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# GAILLARD'S MEDICAL JOURNAL.

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## ORIGINAL ARTICLES.

### ARTICLE I.

REMARKS ON THE ETIOLOGY OF ZYMOTIC DISEASES.\* By M. A. RUST, M.D., Richmond, Va.

#### SECOND PAPER.†

In the paper which I had the pleasure of reading before you last year a brief sketch was given of the evolution of the germ theory,

\*Read before the Medical Society of Virginia, Session of 1886.

† First Paper: See Transactions of the Medical Society of Virginia, Session 1885, and GAILLARD'S MEDICAL JOURNAL, December, 1885.

showing how, at the outset, the pathogenic microbe became revealed through a chain of induction by virtue of which a still *unperceived* fact, conceived, however, in correlation with perceivable phenomena, was, by necessity of thought, admitted as *perceived*. It is to the inductive method of reasoning, aided by the imaginative faculty, that science owes its proudest achievements. Alexander Humboldt thinks that, without a fervid imagination Columbus could never have conceived the idea of the discovery of America. "By the power of forming mental images of the ultra-sensible," says Tyndall, "we can lighten the darkness which surrounds the world of the senses." He regards imagination, nursed by knowledge and bounded by reason, as the prime mover of the physical discoverer. Herbart (in his "Psychology") says: "Original thought in science and the creations of poetic genius are both alike conditioned by the gift of imaginative power." He leaves undecided whether of the two possessed the most vivid imagination, Newton or Shakespeare.

To-day the germ theory is no longer dependent on induction; what heretofore was regarded as mental imagery has become, thanks to Koch's discoveries in the methods of bacterial research, an object of observation and demonstration. Bacteriology has taken its place amongst the exact experimental sciences—a new scion, if you please, of medicine; on the other hand, scientific medicine, as manifested in pathology, physiology, etc., is itself but a mighty branch of biology, the science of life.

At the threshold of this study we pause a moment, casting a glance at the saprophytic bacteria (bacteria of putrefaction), the most widely spread of the whole group of microbes, first discovered when the microscope began to draw aside the veil which hid the wonders of the world of infinite littleness.

Wherever we bend our steps we find ourselves surrounded by bacteria; we happen upon them in the air we breathe, in the water we drink, on and under the soil we tread. Ghostlike they pass through brick walls and through invisible crevices—though science has found out that the free pass granted to them is not without limitations.

Six hundred and thirty-six millions of them are, according to the calculation of Cohn, required to fill up the space of a cubic millimeter, a space not larger than the head of a small pin. Notwithstanding this extreme smallness, if a single bacterium should be allowed to multiply undisturbed, it would in less than five days increase to a mass filling up the space of nine hundred and twenty-eight millions of cubic miles, a space equal to the presumable volume of the waters of the ocean.

But "it is appointed that trees shall not grow up unto heaven." When the putrefying process has attained its maximum, the putrid mass becomes more and more limpid, it ceases to give out offensive smells, the bacteria wane and vanish, may be for want of sustenance, may be that the virulent poisons which bacteria elaborate in their substratum have as deadly an effect on the producers thereof as on all animal life. Everybody can convince himself of this fact by placing putrefying matter in a test-glass and letting it stand; after a certain period he will find it changed into a clear, odorless liquid, with a greyish sediment at the bottom.

Bacteria manifest a great tenacity of life; they may exist in a dormant state for an indefinite length of time and revive when placed in propitious surroundings. Béchamp maintains that he found in the cretaceous rocks of the Mesozoic Age organisms of this kind, which for millions of years had retained their vitality; small fragments chipped from those rocks and placed in a fit medium furnished microbes which rapidly multiplied. Passing by other facts of more common observation, I take from the official report of Professor Masspero, Director General of the Antiquities of Egypt, the following: On June 1, 1886, in presence of the Khedive of Egypt and the principal Egyptian and European dignitaries, Masspero proceeded to unbandage the mummies of Rameses II. (1430 B. C.) and Rameses III. (1280 B. C.), recently discovered in their subterranean hiding place. Both mummies appeared in a well-preserved condition, the features of Rameses II. still so distinctly marked that Masspero ventures to draw conclusions regarding the moral qualities of the King. There was also a third mummy, a princess of the house of Rameses III. This mummy, showing signs of decay, was not deemed presentable, and was accordingly unbandaged in private. "No sooner," says Masspero, "was the body exposed to the outer air than it fell literally into a state of putrefaction, dissolving into black matter which gave out an insupportable smell." The princess had to be hurried away out of reach of human olfactory organs, and I am afraid that on this occasion she was not very delicately or reverently handled. Poor princess! to lay waiting in a mummied state for three thousand two hundred years, and to come finally to such an unæsthetic, disreputable end. Now, as there can be no putrid smell without putrefaction, and no putrefaction without bacteria, it follows that the calamity was caused either by Mohammedan bacteria stealing behind the wrappers into the sanctuary of the princess' body, finding there a suitable pabulum, or, which seems more probable, by a band of Pharaonic bacteria which had slumbered in.

the princess' bosom from Ante Dominum 1280 to the year of grace 1886, and revived as soon as fanned by a breath of oxygen. Was not this a stench, latent for nearly thirty-two centuries, which suddenly burst out with elementary vehemence?

By right, pathogenic microbes, or bacteria of disease, should form the subject proper of this paper; nevertheless, when I dwell—perhaps too long—upon the common bacteria, the bacteria of land, water, and air, and especially the putrefactive bacteria, it is because they constitute an all-important theme in the study of the etiology of infectious diseases.

In regard to the aims and scope of the physician I emphasize the following three points:

1. Saprophytic bacteria, although generally innocent, may and do generate, under given circumstances, in the organism which they enter, grave and often fatal disorders.

2. All bacteria produce, in the medium in which they live and multiply, extensive chemical changes. The formation of saltpetre (as Shloesig, Muentz, Busingault, etc., have taught us); the nitrification of the soil; the preparation of soluble food for plants; the production of all fermented articles of diet, from whiskey and cheese to beer and sauerkraut; are the direct or indirect results of the chemical work of bacteria. Agriculture and domestic economy, physics and chemistry, physiology and pathology, have all to reckon with bacteria.

Putrefactive bacteria, moreover, are manufacturers of poisons. Panum was the first who studied the poisonous qualities of putrefying matter and, by extensive experiments, established the fact that the toxic action of these substances is due, not merely to the bacteria themselves, but also to the substratum in which bacteria live and multiply. When this substratum, from which all bacterial life had previously been expelled, was injected in sufficient quantity into animals, death followed invariably and rapidly.

Panum's researches were continued and extended by a number of eminent scientists, but it was only recently (1885-86) that Brieger succeeded in isolating and analyzing the poisonous principles of putrefying matter. These manifold basic products of bacterial chemical work are now well known under the general name of ptomaines or cadaveric alkaloids; their chemical constitution is similar to that of the vegetable alkaloids; they can be found wherever putrefactive bacteria are at work; and proofs that ptomaines *are* the product of bacterial work are furnished by the fact that putrefactive bacteria, when taken from their original medium and carried through successive cultures, continue to produce ptomaines in each cultivation.

Do the specific, pathogenic microbes likewise produce ptomaines? Analogy and inference lead us to answer in the affirmative. In spite of the unparalleled progress of bacteriology in the last five years, we still feel an aching void when we strive to comprehend the clinical phenomena following the microbic invasion. The current explanations that pathogenic microbes produce the baneful effects by local irritation, by robbing the blood-cells of their oxygen and the tissues of their nutriment, by decomposing and recompounding decomposable compounds, and by inducing processes of putrid fermentation—all these are, on one side or another, open to exception. We contented ourselves with the superb poetical conception of a battle raging between the invading microbes and the resisting cells, and regarded the phenomena, observed at the bed-side, as a faint reflection of the inner struggle—forsooth, an open field in which imagination, forsaken by knowledge, might run riot!

In view of the fact that almost every variety of putrefactive bacteria generates its own specific poison, and that these poisonous alkaloids, when injected into animals, produce, according to quality and quantity, all shades and grades of toxic effects, from slight disturbances to instant death, the assumption is warrantable that every specific pathogenic microbe likewise produces its own specific poison, and that certain groups of symptoms of zymotic diseases are manifestations of the action of those poisons. A new field is here opened for our study, though the facts on which to base such study are still meagre and can be summarized in the following few lines :

Brieger, in his extensive researches,\* has found it impracticable to extract ptomaines from the secretions of the diseased, or from the corpses of diseased persons. He has succeeded, however, in isolating from cultivations of *typhoid bacilli* in infusions of beef (human flesh offering no advantage) an alkaloid which he named *Typhotoxin*; he has studied its chemical constitution and its physiological properties. Injected into guinea-pigs and mice, it produces a state of lethargy, dilated pupils, and a paralytic condition of the extremities, followed by death in 24 to 48 hours.

Brieger, furthermore, has isolated an alkaloid produced by the microbe of tetanus. This microbe (believed to rise from the earth) was discovered by Rosenbach, who took nerve-substance from a wounded man stricken with tetanus, and injected it into guinea-pigs and mice, producing in these animals the characteristic phenomena of the tetanus of man. From cultivation of the same sub-

\*Ueber Ptomaine; Berlin, 1886.

stance,\* which he obtained from Rosenbach, Brieger extracted an alkaloid (tetanin) which, injected into animals, produced tetanus, followed by death.

In conclusion I will mention that Villiers (France) communicated to the Academy of Medicine (1885) that he had succeeded in extracting from the intestines of two cholera cadavers a liquid alkaloid which, injected into guinea-pigs, produced great irregularity of the pulse and cramps of the extremities, followed by death after four days.†

It is necessary to call to mind that *ptomaines*, of which a faint knowledge has been slowly acquired by arduous labor and study, are something quite different from the imaginary "blood poisons" of yore, for which not even the most far-fetched induction can offer a plea. The exceedingly practical man, who smiles in a very superior way at our bacterial theories, and still talks daily with easy fluency of "blood poisons," is he aware that he is advancing the most hazardous theories, that he is dealing in transcendentalism?

3. The third point which makes me dwell on the common or putrefactive bacteria is the question of the *constancy* and *inconstancy* of the bacterial forms. Many bacteriologists of authority hold that all the specific pathogenic bacteria are derived from the common putrefactive bacteria, by which we are given to understand that common bacteria may, at any time, under suitable circumstances, beget specific pathogenic microbes. This is denied by Koch and his school, who maintain the constancy of bacterial forms. We physicians must necessarily be adherents to *constancy*, as it is in better harmony with observed clinical phenomena than *mutability*. Moreover, our aim being to extirpate the pathogenic microbes, all our endeavors in this direction would be like the labor of Sisyphus, if these noxious microbes could always be born anew from the omnipresent common bacteria. Once upon a time the microbes of human diseases, like all other forms of life, must have been evolved. We may suppose that, conformably to the course of nature, they began their existence as slight *variations* of the common bacteria, their progressive development being conditioned by fit surroundings and sufficient time. We shall not be far from the mark if we place this development at a period of the dim past when human civilization, with its concomitant accumulation of filth, began to prepare for them a suitable ground. Once arisen, the variation was preserved and brought to completeness by the laws of *heredity*. (In my paper on "Heredity" this subject is treated more extensive--

\*Brieger remarks that the cultivation was not perfectly pure.

†*Comptes Rendus*. T. 100.



ly.)\* Conjointly with heredity, *variation* is ever active in the whole organic world. In spite of the unceasing occurrence of variations, the world, within historical times, has never been surprised by the appearance of a new animal; nevertheless, every species now living commenced its existence as a variation of a preceding form. In regard to the development of the higher forms of life, we have to reckon with millions of years; we can do with much less in respect to the lower forms.

The new epidemics which, at long intervals, have arisen within historical times are not many. Amongst these Asiatic cholera (1830) was the last. The now identified *comma bacillus* was, when he first appeared in Europe, no new-born being; he came as an old tramp from the shores of the Ganges, where his race has been committing havoc for many a long day.

The doctrine of bacterial mutability, however, is not a mere speculation; there are some facts which seem to give it support. Changes of form often take place in bacterial cultivations; but experienced bacteriologists give the warning that the most scrupulous precautions do not always prevent the admixture of different species. Be that as it may, in the purest cultures transmutations will occur. According to the teachings of Koch, there is, in such instances, no permanent transformation—no change of type and kind; it is the result of the modifying action of the medium. When the culture is transferred to a different medium, the original form reappears. Polymorphism, however, is inherent in some species of bacteria; the organism, like a multitude of other lower forms of life, passes, in the course of its development, through various morphological stages, and finally returns to the original form. Not a single fact has as yet come under observation to prove that specific pathogenic microbes, the microbes of typhoid fever, smallpox, cholera, syphilis, gonorrhœa, etc., are generated by other than their own kind.

Physicians (at least in former years) coming from dissecting rooms, and from patients with suppurating wounds, erysipelas, pyæmia, etc., midwives and nurses coming from crowded, unclean homes, from filthy kitchens where they had been handling foul cup-towels, soiled hand-towels, dingy linen, and other unclean material, have carried on their fingers and under their finger-nails a subtle poison, not removable by ordinary washing, and, depositing it in the sexual organs of parturients, unconsciously engendered puerperal fever. Shall we conclude that all these varieties of bacteria, thus transported, have severally the power to generate specific microbes of puerperal

\* *Virginia Medical Monthly*, August, 1886.

fever? At the present stage of our knowledge we must regard puerperal fever, septicæmia, pyæmia, erysipelas, etc., as the result of the modified chemical and physiological action of sundry saprophytic microbes when placed in a particular medium.

We may perceive the same causal relations between uncleanness and boils, carbuncles, etc.; especially the sore fingers, whitlows, festering hang nails, etc., so frequently observed on the hands of cooks, housemaids, etc., which are the effect of handling contaminated materials. A slight prick or scratch forms the door through which the microbe makes its way under the skin.

The strongest support to the doctrine of bacterial *inconstancy* was given by the successful experiment of Buchner, who cultivated the malignant anthrax bacillus into the innocent hay bacillus, and *vice versa*. Koch has pointed out the sources of error underlying this experiment; he acknowledged the fact that the malignant anthrax bacillus, when cultivated in chicken broth, becomes as innocent as its neighbor in the meadow, the hay bacillus; but, on the other hand, he showed that the same reformed anthrax bacillus, when transferred into the living body of a mouse, returns to its original malignity.

The experiments of Buchner, as well as of many other bacteriologists, have sufficiently evidenced the fact that the chemical and physiological actions of most of the bacteria become modified according to the medium in which they are placed. This fact is in perfect harmony with the course of nature. The influence of surroundings over life extends through the whole organic world. Every organism, without exception, has been *shaped* and is constantly *acted* upon by the medium in which it lives and moves. Even that most wonderful thing in the whole universe, the human mind, has been developed and shaped by the agency of the social medium in which it exists and acts. Man, in his moral aspect, is only man within his social medium; taken out of it and left to grow up in the wilderness, he becomes (as evidenced by a number of cases recorded in history) an animal without speech and reason, like his progenitors in a measureless past; and a "reconciler," skilled in dressing up old beliefs with scraps of modern thought, might be tempted to say: it was the force of the peculiar social atmosphere of the Jewish camp which overturned the nature of Balaam's ass and made him talk like a Christian.

Enough has been said to set forth the importance of the study of the common bacteria; it will not now be out of place to delineate a few instances of our relations to, and our daily intercourse with, these interesting beings.

When that series of physiological phenomena—that last act of the drama of life, which we call *death*, and of which, in our present stage of knowledge, we can only perceive the concluding scene—has taken place, hosts of all kinds of low parasites, in uninterrupted sequence, enter the human body, picking to pieces the quondam lord of creation. These invaders perish successively, whilst the bacteria, overrunning all tissues and organs, accomplish the work of disintegration and fulfil the all-important mission entrusted to them in the household of nature, the mission of reducing dead *organic into inorganic* elementary matter, ready for the formation and maintenance of new life.

If the putrefactive bacteria have full sway over dead organic matter, their power over living matter is limited. They may, in the living organism, take possession of decaying or diseased tissue; they may be found in the train of invading pathogenic microbes, in typhoid fever, cholera, etc.; but under normal conditions they cannot enter the healthy human body, of which the unbroken skin forms the outer defence, and are only found covering on the outer bulwark, the surface of the epidermis. They are likewise in the air we inhale; but, together with other dregs, the bulk of them are intercepted in passing through that exquisite filtering apparatus, the nasal cavity. The few which do enter into the healthy respiratory tract have to cope with the ascending currents of air and the ciliary vibrations, and are generally unceremoniously expelled.

The buccal cavity, on the contrary, offers them an open avenue into the digestive canal. Happily a healthy stomach will take as kindly to bacteria as to other outlandish tid-bits; as a rule, they are dissolved by the acid secretions of the stomach and digested. The rule, however, has many exceptions. Miller has found and differentiated twenty-five different forms of bacteria in the cavity of the mouth, some of the number established as permanent boarders. Eight of these forms he again met in the stomach, and twelve in the intestines. The acid contents of the stomach, taken three hours after a meal (the cavity of the mouth being previously sterilized by corrosive sublimate), still contained three species of bacteria—and bacterial life in these acid contents of the stomach did not become extinct till fully ten hours had elapsed. Hence we must conclude that some of the swallowed bacteria do pass the stomach unhurt, and land safely in the intestinal canal, and that it will depend upon the condition of that canal whether they will be ejected or allowed to propagate. Be that as it may, the fæces are always found teeming with bacteria; the image of the gods bears, in his central portion, a tank of putrefaction.

Meconium of infants at or immediately after birth is entirely free from bacteria. According to the researches of Escherich, the bacteria begin to appear in the meconium—even when no food is taken—from the fourth to the eighteenth hour *post partum*, generally between the fourth and the seventh hour. It seems that whilst the child is executing the motions of sucking and deglutition they enter the digestive canal along with the inhaled air.

Admitting, in a general way, the comparative innocence of putrefactive bacteria, we should, nevertheless, not be indifferent as to the *quantity* of bacteria with which our food may be interlarded. Our civilized habits, customs, and notions offer manifold opportunities for increasing that quantity. Raw or cooked viands kept for a day or two in a pantry, habitually wedged into a dark, ill-ventilated corner of the house, or in an equally foul ice-box, cannot fail to become highly seasoned with bacteria. Milk, kept in such impure places in summer, is a more potent agent in the production of cholera infantum than the much-abused summer heat.

The frightful mortality amongst infants in the first two years in large cities—so frightful that the rising generations utterly fail to fill up the gap left by the generations which are passing away—is (wherever statistical data in this respect have been elicited) proportionally much larger in districts inhabited by the poor than in quarters occupied by the rich. In the three hottest summer months the number of infantile deaths from diseases of the alimentary canal (mainly cholera infantum) suddenly rises, becoming double and triple the average of the other nine months. But the increase in the number of deaths arises more from the ranks of the rich; in these three summer months, in opposition to other months, the ratio of death from diseases of the alimentary canal is as high, sometimes even higher, amongst the children of the wealthy classes than amongst the children of the poor.

Assuming the validity and congruity of these statistical data, and feeling myself utterly unable to impute to blessed sunshine a deleterious effect on the infantile constitution, I find the following the more satisfactory explanation:

The impure air of crowded houses in large cities becoming, in the hot summer months, more propitious for the development of bacterial life, rapidly produces material changes in every article of food, especially milk, when standing about in that atmosphere.

This does not matter so very much to the children of the poor, who, poor things, all the year round never lack contaminated food,

and have, in the preceding cooler months, adapted themselves to it, may be, "by survival of the fittest." On the contrary, the customary care which, in the homes of the wealthy, is taken in respect to food, shields the children to a certain extent in the cooler seasons of the year; but, when suddenly summer heat sets in, neither ordinary nor extraordinary care any longer affords protection against bacterial intrusiveness, and contaminated food swiftly produces its baneful effects on the tender digestive organs of the infant. The healthy adult makes short work of the bacteria he swallows by digesting them, but only with the aid of the hydrochloric acid which his stomach freely secretes, whereas the arrangements for this secretion are not yet evolved in the babe.

It lies within our scope to emphasize here that all the conventional care which is taken in the homes of the wealthy to insure cleanliness is of little avail against bacterial propagation so long as they choose to live in houses bricked up and walled in on all sides; where no direct draught can pass to expel the air ever stagnant, especially in summer time; where sunshine can penetrate but from *one* side—the front—and only then, if the street be wide enough and the opposite houses low enough, and the architect's plan of fenestration, the curtains, draperies, etc., will allow it to enter. In the pent-up air of such dwellings, with the added nuisance of sundry fashionable conveniences and trumperies, carpets, lambrequins, sewer connections, etc., food is exposed to more sources of contamination than in the most miserable hut.

The mother's breast does away with the greatest part of these perils; every mother should be made aware that in raising her child by hand she greatly reduces its chances of life; if she rears it, she can only boast that she staked its life upon a cast and won! In justice to American mothers I must add that this deplorable neglect of duty is not so frequent on this side of the ocean as on the other.

If proofs in favor of the mother's breast were lacking, those furnished by the siege of Paris during the Franco-German war are the most convincing; amidst all the misery and dearth, infantile mortality singularly decreased. This was because the only attainable food for infants, during that year, was the mother's breast.

When, on all occasions, we remonstrate indefatigably against feeding infants by hand, we do not underrate the value of (cow's) milk—the best of all nutriments; it is mother Nature's ready-made food, and—in bitter necessity—the peerless substitute for the mother's breast. If the use of milk by the infant often creates functional disturbances, the cause

does not lie in the milk, but is the result of alterations and changes which milk undergoes before it reaches the babe's mouth. If human milk, after being drained from the breast, should encounter the same misadventures as cow's milk does—be received in unclean vessels or pails rinsed with unclean water, be wiped with contaminated cloths, be exposed to the impure air of unventilated lodgings, and of foul cellars, ice-boxes, and cupboards—outside painted, inside tainted—not to speak of intentional adulterations, that breast-milk would not fail to produce the same noxious effects.

Milk exercises an almost magnetic attraction for all floating matter in the air. A glass of milk standing in a sick room, or in a stifling room from which air and sunshine are excluded, condenses on its surface the living germs suspended in that atmosphere. If there be a remedy, it is not *ice* but *fire*. Milk in cities, as soon as received, should be thoroughly boiled and placed, sufficiently covered, in an airy room, free from all foreign emanations. Every portion of it, at least in cities and in summer time, should be boiled again before giving it to the child. Most of the noxious organisms are thereby destroyed. Ice may retard fermentation, but it in no way injures the lower forms of life. Coleman and McKendrik, in their extensive experiments, kept meat of freshly killed animals for 22 hours exposed to a temperature of 80° below zero, F.; in this meat, when afterwards brought into a favorable temperature, the putrefactive process developed in a much shorter time than in meat which had not been subjected to congelation. The same results were obtained with various other putrescible substances—beer, milk, meat-juice, etc. In no case were the micro-organisms destroyed even when exposed to a temperature of 100° below zero.

It has been recommended—and rightly so—to boil water, suspected of impurity, before using it. The ordinary drink of the people in China is boiled water in the shape of a hot infusion of tea-leaves. Reflecting on this subject, Matthew Williams remarks that the Celestial Empire could never have reached its present density of population were *Chinamen* in the habit of drinking the water of their extremely polluted rivers and water-courses *raw* instead of *cooked*.

By heating water to the boiling-point we destroy the micro-organisms it contains; but, at the same time, the boiling heat expels the carbonic acid which potable water naturally holds in solution. Water, thus deprived of its carbonic acid, becomes a more favorable medium for the development of bacterial life, and after standing a certain time in impure air exhibits more microbes than uncooked water placed in the same surroundings.

The same remarks apply to boiled water in the shape of "cold tea" or other infusions when kept standing—not on the top of a mountain—but in a city house. The man who despises plain water on the score of suspected impurity and has recourse to *cold tea*, iced may be with genuine *country ice*, from a pond, ditch, or pool, jumps indeed from the frying-pan into the fire. *Ice* is not more exempt from living organisms than the source whence it is derived, and water not fit for drinking is still less fit to be consumed in the shape of ice.

I can no longer encroach on your indulgence, and must close abruptly. I will repeat what I said last year: With your approval I shall continue the subject at our next meeting—unless in the meantime the Knights of physiological Labor—the cells constituting my body—go on a strike or quit work forever.

What I have said is nothing new, nor did I contemplate such a purpose when I started on my rambles. What I aim at is to incite your thought and to point out to my younger brethren the road which coming medicine will travel.

The drift of modern medicine is *prevention of disease*, and this end is only attainable by wresting from nature a limited control over surroundings. By this term we understand *everything* which surrounds man, every object, visible or invisible, with which he comes in contact, all the outside forces by which he is unceasingly acted upon.

Any comprehension of those surroundings, any attempt to exercise a controlling power, must have as basis a matured knowledge of nature, a study of life in all its forms. If the learning of therapeutics will occupy a student of average intelligence six months, the study of nature will require as many years—and he will *have* to give them. By so doing he will widen his sphere of activity and raise his profession to a higher level. By his controlling power over surroundings, by his hygienic measures, he will not only benefit his patient—a single individual in a peculiar situation—but the whole household of that patient, the whole neighborhood, the whole community, all humanity. We are a long way from this power-giving knowledge, and are groping our way towards it in darkness like

" A child crying in the night,  
A child crying for the light ; "

but the light cannot be far off. As it now is, more than half of all born men are swept away by disease before they attain maturity—and great is still the harvest of death between maturity and old age! Science, in this century, has already increased the average duration of life by more than ten years, and we can reasonably expect that she will

continue to increase it more and more, till the octogenarian shall be the *rule* and not an exception gazed at almost as a wonder.

Relieving the suffering by drugs or good intentions is a grateful, noble act of humanity; but the coming physician who, neglectful of the study of nature, shall bestow his best time, his best thought, on the composition of formulas against all possible aches and pains, however praiseworthy and well-deserving a man he may be, in the great army of progress will have to march in the rear.

*October, 1886.*

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## ARTICLE II.

A RÉSUMÉ OF OBSERVATIONS IN OPHTHALMOLOGY AND OTOLOGY ABROAD. By J. HERBERT CLAIBORNE, JR., M.D., New York.

Though the greater part of the matter herein contained has been embodied in a series of letters from Halle and Berlin, I am led to re-write my experience through a desire to lay before the profession things which I deem of importance and which I hope will be of interest and value.

