounds ..	1	1	3	..	3	..	5	1	1	..	3	..	1	..	1	1	..	..	..	17	4	..	..
Fractures, &c. ..	..	..	1	..	1	..	4	1	2	1	2	1	2	1	1	..	..	..	..	10	3	..	..
<i>Injuries of the Eye</i>	1	1	4	..	3	..	14	2	6	2	4	..	3	..	1	..	..	..	..	36	5	..	..
<i>Injuries of the Neck.</i>																								
Cut Throat ..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	1	..	..	..	..	3	2	..	..
Other Injuries ..	1	2	2	..	2	..	1	2	..	..	..	..	1	..	1	..	..	..	..	7	5	..	..

DISEASES.	Under 5.		5-10.		10-15.		15-25.		25-35.		35-45.		45-55.		55-65.		65-75.		75 and upwards.		Total.			
	Died.		Died.		Died.		Died.		Died.		Died.		Died.		Died.		Died.		Died.		Died.			
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
LOCAL INJURIES																								
<i>(continued).</i>																								
<i>Injuries of Lower Extremities.</i>																								
Contusions	1		1		4		2		2		1		2		1		1		1		13		10	
Sprained Ankle			1		1		6		1		2		4		1		1		1		13		10	
Wounds—																								
Of Thigh																								
Over Knee			1		3		3		1		3		1		1		1		1		10		1	
Of Leg..			2		1		3		1		1		1		1		1		1		12		1	
Of Foot					1		1		1		2		1		1		1		1		8		3	
Of Knee-Joint..																					5		1	
Impacted Needles																					1		3	
Fracture of Femur	5	14	11	1	8	1	7	1	5	12	12	1	7	1	5	8	1	1	1	60	21	8	1	
Cervix Femoris																				3	7	2		
Patella																				1	14	8		
Fracture of both Bones of the Leg—																								
Simple	3		2	1	3	2	14	1	21	4	1	14	9	1	12	10	1	8	2	80	33	8	3	
Compound			1		2		1		2		1		1		1		2		10	2				
Fracture of Tibia—																								
Simple	2	1	8	2	5	1	2		5	2		8	1	3	2		3	1	32	16				
Compound																			1		1		1	

OPERATIONS.		AGE AND SEX.																										
		Under 5 Years.		5—		10—		20—		30—		40—		50—		60—		70—		TOTAL.		Cured and Relieved.		Not Relieved.		Died.		
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
OPERATIONS ON THE EYE.																												
Strabismus	..	5	10	8	4	9	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Iridectomy	..	..	2	..	3	3	2	3	1	2	3	2	8	1	..	1	..	..	..	..	..	..	..	..	..	..	..
Cataract—																												
Linear Extraction	..	..	..	..	3	1	1	2	1	2	..	6	1	6	4	9	4	..	5	27	17	26	15	1	2	..	..
Flap Extraction	..	..	..	..	..	2	1	..	..	..	..	..	..	1	..	1	..	..	2	..	2	..	..	..	..	..	..
Needle Operation	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	4	1	4	..	..	..	..	..
Abscission	..	..	1	1	1	2	2	3	..	..	..	..	..	1	1	1	..	..	5	8	5	8	..	..	..	..	..
Extirpation of Globe	..	1	..	1	1	..	4	..	..	..	1	1	3	2	..	..	..	..	12	3	12	3	..	..	..	..	..
Entropion and Ectropion	..	..	1	1	1	2	..	2	..	..	..	..	..	..	..	..	..	..	2	4	2	4	..	..	..	..	..
Anterior chamber tapped	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	2	2	..	..	..	..	..
Peritomy	1
Transplantation of Cornea	1	1	..	1
EXCISION OF JOINTS AND BONES.																												
Knee	..	..	2	1	1	..	..	1	..	..	..	..	..	..	..	..	..	..	3	2	3	1	..	1	..	..	..
Hip	..	..	1	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	3	..	..	..	..	..	..

AGE AND SEX.

OPERATIONS.

EXCISION OF JOINTS AND BONES (continued).

Elbow
 Ununited Fracture of Leg
 " " "
 " " "
 " " "
 " " "

Removal of Sequestra :

From Head and Face
 " Upper Extremity
 " Lower Extremity

AMPUTATIONS.