I was led to study at the University of Halle, not only by the reputation of the school and that of its distinguished corps of professors, but through the urgent advice of Dr. Gruening of New York.

The ear clinic is under the direction of Prof. Hermann Schwartz. The clinic, like all the public clinics in Halle, is in conjunction with the University, which is a government institution.

Considering the population of the place, the material is quite large and offers cases which may be studied at leisure and as carefully as any one may desire. There is only one skilled assistant, so that after one has acquired some familiarity with the methods of treatment, he is allowed to do independent work. The private course of Dr. Schwartz costs 300 marks (\$75), and lasts the session of three or four months. Daylight is used as the source of illumination and the hand-mirror as the reflector. When the external auditory meatus is very narrow or the day is dark, the artificial illumination is employed.

Naturally, in an ear clinic the same classes of cases occur the world over; but there are several classes with respect to the treatment of which I wish to call particular attention—cases of “otitis media catarrhalis chronica, acuta, subacuta” and cases of “otitis media purulenta chronica.” There is no greater approbrium to aural surgery than the incurability of chronic middle-ear catarrh. As soon as we find a drum-head that shows the signs of this affection and can get a



history of a long duration, we are apt to advise no treatment and to tell the patient that he *may* retain what hearing he has, but that he must not expect more. As an "ultima ratio," we resort to local and general derivatives, the Politzer bag, and so-forth.

It is not my purpose to say that we are not often correct, but it is my purpose to say that I believe, in the light of my late experience, that benefit, at least, can be obtained in many cases. We generally endeavor to convince ourselves of the permeability of the tube and the condition of the middle-ear by the Politzer bag. By means of the Eustachian catheter we can *absolutely*, with the assistance of the auscultatory tube, convince ourselves of the absence or presence of fluid in the middle-ear and of its consistence. In these chronic middle-ear cases the great difficulty often lies in getting rid of the tough, clinging muco-pus which almost completely fills the tympanic cavity. The first indication in such cases is to get rid of this. This can be *certainly* done only by a large paracentesis tympani, with the syringing of the middle-ear through the Eustachian tube. Prof. Schwartze makes the incision in the lower posterior quadrant, about one or two millimetres (one line) from the periphery, and carries it forward for the distance of about three millimetres (a line and a half). A warm three-quarters of one per cent. solution of table-salt is then forced through the Eustachian tube till the thick muco-pus can be seen in the external auditory canal. I have seen such threads of mucus drawn out to the length of six or eight inches. The catheter is used when the perforation or paracentesis is unilateral; when, however, it is bilateral, the catheter is dispensed with. The patient is directed to cleanse the nasal passages of mucus by blowing his nose gently; a basin is placed under his mouth and one under each ear.

The mouth remains open; the beak of a blunt-pointed syringe large enough to entirely occlude the anterior nasal orifice is placed in one side of the nose and a stream of water is sent in, which returns through the other side and through the mouth. After having in this manner thoroughly cleansed the nasal cavity, the same manœuvre is repeated, except that the other side of the nose is closed *tight* with the fingers, and sufficient force is used to drive the water in a gentle stream through the two Eustachian tubes and thence through the middle-ears into the basins. This is done four or five times, and the external canals are then carefully syringed, when, if the manœuvre be properly performed, the contents of the middle-ears will be found in the basins. Some of the solution necessarily passes out by the mouth, but I have never seen a case strangle, not even little children, and Prof.

Schwartzke informed me that it does not occur. I have seen this done in cases of subacute and chronic middle-ear catarrh, where there was fluid in the cavity after paracentesis and in chronic purulent middle-ear catarrh, but *never* in *acute* catarrhal or purulent inflammation. If paracentesis has been performed the manœuvre may be repeated in four or five days, but in chronic purulent inflammation it may be done every day. If the perforation heals before the middle-ear is free from fluid, paracentesis is repeated. The strictest antiseptic precautions are taken and a protective bandage is worn over the ear until the opening has healed. This protective bandage consists of antiseptic materials, carbolized or sublimated gauze, and borated or absorbent cotton. A small bit of gauze is inserted into the canal and several layers of cotton are placed over the ear, the whole being held in place by a sublimated bandage. We know that many urge against the catheter that it is painful on introduction. If the nose is normal, it can be introduced painlessly. If there is total occlusion of one side, it should be introduced on the other. Even in swollen conditions of the mucous membrane or in deviations of the septum, it can be introduced painlessly by a careful and expert hand. After the introduction patients never complain. In regard to the treatment of mastoid disease, the proceedings are somewhat different from those with us. I cannot here go into the indications for this operation, as laid down by Schwartzke. I would say, however, that he does not wait till the incontestible local and constitutional symptoms of retained pus are present, to operate. Where tenderness on pressure and palpation do not yield to painting the mastoid region with iodine, and the continuous wearing of an ice-bottle (India rubber), the opening of the mastoid is performed. It is customary to try this palliative treatment for a week or ten days. Of course, if there is no improvement, but rather greater pain and tenderness under this treatment, operative interference is no longer withheld. The mallet and chisel (hollow and plane) are used, and the strictest antiseptics observed. The opening is made, not over the process, but just behind the external auditory meatus (a line drawn straight backwards *from the temporal spine* being the upward limit), and carried in the same direction as the canal, till pus is found, or the *antrum mastoideum* is entered. This, of course, obtains when we find no superficial signs of the presence of pus to guide us. It is possible to go to the depth of two or two and one-half centimetres before reaching the antrum. The presence of pyæmic symptoms is, however, no contra-indication to the operation. (Superficial chiselling of the mastoid is done for intolerable mastoid neuralgia.) After the chiselling,

the lower and posterior quadrant of the drum is destroyed with the galvano-cautery in order to make the drainage perfect. The eye clinic in connection with the University of Halle is under the direction of Alfred Graefe, the nephew of the great Graefe. In this clinic I saw nothing of peculiar interest or novelty to relate. The material is vast and varied; but it is quite difficult to do any independent work, since no private courses are given. As a colleague, the doors are thrown courteously open to you.

In Berlin I had the good fortune to come commended by friends and colleagues, and therefore had occasion to study the methods used in the eye and ear clinics with perhaps more exactness than falls to the lot of most students. The university ear clinic is under the direction of Prof. Lucae. This clinic, together with the university eye clinic, is held in a new building facing the east, with windows practically of the same breadth and depth as the room.

Daylight is used there also as the source of illumination; artificial light is, however, used on dark days or whenever it is necessary to make out the fundus of the ear with greater accuracy. Hand mirrors, concave and plain, are used for the reflection.

Of peculiar advantage is the mirror of Prof. Lucae, the handle of which is held in the teeth and is provided with one or two ball-and-socket joints, so that it can be easily adjusted to the eye. This is certainly more advantageous in performing paracentesis than the head or hand mirror. Equally as much stress is laid on the use of the catheter in chronic and subacute catarrh of the middle-ear as in Halle.

The injection of the warm salt solution through the Eustachian tube is not done, nor is paracentesis so often done as I have seen in Halle.

The catheter used is after Lucae, and the air is furnished by an ingenious pressure apparatus, in a continuous stream, which may be regulated at will by a catch adjusted to a connecting tube. The catheters are kept in boiling water, but before being used are dipped in a three per cent solution of carbolic acid, and wiped perfectly dry. The catheter is never introduced in the case of children, but instead the dry "douche" or the Politzer method is employed. The specula also are kept immersed in a three per cent. solution of carbolic acid. The clinical material is immense; in fact, there is too much for one to be able to examine many cases carefully. The Polyclinic lasts from nine to eleven o'clock A.M.; from eleven to twelve o'clock Prof. Lucae gives a private clinic. Six or seven cases are demonstrated to a limited number of students, who are carefully quizzed on the merits of each case.

One can thoroughly understand at least this much each day, and so

in a few months a vast deal of information may be acquired. Peculiar stress seems to be laid on the voice and tuning-fork tests; the floor is marked off in metres so that the hearing power for the voice may be accurately determined and recorded. I cannot refrain from mentioning the use of Prof. Lucae's pressure probe in chronic middle-ear catarrh. He attaches considerable importance to it as a therapeutic measure in such cases. The instrument is in shape like a probe, the ball of which is made of paper, held in shape by some cement substance, I think collodion, and is concave so as to fit over the short process of the malleus. The shank of the probe is inserted into the barrel-shaped handle and moves backwards and forwards according as the pressure is made and relieved. The concavity is placed over the processus brevis and pressure is made five or six times slowly with the instrument held horizontally. I have not had occasion to convince myself of the utility of this method. The solutions employed in otitis media purulenta are what may be found in the majority of ear clinics. Among them are chiefly chlorine water, lead acetate, and boric acid.

Chlorine water seems to be the favorite solution for granulations. As regards the opening of the mastoid process, about the same method of procedure is employed as by Schwartze. Both the plane and hollow chisel are used, but the classical point of attack is not so rigidly insisted upon.

After the wound has progressed quite far in healing, and only the fistulous opening is left, lead drainage tubes are employed. I have also seen under the same circumstances sticks of iodoform, made up with cocoa-butter, inserted. Strict antisepsis is employed in all measures where the possibility of infection exists. I have generally observed that the probe is very little used as an aid to diagnosis.

It is certain that the abuse of this instrument, even in skilled hands, may lead to harm. It gives me great pleasure to heartily recommend the Berlin University ear clinic to those who wish to push the study of the ear to a higher point with regard to the eye. I pursued with regularity, in Berlin, the clinic of Prof. Hirschberg only. I think that with him the greatest advantages are offered of exact and careful study of eye diseases. Prof. Hirschberg is professor "extraordinary," and his course partakes of a private nature. Prof. Schweigger occupies the University chair. The latter's clinic I did not attend regularly, but am in grateful remembrance of much courtesy. Hirschberg's course is arranged in a methodical and practical way; and this, with the interest which he calls forth by his bright and scientific discourses, constitutes one of the most beneficial and interesting features.

of the University. His operating room is a model of scientific care and accuracy. The floor and tables are of marble; the walls are painted with an oily substance which admits of their being washed with soap and water. Glass and porcelain are the materials of which the basins for instruments and disinfecting fluids are composed. The hands of all parties concerned in the operations are washed with soap and water and bathed in a sublimate solution ( $\frac{1}{1000}$ ). The instruments for operations on the ball lie in absolute alcohol; those for muscle and lid operations in a three per cent. carbolic acid solution; cocaine and atropine are dissolved in a  $\frac{1}{5000}$  sublimate solutions and a separate towel is used for each case. Hirschberg disinfects the conjunctiva by wiping it carefully with antiseptic gauze wet in a  $\frac{1}{3000}$  sublimate solution, and instils several pipettefuls of the same solution over the wounds after the operations are finished. He never operates out of this room. Each patient has his own box of solutions, pencils, bandages, etc. In a brochure which appeared in the *Berliner Klinische Wochenschrift* (*Berlin Clinical Weekly*), his methods and results have been published since he adopted antiseptis or asepsis, and he closes the article with the pregnant and familiar remark that asepsis consists in care, energy and scrupulous cleanliness.

While in Paris my attention was directed especially to the eye. There the clinics are not always connected with government institutions and, what is in the highest degree commendable, are invariably free to all. Save New York, Paris offers the very best chance for the clinical study of eye diseases and ocular surgery. Laying aside all other operations, one can see at the Quinze-Vingt Hospital from twenty to thirty cataract operations weekly. De Wecker's clinic is said to record about the same number. I should not fail to mention the Hôtel Dieu, where the material is only a little less abundant. Having been deeply impressed with the operation for cataract as performed in Paris, I shall speak chiefly of that. I arrived just in the heat of the enthusiasm over the operation "sans iridectomy." I had not had the fortune to see this operation before. I was charmed with the skill and manual cleverness of the operators. I had never known before what the iris could bear, how it could be pushed and bruised, prolapsed and reduced, without iritis. I was simply wonderstruck on seeing some of Pannas' results after such handling.

The eyes, in many cases, several days after the operation, showed absolutely no signs of irritation or inflammation, and went on steadily to rapid recovery. Of course I did not see all of his results, but I have no recollection of having seen any case of iritis after a normal extrac-

tion. I saw many good results elsewhere, but I did not see, while abroad, any such results in cataract operations as those obtained by Pannas. It goes without saying that M. Pannas uses the strictest antiseptis. To this he attributes his success. After the delivery of the lens, De Wecker washes out the anterior chamber with a solution of sublimate,  $\frac{1}{5000}$ , and eserine,  $\frac{1}{4}$  of 1 per cent. He uses for this purpose a cunningly devised instrument which I regret I cannot show you: It is made on the principle of a medicine-dropper. The beak is of gold, curved on the flat and provided with two openings, through which the stream of water passes in almost opposite directions. The beak is passed into the anterior chamber and the bulb pressed. In this way the blood, which often obscures the pupil, and the remaining floating cortical substance may be swept out. After reducing the iris, in case it does not become reduced *de se*, a patch of linen soaked in a solution of glycerine, boric acid, and eserine, is laid on the lid, a bandage applied, and the patient is told to "*aller—aller vite*" up stairs! For lacerating the capsule De Wecker uses his capsule forceps with which he claims to remove a portion of the capsule. I have never seen him fail to lacerate the capsule, nor have I ever seen the piece removed.

No speculum is used, the upper lid being pressed against the supra-orbital ridge by an assistant, and the lower held back by the forceps, which at the same time grasps the bulbar conjunctiva. The cataract is generally delivered with the spoon placed below, counter pressure being made above by the thumb. Barring the omission of iridectomy, M. Pannas proceeds in the old classical style. He instils eserine after the operation and introduces between the lids an ointment of the same agent. I have seen Galezowski, Jenoul and Abadie lacerate the capsule with the knife at the same time that the section is made. Abadie and Galezowski seem to prefer to deliver the cataract by gentle manipulation of the lids. I was very much impressed with the ease and uniformly good result of this method: the iris is reduced by simple massage of the upper lid over the wound. M. Galezowski places over the wound a rectangular strip of what he calls antiseptic gelatin. I had no occasion to follow up the results of this latter procedure. On the whole, the Parisian performs the operation for cataract with such ease and "*sang-froid*" that it entirely takes away the pleasurable appreciation of the attending dangers.

I saw the operation of stretching the optic nerve, for atrophy, performed by De Wecker twice. He claims to cure his cases, and promises his patients as much.

I frequently saw the operation of advancement of Tenon's capsule in

cases of strabismus. Immediately after the operations I often saw good results; I cannot speak at present for the permanent effect of this operation employed alone. It is certainly very neat and attractive, and if it be combined with tenotomy of the opposing muscle, the effect is marked and lasting. Great stress is laid on making the patient look in the direction of the effect desired while the sutures are being tied.

"Evisceratio bulbi" is very popular and is often done under cocaine. I cannot refrain from mentioning the following very interesting matter: A man received a trauma of the cornea and conjunctiva from unslaked lime. He came into De Wecker's clinic with intense photophobia, and his eye running a flood of tears. A "coq enverne," or eye-shield—a bit of glass made very much like an artificial eye, was introduced so as to fit nicely over the injured cornea. Immediately the photophobia was relieved, and the patient expressed himself as feeling very much better. He wore it continuously for four days with out inconvenience. Photophobia and pain re-appeared on removing the "shield," but were again relieved after re-introduction. Some one, I forget who, at the Ophthalmological National Congress held at Paris in May, reported a number of cases of cure of detachment of retina by iridectomy. I took my departure soon afterward, and unfortunately had no chance to observe any case so treated. Considerable scepticism prevailed as to the success of the treatment.

At the same time a minor operation for the removal of leukomata by electrolysis was shown. Two platinum or gold points, either joined together or held separately, are lightly rubbed over the leukoma till the epithelium commences to come away. The patient is then released, and another sitting advised in a few days.

Under cocaine there is no pain nor any subsequent irritation. It goes without saying that only a few cells of the battery are used. I was informed by the first assistant of Abadie's clinic that he had applied the liquified crystals of chromic acid to leukomata, with the effect of clearing them up in a few weeks. The acid is applied with the tip of a very fine camel's hair brush. Only a few light touches are made. I saw it applied, and there seemed to be no irritation nor any pain.

Amongst the matters most worthy of our attention in Paris, are the teachings of Dr. Landolt in regard to the amplitude of convergence and divergence as relating peculiarly to muscular asthenopia. Dr. Landolt tenotomizes the stronger muscle, thereby relatively endowing the weaker with more power. His determinations of the amplitude of convergence, of divergence, and of the degree of strabismus, are, in

the highest degree, accurate and classical. I regret that I cannot go more deeply into the subject; but I most earnestly recommend the matter for consideration.

In London I had occasion to see several men only operate. I wish to speak peculiarly of Mr. Critchett and his recent operation for cataract. As performed by himself, it is done without speculum; nor is there need of an assistant, save during the iridectomy. Mr. Critchett uses an ingeniously devised knife of his own, which I regret I cannot accurately describe. The upper lid having been retracted by the ring-finger of the operating hand, and the lower by the forceps, which at the same time grasps the bulbar conjunctiva, the section is made upwards with one sweep of the knife. The peculiar form of the knife accomplishes this. There is no need of the sawing motion which is necessary with the Graefé's. The operation necessitates great dexterity with fingers, beyond a doubt. Under the hands of Mr. Critchett it is certainly brilliant, and apparently easy.

The English seem to be an ambitious race, operating with either hand equally well—a thing which I did not observe at all on the Continent.

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### ARTICLE III.

THE DESIRABILITY OF THE EARLY PERFORMANCE OF LAPAROTOMY IN CASES OF ABDOMINAL PREGNANCY.\* By WILLIAM THOMPSON LUSK, M.D., Professor of Obstetrics and Diseases of Women and Children, and Clinical Midwifery, in Bellevue Hospital Medical College, New York.

I shall take the liberty of prefacing the discussion of the question I have selected for consideration by the recital of the history of the case which furnished the starting-point of inquiry. For those features of the history not directly derived from personal observation, I am indebted to the very intelligent accounts furnished me by Drs. Mead and C. F. Barker, who supervised the patient when at her own home in Michigan.

Mrs. B., aged 35, married fifteen years, menstruated regularly and normally until the last of October, 1883. On October 24, which was about the time the catamenia was expected, Dr. Mead, the family physician, was called to see her, and found her suffering from severe abdominal pains, of a paroxysmal character. On each of the two following days she had an attack of severe paroxysmal pain in the abdomen and

\*Read in the Section of Obstetric Medicine at the Annual Meeting of the British Medical Association in Brighton.



in the right side, lasting nearly an hour, and succeeded by profuse perspiration and great prostration. These attacks were unattended by fever or abdominal tenderness. On October 27, Dr. Barker, in the absence of Dr. Mead, was summoned in great haste. He found Mrs. B. sitting upright in bed, dripping with perspiration, and suffering excruciating pain, of a lancinating and cramp-like character, and seated chiefly in the right ovarian region, from whence it radiated over the entire abdomen. On examination, he found the uterus prolapsed and crowded to the left side. The paroxysms lasted two hours, growing gradually lighter, and finally disappearing, leaving the patient prostrated and nervous. Similar attacks occurred on November 6 and 7. Mrs. B.'s condition thenceforward improved, so that, by the middle of December, she was able to ride out each day. She experienced some difficulty in locomotion, with a tendency to fall, owing to weakness in the pelvic articulations. Previous to this time, Dr. Barker had informed her husband that his wife was probably pregnant.

In February, 1884, Dr. Mead resumed the charge of the case. Mrs. B.'s health was then excellent. Her confinement was expected the latter part of June, or early in July. At the usual time foetal movements became perceptible, and continued till the last week in June. On July 17 there was a bloody vaginal discharge, and a few feeble pains were experienced. There were no other signs of labor. A careful examination convinced Dr. Mead that the uterus was empty.

In doubt as to the nature of the external tumor, Dr. Mead went with his patient, in September, to a very eminent gynecologist, in one of our large western cities, who expressed himself with great positiveness as to the absence of extra-uterine pregnancy, but stated that, without doubt, the tumor was a cysto-fibroma, situated in the posterior uterine wall.

After the death of the foetus, the patient's condition remained unchanged, with the exception of the usual diminution in the size of the abdomen. In the latter part of March, 1885, Mrs. B. came to New York for further counsel. She called upon Dr. Fordyce Barker, who at once recognized the existence of abdominal pregnancy. Through Dr. Barker's courtesy, the case was likewise seen by Dr. Thomas and myself, who were in full agreement as to the diagnosis. As the patient's health was good, she was allowed to return home, with permission to remain until autumn, unless meantime any considerable disturbance of her health should become manifest. With the first signs of failing health, she was advised by Dr. Barker to assent to an operation.

In a letter written to me subsequently, by Mrs. B., I learn that in May she was confined two weeks in bed with diphtheria, that during convalescence she had a severe chill, followed by a "malarial fever" of a remittent type, which kept her in bed for six weeks, and that before she had fairly recovered from this second attack, she was poisoned by *Rhus toxicodendron*, from which her sufferings were extreme. The rash covered her whole face and ears, extended over both arms half way to the elbows, and over the lower half of the abdomen and eight inches down the anterior surface of one thigh. This poisoning Dr. Mead attributes to botanical studies, in which the patient was greatly interested.

From this time, Dr. Mead reports symptoms of blood-poisoning indicated by progressive weakness, and by disturbances both in the vascular and nervous systems. She complained, too, of weight and of neuralgic pains in the abdomen, and afterwards in the left leg and hip. Usually these pains were more or less continuous, but at times were paroxysmal. In spite of her sufferings, the patient was quite cheerful, and walked out nearly every day. She even made calls, and attended evening parties, and at times there was a seeming improvement in her condition; but, by November, the decline in her health had become so marked, that Dr. Mead urged her to delay no longer, but to go at once to New York for an operation. On December 15th she finally started from home to get relieved from her burden.

On her way to New York, Mrs. B., upon the urgent advice of some friends, once more consulted the specialist who had previously pronounced her case one of uterine cysto-fibroma. At the second interview, he corrected his diagnosis, but portrayed the dangers of gastrotomy in vivid colors, assuring her that there was no necessity for such a procedure in her case, and advised change of air.

In accordance with this advice, Mrs. B. altered her route, and, in place of coming to New York, went to Atlanta in Georgia, where she intended to live out of doors, and thus to regain her strength. She was, however, so ill on her arrival, that she did not leave her room for three months. Then, by a great effort, being a woman of determined will, she made the long journey to New York, where I saw her again early in March. She was now extremely emaciated; the face was pinched, and she was excessively anæmic. The pulse was rapid, and there was a rise of temperature every evening. Diarrhœa was constant, or alternated with constipation. Shortly after her arrival menstruation occurred, and was attended by such marked constitutional symptoms that death seemed inevitable. The temperature ranged from

103° to 104° Fahr.; the pulse was extremely feeble and rapid, the abdomen became enormously distended, and there was at least an apparent increase in the size of the tumor itself. The husband assured me there was no ground for alarm, as for months past similar disturbances had developed at each menstrual period, and had subsided with the disappearance of the catamenia. It was decided, therefore, to remove Mrs. B. from the hotel to the St. Elizabeth Hospital, where she would be secure from noise, and where she could be placed under conditions most favorable for rallying her strength to sustain the shock of laparotomy. Unfortunately, the husband's prediction was not verified. The patient's health continued to decline; the temperature ranged between 100.5° to 102.5° Fahr., while the pulse was 120, and extremely feeble. In a consultation with Drs. Barker and Thomas, it was agreed that the stage of exhaustion reached precluded all hope of success from operative measures. This decision was accordingly communicated to the husband. When the latter ascertained, however, that his wife's tenure of life was, in any case a matter of a few days only, he urged the removal of the fœtus, with the faint hope that unexpected circumstances might bring the case to a fortunate issue.

The operation was accordingly performed on March 19th. The incision was made in the median line below the navel. The blood that escaped from the wound was colorless like water. No adhesions existed between the sac and the abdominal walls. As the former was opened a great volume of fœtid gas escaped. There was no fluid present, with the exception of perhaps an ounce of stinking pus. In extracting the fœtus, the parietal and the small bones of the extremities dropped away. The cutaneous structures had, for the most part, disappeared; the muscular tissues were macerated; the internal organs were shrunken; and though the child had evidently reached the end of gestation, no trace of either the placenta or cord could be found. The emptied sac was carefully cleaned and stitched to the abdominal wound. The operation lasted half an hour. Repeated subcutaneous injections of whiskey and sulphuric ether were resorted to during the operation to maintain the action of the patient's heart. For a time it was questionable whether death would not take place from the primary shock. In the end, however, the patient rallied fairly well, the temperature sank to the normal point, and, at the end of twenty-four hours, slight hopes of her recovery were entertained. With the beginning of the second day, however, the pulse ran up to 150, the temperature rose to 104°, and death occurred forty hours after the operation. The fatal

result was mainly due to inanition. The stomach absorbed nothing, and diarrhœa precluded rectal alimentation.

At the necropsy the sac was found contracted to the size of the fœtal head; it was firmly attached by old adhesions to the pelvic viscera and intestines on the right side. There were no traces of recent peritonitis. The entire abdominal contents were characterized by an intense pallor. The outer portion of the Fallopian tube extended to the walls of the sac, which were composed of dense fibrous tissue. Apparently the ovum had developed in the fimbriated extremity of the tube, the fibres of which had separated and become lost in the new growth of connective tissue.

This case possesses a special interest in the fact that, from the beginning of pregnancy to the fatal ending, the symptoms and changes in the patient's condition were watched by intelligent observers. The diagnosis was made before her health was appreciably affected. Her pecuniary circumstances enabled her to command the advice of experienced men, and everything that money could buy was freely lavished upon her by friends eager to preserve her life. The decision to try the benefits of climate before incurring the risks of an operation was made by the patient herself, after personal study of standard authorities. Whatever the practice of individuals may be, it has been thought expedient to teach that laparotomy should be postponed until noticeable evidences of health-impairment are observed as a consequence of the prolonged gestation. In this instance the patient was assured by an eminent physician that her increasing discomfort had nothing to do with her condition, but were remediable by a life in the open air. A few months later, when she came under my care, I found her wasted, intensely hydræmic, with a feeble, rapid pulse, remittent fever, diarrhœa, and suspended food-assimilation. When, as death was rapidly approaching, laparotomy was finally performed, and the putrid portion was removed, the partial disappearance of the soft tissues of the fœtus, and the complete absence of the funis and placenta, evidenced no recent process of disintegration, but an absorption that must have poisoned the system with septic products for a protracted period of time.