Primary :

Arm
 Forearm
 Parts of Hand
 Thigh
 Leg
 Parts of Foot

Secondary :

Forearm
 Thigh
 Leg

OPERATIONS.	Under 5 Years.		5—		10—		20—		30—		40—		50—		60—		70—		TOTAL.		Cured Relieved.		Not Relieved.		Died.		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Elbow					1																1						
Ununited Fracture of Leg	1						1														1		1				
" " "									1												1		1				
" " "									1												1		1				
" " "										1											1		1				
From Head and Face					2			2		1											3		3				
" Upper Extremity					3		1	2													5		5				
" Lower Extremity	2	1	1	1	8	3	4	2			1									16	8	15	8			1	
Arm					1			1													8		2				
Forearm					1																1		1				
Parts of Hand					Many																3		1				
Thigh					3	1															1		1				2
Leg								1													1		1				1
Parts of Foot					Many																1		1				
Forearm								1													1		1				
Thigh													1								1		1				1
Leg																					1		1				

AGE AND SEX.

OPERATIONS.

	Under 5 Years		5—		10—		20—		23—		40—		50—		60—		70—		TOTAL.		Cured and Relieved.		Not Relieved.		Died.			
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F		
INCISIONS (continued).																												
<i>For Hernia:</i>																												
<i>Umbilical:</i>																												
Herniotomy—																												
Opening of Sac	
Hæmorrhoids—																												
By Excision or Ligature	3	2	3	2	1	1	..	..	..	..	7	5	7	5	..	..	..	..
Subcutaneous Osteotomy																												
Fissure of the Anus	1	1	2	..	..	1	..	..	..	..	..	..	..	..	..	..	4	2	4	2	..	..	..	..	..
Tenotomy	1	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..
Anal Fistula	2	1	5	2	..	..	..	..	1	..	1	1	..	..	..	..	15	9	15	9	..	..	..	..	..
LIGATURE OF VESSELS.																												
Brachial Artery																												
Temporal Artery	1	..	1	1	..	1
External Iliac Vein	1	1	..	1	1

AGE AND SEX.

OPERATIONS.

MISCELLANEOUS OPERATIONS.

Suprapubic Puncture of Bladder
 Talipes Varus ..
 Dilatation of Stricture ..
 Irreducible Hernia ..
 Reamputation of Stumps ..
 Ingrowing Toe-nail ..
 Trephining ..
 Gum Catheter in Bladder ..
 Radical Cure of Spina Bifida ..
 Hydrocele ..
 Varicocele ..

REPARATIVE OPERATIONS.

Harelip ..
 Cleft Palate ..
 Deformity from Cicatrices ..
 Vesico-vaginal Fistula ..
 Ruptured Perineum ..
 Ununited Fracture ..
 Imperforate Anus ..
 Urinary Fistula ..

	Under 5 Years.		5—		10—		20—		30—		40—		50—		60—		70—		TOTAL.		Cured and Relieved.		Not Relieved.		Died.			
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F		
Suprapubic Puncture of Bladder	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Talipes Varus ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Dilatation of Stricture ..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Irreducible Hernia ..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Reamputation of Stumps ..	..	..	..	..	1	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	2	1	..	..	..	..
Ingrowing Toe-nail ..	..	..	..	..	6	5	4	1	..	..	..	1	..	..	..	..	..	..	..	..	10	6	10	6	..	..
Trephining ..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	3	..	..	..	..	..
Gum Catheter in Bladder ..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Radical Cure of Spina Bifida ..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	..	..	..	1
Hydrocele ..	..	..	..	..	3	..	5	..	..	..	..	..	..	..	..	..	..	..	..	..	8	..	8	..	..	..
Varicocele ..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Harelip ..	7	7	7	7	7	
Cleft Palate ..	3	2	2	3	1	5	1	1	7	11	7	11	
Deformity from Cicatrices ..	1	..	1	..	1	..	1	4	3	3	3	1	
Vesico-vaginal Fistula	1	1	..	2	1	5	5	5	5	
Ruptured Perineum	1	1	2	2	2	2	
Ununited Fracture	1	1	2	2	2	2	
Imperforate Anus	1	1	1	1
Urinary Fistula	1	1	2	2	2	2

During the year 1878 Anæsthetics were administered 1,876 times.