The issue in this case prompts the inquiry as to the wisdom of the present doctrine of postponement, as to whether, indeed, the proper moment for the performance of laparotomy in abdominal gestation is not preferably at a time when the patient's health is good, that is, antecedent to the first symptoms of septic infection. The decision of the question involves the consideration of the probabilities of the fœtus becoming encysted, and its subsequent conversion into a lithopædion; of

the actual results of awaiting the formation of fistulous openings ; and of the risks of laparotomy, and of the extent by which they are augmented by delayed action.

As a contribution to the settlement of these points, I have the honor to present a series of tables based upon an analysis of 103 cases of abdominal gestation reported during the last ten years, those from 1875 to 1880 having been, for the most part, borrowed from the well-known collection of Deschamps. The list is, of course, not a complete one, and further contributions possibly will modify the conclusions I have drawn from it. I can, however, state that the collection was made without any intent to sustain preconceived opinions. The objections urged against conclusions drawn from mere statistics is not applicable to those derived from the study of the histories themselves, as it is only by the study of what has been done in the past, and by making ourselves acquainted with the results of treatment hitherto practised, that loose statements and vacillating conduct can be avoided.

I have purposely excluded from discussion the question of the treatment of tubal pregnancy in its early stages. The recent triumphs of Mr. Lawson Tait in this field, the results of the employment of the galvanic and faradic currents in my own country, and those obtained by the injection of morphine and atropine into the sac as practised in Germany furnish rival methods, each with its own eager partisans, and this consideration would almost inevitably overshadow the question upon which I desire to receive the judgment of this Society.

It has not, indeed, been possible to form anything like an accurate estimate of the relative frequency of lithopædion formation. Cases reported as such, where no serious inconvenience had been experienced a year or two after the death of the fœtus, are hardly admissible, on account of the insufficient lapse of time. The occasional discovery of a lithopædion, presumably of long standing at *post mortem* examination, is of no avail in fixing the proportion of such occurrences to the entire number of ectopic gestations. In old records the proportion was large, owing to the infrequency with which cases of extra-uterine pregnancy were recognized during life. Since, however, in the last few years the attention of the profession has been directed to the subject, and methods of diagnosis have improved, the supposed extreme rarity of the anomaly has been found to be erroneous. On the other hand, the number of lithopædion cases recently reported is extremely small, and few have been found where *intra vitam* the presence of the cal-

cified fœtus has not seriously interfered with the patient's enjoyment of health.\*

But, it has been argued, even if the fœtus does not become encysted and is not converted by conservative natural processes into a harmless body, of which the abdominal cavity becomes tolerant, the inflammatory processes which ensue, as a consequence of the disintegration of the sac contents, are likely, in time, to be followed by the adhesions of the sac to the abdominal walls, or to adjacent hollow viscera, and to the formation of fistulous channels, through which the gradual spontaneous discharge of the fœtal skeleton may take place. Statistics have been adduced to prove that the best results are attainable when relief is limited to enlarging these natural channels.

In the accompanying table it will be found that, of twenty-nine cases belonging to this category, nine died; but, even this heavy mortality does not convey a true idea of the most serious objections to the policy of delay. It leaves out of account the large number of cases in which death occurs by the wayside, from other causes, before fistulæ have had time to form; and the burden thrown upon laparotomy by cases operated on *in extremis*, rational measures having been postponed until the hopeless stage is reached, because of the superstition, not yet extinct, that the blind efforts of nature are superior to the resources of science directed by the intelligence of man.

Moreover, in the fortunate cases, the term "recovery" often means little more than the survival of the patient, and not a restoration *ad integrum*. When we add to the risks incurred, the months, or perhaps years, of suffering, and the disgusting concomitants of fistulous formations, there is certainly serious question as to the expediency of allowing the patient to pursue a course which ends so often in death or chronic invalidism.

In Table No. II. I have gathered a few instances where death took place before the occurrence of fistulæ, and without recourse to surgical aid. There are, indeed, but eight of these upon my list, and two of the women died too soon after the death of the child, perhaps, to have rendered the resources of surgery of any avail. But it is precisely histories belonging to this class which are most difficult to obtain, either because the cause of death has not been recognized, or because of the diminished personal interest felt by physicians in the recording of cases where no active measures have been employed.

My third table contains 52 cases of laparotomy, performed at vary-

\*Dr. Gaillard Thomas informs me he has recently seen the wife of a physician who has carried a child outside the womb for seven years without disturbance of health.

ing periods after the death of the fœtus; 37 women recovered, and 15 died. There is matter for reflection in considering the circumstances under which, in these latter cases, the operations were performed.

No. 1. Temperature 103°; pulse 120, feeble; pain constant; nausea. Death in five days. Necropsy—left mitral stenosis, hypostasis of lungs, infarctions of spleen.

No. 2. Temperature 103°; pulse 120 to 140; constant vomiting. Died in collapse on the twelfth day.

No. 3. Operation by Porro, because of peritonitis and great loss of strength.

No. 4. Operation performed as patient was sinking. Death in five hours.

No. 5. Perforation into jejunum; enormous emaciation; feeble pulse.

No. 6. Emaciation; pleurisy; jaundice. After a quarrel with her husband on the seventh day, became suddenly cyanotic, and died.

No. 7. Septic peritonitis; uncontrollable hemorrhage.

No. 8. Fæcal vomiting; great abdominal distension: cold extremities. Death in two days. Necropsy—constriction of intestine.

No. 9. Septic infection; peritonitis; right sided pleurisy.

No. 10. Hemorrhage. Death from collapse in four hours.

No. 11. Chills; fever; abdominal tenderness; vomiting; profuse foetid diarrhœa.

No. 12. Hectic fever and death imminent.

No. 13. Acute tuberculosis.

No. 14. Hemorrhage.

Thus, of the fifteen cases, in three only, namely, those in which profuse hemorrhage occurred, was the fatal issue associated with the operation. Indeed, in most of the others, a temporary amelioration followed the removal of the fœtus; but, of course, the resources of surgery are rarely successful when practiced upon the dying. I use the term "rarely" because, in a few instances, recoveries have been reported under conditions of seeming desperation.

Of course, no one really advocates the reservation of laparotomy for the last resource. It is only contended that the patient should be intelligently observed, and that, with the first signs of failing health, active measures should be employed. The reasons assigned are the familiar ones once urged for a similar practice in ovariectomy, namely, the risks of the operation, and certain supposed advantages to be derived from waiting. Thus delay is supposed to diminish the chances

of placental hemorrhage, and to favor adhesions to the abdominal walls, by means of which an incision into the sac becomes practically an extra peritoneal operation. But the risks of hemorrhage ought not to be exaggerated. Of the thirty-seven recoveries, in two cases only, namely, those of Thomas and Rousseau, were special measures necessary to control bleeding. If we add these to the three cases reported in the death-list, hemorrhage will be found to have occurred but five times in fifty-two operations; and yet, in many instances, laparotomy was performed a few weeks after the death of the foetus. An examination of the histories shows that stitching the sac to the abdominal walls does not materially enhance the risks. Indeed, if performed prior to the putrefaction of the sac-contents, the contrary is probably the case.

The most serious objection, however, to the postponement of active measures until the development of early constitutional symptoms, consists in the insidiousness of the period of invasion in cases of septic infection. In my own land it is always difficult to convince the most experienced that a remittent fever is not necessarily of malarial origin, nor is it ever easy, in a given case, to determine the border between the cachexia due to septicæmia and the ordinary derangements of health due to accidental causes. But even if we were always able to define with precision the first moment of declining health, there would *à priori* seem little sense of in awaiting the occurrence of an event which is the evidence that putrefaction is already in progress. In no other operation in surgery would such a doctrine now obtain supporters.

It is not, of course, pretended to fix either by days or weeks the moment at which, after the advent of false labor, laparotomy should be performed. Provided only the principle be admitted that, where practicable, it should take place during the period when the patient is in the enjoyment of good health; the selection of the time would naturally be governed by the same considerations that obtain in other operations where no immediate vital indications exist.

In the case of the living foetus, it certainly would be desirable that laparotomy should be undertaken before the end of gestation, were it not that even the latest records furnish but little encouragement to hope for a fortunate issue. In eleven cases I have only two recoveries to report—namely, the familiar one of Jessop, and that of Martin, where, however, the operation was undertaken for the removal of a supposed ovarian or subserous fibroid tumor. As the risks accruing from false labor are slight (two deaths only in my tables are attribut-



able to this cause), a prudent reserve is commended to practitioners called upon to decide the question at the moment of emergency. The dangers of hemorrhage, great as they are, are not the only ones to be dreaded, death having followed from shock and depression even where the bleeding at the time of the opening of the sac was inconsiderable. With the present faulty *technique*, it is at least desirable that such cases, after the operation has been decided upon, should be committed, where it is possible, to those who have had the largest experience in abdominal surgery, and who thus are not only best equipped to meet difficulties as they arise, but who are able to appreciate, in fatal cases, the nature of the special dangers which have occasioned the result, and who possess the necessary discipline for devising the means by which they may be avoided in the future. The case of Martin, who controlled beginning hemorrhage by ligaturing the vessels of the broad ligaments, and of the Fallopian tube between the sac and the uterus, is an illustration of the use of an effective resource, prompted by long training.

*Elytrotomy.*

Reported.	Age.	No. of Preg-nancy.	Remarks.
Mathieson, <i>Lancet</i> , 1884, page 941	30	6	A six-pound child extracted alive in nine months with forceps through vaginal incision; hemorrhage slight; placenta removed; recovery in three months.
Bozeman, <i>New York Medical Journal</i> , December 20th, 1884	38	7	Pregnancy four and a half years' duration; fœtus probably died at sixth month, and became encysted. Three years and eight months later, patient became again pregnant. An intra-uterine fœtus was extracted with forceps, and the extra-uterine fœtus was removed through an incision made in the posterior vaginal wall. Recovery.
Grandin, <i>American Journal of Obstetrics</i> , March, 1886, page 252.	28	1	Duration probably fourteen months; vaginal incision followed by escape of a quart of fœtid pus; fœtus could not be reached; a few fœtal bones were subsequently discharged. Patient died of sepsis a few days after the operation.

In spite of the success which has recently attended the performance of secondary laparotomy, the present plan of operating, which consists in opening the abdomen and sac, removing the fœtus, and cleansing the sac cavity, and stitching the cut surfaces of the sac to the abdominal wall, ought to be susceptible of improvement. In my recovery list

three cases are reported by Sutugin, and one each by Welpener and Litzmann where it proved practicable to remove the entire sac. By early operating, it is possible that this class may be largely extended, thus getting rid of the danger arising from the slow elimination of the placenta. The recent removal of a living child by elyotromy, with recovery of the mother, reported by Mathieson, renders it desirable to determine the class of cases in which the vaginal incision can be made available in both primary and secondary operations. For aid in the solution of these and kindred questions, it is natural to turn to this country, which enjoys the eminence of leading the world in the successful performance of abdominal surgery.

TABLE I.—Cases of Abdominal Pregnancy Terminating in *Fistulous Openings* (1875 to 1885).

No.	Reporter.	Age	Number of Pregnancies.	Duration.	Remarks.
1	Chabert; Lyon Méd., April 23, 1876.	—	Five	—	Coincident intra-uterine and extra-uterine pregnancy; five months after natural labor the extra-uterine sac ulcerated, through which foot protruded; this, with flesh of leg, was torn away by the husband. A horrible discharge escaped from fistula. Six months after labor the fistula was enlarged by Chabert, drained and treated antiseptically; recovery at end of two months.
2	Purefoy; Dublin Journal Med. Sciences, April, 1877, page 362.	—	—	6 months	Patient seized with diarrhœa at end of six months; purulent discharge <i>per anum</i> , containing fetal bones. Fragments of the skeleton continued to be discharged for more than a year, four years later patient enjoyed excellent health.
3	A. Simpson; Edin. Med. Journ., 1877.	39	—	—	Patient went to term and carried child several years, when normal pregnancy occurred; death from peritonitis and exhaustion following a second pregnancy, the sac communicated by three openings with intestine, cavity contained fecal matter.
4	A. Simpson; Edin. Med. Journ., 1877.	—	—	—	Discovered at necropsy, patient died of peritonitis; macerated fetus of about three months, communication with peritoneum and intestine.
5	Martin A. Tinker; Boston Med. and Surg. Journ., May 18, 1876.	30	—	—	Patient became pregnant in December, 1869, death of fetus at term; discharge of portions of skeleton <i>per anum</i> from nineteenth month, other portions were discharged at different times until February, 1879, when death of mother took place from exhaustion, portion of fetus, of size of fist, retained.

6	Benicke; Berlin Klin. Woch., August, 1875.	—	Three	—	Pregnancy dated from 1847, expulsion of fecal bone, <i>per rectum</i> , in 1874; recovery.
7	Benham; Brit. Med. Journ. Sept. 16, 1876, page 361.	36	One	7 years	After an injury to rectum, a few days after conception, had pelvic pain, fever and discharge of pus and blood from rectum; three and a half months after the injury, complete obstruction of rectum, formation of three perineal fistulae and discharge of bones, apparently belonging to fetus of three months. Lumbo-colotomy was done and a recto-vaginal fistula established, discharge through anus, the fistulae, and the orifice in the side at time of report (1876).
8	Deschamps; Des Grossesses Extra-uterines, Paris, 1880.	28	Two	10 months	Ten months after cessation of menses, entered Hôpital St. Louis with portion of fetus protruding <i>per anum</i> ; extraction, through rectal opening, by M. Pinard; left hospital at end of a month with health restored.
9	Poincare; Arch. de Toccol., 1878, page 667.	26	Two	14 months	Death of fetus at term; about four months later, grave peritonitis ending in fluctuation near the median line. Spontaneous opening with discharge of fetid gas and liquid, enlarged by crusial incision for removal of fetus, communication between sac and rectum; death in ten days from collapse.
10	Zeembicke; Soc., Anatomique.	—	—	15 months	Pregnancy lasted nine months, two months later symptoms of internal perforation; at necropsy four communications found, sac contained cherry stones, feces and fetal bones.
11	Kjønig; Norsk. Mag. for Løguerd., 1878, vol. viii, page 130.	31	Three	2½ years	Death of fetus at six months, two years later discharge of fetus through rectum, meantime two normal pregnancies. Fourteen days after termination of second of these, no trace of extra-uterine tumor left.
12	Martin and Jacquet; Berl. Klin. Wochenssch., 1875, page 434.	—	—	—	Death from exhaustion after patient had passed bones <i>per rectum</i> for one and a half years.
13	Windriff; Bulletin Méd du Nord, 1878, page 129.	—	—	—	Cæsarean operation in 1869; extra uterine pregnancy in 1872 (?), opening of the cyst below the navel to the right of the cicatrix from the old Cæsarean section through which portions of skeleton were removed; recovery.
14	Priestley.	—	—	—	Discharge of bones of fetus through spontaneous opening in vagina, bones discharged continuously for six months.
15	Aug. Schmitt; Memorialia, 1874.	36	Twelve	Term	Violent pains with opening of sac into vagina, impaction of shoulders in pelvis, version found impossible, death in a few hours.
16	Agnello Leite and Deschamps; Grossesses Extra-uterines.	22	—	—	Peritonitis, abscess-formation in neighborhood of navel, enlargement of abscess and removal of bones; patient able to walk about in seventeen days.

TABLE I (Continued)—Cases of Abdominal Pregnancy Terminating in Fistulous Openings (1875 to 1885).

No.	Reporter.	Age	Number of Pregnancies.	Duration.	Remarks.
17	McDougall. <i>Obst. Journ. of Gt. Brit.</i> , 1876.	28	Nine	23 months	Sac adherent near term, false labor lasting sixteen hours; for fifteen months no discomfort, then abdominal pains, vomiting and depression, fistulae formed at umbilicus, incision with removal of foetus; no trace of placenta; rapid recovery.
18	Hofmeier; <i>Z'tsch. f. Gel. u Gyn. vol. v. page 112</i> , 1880.	29	Six	12 months	Fistulous opening at navel enlarged by Schröder; full term child extracted, drainage tube passed through Douglas's <i>cul de sac</i> into vagina, sac stitched to abdominal wall, hemorrhage on removal of placenta. Tampon.
19	Hayem; <i>Arch. f. Tocolgie</i> , August, 1882.	23	One	Child died at 5 months	Suppuration of sac and discharge of portion of skeleton through rectum, and, later, through bladder; discharge lasted twelve months, after two years restoration to health.
20	Jedschubaw, <i>Protocolle der Gesellsch. f. Aerzte im Kaukasus</i> , No. x, 1881.	—	—	2 years	Physician withdrew foetus through rectum.
21	J. M. Heard; <i>N. Y. Med. Journ.</i> , May, 1882, page 480.	18	—	1 year	Abscess in flank; discharge lasted two months, when Dr. Heard was summoned, patient was apparently dying, operation performed with bistoury, bullet-forceps, an iron spoon, and a water dipper; bucketful of flesh, hair, bones, and pus removed. Rapid recovery.
22	Freund; <i>Edin. Med. Journ.</i> Nov., 1883, page 401.	42	Six	(?)	Pregnancy believed by patient to have been of ten years' standing, Freund removed fifteen bones through vaginal fornix, foetus estimated at rather more than five months.
23	Lusk; <i>Amer. Journ. Obstet.</i> , March, 1886, page 242.	32	Four	5 months	Foetus destroyed by faradic current, subsequently decomposition set in and fistulous opening formed in the posterior vaginal wall through which foetus, seven and a half inches long, and placenta were removed. The patient had intense septic symptoms, and for a long time recovery was thought impossible; she sat up, however, two months later, and returned home in ten weeks.
24	Bouzol; <i>Lyon Méd.</i> , December 21, 1884.	38	Seven	10 months	Ten days after death of foetus a fistulous opening formed at the navel, at first from which a serous, and later a purulent discharge took place, then a large opening formed below and to the left, through which in the course of two weeks all the foetal parts were discharged in a macerated condition; through this opening later, a loop of intestine protruded, and owing to

its nearly gangrenous condition, was stitched to the abdominal walls. The patient recovered, and subsequently the artificial anus closed. Child probably died at sixth month; this was followed by inflammation of sac, thrombosis of left iliac vein, and peritonitis with septicæmia, septic symptoms relieved by discharge of fetid pus through the rectum. Laparotomy performed; in the cavity containing fetus, fecal matter was found, MacDonald resected the portion of intestine in which fistula was situated and stitched the ends. Patient recovered in two months. Child died about the eighth month; this was followed by fever and pain and tenesmus which, by the sixteenth month, became intolerable; then bones were discharged by rectum; Michie removed almost entire skeleton, manually, by rectum. Recovery.

Fœtus of four to five months; putrid discharge by rectum. Recovery in ten days.

At twelve months fetid diarrhoea and discharge of foetal bones; three months later symptoms of septicæmia. Dr. Janvrin dilated sphincter ani and removed foetal bones within the sac which communicated with the intestine. Patient did not rally, but died in fifteen hours. Opening took place into rectum; the bones of the fetus were perfectly clean and free from muscle or tendon, on different days as many as 100 bones were removed by Dr. Orton through the opening with his fingers. Patient began to improve, when diarrhoea set in which proved fatal.

No.	Reporter.	Age	Number of Pregnancies.	Duration.	Remarks.
25	A. MacDonald, Edin. Med. Jour., February, 1884, page 697.	28	Two	1 year	
26	Michie; Brit. Med. Journ., April 12, 1884, page 715.	—	—	16 months	
27	Weiss; France Med., November 10, 1877.	40	Two	—	
28	Janvrin; Amer. Journ. Obstet., 1875, page 128.	38	Three	15 months	
29	J. G. Orton; Trans. N. Y. State Med. Assoc., 1884, page 250.	45	Two	14 years	
1	Freund; Edin. Med. Journ. Nov., 1883, page 402.	46	Six	1½ years	During last half year patient had diarrhoea, pain in the abdomen, and intermittent fever; patient died from exhaustion. Sac was found shrivelled, and containing a stinking, turbid, greyish-green mass; soft parts of fetus shrunken and partially gangrenous.
2	Monnier; Progrès Méd., 1884, No. 49.	44	Six	—	Fœtus probably died at fourth month; this was speedily followed by peritoneal symptoms, and vesical tenesmus. Death from cachexia; spicula of bone found to have penetrated walls of bladder, producing the vesical symptoms.

TABLE II.—Cases which terminated fatally when no operation was performed.

TABLE II (Continued).—Cases which terminated fatally when no operation was performed.

No.	Reporter.	Age	Number of Pregnancies.	Duration.	Remarks.
3	Guichard; Annal. de Gyn., March, 1881.	—	—	—	Death, near end of gestation, from rupture of sac.
4	Fulcher; Obstet. Journ. Gt. Brit. and Irel., Oct., 1880, p. 592.	32	Two	10 months	Peritonitis supervened on death of fœtus; death five days later. Child weighed 9½ lbs.
5	Francis; Obstet. Journ. Gt. Brit. and Irel., Oct., 1880, p. 594.	25	1 labor and 3 abortions (previous)	12 months	Death of mother, two months after that of child, from vomiting, diarrhœa, and inanition.
6	Gusserow; Charité Annalen Jahrg., viii, p. 664.	—	—	14 months	Died of phthisis.
7	Litzmann; Archiv. f. Gynaek., 1880, vol. xvi, page 336.	35	Five	8 months	Death of fœtus probably took place in the sixth month, and was followed by constant vomiting, obstipation, intense pain, chills, headache, emaciation, nocturnal delirium, and convulsive twitchings. After two months, death from peritonitis and necrotic changes in the bladder due to prolonged retention.
8	Sibley Campbell; Amer. Journ. Obstet., Oct. 1876, page 606.	33	Multipara	About 15 months	Labor presumably at eight months; five months later, ascites with œdema of extremities, paracentesis, with temporary relief. Death from œdema of lungs, sac's contents were not foetid.

TABLE III.—Laparotomy (Secondary), Recovery (1875 to 1885).

No.	Reporter.	Age	Number of Pregnancies.	Duration.	Condition of sac.	Remarks.
1	Southal; Virg. Medical Monthly, September, 1877.	—	—	26 months	Stitched	Death of child at ten months; fœtus adherent and removed piecemeal.
2	Eastley; Am. Practitioner, September, 1876.	33	Four	24 months	Stitched	Child large and adherent to sac, was removed piecemeal; placenta atrophied, cord reduced to a mere thread.

3	Atlee, Walter; American Journal Med. Sciences, October, 1878, page 521.	—	Primipara	About 13 months.	—	Child at full term; recovery in one month.
4	Ribemont; Annales de Gynæcol., July, 1879.	21	Two	12 months	Adherent	Death of fœtus at seventh month; during pregnancy severe abdominal pains and attacks of peritonitis; after death of fœtus, severe hectic symptoms. Immediate improvement followed removal of fetal <i>débris</i> , which were horribly foetid; discharged in two months.
5	Rousseau; Union Méd. du Nord Est, September, 1877.	26	—	14 months	—	Preliminary cauterization in flank to determine adhesions to sac, fluid foetid; child delivered with cephalotribe; hemorrhage from placenta controlled by pressure of a bladder filled with warm water; placenta left. Two months after operation patient left hospital; she had a fistulous opening, and the placenta could be felt through the abdominal walls. Closure of fistula and disappearance of all trace of placenta at end of two years.
6	Benicke; Annales de Gyn., vol. xii, page 33.	33	Four	12 months	Stitched	Fœtus died at term; laparotomy at end of two months, as patient's strength was failing; placenta removed without hemorrhage; no bad symptoms.
7	Messner; Annales de Gyn., 1879, page 33.	—	Two	11 months	Adherent	Death of child at about eighth month; operation at eleventh month, up to which time patient called constantly for morphine; sac was adherent. Prolonged suppuration followed. Patient discharged cured at end of nine months.
8	Gusserow; Arch. f. Gyn., vol. xii, page 75.	—	Five	9 months	—	Death of fœtus at eighth month; symptoms of peritonitis during entire pregnancy. Laparotomy one month after death of fœtus; patient extremely exhausted, suppuration of sac, fever. Discharge of patient in three months. Sac size of child's head, envelopes calcified; fœtus about five months, recovery in fourteen days.
9	Martin; Berlin Klin. Wochenschrift, July 8, 1878.	37	Two	About 2 years	—	Sac aspirated and quarts of sero-purulent fluid removed; outline of child now clearly made out; laparotomy of girl weighing 7 lbs. Placenta came away in five weeks.
10	Gaillard Thomas; Gynæcol. Trans., 1882, page 225.	26	Two	11 months	—	Removal of child by laparotomy weighing 9 lbs. Discharge of placenta in from two to three weeks.
11	<i>Idem.</i>	24	Two	17 months	—	No particulars; patient's condition extremely depreciated; sac contained great quantities of foetid gas.
12	<i>Idem.</i>	—	—	—	—	

TABLE III (Continued).—*Laparotomy (Secondary), Recovery (1875 to 1885).*

No.	Reporter.	Age	Number of Pregnancies.	Duration.	Condition of sac.	Remarks.
13	Cattoni. <i>Annal. Universali d' Med.</i> , February, 1884.	30	Two	End of gestation	Adherent	Fœtus probably dead two months. Recovery in eight weeks.
14	Zweifel; <i>Berlin Klin. Wochenschr.</i> , 1881, No. 24, page 342.	31	Eight	9 months	Stitched	Child premature and decomposed; contents of sac horribly putrid; sac contained fetid gases; immediate cessation of fever following operation; patient discharged in six weeks.
15	Freund; <i>Edin. Med. Jour.</i> , November, 1883, page 403.	24	One	13 months	Stitched	Sixteen days after operation, portion of placenta was discharged; remainder on twenty-third day; patient left her bed at the end of the sixth week.
16	Negri; <i>Annali di Obstetricia</i> , March and April, 1885.	28	Three	15 months	Adherent	Laparotomy eight months after fœtal movements ceased; fœtus was dry, hard, and adherent to sac and intestines; adhesions easily separable; patient left her bed on the thirteenth day.
17	Howitz, <i>Gynäk. og. Obst. Meddel.</i> , vol. v, page 3.	37	Two	2 years	Stitched	Operation in two periods; (1) opening abdomen and stitching sac to abdominal walls to secure adhesions; (2) one week later opening sac, which contained putrid pus and fully developed fœtus; in addition, hair and teeth supposed to belong to a dermoid cyst were removed; patient was discharged in three months.
18	Braithwaite; <i>Lancet</i> , January 3, 1885.	—	Three	10 months	Adherent	Child dead two weeks; patient made good but slow recovery.
19	<i>Idem.</i>	35	—	11 months	—	Cessation of fœtal movements one month before operation; incision struck placenta; partial separation without hemorrhage. Complete separation and removal of placenta six weeks later.
20	A. Martin; <i>Obstet. Soc. of Berlin</i> , November, 1885.	52	Multipara	13 years	—	Lithopædion, causing distressing abdominal symptoms. No trace of placenta.
21	Howitz; <i>Centralblatt f. Gynæcol.</i> , 1880, No. 35, page 568.	26	(?)	11 months; death of fœtus not given (time of)	Stitched	Main portion of placenta removed. Wound healed in a month.



22 Lawson Tait; Lancet, 1880, September 18, page 456.	40	Six	8 months	Stitched	Placenta discharged in three weeks.
23 Herff; New Orleans Med. and Surg. Journal, August, 1880.	24	—	12 months	Stitched	Pain, fever, pulse 110, temperature 102°; sac contained one quart of purulent fluid; placenta discharged on twelfth day.
24 Brende; Monte Video Centralblatt, No. 41, 1883.	32	Two	9 months	—	Cæsarean section proposed for supposed incarceration of gravid uterus; extra-uterine pregnancy discovered; for ten days case seemed hopeless. Recovery after a year.
25 Lounzen; Hospitals Ledente, July 27, 1881.	34	Multipara	13 months	—	Operation owing to fever and emaciation, contents of sac putrid; five days after operation fever ended, drainage-tube removed in two months; later, placental portions began to discharge, continuing twenty-one days.
26 Welponer and Tillner; Archiv. f. Gyn., Band xix, 1882, page 241, operation by Billroth.	34	Two	3 years, 4 months	—	Entire sac removed, extensive adhesion, recovery in about six weeks.
27 Lucas Champonnière; Gaz. des Hosp., November, 1884, page 37.	—	—	15 months	—	Rapid recovery.
28 <i>Idem</i> .	—	—	26 months (?)	Membranes adherent.	" "
29 Thissen; Berlin Klin. Wochenschrift, No. 8, 1884.	34	Three	12 months	Stitched	Death of fœtus at term, temperature 105, collapse; patient for weeks very feeble, œdematous with albuminuria; horrible stench on removal of fœtus, intestine perforated in two places, communication with sac.
30 Dunnett Spanton; British Med. Journal, January 12, 1884, page 53.	26	—	12 months	Stitched	Fluid putrid, fœtus macerated.
31 Litzmann; Archiv. f. Gyn., 1881, vol. xviii, page 1.	35	Primipara	19 months	Free	Pregnancy probably tubal, entire sac removed, operation followed by extensive pelvic exudation, which caused retention in hospital for nearly three months.
32 Braithwaite; British Med. Journal, February 2, 1884, and Trans. Obstet. Soc., January and February 1, 1886.	No	No details	given	—	Child dead three weeks, placenta applied to fundus of uterus like a cup, placenta never came away.
33 Litzmann; Archiv. f. Gyn., vol. xvi, 1880, page 343.	35	Seven	10 months	Partial adhesions	Death of child at about the eighth month, placenta removed at time of operation, immediate improvement, discharged after three months.

TABLE III (continued).—*Laparotomy (Secondary), Recovery (1875 to 1885).*

No.	Reporter.	Age	Number of Pregnancies.	Duration.	Condition of sac.	Remarks.
34	Sutugin; Centralblatt, 1884, No. 34, page 529.	20	Two	13 months	—	Probably tubal; entire sac removed, drainage through Douglas' cul de sac; discharged in four weeks.
{ 35	<i>Idem.</i>	—	—	—	—	} Two cases reported in Sutugin's paper; in both the entire sac was removed. Patient emaciated, loss of appetite, purpuric spots on body, liquor amnii dark and fetid, child large (9 lbs.), and commencing to decompose; placenta weighed 4 lbs., and was attached to ascending and descending colon; placenta stitched an inch and a half from the intestine, from the caput coli to the sigmoid flexure; placenta cut away a short distance from the stitch, and the remaining attachment was secured to the abdominal wall; violent septicaemia, recovery in six weeks.
{ 36	Kusnezy.	—	—	—	—	
37	Gaillard, Thomas; Gynaecological Trans., 1884, page 178.	23	Two	15 months	—	

TABLE IV.—*Laparotomy (Secondary), Death (1875 to 1885).*

No.	Reporter.	Age	Number of Pregnancies.	Duration.	Condition of sac.	Remarks.
1	Maygrier; Annales de Gyn., July, 1879.	33	Primipara	17 months	Adherent	After death of fœtus, at term, health of patient at first good; in five months, tender abdomen, chills, fever, emaciation; two months later, increased fever, profuse fetid diarrhoea, vomiting, tenderness, gas in sac; death seven days after operation, sac adherent.
2	Byford; Chicago Med. Journal, February, 1878.	36	Three	3 years	—	Patient had hectic fever, and death was imminent at the time of the operation; death on the fifth day.
3	Hall, Davis, and Lawson; Lancet, 1877.	27	Primipara	6 months	—	Fœtus dead, patient had acute tuberculosis; death on second day.

4	Netzel, <i>vide</i> Deschamps; Grosse Extra-uterine, page 105, 1878.	Two	10 months	Adherent	Child dead, weighed 6½ lbs.; operation a few days after death of child; sac adherent, hemorrhage estimated at from 20 to 25 ounces, arrested by sutures; death in fifty hours.
5	Eugen Fränkel; Arch. f. Gynæk., vol. xvii, page 299, 1880.	Three	11 months	Stitched	On admission to hospital, patient well nourished; one month later health began to decline; evening temperature 103°, pain constant, nausea, pulse 120 and feeble; death five days after operation. Necropsy; slight circumscribed peritonitis, left mitral stenosis, hypostasis at base of both lungs, endocarditis verrucosa, infarctions in spleen.
6	Hofmeier; Z'tschr. f. Geb. u. Gynæk., vol. v, page 114, 1880.	Four	10 months, age of child	Adherent	Patient's temperature at time of operation 103.5°; pulse 120 to 140; constant vomiting, emaciation; died of collapse on the twelfth day.
7	Nicolini; Annali Univers. di Med. et Chir., March, 1882.	Three	14 months	—	Operation four months after death of foetus, by Porro, owing to peritonitis and loss of strength; death on twenty-eighth day from peritonitis and purulent inflammation of connective tissue.
8	Homans; Boston Med. and Surg. Journal, No. 20, 1886.	—	7 years	Complicated with ovarian cyst	Sac contained 4-5 lbs. of thick, offensive matter and bones of adult foetus; walls of ovarian cyst yellow and rotten; operation performed when patient was sinking; death in four hours.
9	Percival; Obst. Journal, Gt. Britain and Ireland, November, 1880.	Six	16 months	—	Labor pains at term; at first improvement, then enormous emaciation and feeble pulse; sac contained decomposed pus and gas; placenta decomposed; died on fourth day; perforation into jejunum.
10	Goodell; Amer. Journal Obstet., January, 1881, page 128.	Primipara	2 years	—	Great emaciation; had had pleurisy and jaundice; sac contained offensive gas and several quarts of fetid pus; foetus much decomposed; placenta had disappeared; did well for seven days, then quarreled with her husband, became suddenly cyanotic, and died.
11	Gusserow; Charité Annalen, vii Jahrg., page 664.	—	—	—	Placenta spread over nearly entire periphery of sac; uncontrollable hemorrhage; sac tamponed with salicylated cotton; death in two days from septic peritonitis.
12	Notta; Progrès Medical, No. 19, 1884.	—	7 years	—	On admission, extremities cold, fecal vomiting, great abdominal distention; laparotomy; cyst contained oily, bloody fluid; only the skeleton of foetus remained; death in two days from constriction of intestine.

TABLE IV (Continued).—*Laparotomy (Secondary), Death (1875 to 1885.)*

No.	Reporter.	Age	Number of Pregnancies.	Duration.	Condition of sac.	Remarks.
13	Freund; Edinburgh Med. Jour., September, 1883, page 247.	37	Two	—	Stitched	At time of operation patient suffered from septic infection, peritonitis, right-sided pleurisy; sac emitted gas; foetus (5 inches long) adherent to sac, placenta easily detached; sac stitched to abdominal wall and drainage-tube introduced; patient at first improved, but death took place in ten days from peritonitis, septicaemia, and pleurisy; putrefaction of sac and margins of the abdominal wound.
14	C. A. Kirkley; American Journal Obst., February, 1885, page 160.	48	Five	8 months	—	Death of foetus at about fifth month; in performance of laparotomy, enormous placental hemorrhage occurred; death from collapse in four hours.

TABLE V.—*Laparotomy (Primary Operation).*

No.	Reporter.	Age	Number of Pregnancies	Duration.	Remarks.
1	Hofmeier; Archiv. f. Geb. u. Gynaek., vol. v., 1880, page 115.	33	Seven	End of gestation	Death thirty-six hours after operation; child saved.
2	L. Tait; Obstet. Journ. Gt. Brit. and Irel., October, 1880, p. 577.	33	Seven	Near end of gestation	Shock, death in four days; child recovered.
3	Vedeler, and Norman; Centralblatt, 1881, No. 9, page 224.	—	—	At term	Child extracted alive; mother and child died day after operation.
4	Netzel; Hygieia, April 29, 1881.	29	Multipara	At Term	Placenta divided, sharp hemorrhage; both mother and child died in forty-eight hours.
5	Litzman; Arch. f. Gynaek., vol. xvi, 1880, page 323.	29	Two	At Term	Child breathed a few times (pregnancy probably tubal). No hemorrhage during operation, secondary hemorrhage from partially detached placenta, on thirteenth day, checked by tampon. Death, on fifteenth day, from septic infection, pyelo-nephritis, and exhaustion.

6	A. Martin; Berlin. Klin. Woch., December 26, 1881.	39	Three	7 months	Operation undertaken for supposed ovarian tumor, or subserous fibroid; removal of a seven month fetus with large encephalocele. Child died shortly after extraction; hemorrhage from sac checked by placing thin ligatures, including base of broad ligament and Fallopian tube, between the uterus and sac; separation of placenta then accomplished without hemorrhage, portion of cyst removed, and the remainder stitched to the abdominal wound, drainage through Douglas's <i>cul de sac</i> . Recovery.
7	Fränkel; Arch. f. Gyn., vol. xiv, page 197.	34	Three	8 months	Division of placenta, with frightful hemorrhage, arrested by suturing sac to abdominal walls. Death from collapse, in a few hours; infant lived one day.
8	Spiegelberg; Arch. f. Gyn., vol. xiii, page 73.	36	Two	10 months	Patient's condition desperate at time of operation, violent hemorrhage, night, infant lived three months.
9	Gervis; Brit. Med. Journ., December 22, 1877.	38	Nine	Near term	Moderate hemorrhage at time of operation; in the course of the first twenty-four hours, severe secondary hemorrhage, followed by death on the second day. Infant lived six hours.
10	Jessop; Obstet. Trans., 1876, page 261.	20	Two	End of gestation	Fetus floated in the intestines, no sign of foetal envelopes; placenta appeared to cover the brim of the pelvis, the fundus of the uterus, the posterior abdominal wall, and the large intestine; the patient, owing to her excessive feebleness, was left four days on the operating table, foetid discharge from abdominal wound. Recovery in two months.
11	Heywood Smith; Obstet. Trans., 1878, page 5.	42	—	—	Extraction of child, which lived forty minutes; mother died in thirty-six hours.

## ARTICLE IV.

HYSTERIA, ITS CLINICAL PHENOMENA AND TREATMENT. By J. LEONARD CORNING, M. D., New York, Consultant in Nervous Diseases to St. Francis Hospital, Jersey City, etc.

[Concluded from page 586.]

*Vaso-motor Disorders.*—These are frequently observed in hysteria, and may consist in a local diminution in temperature—a condition peculiarly prone to occur in hysterical joint trouble, as Brodie and others have observed; or the vaso-motor insufficiency is exhibited in frequent and unaccountable blushing. Cardiac derangements of a functional nature are also frequent accompaniments of hysteria, and are usually associated with general anæmia.

The various miraculous accounts of hysterical persons, whose wounds “emitted little or no blood,” are probably founded upon the observation that bleeding is much less profuse in the anæsthetic regions of such individuals than in other portions of the body. Charcot, I believe, was the first to draw attention to this fact.

Remarkable and sudden elevations of temperature are sometimes observed in hysteria. These thermic variations have been recorded in medical literature by a number of reliable witnesses; so that, although intentional deception has undoubtedly been resorted to in some instances, it must be regarded rather as the exception than the rule. Some of these cases possess great interest from a theoretic point of view.

*The Hysterical Cough.*—Among the local manifestations of hysteria, to which more or less extended reference has already been made, there remains to be enumerated the phenomenon known as the hysterical cough. It consists in a succession of explosions of air through the glottis, of such rapidity as to cause the impression that the cough is continuous. These paroxysms of coughing are rhythmical in character, and at the same time wholly unaccompanied by expectoration. There is no dyspnœa during the interval; respiration is somewhat less profound than usual, and physical examination of the chest yields only negative results.

As a rule the character of the cough is hard and dry; but in its more complex manifestations it is sometimes accompanied by aphony and vomiting.

The hysterical cough is a chronic affection, remarkable for its tenacity, persisting for months and even for years. It is, moreover, more or less exempt according to Lasèque, from the influences arising from men-

stration and other intercurrent events of physiological and pathological consequence. The results of treatment are, as a rule, by no means flattering, and recovery usually takes place suddenly and without warning, or by slow and almost imperceptible degrees. In whatever manner recovery takes place, there can be no certainty that the restoration to health is permanent, since relapses are of frequent occurrence.

The affection is confined to women, and has almost always been observed before the age of five and twenty.\*

According to Lasègue it is peculiar to no particular form of hysteria, though Sydenham is of a contrary opinion.†

When the origin of the attack is traceable to a simple cold, the subjects usually exhibit no particular predisposition to catarrhal or pulmonary affections. Upon close inquiry, however, most cases of the kind disclose the histories of previous hysterical attacks, or at all events there is evidence of strong neurotic tendencies.

During the persistence of the cough the appetite is diminished and the digestive functions may suffer more or less. There may also be a considerable loss of flesh. But whatever the general symptoms observed, the latter are rarely of sufficient gravity to justify the anticipation of a fatal termination. Without entering upon the details of the subject further, I will cite a case or two from my own practice and that of others. The following extraordinary case of hysterical cough is reported by Dr. Hartley: ‡ “In the end of January last Rebecca D., a tolerably well-developed, dark-complexioned girl of fourteen years of age, came under the care of Dr. Harley, at University College Hospital, complaining of weakness, loss of appetite, and suppression of the menses. She had menstruated regularly two or three times, and then ceased to do so during the three months prior to her appearance at the hospital. Tonics, both mineral and vegetable, were administered, and the girl went on improving until March 31, when the mother brought her back to the hospital, saying that fourteen days previously she had been seized with a cough, which gradually got worse, until it had become almost incessant. In fact, according to the mother’s account, the girl never ceased coughing from the time she rose in the morning till the time she went to bed at night. While stand-

\* “De la Toux Hystérique,” by Dr. Ch. Lasègue, *Archives Générales de Médecine*, 1854, vol. I, p. 513.

† *Op. cit.*, p. 517.

‡ Extraordinary case of spasmodic cough in a girl aged fourteen years. Recovery under the influence of valerianate of zinc and the cold douche. *The Medical Times and Gazette*, vol. II., p. 116.

ing in the waiting room the patient coughed incessantly, and as she was a highly hysterical girl she was kept there for nearly an hour, in order to try and tire her out. But at the end of the hour she was just as bad as when she entered the room. It was one continual round of a short bark (she did not give herself time to fill the lungs completely in order to be able to give a proper cough), with no perceptible interval even for respiratory purposes. The mother declared that she could not take food. On being scolded and ordered to cease coughing, she burst into tears; but the cough went on. The patient answered questions hurriedly, and while doing so she did not cough, but with the last word the cough recommenced. After a time it was found that she could control the cough by an effort of the will, but only for a few seconds. There was no chest affection, and no apparent disease of the throat or fauces. The cough seemed to be entirely spasmodic-laryngeal and the result of hysteria. One of the students counted at intervals the frequency of the cough, and without the patient's knowledge, and it was found that she coughed at the regular rate of seventy per minute, or four thousand two hundred times per hour. And reckoning that the girl coughed during twelve hours out of the twenty-four, if the mother, an intelligent and not at all enthusiastic female, was to be believed, the girl coughed more than that—she must have coughed the enormous number of fifty thousand four hundred times daily (50,400). A mixture containing the valerianate of zinc, the tincture of assafoetida, and camphor was ordered to be taken three times a day, and a cold douche with frictions to the spine to be applied night and morning. On April 7 the patient was again brought to Dr. Harley, and the mother with evident satisfaction stated that the cough had gradually ceased three days after the commencement of the treatment, and now the patient only coughed once or twice a day. On questioning the mother closely she stated positively that the girl had coughed incessantly, except when she was in bed (it ceased immediately on lying down), during eight days, and that the cough was just as frequent at home as it was while the patient was in the hospital. So that if we even reckon seventy per minute, and for only nine hours a day, during the eight days she would still have coughed the almost fabulous number of 302,400 times. As the treatment related had proved so successful, it was continued for a fortnight, and then changed to quassia and iron.

The catamenia reappeared on May 19, and from that time the girl went on improving until June 2, when she was dismissed as cured.

The following case came under my own observation some years



since, while serving a portion of my medical apprenticeship as resident assistant physician to the Hudson River State Hospital for the Insane :

A. C., a girl aged nineteen years, of nervous temperament, was committed to the hospital on account of several mild attacks of what was evidently subacute maniacal excitement. The cause of the last attack was a severe fright caused by threats, on the part of her mother, of sending her to jail if she did not "stop her everlasting coughing."

Upon entrance into the hospital, and while I was endeavoring to record the principal points in her case, she coughed so incessantly and loudly that I was obliged to have her conducted to a remote female ward. On the following day, I learned, upon inquiry, from the attendant that she was menstruating copiously, and that she was suffering acutely from dysmenorrhœa. Her conduct was mischievous in the extreme; she called out the window to the patients engaged in work upon the farm, and addressed them as angels; she tore the aprons and other articles of apparel from the persons of the female patients about her, and then ran away laughing and crying in a most hysterical manner. After every explosion of this kind she was seized with violent and continuous coughing, which lasted for two or three hours.

After she had remained in the hospital for some months, it was found that these attacks of coughing invariably began a short time before menstruation and continued until a day or two after the subsidence of the same.\*

Examination of the chest and larynx yielded absolutely negative results.

What eventually became of this patient I am unable to state. She was removed from the hospital upon the subsidence of the mental symptoms; but the attacks of coughing remained unaffected up to the time of her departure.

The attacks ceased completely during sleep in this case, a point upon which great stress is placed by some diagnosticians.

Dr. Synclair† presents the following case as an instance of the "acute" forms of hysterical cough :

A young girl of eighteen years, having had several attacks of hysteria, complained of rheumatic pains and headache without febrile disturbances. Fifty drops of laudanum mixed with a little water were prescribed for her. On the 22d of October, immediately after the ad-

\*The connection between the menses and the cough is apparently contrary to the experience of Lasègue and others; though I am convinced from this case of its existence, at least in some cases.

†*Edinburgh Medical and Surgical Journal*, 1825.

ministration of the medicine, the patient was seized with a continuous cough. There was no dyspnœa, no febrile movement and no pain about the throat. At night, while asleep, the cough ceased altogether, but only to return the following morning upon awaking. Thus matters continued in spite of treatment, until the fourth day, when the cough suddenly disappeared to return no more.

This case does not appear sufficient to establish the existence of an acute variety of the affection, and I therefore cite it merely on account of the intrinsic interest which attaches to the case, and entirely irrespective of any theoretic significance which it may possibly possess.

*The Hysterical Paroxysm.*—By hysterical attacks are commonly understood certain general tonic and clonic convulsions associated with peculiar psychical manifestations.

It is impossible to give a description of these attacks of sufficient breadth to cover the manifold variations of which they are capable, and we shall therefore confine ourselves to a delineation of the more salient features, trusting to the resources of individual experience to fill in the details of the picture.

In the milder forms of the attack there are rhythmical clonic spasms of the extremities, while at the same time respiration is accelerated, irregular, or interrupted. Consciousness, however, is not abolished, since the subject gives evidence of understanding what is said in her immediate neighborhood, and is also able to exercise a certain amount of control over her movements. The duration of an attack of this kind is usually brief, rarely lasting more than a few minutes. Sometimes, however, the primary attack is followed by a rapidly occurring series of others, and we have a somewhat analogous condition to that which is present in certain forms of epilepsy. The course of the attack is, however, by no means always so benignant in character as the foregoing description would indicate. In the more severe forms of the seizure, consciousness is completely lost; the convulsions become tetanic, the trunk and extremities become fixed and variously distorted; there is frothing at the mouth and the respiration becomes slow and stertorous. The convulsions, which were alternately tonic and clonic in character, resemble so closely those of true epilepsy that the seizure cannot be distinguished from the latter. This close resemblance has gained for these paroxysms the designation of "*Hystero-Epilepsy*," a title which has found favor among recent medical writers of France, where a vast literature upon the subject has made its appearance.

Previous to the attack, and indeed throughout the interparoxysmal

period, hystero-epileptic subjects complain of the most varied hysterical symptoms. Hemianæsthesia and hyperæsthesia of the ovaries are among the most constant symptoms observed.

The paroxysm itself is usually preceded by an aura emanating from the affected ovary and proceeding in an upward direction. When the aura has attained the upper portion of the trunk, the subject utters the loud and piercing cry peculiar to epileptics and falls to the ground in an insensible condition. Tetaniform spasms of the muscles now makes their appearance. The muscles of the neck, trunk, upper and lower extremities, are rigid; respiration is labored and infrequent; the mouth is bedecked with foam, and the tongue is protruded between the teeth, lending a repulsive appearance to the countenance.

Upon the stage of tetanic muscular contraction, there succeeds a period of complete muscular relaxation, during the continuance of which the breathing is stertorous and the mental condition one of coma. Soon, however, the exaggerated muscular phenomena again make their appearance, this time in the form of violent interrupted contractions, which give rise to the most varied distortions. The body is bent violently backwards and maintained in an opisthotonic position; or it may be rigidly extended, while the limbs are flexed or extended, or it may be bent forwards or laterally (pleurosthotonos.) Sometimes the subject executes gesticulations of an evident purposive nature, which, though in some cases characterized by violence, are quite as often devoid of all injurious intent, and recall forcibly the antics of a harlequin. At such times the patient endeavors to stand upon her head, turns somersaults, or bows with mock gravity to those about her.

By degrees the purposive character of these gestures becomes more pronounced, and at the same time the emotional element enters more and more into their composition. In the beginning of this stage of the attack, the patient, as a rule, assumes attitudes of a threatening character. The brows are contracted; the lips are compressed and the whole facial expression is one of rage and resentment. Sometimes the subject suddenly starts from a recumbent posture, and clenches her fists, at the same time fixing a look of defiance upon some unseen enemy. After the lapse of a few moments, however, the attitude of anger is succeeded by one of profound apprehension, which is of short duration and is in turn followed by an expression of countenance indicative of the most beatific hallucinations. The expression of beatitude gradually passes into one indicative of extreme voluptuousness, and is accompanied or succeeded by movements of a correspondingly lascivious nature. This stage is followed by a mental condition re-

sembling somewhat that of delirium tremens. She sees frogs, mice, serpents, rats, and other offensive creatures which causes her to cry out with apprehension while at the same time her countenance presents a terrible picture of mingled fear and disgust.

By degrees the terrible hallucinations which lie at the root of these phenomena subside; the face of the subject wears an expression of contrition, and with clasped hands she begs for clemency. From this period recovery is rapid. The subject has alternate fits of weeping and hysterical loquacity, during which she upbraids those about her for being the cause of all her distress.

It is very easy to provoke an attack resembling that above described, in a person afflicted with hystero-epilepsy. Thus, the sudden pinching of the skin in the neighborhood of the inguinal region and about the breasts is sufficient to cause a seizure.

Attacks of hystero-epilepsy are much less frequent in this country than abroad, and when they do occur, the phenomena presented are usually greatly modified. Of the causation and pathology of hystero-epilepsy little of a specific nature can be added; the most that we can do is to utilize what is known concerning the mechanism of the epileptic seizure, and to make due allowance for the hysterical elements of the picture.

*Hysteria in Children.*—As we have already had occasion to observe, when considering the etiology of the affection, hysteria may occur in girls and boys under ten years of age; but the disease is far more frequent about the time of puberty. In very young girls the appearance of the disease is characterized by alternate laughter and weeping, as well as extreme mental irritability and intellectual inertia. The symptoms manifested by many boys at the time of puberty are analogous in their general characteristics. Besides the mental phenomena, however, the young boys thus affected execute the most extraordinary gestures and gymnastics. They stand upon their heads, creep about the floor, uttering cries in imitation of various animals and otherwise misdemean themselves. Masturbation is also common in both sexes at this time. The following cases reported by Dr. William Roberts\* are good illustrations of hysteria in boys:

*Case I.* "The first example of hysteria in boys that arrested my attention was the son of a merchant in this town, whom I saw in 1870.

\*"Cases of Hysteria in Boys," by William Roberts, M.D. A paper read before the Manchester Medical Society, "The Practitioner," 1879, vol. xxiii., p. 339, *et seq.* Vide: also "Cases of Malingering" communicated by Mr. H. T. Batlin, Registrar of the Hospital for Sick Children, London, 1871. "On Hysteria in Children" by Dr. H. Paris, *Journal de Therapeutique*, May 10, 1880; also *London Medical Record*, viii., p. 232.