Of these Chloroform was administered..	..	..	794	times.
Nitrous Oxide Gas alone	..	..	57	„
Ether alone	..	..	15	„
Bichloride of Methylene	..	..	1	„
Ether, preceded by Nitrous Oxide	..	..	<u>1,009</u>	„
			<u>1,876</u>	

A boy, aged 11, died of Syncope after the administration of Chloroform. A man, aged 47, died when under the influence of Ether. He was suffering from intestinal obstruction, for which Lumbar Colotomy was undertaken. In the morning he had a severe attack of Dyspnœa. He was in a state of profound collapse at the time of the operation: his belly was tumid, his respiration shallow, and his pulse feeble. He vomited frequently, and after inhaling Ether for ten minutes, became livid and never again rallied.

STATISTICS OF THE DENTAL DEPARTMENT.

Number of Cases..	..	..	..	1,471
Extractions	..	..	..	1,556
Stoppings..	..	..	..	186
Miscellaneous Cases	..	..	..	149

The extractions were principally those of roots of teeth, and were performed for Periosteal, Neuralgic or Epithelial disease.

Amongst the Miscellaneous Cases were:—Seven of Cleft Palate, treated by mechanical appliances; five cases of Single and one of Double Compound Fracture of the Lower Jaw, treated by interdental wire splints; one case of Fracture of the Upper Jaw; one of Epulis; two cases of Dentigerous Cysts; two of disease of the Antrum; six cases of Necrosis of the Upper and Lower Jaw; four of Transplantation of Teeth; three of Rigg's Disease; and several cases of Ulceration of the Tongue, and of Fistulæ in the Cheek.

APPENDIX

TO THE

TABLE OF OPERATIONS.

EXCISION OF BONES AND JOINTS :

Excision was performed in ten cases for chronic disease.

In a girl, aged 22, amputation of the thigh was subsequently performed.

Osteotomy was done for ununited fracture of the leg in 2 cases ; of the Humerus in 2 cases, and of the forearm in 1 case. In all these cases the bones were fastened together by wire.

In a case of ununited fracture of the Radius the broken ends were exposed, and a solution of iodine injected between them.

AMPUTATIONS :

Primary—

Thigh.—Two youths died of shock soon after the operation.

Leg.—Death occurred in a woman, aged 70, the day after the operation. The leg was removed for compound fracture, and she never recovered from the shock of the injury.

Secondary—

Thigh.—In a man, aged 23, who died of Pyæmia after amputation through a fracture of the thigh, necessitated by gangrene of the leg, associated with Thrombosis of the deep veins.—(See Note to the Sub-Table on Pyæmia.)

For Disease—

Arm.—In a man, aged 36, for epithelial cancer of the elbow ; and in a man, aged 45, for acute necrosis of the humerus.—(See Appendix I.)

Fatal Pyæmia occurred in a woman, aged 50, whose arm was removed for Sarcoma.

Forearm.—In both cases for disease of the wrist joint.

Thigh.—In 16 cases for chronic disease.

Of these, a man, aged 46, died after prolonged suppuration ; and a youth of 18, in whom albuminuria supervened, died from exhaustion.

In a man, aged 40, for Epithelioma of the leg ; and for Myeloid Sarcoma of the thigh in a man, aged 26.

After resection, in a woman of 22.

Leg.—For congenital deformity of the leg in 3 cases. For chronic ulcer in 3 cases; and for disease of the Tibia in 2 women. In a man, for chronic disease of the ankle.

Foot.—In all cases for disease of the Tarsus, and in all Syme's amputation was performed.

Death occurred in a man, aged 40, from Cerebral disease. In a boy, aged 11, after the administration of Chloroform; and in a boy of 9, from Pneumonia.

REMOVAL OF TUMOURS:

Upper Jaw Removed.—For soft cancer, in 1 case. For Sarcoma, in 2 girls; and in an infant for Enchondroma.

INCISIONS:

Colotomy.—In four cases for malignant disease; and in a man, aged 41, with internal strangulation of the intestines. He was in a critical condition before the operation, and he did not recover from the effects of Ether.

Abdominal Section.—In a woman, aged 40, for Carcinoma of the sigmoid flexure of the colon.—(See Appendix I.)

SUBCUTANEOUS OSTEOTOMY:

In 2 children for deformity of the Tibiæ due to rickets. In a woman, aged 26, A dam's operation was performed. In a boy, aged 9, the internal condyle of the Femur was divided for Genu Valgum; and in a youth of 17, the same operation was performed on both legs.

MISCELLANEOUS OPERATIONS:

In a case of Talipes Equino-Varus, a wedge-shaped piece of the Tarsus was removed to remedy the deformity.—(See Appendix I.)

SUB-TABLE, SHOWING THE NUMBER OF CASES OF ERYSIPELAS, PYÆMIA, &c.