This boy, at the age of thirteen, and as a sequence to some trifling ailment, began to show hypochondriacal symptoms. He became depressed in spirits, and dyspeptic, and suffered from various undefinable ailments. Eight months later a dry cough set in, which soon assumed the character of the true hysterical bark. I was consulted some four months after this began. The bark had now degenerated into a hoarse sound, resembling the bleating of a goat. The boy persisted for many months in uttering this horrible noise all day long, almost without cessation, except during the hours of sleep. At one time, for about four months, the symptoms exhibited a curious diurnal periodicity. As soon as the boy awoke in the morning he began to bleat every two or three minutes, and continued to do so for about three hours, and then ceased; but precisely at eight o'clock every evening, with the regularity of clock work, he began to bleat again, and continued to do so until he went to bed and fell asleep. These symptoms went on altogether for a period of fifteen months, and then gradually subsided. Since then this boy has grown into a fine, strong young man. There could be no doubt as to the hysterical nature of the symptoms in this case. The patient was seen by Gendrin, of Paris, and by Sir William Gull, both of whom pronounced the case to be one of pure hysteria. An interesting episode occurred during the progress of the case. The boy was separated a good deal from his brothers and sisters during the continuance of his ailment, but on one occasion he passed some days in the society of his elder brother. Some four months afterwards this brother had an attack of hysterical barking, which lasted a fortnight and then passed off. A sister also was subsequently seized with similar symptoms. She was nine years of age when her second brother—the subject of this history—was suffering from the above-described bleating. When she reached the age of fifteen, four years after her brother's recovery, she began to "bark" and show other signs of hysteria. In her case the bark became a sort of hoarse growl, which continued almost without interruption for nearly three years, and then slowly passed away. In this family the hysterical bias was distinctly inherited from the mother, who, in her youth, displayed severe hysterical symptoms of the classical type." The subjoined case quoted from the same authority is an illustration of the fact that hysteria is sometimes developed during the period of febleness which is associated with convalescence from an acute disorder.

*Case II.*—"The subject was a boy between eight and nine years of age, whom I visited last year with Dr. Mules, of Bowdoin. He was

the second child of a family of six. Dr. Mules informed me that three weeks previous the boy was commencing to be convalescent from a febrile attack of doubtful character, when he was suddenly seized with paroxysms of loud, passionate, tearless crying, with incoherent ravings of a most alarming and distressing character. These paroxysms continued for a week almost without interruption. At the end of this week they suddenly ceased, and the boy appeared almost quite well again. In a few days, however, they recommenced, but not so continuously. The paroxysms now lasted two or three hours, and recurred three or four times a day. In the intervals between them the boy appeared quite well, eating and sleeping and amusing himself like a boy in health. When I saw the patient he was in his bed-room, looking calm and collected, with a soft, smiling demeanor. Soon after we had descended into the sitting room to hold our consultation one of the paroxysms broke forth, and we heard the boy screaming. We went up-stairs into his bed-room and found the boy passionately crying and clinging to his mother, calling on her incessantly, as if in the extremity of terror. Nothing could pacify him, and when we left the house the paroxysm was still proceeding. To my mind the attack had an unequivocally hysterical complexion. What else could it be? The symptoms evidently concerned, and concerned alone, the nervous system; and they resembled those of no disease in the nosological category except those of the chameleon of pathology, hysteria. As these paroxysms had now persisted without amelioration for a period of three weeks, in spite of the restoration of the general health, we decided to send the child away from home, in order to eliminate that most fruitful of all promoters of hysterical manifestations, home surroundings and sympathy. The interrupted galvanic current was also directed to be applied daily. Under this treatment the attacks became less and less frequent, and finally, in about six weeks, ceased altogether; and the boy has since remained in perfect health. I must allow that the diagnosis in this case was not so plain and undoubted as in the preceding, but if any one doubts its correctness I would ask him this question: Suppose he saw these symptoms in a young girl on the threshold of puberty, what would he call the disorder?"

In the subsequent course of his paper, Dr. Roberts presents cases which he considers to be instances of hysterical contracture and "a clumsy imitation of epilepsy." The ages of the subjects were eight and eleven years respectively.

While I am not prepared to question the diagnosis in these last cases, I cannot help believing that such instances must be compara-

tively rare, much less frequent in fact than the variety of the affection exemplified in the first two cases. Of that form of the affection, which is characterized by uncouth noises, alternate lachrymation, and spasmodic laughter, I have seen several instances, as well as of that variety of the disease in which the boys run about upon their hands and knees, uttering barks and discordant howls, or upsetting chairs and other articles of furniture.

*Hysteria in Men.*\*— It was formerly supposed that hysteria was entirely confined to the female sex; but, as we have already had occasion to remark, in the course of this discussion, recent writers admit that the affection is encountered in the male sex, though far less frequently than among women. In many of the so-called cases of hysteria, however, symptoms of cerebral exhaustion are a far more prominent feature than the purely hysterical manifestations; so that to classify such cases as *bona fide* instances of hysteria would be a manifest error. In all instances where there is doubt as to whether we have to do with a case of hypochondriasis, cerebral exhaustion, or cerebral irritability, the best we can do is to classify the affection according to the characteristics of its most predominant symptoms. This is an axiom which, though it fails perhaps to fulfill the most ideal theoretic exigencies of the problem, will be found eminently useful in practice. I have laid particular stress upon this point in the classification of obscure functional affections of the nervous system in former publications.†

*Causation.*—Hereditary influence constitutes an important factor in the etiology of hysteria. The affection is, moreover, far more common among females than among males. This preponderance of the disease among women is owing, in great measure, to the increased development of the emotional system in the latter—a state of things which is greatly fostered by the sensational nature of many features of modern social life. But while sensational poetry, exaggerated drama, and the innumerable other extravagances of society undoubtedly play a prominent part in the causation of the disease, it is equally certain that morbid states of the sexual apparatus are not without etiological influence. Proof of the truth of this proposition is seen in the extraordinary exacerbation of symptoms, which takes place in hysterical women at the period of menstruation, and in the fact that the first in-

\* See "A Case of Aggravated Hysteria occurring in a Man," under the care of Dr. Todd. Recovery. *The Medical Times and Gazette*, New Series, vol. vii., p. 242.

† "On the Nature of Nervousness," by J. Leonard Corning. *The Medical Gazette*, New York, Nov. 24, 1883. Also "A Treatise on Brain Exhaustion," by J. Leonard Corning, D. Appleton & Co., 1884. p. 116, *et seq.*

dications of the disease are observed in a large percentage of cases at the age of puberty.

General anæmia, hemorrhage, digestive derangements, and in fact all causes which lower the nutrition of the central nervous system may give rise to hysteria.

All depressing emotions, such as conjugal jealousy, dread of pecuniary embarrassment, sudden fear and protracted anxiety may induce the affection.

Contusions, even when of apparently trivial import, may cause the disease in those of neurotic constitution; and the concussion incident to railway and other accidents may cause an outbreak of hysterical symptoms in men and women alike.\*

I have recently had under my care a gentleman who met with a severe accident on the Long Branch Railway, and in whom, in addition to other symptoms of concussion, these hysterical symptoms were a prominent feature. While sitting in my office he would suddenly shed tears without the slightest apparent provocation; but in an equally short space of time his weeping would be transformed into laughter. When interrogated as to the cause of these manifestations, he could assign no reason, affirming in the most emphatic manner that the weeping and laughter were alike entirely involuntary.

Imitation is a powerful exciting cause of the disease in those of impressionable constitution; it is thus that the "epidemics" of hysteria in recent and ancient times are to be accounted for.

In a large percentage of cases hysteria makes its appearance between the ages of fifteen and twenty-one; though idle and vicious modes of living may cause it to appear in children under ten years of age.

A factor of great importance in the causation of the disease is masturbation, which is far more prevalent among girls than is commonly imagined. The practice appears to be far more prolific of the disease when indulged in by females than by males. I have, however, seen two cases of the affection, both occurring in men over thirty-five years of age, which were directly attributable to this vice.

*Pathology.*—Post-mortem examinations of the nervous systems of hysterical persons have revealed absolutely no lesion which may be considered as characteristic of the affection. About all that we can do is to submit the various symptoms of the affection to analytical

\* Vide "On the Concussion of the Spine, Nervous Shock and other Obscure Diseases of the Nervous System," by John Eric Erichsen, F.R.S., etc., New York, 1882. Also, "Injuries of Nerves and their Consequences," London, 1872. And "Lectures on Diseases of the Nervous System," by F. E. Anstie, *The Lancet*, vol. II., 1872.



inspection, and thereupon construct as consistent a theory as we are able respecting their origin. In this attempt the physiology of the nervous system will certainly prove our most valuable guide. Following this line of thought, it is evident, in the first place, that the greater part of the mental manifestations of the affection are to be regarded as the natural outgrowth of the volitional paralysis and intellectual torpor, which are such characteristic features of the disease. For we find that as soon as the will and the purely intellectual faculties in hysterical persons are developed by proper methods, the abnormally active emotions are brought under subjection and there is immediate mental improvement. The essential psychological picture in hysteria is indeed but a complex of riotous emotions. Again the spasmodic phenomena of the affection may be accounted for by assuming an inordinate explosiveness of certain motor areas of the cortex, while the hyperæsthetic manifestations are easily accounted for if we admit a corresponding irritability of the sensory districts.

On the other hand, abolition of irritability in certain motor fibres of the brain and cord might perhaps account for the paralysis; while the anæsthetic symptoms might with equal propriety be ascribed to loss of irritability in some portion of the sensory tract.

It is evident, therefore, from the foregoing, that most of the phenomena of hysteria may be accounted for, if we admit that in this affection cortical irritability is sometimes exaggerated and sometimes unduly diminished or even totally suppressed.

I am fully aware that the foregoing theory is open to criticism, but nevertheless on the whole it appears to be the most consistent which can be constructed in the present state of knowledge. Jolly\* has expressed views with regard to the pathology of the affection, which agree in many respects with those above enunciated; while the theory elaborated by Rosst† is practically identical.

All theories which seek to explain the phenomena of the disease on the assumption of changes in the peripheral nerves are so manifestly inadequate that they require no discussion.

*Diagnosis.*—Much might be and has been said regarding the various rules to be observed for the purpose of differentiating hysteria from the host of diseases which it simulates. Many of those axioms are, however, far from infallible, as most physicians of large experience can testify. We shall, therefore, abstain from treading the quicksands of these logical mazes, and shall content ourselves instead

\* Op. cit., p. 490 *et seq.*

† Op. cit., p. 862.

with a few practical suggestions of more or less universal applicability.

The most weighty diagnostic evidence of hysteria is unquestionably afforded by the characteristic psychological conduct of the patient. If the patient develop extreme mental irritability in the absence of all exciting causes from without, if she has lost volitional control, if her intellectual faculties are devoid of vigor, if she is morbidly hilarious and lachrymose by turns, if she evinces an abnormal and continuous craving for sympathy, and if she resorts to various modes of deception to obtain the latter, we may be reasonably sure that we have to do with a case of hysteria.

The certainty of diagnosis is, moreover, greatly enhanced if, in addition to the foregoing, globus and some of the characteristic sensory and motor derangements are present.

When the local manifestations of the disease are the prominent feature, the most careful physical examination of the affected part should be undertaken in conjunction with the general investigation. We have already alluded to this point when discussing hysterical joint affections.

The determination of the true nature of an hysterical attack is usually simple in uncomplicated cases, especially if the previous history of the patient be accessible. In the more complex phases of the disease, however, it is often impossible to differentiate the attack from the seizure of true epilepsy. This point has been discussed under the head of hystero-epilepsy.

Hysteria is indeed a dexterous counterfeiter of other diseases, but, like most dissemblers, her falsifications will not stand the test of analysis.

*(To be concluded.)*

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## ARTICLE V.

### PERNICIOUS HEMORRHAGIC MALARIAL FEVER (SWAMP FEVER).

By WM. L. VAN HORN, M.D., Ph.M., Columbia, Caldwell Parish, La.

Swamp fever is due to the same cause that produces the other varieties of malarial fever: intermittent, remittent and continued, and the various forms of pernicious malarial fever. Precisely what that cause is, I believe to be as yet undiscovered, or at least not proved.

Malarial hæmaturia is a misnomer, as the hemorrhage may and does

frequently occur from other organs of the body besides the kidneys ; blood being discharged at times from the stomach, bowels, or nose. In my opinion this disease should be known only by the designation, pernicious hemorrhagic malarial fever.

Pernicious hemorrhagic malarial fever is generally met with in a person who has had several attacks of intermittent or remittent fever, but *may* occur abruptly.

It is ushered in by a severe and prolonged chill, followed by a temperature ranging from  $102\frac{1}{2}^{\circ}$  to  $106^{\circ}$ , and in rare cases even higher. Jaundice supervenes immediately after the chill, and the whole surface of the body soon presents a yellow appearance, the color varying from a pale yellow to a deep orange. The eyes, too, are injected and yellow ; the color of the conjunctiva corresponding with that of the skin. The tongue is covered with a yellow coat in the centre, and has red edges.

The patient generally complains of headache and pain in the epigastric, hypochondriac and lumbar regions. The bowels are most frequently constipated. The spleen and liver are enlarged and congested. The kidneys are congested, and on post-mortem examination are often seen to have dark spots upon them. There is intense nausea and vomiting, the vomited matter containing bile, and sometimes blood. The urine voided after the chill contains blood and bile. Suppression often occurs in this disease. As previously mentioned, hemorrhage sometimes takes place from other organs, instead of the kidneys, and sometimes from two or more organs at the same time. The liver, spleen and other organs of the body contain pigment deposits. The blood is broken down and contains pigment particles due to the malarial poison. Pernicious hemorrhagic malarial fever assumes the various types of malarial fever, intermittent, remittent and the continued.

Prognosis in this disease is always very grave, as death results in about 50 per cent. of the cases. The intermittent type is the least dangerous, and the prognosis is less favorable the nearer the disease approaches the continued type. When suppression of urine takes place the prognosis is extremely unfavorable, as death almost always ensues.

Death may result from various causes, among which may be mentioned: The severity of the chill, producing congestion of one or more vital organs of the body, extreme high temperature, uræmia due to total or partial suppression of urine, heart failure and adynamia. I have noticed that in this disease there is apt to be a return of the chill or an exacerbation every 12 hours from the initial chill, for 24 or 48 hours.

*Treatment.*—The views which I entertain in regard to the treatment

of this grave and very fatal disease are as follows: A mercurial purge should be given to evacuate the bowels and stimulate the glandular system to action. Quinine should be administered *at once* in 10 or 20 grain doses, and repeated every 3 or 4 hours until cinchonism is produced; after which it should be continued in 8 or 10 grain doses every 4 hours to maintain its influence. To control the vomiting a hypodermic injection of morphia will often prove of service. A saline (preferably bi-tartrate of potassium) should be given to assist the mercurial purgative in unloading the bowels, and also to act as a diuretic and diaphoretic. The question presents itself, Should we wait until the mercurial acts before giving quinine, or not? I do not think we are justified in waiting, but should get the patient cinchonized just as soon as possible. About 10 or 11 hours after the initial chill the patient should be well wrapped in a quilt or blanket, and bottles of hot water or hot bricks put to his feet and around the body, to prevent the return of the chill and to stimulate the capillary circulation of the skin. If this means fail, and there is a threatened return of the chill, chloroform should be given by the stomach, or a hypodermic of morphia and atropia for the purpose of averting it. If the temperature is excessively high, quinine or antipyrin may be used as an antipyretic. The danger in the use of these drugs as antipyretics arises from their depressing effect on the heart, and heart failure is very common in this affection.

I have found a combination of the fluid extracts of buchu and ergot with acetate of potassium a very useful diuretic and hæmostatic, using them in the following manner:

R̄. Ext. buchu fl. f̄3 iv.

Ext. ergot. fl. f̄3 ii.

Sixty drops to be given with 15 grains of acetate of potassium in about an ounce of water every 2 hours until the urine clears up, and then at longer intervals. This preparation will often be retained by the stomach when others are immediately rejected. A turpentine stupe should be placed over the region of the kidneys and allowed to remain until the skin becomes exceedingly sensitive, or until it produces undue pain. Turpentine has been recommended in this disease as a diuretic and hæmostatic, and its effect would seem to be beneficial, as it is also a good cardiac stimulant. Pilocarpine would be likely to be of service in relieving uræmic symptoms, by eliminating the urea and other morbid products through the skin, if there was no contra-indication to its use. Should uræmic convulsions arise during the attack, a hypodermic injection of morphia should be given, or chloral and bromide of potassium,

by the mouth or rectum. If there is no contra-indicating circumstance, the patient may be placed in a wet pack in order to produce profuse diaphoresis, and thus assist in relieving the symptoms of uræmic poisoning. Should cardiac failure manifest itself, stimulants are required (whiskey or brandy by the mouth or rectum), and if these fail to bring about a reaction, resort should be had to hypodermic injections of ether or sulphate of atropia. I have found the sulphate of atropia a most efficient cardiac stimulant. Digitalis is likewise very useful in this condition, but its action is rather slow. The patient's strength should also be maintained by food in a concentrated form, such as milk, milk punch, egg-nog and beef peptonoids. Stimulus in some form is clearly indicated. When the stomach is too irritable to retain food the patient should be nourished by enemata. If the stomach is too irritable to retain milk alone, it may be combined with lime water.

Warburg's tincture has been recommended by northern and foreign physicians, but has not as yet received a fair trial by southern practitioners. I believe it to be a good preparation, which meets several indications in this disease. Thus, it is an antiperiodic, diuretic, diaphoretic and cathartic, and I think it should be given an extended trial. Occasionally cases are met with in practice when quinine cannot be given, owing to a peculiar idiosyncrasy of the patient, and some substitute has to be used. In these cases salicine, iodine or iodine and carbolic acid combined, arsenious acid, fluid extract eucalyptus or extract hydrastis canadensis should be resorted to. Of these I think arsenious acid ranks first. Dr. Benjamin Hogan Riggs (*Medical News*) recommends large doses of it, one-twentieth of a grain every 3 hours, combined with Dover's powder, piperine and extract hyoscyamus. This dose of arsenious acid was continued by him until its physiological effects were produced, and then the interval was lengthened. The patient took half a grain in 25 hours, and with good results. Dr. Riggs states that it is safe to give it in one-eighth grain doses every 3 hours until the patient is relieved, or the full effect is produced.

To briefly recapitulate the treatment: Evacuate the bowels by a mercurial purge; use morphia hypodermically to relieve nausea and vomiting; give a large dose of quinine either by the mouth or hypodermically, and keep the patient cinchonized; use salines for their diuretic effect and to assist the mercurial; reduce the temperature, if excessive; relieve uræmic symptoms by morphia or chloral and bromide of potassium; assist the kidneys by producing diaphoresis with pilocarpine; maintain the action of the heart with stimulants and the general strength of the patient with proper nourishment; give every rem-

edy used for its physiological effect. This I believe to be the rational treatment of this disease, based on the known physiological effects of the remedies in combatting known pathological conditions.

RÉSUMÉ OF CASES.—*Case 1.* Levi T., aged 16 years, remittent type of the disease; recovered.

*Case 2.* Mrs. H., aged 28, married, mother of several children, remittent type; recovered.

*Case 3.* Mrs. R., 60 years of age, widow, mother of several grown children, second attack, continued type; died.

*Case 4.* Negro, deck hand on boat, intermittent type; recovered.

*Case 5.* Miss E. H., aged 20, white, single; has had malarial fever for the greater part of a year. In the fall had pernicious hemorrhagic malarial fever of an intermittent type for one week before I was called in. Found her with a temperature of  $103\frac{1}{2}^{\circ}$ , intense nausea with vomiting of mucus and bile. Urine contained blood and bile. Bowels constipated. Skin jaundiced. Gave a mercurial purgative (calomel and soda) and washed the lower bowel out with enemata of soapsuds. Applied a turpentine stupe over the region of the kidneys. Without waiting for the purgative to act, commenced the use of quinine in 10 grain doses every 4 hours, and gave the mixture of buchu, ergot and acetate of potassium referred to every 2 hours. The fever assumed the continued type, and the treatment was steadily kept up. In this case there was an exacerbation every 12 hours from my first visit until the end of the second day. The patient recovered.

*Case 6.* S. D., negro, male, aged 50, married; had previously had attacks of malarial fever. Pernicious hemorrhagic malarial fever was ushered in by a severe chill, nausea and vomiting. Urine charged with bile and blood; 20 grains of quinine were given at one dose, and 10 grains every 4 hours. The other treatment was the same as in preceding case. This case was of remittent type. Recovered.

7. William V., negro, 20 years of age. Patient had lobar pneumonia, complicated with pernicious hemorrhagic malarial fever. Urine contained bile and blood. The same treatment was pursued, with the addition of carbonate of ammonia. The case recovered.

*Case 8.* Mrs. C. T. D., married, aged 20 years, and in the eighth month of gestation. Had had two previous attacks of pernicious hemorrhagic malarial fever. Several members of her mother's family died

of this disease. This attack was ushered in by a very severe and prolonged chill, intense nausea, and persistent vomiting. Bowels obstinately constipated. Urine voided immediately after the chill contained blood and bile. She had another chill 12 hours after the first. Temperature  $103\frac{1}{2}^{\circ}$ . Quinine was given in 10 grain doses every 4 hours. A mercurial purgative was ordered, followed by a saline, but the bowels did not act until after she had miscarried, although enemas were used previous to this occurrence. The miscarriage occurred 24 hours after the initial chill. The child was born dead, death being due to the severity of the chill or to the intensity of the malarial poison. This lady died from heart failure in less than 48 hours after the initial chill. Stimulants were used by the mouth and rectum, as well as hypodermical, without relief. My prognosis at my first visit was unfavorable, as I have never known a pregnant female to recover from this disease. Miscarriage usually precedes death, as in this case.

*Case 9.* Mrs. A., aged 22, married, mother of three children; had had a previous attack of this disease. The usual chill was followed by a temperature of  $105^{\circ}$ . Nausea and vomiting. Urine contained bile and blood. The menses made their appearance on the second day. The same treatment was pursued as in the other cases, and, in addition, tincture of digitalis was used by the mouth and hypodermically. Stimulants were also given in the latter manner, but she died from heart failure on the third day. I had Dr. Gregory in consultation in this and in Mrs. C. T. D.'s case, and he concurred in the treatment.

*Case 10.* Miss McG., aged 10 years. Attack ushered in by severe chill, followed by the usual symptoms. The following remedies were used: quinine, calomel, bitartrate of potassium, fluid extracts of ergot, buchu and acetate of potassium, turpentine stupes over the region of the kidneys, morphia to produce sleep at night and to relieve vomiting. Half an ounce of quinine was used in the treatment of this case, which lasted 10 days and terminated in recovery.

In none of the cases reported was there suppression of urine.

When the characteristic bilious discharge takes place, showing the effect of the mercurial on the glandular system of the liver and bowels, recovery *generally* takes place; convalescence commencing at once.

I could report other cases, but they were of mild type. The last seven cases occurred in my practice during the last 24 months. I cannot claim, like Dr. Thornton, of Thornton, Miss., that I have cured every case; and, to say the least, I think his success, in an experience extending over twenty-six years, has certainly been extremely remarkable. I trust that this paper will have the effect of eliciting the views

of others in regard to this important subject, and that there will be a free expression of opinion on the part of physicians familiar with the disease, whether this is in accordance with the views expressed by the writer or not.

Since the above was written, September 1st, 1886, I have met with two additional cases of great interest, which were as follows:

*Case 11.* Miss Julia C., aged 16, single. Had an attack of pernicious hemorrhagic malarial fever, followed by a relapse, 4 years ago. Has been having malarial fever (intermittent and remittent type) the present year.

September 23, 25 and 26, 1886, she had a slight amount of fever. Was called Sept. 26, at 6 P. M., and found her with a temperature of  $103\frac{1}{2}$ ; skin hot and dry; bowels constipated. Prescribed 5 grains of calomel to be given at bed-time, and repeated in the morning if necessary. (She had taken a carthartic pill before I arrived.) Also ordered one No. 00 capsule of quinine every 4 hours through the night, and two at 6 A. M.; then 1 every 4 hours.

Temperature on the morning of Sept. 27, 99; quinine continued. Bowels had acted freely. 12 $\frac{1}{2}$  P. M. Temperature  $103\frac{1}{2}$ , quinine continued every 4 hours; also gave 1 drop Flemming's tinct. aconite root and 5 drops tinct. gelsemium (made from the green root), in water, every two hours. 8 P. M., temperature  $103\frac{1}{2}$ . She had a severe and prolonged chill at 12, midnight, accompanied by intense nausea and vomiting and pain in the back; urine voided after the chill contained blood and bile. Gave a hypodermic injection of 1-100 grain sulphate of atropia and 1-6 grain sulphate of morphia, which quieted the stomach. At 3 A. M., Sept. 28, gave a tablespoonful of Warburg's tincture with 3 drops fluid ext. digitalis, and repeated the same at 6 A.M. At 8 A.M. gave one capsule of quinine No. 00, and at 10 A. M. 2 tablespoonfuls of solution of bitartrate of potassium, 1 ounce to 4 of water, and ordered the same quantity to be given every 4 hours. At 12 M. gave 1 tablespoonful of Warburg's tincture and 3 drops fluid ext. digitalis. Repeated the same at 4 P. M. and 6 P. M., and both doses were vomited. Then gave a hypodermic injection of 1-6 grain morphia and 1-100 grain sulphate of atropia, and at 7 P.M. again gave 1 tablespoonful of Warburg's tincture with 3 drops of fluid ext. digitalis, which was this time retained. Urine voided at 2 A.M., 10 A.M. and 3 P. M.; discharge unchanged. Bowels acted 3 times since 12 M. Had hot bricks placed around her at 10 A.M., and kept in place until 2 P.M.



Temperature at 12 M. 99. No return of chill. At 8 P. M. gave 5 grains of calomel. Continued the potassium bitartrate solution through the night, but allowed her to sleep as much as possible; bowels acted 3 times during the night. Had hot bricks placed around her at 10 P. M. and kept in place until 2 A. M.

September 29, 6 A. M. Temperature  $98\frac{1}{2}$ , pulse 110. Some nausea being present, gave a mixture of  $\frac{1}{2}$  drop carbolic acid, 2 grains bicarbonate of soda, 1 drop spirits peppermint, and 1-12 grain morphia. At 8 A. M. gave 5 grains quinine, and at 10 gave 25 drops spirits of nitre, as she complained of the bitartrate of potash. At 2 P. M. gave 2 grains calomel and repeated the mixture to quiet the stomach. Bowels have acted 3 times, and she passed urine with each motion. Temperature  $98\frac{1}{2}$ , pulse 110; discharge from bowels nearly pure bile; vomited bile.

6 P. M. Gave 2 ounces Warburg's tincture with 2 drops fluid extract digitalis, followed in a few minutes by the anti-emetic mixture.

10 P. M. 25 drops spirits of nitre.

12, midnight. 2 ounces Warburg's tincture and 2 drops fluid extract of digitalis.

September 30, 6 A. M. Gave  $1\frac{1}{2}$  ounces Warburg's tincture. Temperature, 9 A. M., 99. Spirits of nitre was ordered to be given every 4 hours. 12 M.  $1\frac{1}{2}$  ounces Warburg's tincture. Menses appeared to-day, just 2 weeks from previous appearance. At 5 P. M. gave 15 grains acetate of potash in water, and discontinued the nitre. 6 P. M., 1 capsule of quinine No. 00, and 3 drops of fluid extract digitalis. Temperature, 100 1-5. 8 P. M., bowels acted and urine voided. Temperature 99 4-5, pulse 95. Acetate of potash every 4 hours, 1 capsule of quinine at 12 P. M., and again at 6 A. M., with 2 drops of digitalis. October 1st., 9 A. M. Temperature 99 1-5, pulse 100. Quinine at 10 A. M., and repeated every 4 hours during the day. 12 M., temperature, 99 2-5, pulse, 100. Urine cleared up, bowels acting regularly, color of skin becoming natural, and the case decidedly improved. Ordered the following mixture and discharged the patient.

R.	Tr. Iodini	-	-	-	-	f. $\frac{3}{4}$ i.
	Pot. Iodidi	-	-	-	-	3 ij.
	Pot. Arsenitis	-	-	-	-	3 iv.
	Ferri cit.	-	-	-	-	3 iv.
	Syrupi, Aquae aa	q. s.	ad.	-	-	f $\frac{3}{4}$ viij.

Sig. One teaspoonful three times a day.

Was called again October 4, at 10 A.M., and found patient with a temperature of 100, pulse 100, and suffering from nausea and vomiting. She complained also of pains in the back and limbs. Prescribed 1 No. 00 capsule of quinine every 4 hours. 12 M., urine voided, contained blood and bile. With each dose of quinine gave 3 drops of fluid extract digitalis. At bed-time gave 5 grains of calomel, and repeated the dose in the morning of October 5. Also gave 15 grains of acetate of potash every 4 hours.

October 5, 10 A.M. Temperature, 99; pulse, 95. Bowels have acted well. Urine still contains blood and bile. Treatment continued.

October 6, 10 A.M. Temperature,  $98\frac{1}{2}$ ; pulse, 95. Bowels acting well, urine clearing up. Treatment continued.

October 7, 9 A.M. Temperature,  $98\frac{1}{2}$ ; pulse, 90. Urine clear, bowels acted through the night. Ordered 15 drops of tincture of iron to be given 3 times a day, and acetate of potash every 4 hours to-day, and then discontinued.

Case discharged cured.\*

*Case 12.* Zackary B., aged 15 years. Had had 3 attacks of malarial fever during the year previous to this attack of pernicious hemorrhagic malarial fever. I was called November 18th. The boy had a severe chill about 8 A.M., and I arrived at the house about 4 P.M. Found him with a temperature of  $104\frac{1}{2}$ , pulse, 140; skin hot and considerably jaundiced. Urine had been voided several times, and was of a reddish-brown color. The patient was in a state of semi-coma and could be aroused only with difficulty. Prescribed 5 grains each of calomel and soda every 4 hours. He was given a dose at 4 P.M., and again at 8 P.M. At 6 P.M. gave 3 drachms of Warburg's tincture, and repeated the dose at 10 P.M. Temperature remained at  $104\frac{1}{2}$  until 12 P.M., when it was 103. At 12, midnight, gave 5 grains of quinine, and repeated the dose every 4 hours.

November 19, 4 A.M. Temperature, 101; pulse, 150. Urine had been voided frequently and involuntarily through the night. Bowels acted 3 times. At 4 A.M. gave a hypodermic injection of morphia to quiet stomach, also 20 minims of tincture digitalis and 20 minims of whiskey. His kidneys ceased to perform their functions about 10 A.M., and there was no urine in the bladder at 12 M.; at which time he

\* Hot bricks were kept to the extremities through the whole attack and placed around her body every 12 hours for several days.

The temperature was never high after the Warburg's tincture was used. The latter produced no depressing effect, and therefore deserves further trial.

was seen by his brother, Dr. Thomas Butler. I saw the case again at 3 P.M., November 19. Had dry cups placed over the region of the kidneys and followed by a turpentine stupe. A catheter was introduced into the bladder at 4:15, P. M., and about a pint of black, tarry-looking urine drawn off. At 4:30, P. M., he had a chill, his temperature at the time being  $103\frac{1}{2}$ , and during this chill he died.

Hypodermics of whiskey and fluid extract of digitalis were used before and after Dr. Butler's arrival, but without benefit; the patient dying 32 hours after initial chill. Hot bricks were also constantly kept to his extremities, and every means that we were conversant with employed to prevent the fatal result.

Did this boy die from the accumulation of ptomaines in his blood, these agents depressing the nervous centres to an extent incompatible with the support of life? This is the last case treated by me, and I report it with the other cases. While it increases my rate of mortality, I think *all* cases should be included in a report on this, the most interesting disease to the Southern practitioner, because of its high death-rate and the difficulty of cure. I believe that there is a type of the affection which is so rapidly fatal that it is beyond the reach of all the known remedies of to-day.

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## ARTICLE VI.

RUPTURE OF ANEURISM OF THE AORTA, AFTER SUCCESSFUL LIGATION OF BOTH FEMORAL ARTERIES FOR POPLITEAL ANEURISM.\* By IRA B. READ, M.D., New York.

*Mr. President and Gentlemen:*

As a sequel to the paper which I had the honor to present to you a little less than a year ago,† I now bring to your notice the heart and the ruptured aneurismal aorta of my former patient. The case reported was one of double popliteal aneurism, where both femorals were successfully ligated, the one in June 1882, the other in February 1883.

In that report I said, "whether we look to age, sex, occupation, climate, or any external influence, I do not believe that we can assign any of them as primal causes in the production of aneurism. I believe we must look first to the condition of the artery itself. We will find degeneration, either atheromatous or calcareous, the cause of which we may, or may not, be able to discover."

\*Read before the New York County Medical Association, November 15, 1886.

†See GAILLARD'S MEDICAL JOURNAL for February 1886, page 139.

The specimen which lies before you goes far, I believe, to prove the truth of what I then said.

It is now more than three and one half years since the last operation, and more than four years since the first.

Friday afternoon, October 29, Mr. M. started a little after noon in his grocery wagon, and went to market for his supply of groceries. About half-past five the clerk at the store noticed the horse returning and going by the store, instead of stopping. Thinking that Mr. M. was asleep, he jumped in the wagon and spoke to him. He says that he threw up his hands and said "I'm gone"—then fell over backwards dead. At the autopsy, held Saturday evening, the pericardium was found filled with blood, and on opening it the heart was found to be completely imbedded in a large clot of blood. On further search being made the rupture was found in the ascending portion of the aorta, the opening readily admitting the finger. There was but little dilatation. You will observe in the specimen other places showing marked atheromatous degeneration, in which a rupture would soon have occurred, had not the present point of rupture proved the weakest. I also place before you a section of the femoral artery above and below the point of ligation. Below, the artery is occluded by what seems to be an organized fibrous growth, while above there is the ordinary appearance of the normal artery. Unfortunately I was never able to examine my patient for abnormal heart sounds or aneurismal bruits since the last operation; but at that time there were no physical signs of aortic aneurism.

I am still unable to find any probable cause for the arterial condition which existed. The patient being a young man of 30, apparently in full vigor, well nourished, with no history of syphilis either present or remote, and not intemperate, I can only accept the fact that there was an atheromatous condition of the arteries which predisposed to aneurism and finally led to his death. The lungs and liver were healthy in appearance. The spleen and kidneys very much enlarged.

As you will observe, the heart is normal in size. In my former presentation of this case I referred to the excessive violence of the heart's action, not in frequency, but in force.

From the appearance of the specimen before us, we wonder, not that there were three aneurisms, but that there were not three times three. Twice the surgeon's knife and knot turned back the current; but at last, beyond our reach, the bounding stream pushed through the last barrier, and, spending all its force in one mighty effort, left all still in death.

ORIGINAL TRANSLATIONS.

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NATURE AND TREATMENT OF TRUE ANGINA PECTORIS. By HENRI HUCHARD, Physician to the Bichat Hospital. Translated from the *Union Médicale* by H. MCS. GAMBLE, M.D., Moorefield, W. Va.

## PART I.

*Gentlemen :*

For a century past, different and numerous explanations (since I have succeeded in counting 36!) have been in turn presented upon the nature of angina pectoris; and if the rational therapeutics of this syndrôme could not so far be seriously established, it is not only because of the incessant fluctuations of these theories, but also because each author has clinically associated cases radically opposed to each other, and has confounded in statistics too often complaisant all cases: those which terminate spontaneously in recovery in spite of medicine and the doctors, and those much more serious which, up to the last five years, have always preserved an inexorable prognosis.

It results, in effect, from my last study of this subject, which appeared in 1883 in the *Revue de Médecine*, that in the description of the anginous syndrôme there have been comprised a number of diverse affections, differing in their cause and in their very nature; differing also in their prognosis and treatment. So this clinical revision, which consists in distinguishing true angina from the false anginas or from all the anginiform phenomena, presents as much practical importance as that which formerly separated asthma from all the pseudo-asthmatic or dyspnœic affections, epilepsy from all the epileptiform or convulsive symptoms.

The pseudo-anginas of the subjects of neuropathic, of arthritic, of gastric disorders, etc., are observed at all ages, and attack women (above all the first) more frequently than men. They are often characterized by the frequent repetition of the paroxysms, by their apparition, sometimes periodical and nocturnal (especially the second), at the hour of the paroxysms of arthritic affections (asthma, gout, false croup), by their duration, sometimes long and varying, at times from half an hour to two hours, by the spontaneity with which these paroxysms break forth, or by the intervention of multiple and diverse, often inappreciable, causes which may produce the paroxysms; they are recognized also by the seat of the pain at the middle or lower part of the cardiac region, by its nature, which causes it to resemble a sensation of fullness, of tension, or of distension of the heart, and finally by the facility of loco-

motion and by a condition of well-being experienced by the patients in the intervals of the attacks. These false anginas, especially those that supervene among neuropathic subjects, are more noisy than dangerous; and it is of them that we may say, as of all nervous or hysterical manifestations: *Much ado about nothing*. What a difference with *true angina*, which is observed more frequently in man than in woman, which supervenes at a more advanced age, at the age of arterio-sclerotic affections, the paroxysms of which, rare at the beginning, exceptionally assuming the periodical form, are never spontaneous, and are, on the contrary, almost always provoked by the mechanism itself, that is to say, by the abnormal or exaggerated excitation of a heart badly nourished and enfeebled in its contractile power, by a precipitate walk upon an inclined plane and against the wind, by an effort, an emotion, a simple movement! These paroxysms have sometimes such a brief duration that a patient mentioned by Parry said that "he experienced almost at the same moment the two extremes consequent upon the rapid passage from pain to a state of well-being." Doubtless later on they have a tendency to supervene spontaneously during the night, and these nocturnal paroxysms are even remarkable for their long duration and their intense severity. But true angina is recognized, once again, by its facile and frequent provocations under the influence of causes which oblige the heart to act abnormally; and it is also distinguished by the clearly substernal seat, by the plainly agonizing or compressive nature of the pain, compared to a violent sensation of constriction, of a vise, of hands or claws of iron, of tearing, of pressing together of the thoracic walls; this pain often presents, according to the expression of Lartègue, "something of a *mental character*," in consequence of the fright and the anguish that it provokes in patients; and Seneca, who was very probably suffering with this affection, had very well defined it when he said: "For all other pains, it is only to suffer; for this, it is to die." (*Aliud enim quidquid est agrotare est; hoc est animam agere.*)

Finally, in embarrassing cases, the differential diagnosis can and ought to be cleared up upon the determination of a subacute aortitis, which is often betrayed by the existence of pains always provoked by pressure, which are then truly neuralgic, since they are due to a cardiac neuritis; by the increase of the pre-aortic dulness and the abnormal elevation of the subclavian arteries, two symptoms characteristic of the dilatation, even slight, of the aorta, always a concomitant of inflammation of that vessel; and, in the absence of morbid sounds, by the existence of aortic sounds, dry, parchment-like, sonorous, or clangorous.

This is not all yet, and the prognosis offers us some capital

differences: *The pseudo-anginas are benign*; they terminate most frequently by spontaneous recovery, in the absence of all medication, or even by means of different medications aiming at the numerous and variable causes that provoke the paroxysms. *True angina is grave*. Abandoned to itself, it terminates almost always in death; but subjected to a rational and invariable treatment, which I will indicate further on, and which addresses itself, to the real lesion of the disease, it can and ought to be cured in a definitive manner.

Do not these so marked characters that distinguish true angina from the pseudo-anginas from the stand-point of the symptomatology, of the progress, and of the features of the painful accidents, of their prognosis and of their termination, authorize us already formally to maintain that it is a question of diseases absolutely distinct? On other grounds, we very properly say: true epilepsy and false epilepsy, asthma and false asthma, croup and false croup, tabes dorsalis and false tabes, coxalgia and pseudo-coxalgia, rheumatism and pseudo-rheumatism, etc.; why can we not also say: true angina and false angina, since the first is as remote from the second as the croup is from false croup. But what becomes further yet an unanswerable argument in favor of this new division and distinction, which must be maintained in the very name of the clinique, is the fundamental difference of treatment, of the pathogony, or of the lesions of the one and of the others.

In order to explain the action and the benefits of the medication that I propose, I must reproduce very briefly the principal conclusions of my first work upon the nature of true angina pectoris, which will permit us the better to institute its therapeutics, by virtue of this new aphorism which I may be permitted to formulate thus: *Cognitâ morbi causâ, jam cognoscitur medicatio*.

If the false anginas recognize different causes and pathogonies (distension of the cardiac cavities through generalized arterial spasms or vaso-motor troubles, dilatations of the heart consecutive to gastro-intestinal affections, neuralgia of the cardiac plexuses, etc.), true angina, on the contrary, explains itself by an invariable pathogony; it is due to the lesion of the cardiac arteries, to their sclerosis, to their contraction; it is most frequently the result of an aortitis, upon the condition that the latter intersects and partly closes the opening of the coronary arteries (pericoronary aortitis), and the paroxysms of angor are provoked by a temporary cardiac ischæmia, a veritable *intermittent claudication of the heart*, as M. Potain so judiciously remarks, who compares the production of the anginous attacks to what happens in the case of intermittent

claudication of the extremities through incomplete obliteration of the iliac arteries.

This *arterial theory*, indicated in the last century by Jenner and Parry, who attributed the *angina pectoris* to ossification of the coronary arteries, caused them to commit the error of believing that this latter alteration might of itself give rise to all the symptoms. Now, ossification or any lesion whatever of the cardiac arteries produces the angor only upon the express condition of intercepting the course of the blood in the myocardium and of giving rise from time to time to an almost complete cardiac ischæmia. This arterial theory is formally confirmed by the facts, by numerous and absolutely convincing autopsies, to the number of about forty, that I have been able to collect from scientific publications.

The *nervous theory*, or that of *cardiac neuritis*, imagined about 1835 by Gintrac, discovered and demonstrated scientifically by M. Lancereaux and his pupil Loupias in 1864, reproduced and developed by M. Peter in 1872, rests only upon five or six autopsies in which, with the lesions of the neuritis, are demonstrated those of the coronary arteries; besides, we can cite numerous cases of cardiac neuritis without angor, and obliteration of the coronary arteries without neuritis and with angor. In this number are placed the observation that I gathered in 1883 at the Hospital Tenon with my interne, M. Pennel, and the recent case that M. Hérard has presented to the Academy of Medicine; it is about a patient who succumbed to angina pectoris and in whom there was demonstrated, in the most conclusive manner, an obliteration of the coronaries, in the absence of all inflammation of the cardiac plexuses.

I certainly do not deny, which would be a grave error of omission, the existence and the rôle of cardiac neuritis. I even strictly believe that this complication exists in almost all the inflammatory affections of the aorta. But I am convinced, and I have demonstrated that, if it adds something to the usual symptomatology of angina pectoris, it certainly does not constitute it.

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## LECTURES.

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RENAL CALCULUS, ITS DIAGNOSIS AND TREATMENT. By James Tyson, M.D., Physician to the Hospital and Professor of General Pathology and Morbid Anatomy in the University of Pennsylvania.

*Gentlemen:*—I wish to call your attention to-day to a subject of considerable practical importance and one which we do not often have



the opportunity of treating in the way which I propose to-day. The subject is that of renal calculus: its diagnosis and its management. The immediate suggestion for this lecture is a case which recently came under observation in this house, and whose fatal termination and autopsy have given us the morbid specimens I propose to show you.

I shall in the first place briefly give you the history. The patient was a woman, forty years of age and married. She had no knowledge of her relatives. She had lived in a healthy country place for fifteen years. She has been married and enjoyed fair health up to eight months ago, when she began to have pain in the left side, with frequent and painful micturition. In the course of a month or two, these symptoms disappeared, but the pain returned at times. About one month before admission, she awoke in the morning with violent pains in the left side. This pain continued and was accompanied by loss of flesh and frequent vomiting. The pain was increased by straightening out the legs. The patient was admitted to the hospital March 24th, 1886, with this meagre preliminary history, complaining of a dull, aching pain in the splenic region, tenderness over the spleen and over the left kidney. The temperature was  $100^{\circ}$ , and the woman was weak and nervous. The most tender spot was midway between the crest of the ilium and the lower border of the ribs. The urine contained an enormous amount of pus, fully one-third of its bulk.

In the history of the case we note the following points: extreme pain, varying somewhat in severity, but always present; tenderness, most marked midway between the border of the ribs and the crest of the ilium, and purulent urine. Under such circumstances, there is no difficulty in pointing out the organ affected. Given purulent urine with pain in the locality described and tenderness so distinct and so easily determined, there must be something wrong with the left kidney.

The next question naturally asks the cause of the suppuration? There are three principal causes of pus in the urine where the kidney is distinctly involved. These are tuberculosis of the kidney, impacted calculus and what is known as surgical kidney. It is well known that tuberculosis may affect the mucous membrane of the pelvis of the kidney and gradually encroach upon the substance of the organ, infiltrate it and break down, infiltrate again and break down, and thus continue, until the organ may be converted into a cavity filled with pus, more or less inspissated, and the walls covered with cheesy miliary tubercles. The so-called surgical kidney, is simply a suppurative affection of the kidney, the result of surgical disease. The term is not very well applied. It is usually the result of inflammatory disease

of the bladder, the inflammation extending upwards along the ureter until the kidney becomes involved. This condition is produced by various causes, most frequently, probably, by stone in the bladder. Although a distinction is sometimes made between surgical kidney and the condition of the kidney resulting from impacted calculus, there is no essential difference in the nature of the process. Where supuration occurs as the result of impacted calculus, the process is exactly like that where the inflammation is the result of extension from the bladder.

Which of these conditions had we to deal with in the case described? Under the most favorable circumstances we are often compelled to allow this matter to rest in doubt. It occurred to us that taking the symptoms described in connection with the cachexia which this patient presented to a marked degree, there might be here tuberculosis of the kidney. Seeking further information on this point, the urine was examined for the tubercle bacillus, but none were found. We did not attach much importance to this, for although it is true that in tuberculous affections of the kidney the bacillus has been found, yet its absence cannot be said to exclude the presence of such disease. We therefore did not conclude from this negative result that tuberculosis was absent, and I must admit that I always inclined to the view that this was a case of tuberculosis. This view was favored by the absence of any definite history of nephritic colic. Where the suppurative process is due to impacted calculus, we usually are able to trace a long history of pain in the region of the kidney. In this instance we could obtain a history of pain dating back only eight months, and when the specimen is examined, this short history will seem still more surprising. Surgical diseases starting from the bladder and causing trouble in the kidneys, are accompanied by symptoms of irritation of the bladder. Nothing of this kind was present in this particular instance. Therefore taking all the evidence into consideration, while realizing the difficulties of making a positive diagnosis, I felt that the probabilities were in favor of tubercular disease. As an aid to diagnosis, we introduced the aspirating needle in the region of the kidney, but the pus was not reached.

The woman gradually sank and died a few days ago, and I have the specimen here to show you. Extraordinary and astonishing as this may strike you, let me assure you that this condition with these symptoms is not infrequent. Here is a stone which was removed from this case, and it is one of the most remarkable specimens that I have ever seen. It has a base or trunk from which spring four principal pro-

longations. The base corresponds to the pelvis of the kidney and the four prolongations to the four calices. The extensions of the stone are further subdivided to correspond to cavities which they filled in the organ. It is of course unnecessary to say that this large calculus must have occupied longer than eight months in its formation. Whether or not careful examination earlier than eight months ago, would have given evidence of disease of the left kidney, or whether the woman had had symptoms before this time and had forgotten them, matters not. The autopsy has revealed this extraordinary concretion filling up a large portion of the kidney substance, with a history of only eight months' pain.

Let us return for a moment to the question of diagnosis. It was plain to us that we had to deal with disease of the left kidney, but beyond this point there was acknowledged uncertainty, although there was a leaning towards the idea of tuberculosis. This proved to be erroneous. Are there any circumstances under which a more certain diagnosis is possible? There are, and it was partly with a view to bringing these to your notice that I selected this case as a text. If we had at any time been able to collect sediment from the urine, or small calculi or their fragments capable of analysis, the nature of the *seca* might have been determined. The difficulties in the diagnosis of renal calculi are often much less than are commonly supposed, because their analysis is much easier than is commonly supposed. It is really a very easy matter to get at the composition of a calculus. In the first place, under what circumstances would a renal calculus be suspected? If there is a history of excruciating pain in the region of the kidney extending into the groin, paroxysmal in character, a pain which is so severe that words cannot describe it, you at once suspect that there is a stone in the kidney which is seeking to find its way into the bladder. I think that there is no condition which is likely to be confounded with this. Given a severe paroxysmal pain in the region of one or both kidneys, extending to the groin with retraction of the testicle in the male, I know of only one condition that can cause it. It is true that there is described in the books what is called neuralgia of the kidney, a condition in which there are the symptoms described without the presence of a stone. For myself I doubt the existence of such a condition as idiopathic neuralgia of the kidney. What has been termed neuralgia of the kidney is in all probability nephritic colic, depending on the presence of gravel. For practical purposes, therefore, we may throw out of the question nephralgia or neuralgia of the kidney.

It is also true that we have here severe muscular pains which

might be confounded with pain in the kidney. The majority of persons who think that they have kidney disease have their attention directed to it by the occurrence of pain in the lumbar muscles which they attribute to the kidney, the idea being that renal disease is associated with pain over the kidney. In point of fact, real kidney disease, other than calculus disease, is rarely attended with pain in the back. The pain of lumbago or rheumatism of the lumbar muscles is different from that due to impacted calculus. Under ordinary circumstances the former pain is not so sharp. It is true we have almost all experienced at one time or other a sharp lumbar pain momentary in duration, most frequently coincident with a sudden motion or twisting of the body. But this is of short duration as compared with the pain of nephritic colic. The other lumbar pains of rheumatism are not so severe, although they may be of long duration. They are greatly aggravated by any movement of the body. They are also more readily removed.

There is one other rare condition which produces pain like that of nephritic colic to which allusion should be made, and that is floating kidney. Sometimes a floating kidney is so loose that it twists upon itself, closing the ureter very much as a rubber-hose is obstructed when it is twisted upon itself. Such obstruction causes an accumulation of urine back of it and gives rise to intense pain which is quite like that of nephritic colic. This, therefore, should be remembered.

Having made the diagnosis of nephritic colic we must not stop here, for it becomes a matter of extreme importance in treatment, to ascertain the nature of the stone causing the irritation. A rational treatment demands this. And while we cannot always do it, we frequently can, indeed more frequently than is commonly done, and the treatment which is so often only palliative and empirical, may become curative and rational. Such a diagnosis demands the presence of sediments in the urine or the passage of a small calculus. Where there are constant or repeated sediments of uric acid or oxalate of lime recognized by the microscope, we are thus at once informed of the nature of the stone. Sometimes a small stone is passed, the structure of which cannot be unravelled by the microscope. Other means must then be used to determine its composition. In the first place there is something in the appearance of a stone which will aid in the diagnosis. Taking this large stone, I have little doubt that it is a phosphatic stone, composed largely of phosphate of lime. It is exceedingly rare; in fact, I think it never happens that a stone with any other composition reaches this size. In the second place, the stone is white in color. This is the color of phosphatic stones, but also that of

oxalate-of-lime calculi, although they never reach the size of this one. They are further characterized by their roughness. On the other hand stones composed of uric acid and their compounds are apt to be smooth and of various shades of red; at other times they are fawn-colored, and again white.