DISEASES.	Under 5.		5-10.		10-20.		20-30.		30-40.		40-50.		50-60.		60-70.		70-80.		Total.		Deaths.	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
	Erysipelas— Admissions.. .. Occurring in Hospital .. " after Operations	1	1	4	5	1	5	1	1	2	..	2	4	11	16	..
Phlegmonous Inflammation— Admissions..	1	..	3	..	4	1	5	1	5	1	5	1	1	..	1	1	24	6	3	..
Diffuse Cellulitis— Admissions..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Pyæmia and Septicæmia— Admissions.. .. Occurring in Hospital .. " after Operations	1	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	2	1	1	1
Phagedæna— Admissions..	1	..	..	1	..	1	..	1	..	..	1	..	..	..	..	3	1	3	1

NOTE TO THE SUB-TABLE OF ERYSIPELAS, PYÆMIA, &c.

ERYSIPELAS OCCURRING IN HOSPITAL :

Of 15 cases of Simple Erysipelas occurring in Hospital—Six complicated accidental wounds ; 3 followed the incisions for acute Necrosis ; and in 6 Facial Erysipelas arose in the course of remote surgical disorders.

The disease proved fatal to a man, aged 82, who had suffered fracture of the arm and a scalp wound ; and to a man, aged 64, admitted with Anal Fistula, who developed Facial Erysipelas before treatment.

ERYSIPELAS OCCURRING AFTER OPERATION :

The disease occurred in 10 males. In 5 cases after operations about the mouth and face ; in a boy, after a plastic operation to remedy the deformity from a burn of the arm ; after Syme's amputation of the foot ; and after sequestrotomy for perforating ulcer. A case of colotomy, and one of secondary amputation of the thigh for compound fracture opening the knee joint, in which it occurred, died.

Of 5 females—Erysipelas occurred in 3, after amputation of the breast ; in 1 after amputation of the thigh for disease ; and in 1 after the removal, with the Thermo-Cautery, of an epithelial Cancer of the Vulva. This last case died.

PYÆMIA OCCURRING IN HOSPITAL.

A man, aged 35, suffered simple fracture of a rib near the angle. The fragments became necrosed, and fatal Pyæmia followed.

The disease also proved fatal in a man with extravasation of urine ; and in a woman with pistol shot wound of the skull.

PYÆMIA OCCURRING AFTER OPERATION :

In a woman, whose forearm was amputated for Sarcoma.

In a man, aged 34, after exploration of an urinary Fistula and in a man, aged 41, after amputation of the Penis. These cases died.

The fourth case was that of a man, aged 28, who was admitted with a crushed arm, with simple fracture of the left thigh and with fracture of the left leg, complicated with a punctured wound. The arm was at once amputated. Gangrene of the leg occurred, and secondary amputation of the thigh was performed through the fracture. The deep veins of the limb were found plugged, and the amputation wound had passed through the clot in the femoral vein. Extension of the clot and pyæmia followed, with death on the 17th day.

TABLE OF AMPUTATIONS WITH THE PERCENTAGE OF DEATHS DURING THE
TEN YEARS from 1869 to 1878, inclusive.

OPERATIONS.	CASES UNDER TREATMENT.										PERCENTAGE OF DEATHS.										Total Number of		Average Percentage of Deaths.
	1869		1870		1871		1872		1873		1874		1875		1876		1877		1878		Cases,	Deaths,	
	1869	1870	1870	1871	1871	1872	1872	1873	1873	1874	1874	1875	1875	1876	1876	1877	1877	1878	1878				
PRIMARY.	1	..	2	3	2	..	1	1	1	2	4	100	..	50	..	33	33	..	..	..	16	6	37.5
Thigh ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Knee Joint ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Leg ..	1	3	1	..	..	..	1	3	2	1	2	33	33	..	..	..	..	..	..	..	13	6	46.15
Ankle Joint ..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Shoulder Joint ..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	2	1	50
Arm ..	1	2	1	1	3	3	3	2	2	3	3	50	..	..	..	..	..	..	..	..	21	2	9.52
Forearm ..	4	1	3	5	2	..	2	2	2	1	..	..	..	..	..	..	..	..	..	..	22	1	4.54
SECONDARY.
Thigh ..	1	2	1	1	1	..	1	2	..	1	1	9	2	22.22
Leg ..	1	..	3	..	1	1	2	2	11	3	27.27
Arm	2	..	2	1	5
Forearm ..	1	1	1	1	5

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