I have here some samples of stone which I shall examine. Here is a part of a stone which was removed from the kidney of a little boy, ten years of age, who died under my care. This boy had purulent urine for a long time, and for years had suffered with pain. On two occasions stones were removed from the bladder by operation. After death this large stone was found in the pelvis of the kidney. Here are also other smaller stones, some of them smooth and others rough. The necessary apparatus for analysis is simple. In the way of instruments, you need a little piece of platinum foil, and a pair of forceps to hold it, or a platinum spoon, a mortar and pestle, some nitric acid, ascetic acid, hydrochloric acid, and ammonia. A fragment of the stone to be examined is reduced to powder in the mortar. The piece of stone which I shall use is white in color. As I have said, the phosphatic stones are white, so are those of oxalic acid. Uric-acid stones are apt to have a reddish tinge, but they may be almost white on the surface, at least. In this case you will note that although the stone was white, the powder presents a reddish tinge. I place a small portion of the powder on the platinum foil and heat it in the flame of a spirit-lamp. Instantly the powder blackens and partially disappears. In a few seconds it is entirely gone. I need not go a step further in the examination of this stone. Given a powdered stone which disappears upon the application of heat, what is it? It is either organic matter, or pure uric acid, or almost pure uric acid, or one of those extremely rare forms of stone, known as cystin, xanthine and urosteolith. The first never assumes a stony hardness, and the last three are so rare that they do not occur in an average man's life. I have seen but one cystin stone and none of the others. It may therefore be concluded with almost absolute certainty that this stone is uric acid. But this may be rendered absolutely certain by another test, the murexide test. A little of the powdered calculus is placed on a plate and dissolved in nitric acid. Heat is then applied and the acid evaporated. A little solution of ammonia is next added and you observe the beautiful purple color which comes out at the point of contact. This proves that this is a uric acid stone. Suppose, however, that on the application of heat the stone does not entirely disappear? We should then again apply the murexide test, and if we obtain the reaction, the stone must

consist of uric acid in combination with bases, and clinically speaking, this is equivalent to uric acid.

Taking another stone, the composition of which I do not know, I powder it and heat it to redness on the platinum foil. It at once becomes black, but a considerable residue is left. I then take a small fragment of the original stone, and without powdering, place it in the platinum spoon, and again apply heat. You will recall that in these examinations the question practically resolves itself into this: Is the stone composed of uric acid, oxalate of lime, or phosphates? A stone made up of triple phosphates of ammonium and magnesium is characterized by the peculiarity of fusing on the application of heat fusible calcilus. This enables us to recognize such a stone. This particular example does not fuse. We therefore know that it is not composed of triple phosphates. It does not burn up, it does not melt into a bead; it is, therefore, either phosphate of lime or oxalate of lime. If it is an oxalate-of-lime stone, it has, by the process of heating, been converted into carbonate of lime.\* If it is a phosphate-of-lime stone, its composition has not been altered by the application of heat. To the burned powder I now add acetic acid; if it dissolves with effervescence, it is derived from an oxalate-of-lime stone; if there is no effervescence, it is phosphate of lime. The best way to apply this test is to put some of the stone, which has been heated, on a glass slide, and apply a thin cover. The acetic acid is allowed to run in at the edges. If it is desired, under the microscope, with a low power, the evolution of the bubbles of carbonic acid may be easily studied, but we shall adopt the rougher method without the microscope. No bubbles of carbonic acid are liberated. I conclude, therefore, that the stone is phosphate of lime. A very rare stone in man, although common in horses, is the carbonate-of-lime stone. This is recognized by treating the *original* powder with acetic acid, when it will dissolve with effervescence, whereas, the oxalate-of-lime stone does not dissolve with effervescence until it has been heated to a red heat.

To recapitulate, you are to powder the stone and apply heat. If it disappears, it is in all probability uric acid, or compounds of uric acid. If there is any doubt, the murexide test may be applied. If the stone does not disappear upon being incinerated, it is composed either of phosphates or of oxalate of lime. If it is the triple, or ammonio-magnesian phosphate, the application of heat to a piece of

\*For this, too high a degree of heat should not be applied. A long continued white heat will calcine the oxalate of lime into lime; a red heat is sufficient to convert into the carbonate.

the original stone will melt it into a bead; if it does not melt, it is either phosphate of lime or oxalate of lime. If it is oxalate of lime, the incineration will convert it into carbonate of lime, which, in acetic acid, will dissolve with effervescence; if it is phosphate of lime, it dissolves without effervescence. Thus, with very little trouble, we may, with sufficient accuracy for practical purposes, ascertain the composition of a calculus. The bases are not ascertained, but this is not necessary.

Having determined the composition of the stone, what will be the treatment? The uric acid and oxalate of lime call for one treatment, the phosphates for another widely different. The latter is much more difficult to dissolve than the former. Uric acid is soluble in alkalies; oxalate of lime in either acids or alkalies. Uric-acid sediments are thrown down in urine of acid reaction and dissolved by alkalies. The indication, therefore, is to give alkaline diluents, to render the urine alkaline, and if you do not cause the solution of the stone, you may, at least, prevent it from increasing in size. The experiments of Dr. Roberts, of Manchester, are almost too well-known to be repeated. He imitated with alkaline solutions the dropping of the urine from the kidney into the bladder upon uric-acid calculi, and was able to effect a certain degree of solution. Whether this will take place in the body or not we do not know, but it is a rational method of treatment, and will tend to prevent the stone from enlarging, and as the passages enlarge, the stone may descend. The spasmodically contracted ureter, which grasps the stone, may, after a time, relax and permit the latter to drop into the bladder. If you can keep the stone from becoming larger, you favor this result.

The correct treatment for uric acid is, therefore, the alkaline treatment. For this purpose any alkali may be used, such as citrate or acetate of potassium. I prefer the citrate of potassium, in twenty-grain doses, four times a day, each time in eight ounces of water. Dilution is very important. It is of the greatest importance that you should, as it were, wash out the tissues of the patient with a tendency to gravel, in order to get rid of the *debris* of tissue metamorphosis. The introduction of large quantities of water into the system is an important element in the treatment. It is to the good effects of such treatment that the reputation of many of the mineral springs in the treatment of gravel is due. The introduction of plain water will accomplish this result as well as many of the spring waters. When, however, we come to springs like those of Vichy, which contain a large quantity of alkali, you can understand how useful they must be in the treatment of this form of calculus.

The same plan applies to the oxalate-of-lime calculus, but with less prospect of success, so far as solution of the stone is concerned. You cannot dissolve the oxalate of lime with acids or alkalies of such strength as it would be proper to use in the body. At the same time, the methods which prevent the formation of uric acid will prevent the formation of oxalate of lime. In the treatment of both of these varieties diet is of the greatest importance. In neither of them should the patient be allowed to eat a large amount of nitrogenous food, as meat or eggs. Fresh, succulent vegetables may be allowed in some cases, with a moderate amount of meat, or in bad cases no meat at all. If there is one condition in which the good reputation of a pure milk diet is justified, it is in the treatment of uric-acid calculus. So often have I been successful in obstinate cases of frequently-recurring uric-acid gravel with the pure skim-milk treatment, that it is the first thing that I offer the patient. I have noticed that if the skim-milk diet is kept up for a month or six weeks, and then stopped, the attacks of colic do not recur. In carrying out this plan of treatment, I recommend that during the first day a glass of milk be taken every two hours. After this the quantity is gradually increased until sufficient to satisfy the patient is taken. The quantity required to sustain life varies between three and seven quarts per day. It depends partly upon the size of the patient, and the amount of exercise taken. The milk acts both as a diluent and as an alkaline fluid. One set of vegetables should be avoided in the diet of persons having an oxalic diathesis, and that is those containing oxalic acid, such as tomatoes, sorrel, and especially the pie plant.

The importance of the diagnosis is shown in the fact that if the stone is composed of phosphates, the milk diet is much less valuable as a cure. The indication is here to increase the acidity of the urine, but while it is true that the phosphates are soluble in acids, it is, practically speaking, impossible to give acids in amounts sufficient to affect the calculus without injuring the system. By the use of benzoic acid, in ten-grain doses, the reaction of the urine may be rendered acid, and the further deposition of phosphates may be thus prevented, but nothing can be done towards dissolving the stone. Fortunately, most calculi are of the uric-acid variety. In phosphatic calculi, you can simply hope to prevent increase in size by rendering the urine acid, and in the course of time, if not too large, it may descend into the bladder. If too large for this, there only remains the operation of nephro-lithotomy, the growing frequency of which seems to be justified by its results.

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SELECTIONS.

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CLINICAL NOTES ON HÆMOPHILIA. By Thomas Oliver, M. D.,  
M. R. C. P.

The following cases of this interesting affection have lately come under my notice.

J. P——, aged thirty-three years, single, a groom, was admitted into the Newcastle Infirmary, complaining of bleeding from the mouth and of passing very dark-colored urine. He told us that neither of his parents was a bleeder. An unmarried maternal uncle, however, used to bleed a great deal from the nose, and ultimately died after a vomiting of blood. A married sister of the patient has a tendency to bleed; and one of her sons, aged eight, has frequently spontaneous hemorrhages, which are with great difficulty controlled. The personal history of our patient is interesting. When but an infant in the cradle, a leech for some reason or other was applied to his side, and on that occasion, he has been told by his mother, the bleeding was with difficulty stopped. At the age of nine he was accidentally cut on the outside of his right eye; this bled for several weeks. When he was fourteen he had a tooth extracted, and for a week he had the cavity plugged; as this failed to check the hemorrhage, a cork was fitted into the cavity, and the upper teeth were kept firmly clenched upon it for two or three weeks. Two years later he was cut between the right thumb and index finger, and for a month the bleeding continued more or less. At the age of nineteen he was wounded on the head, and for fourteen days he attended as an out-patient at the infirmary before the bleeding was stopped. About this time, too, he received a small wound, not much larger than a scratch, on the right arm, which bled for several days each time the dressings were changed. He has frequently had epistaxis, and it has always been with difficulty that the bleeding has been arrested. When he was twenty he passed blood in his urine, and again at the age of thirty; also at the beginning of the present attack. Each bleeding from the kidneys lasted for about a week. There was no bleeding during the first or second dentition. He states that a sharp tap on the skin is frequently followed by ecchymosis; that a strong blow causes a large swelling, particularly if the arms, calves, outer side, and back of thighs are made the seat of it. His joints, when moved sharply and suddenly, have frequently swelled and been painful, especially the knees and elbows. The swelling will last for a fortnight, and the veins over it are seen to be distended. Beyond having had small-pox and

gonorrhœa within the last few years, there is nothing calling for notice until the beginning of the present attack. Three weeks before his admission the patient had been treated for pain in his right side. The medicine taken made his gums sore and swollen. On Sunday, May 24th, he awoke at 5 A. M. with his mouth full of blood. The blood oozed from his gums. That evening he had hæmaturia, which lasted until May 28th, and on this point I would remark that within three days of the disappearance of blood from the urine that fluid failed to exhibit the least trace of albumen. On May 26th the urine was port-wine-colored, muddy, had a dark brown deposit, was faintly acid, sp. gr. 1018, contained a large quantity of albumen, and, microscopically, a large number of free blood-cells; pulse 80. In spite of rest in bed, and medicinal treatment by iron, ergot, hamamelis, etc., blood still oozed from the gums, though in diminished quantity. The gums remained swollen, pale, and ragged at their junction with the teeth. Beyond a slight rounding of the features and pallor of face, the patient presented nothing remarkable. His heart and lungs seemed healthy. On June 16th, feeling quite well, but with a tendency for blood still to ooze now and again from the gums, he left the hospital, only to be re-admitted a few weeks later for a painful swelling of the knee-joints and bleeding from the gums. Fluctuation in the joints was well marked; movement of them was painful. When the swelling subsided he left the hospital, cautioned as to the extreme necessity of taking care of himself. Six or seven weeks after this he was in a public-house with some friends. Two of the men began to quarrel, and just as words were about to be replaced by blows, our patient, while acting the part of mediator, was thrown violently against the side of the door. He went almost immediately to the infirmary, on entering through the porch of which he made some jocular remark as to the injury he had received. He was examined by one of the house-surgeons, who, unfortunately, not knowing anything of his antecedents, did not detain him. To this official he complained of pain in the right side of the chest at the seventh rib, increased on forced inspiration, and slightly, too, on pressure. There was tenderness over the right pectoral region. His face was pale, but the lips were well colored. Respiration was short and rather hurried; pulse 64. No fractured rib was detected. Expansion of chest appeared equal on both sides. The chest was carefully examined by those present: no dulness was detected either in front or behind; breath sounds were normal over the whole chest, save over each base posteriorly, where friction was heard, and also slight crepitus at the end of inspiration. As nothing else was observed, the case was

regarded as one of bruise of the thoracic walls caused by a fall. A flannel bandage was applied firmly to the chest, and the patient was sent home, being told to lie in bed for a day or two. On the following day the man died unexpectedly. By order of the coroner a post-mortem examination was made about twenty-four hours afterwards by our house-physician, Mr. Waldy, to whom I am indebted for the report: "Rigor mortis not present; skin and mucous membranes very blanched; no external bruises or marks of any kind. On the right side of the chest, over the manubrium sterni and the three upper costal cartilages, was a distinct bulging, in which no fluctuation could be felt. Reflecting the skin, the great pectoral muscle on the right side was found distended with dark fluid blood. On cutting through the costal cartilages the same dark fluid blood flowed out of the chest. The anterior mediastinum was filled with the same material. From these sources a large basinful of fluid was removed. The right pleural cavity contained about two pints of similar dark-colored fluid, and in addition several large clots about the size of the closed hand. The left pleural cavity contained a small quantity of dark fluid and blood clot. Both pleuræ were here and there adherent to the chest wall. No ruptured vessel could be detected, and no evidence of disease was found. It is possible that some pleural adhesion may have been torn."

Scarcely had this patient passed out of sight than the following case was seen by me. J. S—, aged eighteen, an apprentice fitter in an iron foundry, a pale, sallow-looking lad, with rather a prominent brow and shape of head suggestive of previous hydrocephalus, went to the infirmary at midday complaining of toothache, and had the aching member extracted. It bled freely until 6 P.M., when he returned to the infirmary and was admitted. For forty-eight hours the bleeding continued, and that rather profusely. After that it ceased, but only temporarily, for every now and again hemorrhage would start spontaneously from the socket. Strange, too, this bleeding generally came on at night. A few days after the extraction of the tooth the patient was so exhausted by the bleeding that he could scarcely stand. Five weeks after this he came to my out-patient department. He did not look even then as if he had recovered, nor for many weeks after. He told me that he never suffered from bleeding in his infancy. Ten years ago he was cut on the left thumb; this bled for a fortnight, and was followed by great exhaustion. With that exception he never had any severe bleeding until the extraction of the tooth. For six months prior to this, however, he had noticed that blood in very small quantities oozed from his gums occasionally below the lower incisors. He has never

spat or vomited blood, nor has he suffered from hæmaturia. The patient had two half-brothers who bled to death; and he tells me that when they got a severe knock—and this applies also to himself—nothing would be noticed for a day or two, and then they would be laid up with “a swelling and coloring of the flesh.” His joints have never swelled, nor have they been painful. So far as his chest is concerned, the respiratory murmur is healthy. The second sound of the heart is reduplicated over the apex and base, and the pulmonic is more accentuated, comparatively speaking, than the aortic. With these exceptions the sounds of the heart call for no remark. The pupils are dilated and respond to light. The pulse is 84, soft. A sphygmographic tracing shows low tension and large dicrotic wave, and bears a close resemblance to many tracings of ordinary anæmia. When he had made a fair recovery he returned to work. He was only thus engaged a few weeks when he was struck on the right thigh by an iron wheel. The skin fortunately was not broken. The blow, though not severe, was followed by rapid swelling of the thigh, stiffness of the muscles, extreme pain on movement, and great discoloration of the skin. The effects of the injury were such that he was obliged to take to bed, and it was nearly a month before the swelling disappeared.

Hæmophilia is, as a rule, never detected until there is an injury. There is nothing which distinguishes the subjects of this affection from healthy people so far as outward appearances are concerned. It is true that in many a certain pallor of countenance, thinness of skin, light-blueness of eyes, and fairness of hair have been present; but these are far from being distinctive; besides, the pallor is, in most of them, only noticed after a bleeding. In both of these cases the muscular system was well developed. One exhibited a marked tendency to swelling of the joints. Both suffered from ecchymosis and swelling of the skin after blows. I have not noticed in either of them a more diffused than normal impulse of the heart—a point to which Grandidier drew attention. In one of the cases the second sound of the heart was strongly reduplicated; and the pulse, judged of by the sphygmographic tracing, shows low arterial tension. The spontaneous hemorrhages generally came on at night—always from mucous membranes, save in the first case, in which there was occasionally hæmaturia. Only in the first case could it be said that there existed prodromata, and when present the hemorrhage which followed was severe, and frequently from the kidney. The blood seemed in every instance simply to ooze out of the gums, and while no bleeding points could be seen, the actual amount of blood lost in a few hours was considerable. Whatever was done,

the blood kept trickling, becoming paler the longer it flowed, and exhibiting less and less a tendency to clot. I do not know whether my first patient had taken blue pill or not. The medicine supplied to him before his admission into the infirmary caused his gums to be sore. Dr. Wickham Legg states in his monograph, on the authority of Burnes, that the taking of blue pill has been followed in these subjects by profuse hemorrhage from the gums and nose, and that these symptoms recurred again and again when the blue pill was repeated. The patient himself attributed the bleeding from the gums on this occasion to the medicine he had taken.

On looking over the family history of the second case, it is noticed that one of the members died of phthisis. The association of the two diseases here is slight, but as the occurrence of phthisis in the family of bleeders has been noticed before, the relationship is interesting as lending some support to the views of Dr. Reginald Thompson, who regards the excessive bleeding met with in many cases of phthisis as an expression of the hemorrhagic diathesis. The relationship of hæmophilia to hæmatocele and other internal bleedings naturally comes to be considered. One of the females in the history of the second case died suddenly from some internal hemorrhage about a week after her marriage. She was well two hours before death. As there was no external hemorrhage, ruptured hymen could not have been the cause; and in the absence of post-mortem evidence such causes as bleeding from a ruptured ovary or ulceration of mucous membrane with or without perforation can at the best only be but conjectural.

The hemorrhagic diathesis is more the inheritance of males than females. Both of the cases here reported are males. When women suffer, they appear to do so less intensely, although by some it is said that in them menstruation is profuse, and that at the climacteric period there is excess of hemorrhage. Where these conditions are present, I should regard them as in all probability dependent upon a local cause. The sister of J. S.—menstruates normally, and is strong and healthy-looking; and as for his mother, she has, neither at her menstruation, parturition, nor at the climacteric period, lost more blood than the average. One cannot scan the schema of the family history of S— without being struck by the remarkable influence of heredity in the development of hæmophilia, and by the striking manner in which the disease has skipped the females, only to appear in the most marked form in the sons, and to lead in them to a fatal issue on the slightest provocation. The potency of transmission by the female—she herself exhibiting no symptom of the affection—is shown in a remarkable

manner in the mother of S—, who has been twice married. Two of three sons by her first marriage have died from the effects of bleeding, and of the son and daughter by the second marriage, the son has already been the subject of dangerous bleeding. The resemblance in this to the hereditary transmission of gout receives support from my case. So far as any connection with scrofula is concerned, I see no indication, unless the prominent forehead, the somewhat hydrocephalic shape of the skull generally, and the pallor and fineness of the skin of S— may be taken as pointing in that direction. It is believed that hæmophilia is much more frequently met with in Germany than elsewhere, and as close intermarriage with relatives is there so little discouraged, it has been thought by Rieken that the marriage of cousins has something to do with its development. Two generations back, and in the lineal descent of J. S—, we meet with the marriage of first cousins; but while neither of these was a bleeder, it will be observed that two of the brothers on the male side died from hemorrhage. The marriage of first cousins in this instance, however, had nothing whatever to do with the development of the disease.

In my first case the only prodromon noticed was pain in the back, and this always preceded hæmaturia. Most hæmophiliacs, however, suffer from a general sense of plethora for some time before a spontaneous bleeding occurs. They become in many instances too stout, and the face and lips become so highly colored that it seems as if they must bleed. The mother of S— tells me that, in the case of the two sons whom she has lost, plethora always preceded a spontaneous bleeding, and that in them the blood always came from the gums. When once bleeding has begun in these cases, not only is it difficult to check it, but when checked it is apt to come from other sources. In the case of the eldest son of Mrs. S—, whose death was due to hemorrhage after the extraction of a tooth, no sooner was the bleeding stopped in the mouth than the most profuse epistaxis occurred, death supervening in his case on the seventh day. Profound exhaustion follows each bleeding. The urine in each of my cases, excluding the period of hæmaturia in P—, was normal. In the case of S— the urine, examined several weeks after the last hemorrhage, showed a diminution in the amount of urea eliminated daily. There was on an average only 218.5 grains eliminated daily—less than half the normal. A similar diminution was noticed by Grandidier, and is alluded to by Wickham Legg.

The second patient complained that his vision was imperfect. I sent him to Mr. Williamson, ophthalmic surgeon to our infirmary, for ex-

amination, who favored me with the following report:—"Refraction myopic; both discs slightly swollen, with large veins, crescent commencing at edge of each; choroid thinned from stretching; yellow spot seen in right eye with unusual distinctness. These appearances are all accounted for by the gradual stretching and straining of a myopic eye."

I am inclined to regard cases of uncontrollable hemorrhage from the cord in newly born children as instances of hæmophilia. It is true that in most of these cases one may fail to obtain a history of heredity; but is heredity, after all, absolutely required to constitute the disease? In most cases it is present, and forms a valuable point in the diagnosis, but whether really essential is another thing. Take the following case, which happened in the practice of a medical friend a few months ago:—A child is born at full time; it is plump, healthy-looking, and cries lustily. The cord is carefully tied and separated, and the child is given to the nurse. Before leaving the room the doctor has his attention drawn to the fact that the child is bleeding at the umbilicus. The cord is carefully examined, but exhibits nothing unusual. An additional ligature is placed around it and firmly secured. A few hours after this the nurse examines the child, and, finding its undergarments soaked with blood, the doctor is again sent for. Additional ligatures and hæmostatics are applied, but they are as nothing. The child dies from bleeding by the cord, unable to be checked. If the disease here is not hæmophilia, it must be something closely akin to it.

So far as the pathology of the disease is concerned, I believe the state of the blood and blood vessels and a defective control-action on the part of the vaso-motor centres are the important factors in its causation. When the bleeding first commences there is a slight attempt at clotting, but it is never complete, and the longer the blood trickles the paler and more watery it becomes. To the plausible theory of Resal, that the subjects of hæmophilia possess an increased power of making blood, and that in them hemorrhages occur amongst those capillaries which are thinnest, I cannot subscribe. My experience is that while plethora precedes the spontaneous hemorrhages, hæmophiliacs recover extremely slowly from them. Such people feel exhausted for weeks it may be, and their pallor is long maintained. It seems to me that they have best health when pale. That a blood condition acts in some way or another as a cause we must admit, judging from the effects produced in other diseases where the blood is altered. In purpura and scurvy, hemorrhages are frequent; in some forms of anæmia and in certain diseases of the spleen a tendency to bleed is fre-

quently noticed. I have known internal hemorrhage in leukæmia prove fatal, and in a case of mitral stenosis and regurgitation in an anæmic young lady I have seen the incision of a gumboil followed by an alarmingly persistent hemorrhage, the oozing lasting for days, in spite of plugging and strapping the jaws. In these cases of uncontrollable hemorrhage, in which there is no hereditary history of bleeding, I am inclined to think that we have the thin-walled condition of the bloodvessels and the watery state of the blood met with in hæmophilia, and that it only requires the other factor, an inactive vaso-motor centre, to complete it.\* In favor of a blood condition as a cause I would submit this, since I have noticed it again and again: Once the blood has undergone the marked alterations met with in leukæmia, it will be found that injuries which had been received years before the illness began bled but normally, and were easily restrained; but that slighter injuries received during the illness are followed by hemorrhages slightly excessive and difficult to check. The healthy stimulus to the vaso-motor centre is healthy blood; alter the blood, and you either have its function increased, as in Bright's disease, or lowered, as I believe, in hæmophilia. Everybody regards hæmophilia as most distinctly hereditary, and what does that mean? I take it to mean that during intra-uterine life the development of the cardio-vascular system is in some way or other interfered with, owing to the transmission of some ancestral peculiarity, the result of which is that not only is the blood itself altered and the tubes which carry it, but the nerve centres, which in later days regulate the distribution of the blood (states of dilatation and contraction of the arteries, the movements of the heart, and which must be therefore all closely associated together in their development), never reach a state of perfection. Complete control over the arteries and capillaries is therefore never the function of the vaso-motor centre in hæmophilia, and that this is the case is shown by the syhygmographic tracings. There is low arterial tension. Hence, when bleeding occurs the arteries do not contract sufficiently upon their contents, owing to a want of proper impulses from the vaso-motor centre. I know not why the gums are the most usual seat of hemorrhage in these cases, unless it depend upon the rich vascular supply of their mucous membrane and the scanty support of the walls of the vessels—membranes, too, which are exposed to variations of atmospheric pressure and to all kinds of injury received during mastication.—*Lancet*.

\* On microscopical examination, I find the muscular fibres of the heart of P— smaller than those of a man of his age, but healthy. The aorta was thinner than it should be, but on minute examination it is found to be quite healthy.



ABSTRACTS.

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THE TREATMENT OF CONSUMPTION BY INTRA-PULMONARY INJECTIONS—REPORT OF A CASE OF RECOVERY (Dr. John Blake White, in the *New York Medical Record*).—In respect to the lungs, the experiments which have been made of late years not only demonstrate conclusively the practicability of local medication in diseased conditions of these organs, but also that decided benefit oftentimes results from such treatment. I need not comment upon the unsatisfactory effects of the methods of treatment at our disposal in the past, for the relief of patients suffering from phthisis, for, alas! the mortality reports speak more eloquently than words, affording too frequent and far too numerous examples of the destructive march of this justly dreaded destroyer of human life, as well as the impotency of our noble art to arrest its progress. In November, 1885, I instituted a judicious trial of intrapulmonary injections in some cases of advanced consumption while on duty as visiting physician to the Charity Hospital, where a large number of such cases were congregated. After a careful observation on the results of these injections I reported my experiments in *The Medical Record*, May 22, 1886. So far as the method is concerned, my confidence in it increases with my experience, and the results compel me to accord to it an established position among the legitimate means at our command of battling against this formidable foe.

The cough, expectoration, and local soreness about the cavity were remarkably controlled by the intra-pulmonary injections. The debilitating night-sweats were always checked, while the patients undeniably improved in flesh and strength during the continuance of the treatment. When much dyspnoea was experienced the injections exercised a soothing influence upon the respiratory centres, while the appetite invariably received a material stimulus. The physical condition of the cavity is changed; the walls become dry; the secretion is greatly lessened. In place of the loud, gurgling crepitation there is heard the large crepitation, which in turn is replaced by finer crepitation, until, after several administrations of the carbolized iodine by intra-pulmonary injection, all moist râles disappear, and a pronounced "click" is detected. I regard the presence of the "click" a favorable indication, for it is only present when the necrotic process has been arrested, and denotes a marked tendency to inspissation of the cavity. In the case herewith reported this "click" was very noticeable after the fifth intrapulmonary injection, and a dry, cavernous sound in both expiration and inspiration was present later. The injections have been usually administered once each week, and I have found that the lung manifested a greater degree of tolerance when the intervals were not prolonged, and the operation was regularly performed. Some patients cough considerably after the first pulmonary injections, who manifest no irritation whatever after subsequent operations. The respiration usually becomes more easy and regular, while all the most troublesome symptoms are soon relieved.

I have been frequently asked what I expected to accomplish by this method of treatment, and my reply has been, *both local and general improvement*. I look for such a modification of the condition of the cavity itself as will tend to arrest the formation of pus and encourage its cicatrization and contraction. Some eminent authorities object that cavities do not contract, but my experience in this particular satisfies me that such does take place. The resistance which the needle encounters on entering the lung, after several injections have been practiced, cannot be solely due to the development of fibro-cellular tissue as a result of the treatment, but is, in part at least, occasioned by condensed tissue, the result of cicatrization with contraction. The auscultatory and percussion sounds also denote when contraction has taken place. The resonance on percussion is less diffused over contracted cavities, and is easily demonstrated. A prominent physician interested in this method of treatment of phthisis did not see how the pus in the cavity was disposed of, though he thought it might prevent the further formation of pus. Fortunately nature provides the means of ridding the cavity of exuded pus by cough and expectoration, both of which cease when there is no longer cause for either.

When carbolyzed iodine is used for intra-cavernous injections, I expect, by the well-known influence of iodine, to disinfect the cavity and exert within it a remedial, alterative, and solvent effect. Taken internally, it is said to excite the appetite and give tone to the digestion; but as it irritates the stomach it cannot ordinarily be taken in this way. Introduced into the system by intra-pulmonary injections, its good effects are all realized, and without the least risk of disturbing the digestive functions. Iodine sometimes exercises a remarkable emmenagogue effect, hence its great value in phthisis is not infrequently realized by restoring the uterine functions in young female consumptives, who always suffer from amenorrhœa. The sooner intra-pulmonary injections can be administered in such cases after apical softening has positively taken place, the greater will be the probability of a return of menstruation, and an improvement of the lung condition proportionately increased.

The method which I have adopted of administering the lung injections is the following: If the patient is much debilitated, a stimulant is administered at least fifteen minutes before the operation. He is then directed to assume the recumbent position, with the head and shoulders slightly raised, and resting upon a hard bolster or pillow. This position is preferred to the sitting posture, as a better resistance is afforded posteriorly, and the patient cannot avoid the thrust of the needle as easily as the sitting posture would permit. Such an attempt on the part of the patient would be difficult to resist, and its execution might cause the operator to introduce the needle in a different place from that intended, if it did not materially embarrass its skillful and painless entrance into the diseased portion of the lung. The syringe and needle should both be carefully cleansed with a solution of carbolic acid, and the pulmonary fluid warmed to at least one hundred degrees Fahrenheit. After determining by careful auscultation and percussion the

depth to which the needle should be inserted to reach the cavity, the little rubber guard, which is a useful adjustment to the needles made by Tiemann & Co., is set for the purpose of indicating and regulating the depth of penetration required. The patient is then directed to turn the head and face to the side opposite the one to be operated on, and to take two or three deep inspirations slowly; at the second or third inspiration, when the lung is well inflated, the needle, with syringe attached, is pushed through the intercostal space selected, with a quick, firm pressure, at right angles with the chest wall, until the depth of penetration in accordance with the fixed rubber guide is attained. The fluid in the syringe is then slowly injected, and the needle quickly withdrawn. A small piece of adhesive plaster is placed usually over the external puncture, though it is not absolutely necessary. A knowledge of the relation of the first rib to the clavicle, and its direction, is necessary to avoid striking it with the needle. The first or second intercostal space, anteriorly, is generally selected in accordance with the size and location of the cavity, and the point of penetration of the needle is usually in the nipple line or to its outer border. If the needle is inserted within the nipple line, or too near the border of the sternum, there is danger of wounding some branch of the intercostal or internal mammary vessels and nerves. This precaution is more necessary on the right side than on the left, by reason of slight difference of distribution of these several vessels and nerves. Furthermore, in order to avoid the danger of shock, paroxysmal coughing or hemorrhage, the fluid should be slowly injected. On no account should the needle be inserted between the clavicle and first rib, as there would be danger of wounding the subclavian vessels, and on the left side the thoracic duct in addition.

Although I have always observed the strictest care when operating on the right side, it has been sometimes impossible to avoid troublesome paroxysmal cough, dyspnoea, and fibrinous expectoration. In one case cyanosis, with unilateral spasm, succeeded the operation on the right side, and, though apparently serious for a short time, nevertheless gradually abated without further trouble after several inhalations of a few drops of chloroform. I have not observed such phenomena when the injection has been confined to the left pulmonary apex, and I believe the chances of such occurrences would be lessened by inserting the needle a little outside the nipple line when operating on the right side. Should severe paroxysms of cough follow the operation at any time, and tend to be prolonged, I would advise the administration of a few drops of chloroform by inhalation, which will generally suffice to arrest the paroxysm. I have used and found beneficial the inhalation of steam, medicated with a drachm or two of laudanum. Such treatment, however, is rarely required. It has only been necessary to resort to some such measure with two patients, both of whom manifested serious laryngeal complications, the presence of which alone seemed to excite and aggravate coughing. Every care should be exercised to avoid the superficial veins, and approximate as much as possible the lower border of the intercostal space, as the artery, you will remember, courses along the lower inner border of the rib. For twelve or twenty-four hours

after each pulmonary injection the patient should be kept in bed, free from all excitement, as any undue exertion of either a mental or physical character would tend to increase the force of the circulation and possibly precipitate hemorrhage. I know that the operation has been performed, and the patient permitted to walk home, but I feel obliged to advise against such practice.

An understanding as to what takes place at the point of puncture in the lung substance is clearly explained by the experiments of Eugene Frankel (*Deutsche Medicin Wochenschrift*, 1882, No. 4, p. 51) upon rabbits, and to which my attention was kindly called by my friend, Dr. Edward Frankel, of this city. Solutions were employed of tartrate of alumina, two to five per cent. ; carbolic acid, one to five per cent. ; boracic acid, four per cent. ; iodoform, five per cent. The above solutions were made with the finely triturated substances in olive oil, and parenchymatous injections of one gramme per dose, once to six times daily, administered. He states that no especial reaction was manifested on the part of the animals ; in a few of the cases there was slight cough during the injections.

The autopsies revealed a circumscribed croupous bronchitis. At later periods the pathological changes due to the trauma in the lungs consisted of slight hemorrhages into the pulmonary parenchyma, but confined to the point of puncture and its immediate neighborhood, which undergo the customary changes, with pigmentary deposit, and finally disappear entirely. There were also disseminated deposits, varying in size from a hemp-seed to a cherry-pit, situated sometimes on the surface, at others in the deeper layers of the parenchyma. These deposits are at first of a blackish or brownish-red color, and at a later period assume a reddish-gray or pale grayish-yellow color. When iodoform had been injected the deposits were of a sulphurous yellow hue. On microscopic examination they presented a massive desquamation of alveolar epithelium. These deposits, he further says, disappear either by absorption or cicatrices of about a millimetre in thickness, in which loose connective tissue replaces the pulmonary parenchyma at the end of six weeks after the injection. Such important changes occurring, the advisability of keeping the patient quiet after each intrapulmonary injection, for at least a few hours, will be apparent to all.\*

My practice is to commence with ten or fifteen minims of the carbolized iodine solution, and increase the amount five minims each week until forty minims are reached, which are then injected weekly or fortnightly, as the exigencies of the case require, until local indications for continuance of the treatment are no longer present. While the patient is under this treatment we should not lose sight of the necessity for such general remedies as are known to promote digestion and assimilation, as well as tend to help store up fat. Disagreeable dosing, as well as too much dosing, should be studiously avoided.

Dr. White related a case of long-standing consumption, in which

\*Since this paper was written Dr. White has exhibited at the New York Academy of Medicine a tuberculous human lung, which had been injected during life with carbolized iodine. The case was one which was already hopeless at the time the first injection was made.

pulmonary disintegration was rapidly extending, where permanent recovery resulted from the treatment.

The following formula is the one which he uses, and which seemed to occasion the least amount of irritation when injected.

R. Atropia.	-	-	-	-	-	gr. $\frac{1}{3}$
Morph. sulph.	-	-	-	-	-	gr. ij.
Tinct. iodine.	-	-	-	-	-	$\frac{3}{4}$ iij.
Acid, carbol. (pure)	-	-	-	-	-	gtt. xx.
Glycerine.	-	-	-	-	-	$\frac{3}{4}$ iss.
Diluted alcohol, 20 to 30 per cent.	-	-	-	-	-	$\frac{3}{4}$ iss.

M. Sig.—15 to 20 minims.

INTUBATION OF THE LARYNX.—Dr. W. P. Northrup, Pathologist to the New York Foundling Asylum, thus concludes a paper in the *Medical Record* on Laryngéal Diphtheria and Intubation: Briefly, the advantages and disadvantages are estimated as follows, in order of importance:

Intubation relieves dyspnœa due to laryngeal stenosis.

There is no objection on the part of the parents and friends.

The operation is comparatively simple, and free from danger and free from shock.

No anæsthetic is needed, and no trained assistants.

No fresh wound is added.

The subsequent care of the case requires no trained attendant.

The inspired air enters the lungs moist and warm.

It does not preclude tracheotomy, and may be found useful as a guide upon which to cut.

Intubation has one conspicuous fault, attested by all. It embarrasses, and sometimes interferes with, the swallowing of fluids. The nourishment of the child is never more important. As a rule, however, the child learns to swallow fairly well, and many times has but slight embarrassment. There is likewise *one danger*, illustrated by one published case. It is the danger of pushing tenacious tracheal pseudo-membrane before the entering tube and blocking the trachea. I know of no death from this cause, but I believe it threatens every reinsertion of the tube after the pseudo-membrane has begun to soften, and is easily detached.

The medical profession are called upon to relieve the urgent symptom of laryngeal diphtheria—dyspnœa. For such relief tracheotomy has been offered. The question now before us is, what part of the field intubation is capable of covering, and what advantages, if any, it has over the cutting operation. First, let us question closely whether it meets the requirements. Does it relieve laryngeal obstruction? Waxham, with 96 collected cases, says it does. O'Dwyer, with 48 cases, says yes. Hance, with 5 cases, says yes. Jennings, with 4 cases, admits that it does. Northrup, with 12 cases, says yes. One hundred and sixty-five cases, carefully reported and well attested, say it relieves laryngeal dyspnœa promptly and effectually. Now, does it leave the patient without any of the advantages offered by tra-

cheotomy? For the answer to this question we must look to results. Twenty-eight and one-half per cent. have thus far recovered, and in estimating the usefulness of the operation it must be remembered it is new, and while its advocates have been making these records they have at the same time been accumulating experience which will tell in future reports. Some of the accidents here mentioned are grotesque, and can never occur again. I do not mention tracheotomy records, because they are so variously estimated. Do you believe that if every case were collected the percentage of recoveries after tracheotomy would reach twenty-eight and one-half? If the number of cases is insufficient, we have not long to wait, for enterprising Chicago sends us the report of 96 cases. Intubation is in use in Kentucky, Indiana, and Virginia. Ohio and Alabama are inquiring.

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## PHARMACY AND THERAPEUTICS.

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SOLUBLE COMPRESSED HYPODERMIC TABLETS.—Messrs. John Wyeth & Brother, of Philadelphia, have recently added twenty-seven combinations to their list of soluble compressed hypodermic tablets, comprising a number of valuable new remedies whose use in this way has been suggested by Prof. Roberts Bartholow. Among them will be found, in different doses, and many of them in combination with morphia, hydrochlorate of duboisin, sulphate of hyoscyamin, which has come into such general use in insane hospitals, picrotoxin, hydrobromate of coniin, sulphate of curarin, sulphate of eserin, salicylate of physostigmin, caffen, and quinina-bimuriatica carbamidata, the most soluble and effective preparation of quinine as yet produced for hypodermic injection. Recent improvements in their apparatus have enabled the manufacturers to produce their hypodermic tablets entirely free from any foreign material, and they claim for them absolute accuracy of dose, ready and entire solubility, and perfect preservation of the drug.

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## OBITUARY.

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JOHN P. GRAY, M. D.

Dr. John P. Gray, the distinguished Superintendent of the State Lunatic Asylum at Utica, died November 29th, of Bright's disease. Dr. Gray never fully recovered from the shock of his attempted assassination, in 1882, by an insane man named Reimshaw, just after his return from Washington, where he had been acting as chief medical adviser of the Government in the trial of Guiteau for the murder of President Garfield. He received a severe pistol-shot wound of the face, and this was a serious shock to his nervous system, as well as giving rise to persistent and intense neuralgia. A year ago his friends became alarmed about his condition, and he was induced to spend the winter

in Thomasville, Ga. He returned in the spring considerably benefited, but, his health soon giving way again, he went to Europe, where he remained until October. Dr. Gray was born in Centre County, Penn., in 1825, and graduated from Dickinson College, after which he studied medicine, and received the degree of M.D. from the Medical Department of the University of Pennsylvania in 1848. After serving as interne of the Pennsylvania Hospital, he received the appointment of third assistant physician of the New York State Lunatic Asylum at Utica. By 1853 he had risen to the position of first assistant physician and acting superintendent, when he was called to accept the appointment of medical superintendent of the Michigan State Lunatic Asylum. In the following year, however, he accepted the position of superintendent of the asylum at Utica, which he retained up to the time of his death. He became celebrated as an expert in insanity, and his opinion was sought in many noted murder and will cases. He was the editor of the *American Journal of Insanity*, and Professor of Psychological Medicine in Bellevue Hospital Medical College as well as the Albany Medical College. In 1876 he was President of the Section on Mental Diseases of the International Medical Congress, at Philadelphia; and in 1884 he was elected the second President of the New York State Medical Association, delivering the annual address before the Association at its session in 1885. In the *American Journal of Insanity* and in his annual reports for thirty-two years are to be found his many contributions to the literature of his specialty, and his views upon many questions pertaining to the care of the insane. As early as 1857 he urged upon the managers a plan for the prosecution of microscopical research in brain disease, which was not matured, however, until 1871. Of him it has been well said: "As a man Dr. Gray was an enemy of sham and pretence, possessed of a judicial mind, and master of himself in the most trying situations; was thorough in the investigation of all medico-legal points bearing upon the particular case in hand, and always commanded the respect of his judges for the honesty of his opinions. He was active in the profession, defending its best interests; broad and liberal in his views, very approachable, and an especial friend to the meritorious, struggling practitioner. In the relations of life he was beyond censure, and died regretted in the community where he was best known."

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JAMES I. MEEK, M. D.

Dr. James I. Meek was born in York County, S. C., in 1842, and died in Ennis, Texas, November 11th, 1886. He was educated at the King's Mountain Military Institute, graduating in 1859. He at once began the study of medicine under the direction of Drs. Lindsley and Jackson, of Yorkville, S. C., and attended his first course of lectures in 1859-60 at the South Carolina Medical College. On the breaking out of hostilities between the States, he laid aside his studies and shouldered a musket as a private soldier in the 5th S. C. Regiment (Confederate). The authorities soon found that he could be much more serviceable in

the medical department than in the ranks, and he was accordingly transferred to the former. Notwithstanding the fact that he was already relieved from the position of a private soldier, he persisted in retaining his former post during the first battle of Manassas, in which his nerve and undoubted courage won him the approbation of his comrades, both officers and men.

Dr. Meek graduated in medicine at the Virginia Medical College, Richmond, Va., during the session of 1862-3. Soon after his graduation in medicine he passed a most successful examination before the Board of Army and Naval Medical Examiners (C.S.A.), and was at once given the rank of assistant surgeon in the army and assigned to duty in the Winder Hospital, Richmond, Va., where he soon, by his studious habits, gentlemanly bearing and the successful practice of his profession, won distinction and honor. He continued in the medical service of the Confederacy, filling various positions of trust both in the field and hospital, and laying up precious stores of clinical experience, both in medicine and surgery, upon which he was able to draw in after years with honor to himself, and of untold advantage to his patients and medical friends.

The war being over, he located in Johnsville, Bradley County., Ark., in the summer of 1865, where he at once entered on a large and lucrative practice. His work in this field was immense, and far too trying for his physical strength. After six years of arduous labor at Johnsville (during which he contracted the malady which finally proved fatal), he moved to Ennis, Texas, where he resided till the time of his death. In this new field, as elsewhere, he soon made many warm friends among the profession, as well as the laity, and to the very last was honored with the business and confidence of a numerous and respectable clientèle. He was a man of most noble traits of character, and of sterling worth, firm and decided in his opinions, yet kind and courteous in his intercourse with others, and especially so towards his professional brethren. As a man he loved truth, loved honor, and could be trusted and confided in under all circumstances. As a physician he was conscientious, conservative, able, and his practice both in medicine and surgery was eminently successful. He took a deep interest in medical societies, and was a member at the time of his death of the American Medical Association, the Texas State Medical Association, and the Ellis County Medical Society.—*Journal of the Amer. Med. Association.*

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## PROCEEDINGS OF SOCIETIES.

NEW YORK STATE MEDICAL ASSOCIATION.

Third Annual Meeting, November 16, 17 and 18, 1886.

DISCUSSION ON SHOT-WOUNDS OF THE INTESTINES.

The discussion was opened by a paper by Dr. Wm. S. Tremain, of Buffalo, in which he quoted from various standard surgical works, and



then remarked that but a faint light was thrown on the subject by the highest authorities. Among the circumstances which were to be taken into consideration in dealing with abdominal gun-shot wounds, were the calibre of the ball, the proximity of the weapon, and the direction of the entrance and exit of the missile. Among the symptoms of perforation of the intestines were prolonged shock, tympanites, severe pain, anxiety and restlessness. Escape of blood from the anus, which the late Professor Gross regarded as of special significance, rarely occurred, but, when present, was of much diagnostic value. He recommended laparotomy in wounds of the abdomen for the purpose of diagnosis, first, because the intestines might be injured; second, because, in nine cases out of ten, it was required for the removal of effused blood, which it was dangerous to allow to remain; third, because the abdominal section added but a very slight element of danger; and fourth, because by this means assurance could be given to the patient in many cases that the intestines were not wounded. Where there was positive evidence that the intestines were implicated, there was no question of the propriety of laparotomy. The operation had been successfully performed in America in three cases in which there was intestinal perforation, two of them belonging to Dr. W. T. Bull, of New York, and the other to Dr. John B. Hamilton, of Washington. As to the time when laparotomy should be done, he thought it should be undertaken as soon as possible after the receipt of the injury, first, because the immediate shock paralyzed peristaltic action, and thus tended to prevent extravasation of fæces for a time; and, second, because delay increased the danger of peritonitis. In consequence of the desirability of early operative interference, he advised, therefore, that physicians throughout the country should familiarize themselves with the procedure by practicing upon animals, so that they would be prepared to operate in cases of emergency. In speaking of the technique, Dr. Tremaine particularly recommended the suture of Lembert, which was also advocated by the speakers who followed him. When the operation was completed, it was essential that a clean cavity should be left.

The first question,

*What are the Diagnostic Signs of the Involvement of the Intestines in Shot-wounds of the Abdomen?*

was discussed by Dr. Joseph D. Bryant, of New York. He said that there were two classes of symptoms: one referable to the abdomen itself, and one to the constitutional effects of the injury. In studying the local evidences of trouble, the surgeon would investigate the wound of the abdominal wall, the direction of the missile, the character of the discharges, and the presence or absence of emphysema of the borders of the wound, or in the neighboring connective tissue. If the direction of the ball indicated that the peritoneal cavity was penetrated, the presumption was that the intestines were wounded. Still, there were cases on record in which the cavity had been penetrated, and yet the intestines remained uninjured. If the bleeding points in the abdomi-

nal wall would not account for the amount of hemorrhage present in any case, it was altogether likely that the intestines were perforated. The same was true if there was bloody urine. Of course, the escape of the intestinal contents was proof positive of perforation, but this was rarely met with soon after the injury. Emphysema was not very frequently seen, but when present, it was almost invariably due to the escape of gas from the intestines. Early emphysema of the abdominal wall had been regarded as a positive sign of intestinal perforation, but while this was true, as a general rule, he had personally met with two instances in which the emphysema was caused by the suction of the abdominal muscles. If decomposition were present, emphysema might also occur without rupture of the intestines, but this was apt to be met with only quite late. Having referred to pain, tympanites, bloody stools, and retention as significant signs, he went on to speak of hepatic resonance. While this was almost pathognomonic, it was to be borne in mind that it might possibly be due to other causes. Thus, it might result from the transverse colon getting between the liver and the abdominal wall, or from the tilting of the liver out of its normal position. There might be shock and nausea and vomiting, hiccough usually following the latter. If there was severe shock from the first, it usually indicated intestinal perforation and hemorrhage. Extreme thirst, restlessness, anxiety and subnormal rectal temperature were all corroborative signs of perforation. There were, indeed, but very few positive early indications of the condition, but loss of hepatic dullness, unless previously modified by change of position, or abnormal processes in the liver, was undoubtedly one of the most valuable.

*What Should Be the First Measures of Treatment in Shot-wounds of the Abdomen Involving the Intestines?*

was to have been discussed by Dr. E. M. Moore, Jr., but he was not able to be present. It was taken up, however, by some of the other speakers.

Dr. W. T. Bull, of New York, spoke on the third question,

*Under What Circumstances, and How Soon after the Injury, Should Laparotomy be Resorted To in Cases of Shot-wounds of the Intestines, and When is the Operation Contra-indicated?*

He said that laparotomy was in general indicated, in the first place, for diagnosis. Many cases presented but few of the characteristic symptoms of perforation. Again, a bullet which had entered the peritoneal cavity was much more apt to have injured the gut than not. As to the time when laparotomy should be performed, he thought it should be done as soon as the immediate shock of the injury and of the removal of the patient were past. Delay only invited the onset of septicæmia, and he did not think it advisable to wait for the appearance of symptoms. Exploratory laparotomy was not without good effect even in non-penetrating wounds. Since the year 1877 he had seen eight cases of penetrating shot-wounds of the abdomen at the Chambers Street Hospital, New York. Five of these were treated on the expect-

ant plan, and all proved fatal. In the other three cases laparotomy was resorted to, with the result of two recoveries and one death. In the first of the successful ones which had had been reported in full in 1884, seven wounds of the intestines were sutured. The second occurred in August, 1886, and had recently been reported by Dr. Bull at a meeting of the New York Surgical Society. The patient was twenty-five years of age, and the operation was performed two hours after the receipt of the injury. Three wounds of the intestines were sutured, and two wounds of the mesocolon were not sutured, but rubbed thoroughly with iodoform. One of the appendices epiploicæ, of good size, which was found torn and bleeding at its extremity, was tied at its base with catgut and cut off. The external wound did not heal entirely for eight weeks, as there was sloughing of the peritoneum along the line of sutures, and protrusion of a portion of intestine which firmly adhered to the parieties. The edges of the wound were held together with two "relaxation sutures" of silver wire, and compression was made on the intestine with a small pad of iodoform gauze and wool. By means of these the gut was pushed back from day to day, while the edges were being drawn together and the lower part of the wound was filling with granulations. The man was now perfectly well and pursuing his usual avocations. The third and unsuccessful case was operated on November 6, 1886, and had not as yet been reported. The wound was made by a forty-four calibre ball. The incision was made in the median line, and four perforations of the intestines were sutured. The operation lasted one and three-quarter hours, and death, which was probably due to the shock from the laparotomy, occurred eight hours afterwards. Dr. Bull explained that none of these three cases presented any positive proof of perforation of the intestines before the abdomen was opened. Yet the lesions found in the last one, as well as in the others, indicated operative interference. Having briefly referred to the five fatal cases treated on the expectant plan, he went on to speak of the contra-indications for laparotomy. It was to be borne in mind, he said, that in many instances the solid organs, such as the liver, spleen, and kidneys—though the latter did not present so serious a complication as the others—were wounded as well as the intestines; and he doubted the ability of the surgeon to cope successfully with such cases. Uncomplicated wounds of the intestines were not, in his experience, accompanied by profound shock; and profound shock was, therefore, a decided contra-indication. The exposure and handling of the viscera were not devoid of danger. Peritonitis was not, in his opinion, necessarily a contra-indication.

As to what should be the first measure of treatment, he advised that the bullet wound should first of all be explored; except in cases where it was situated posteriorly, with no wound in front. In general, the two rules which he would offer for guidance were: (1) Assure yourself by exploration that the abdominal cavity has been entered. (2) Proceed to repair the injury.

Dr. Theodore R. Varick, of Jersey City, thought that when there were present shock with gradual increasing exhaustion, sinking temperature,

dullness on percussion of the dependent parts of the abdomen, and tympanites of the anterior portions, immediate laparotomy was demanded.

If the operation is considered a desperate one, he said, we should bear in mind that we have a desperate case to treat. The day of expectancy is past, and the time for bold and decisive action has arrived. Would not a surgeon be worse than criminal to allow a patient whose life-blood is oozing away, whose peritoneal cavity is subjected to the contact of feculent matter, or, perchance, foreign substances from without, lighting up peritonitis and sepsis, leading to inevitable death, to die, when, in the light of surgical science of the present day, means are offered to stem the outflow of life, to remove by thorough cleansing of the peritoneal cavity all foreign substances, and, by the various methods of continuous suture, close the door to further extravasation, and allow a conservative plastic exudation to complete what art commenced? Who would not at once remove a foreign body from an extremity the effect of which would be simply the production of a limited amount of inflammation and suppuration? And how much more is it the duty of the surgeon to remove from the abdominal cavity more deadly material, whose presence, moment by moment, tends more and more to shorten life. If time enough has already elapsed to note a gradual descent of temperature, it indicates a continuous hemorrhage. Operate at once and arrest the hemorrhage. If the temperature has ceased to fall and has begun to rise above the normal, inflammatory consequences are already initiated, but, possibly, it may not yet be too late to operate. At all events, give your patient the benefit of a chance, no matter how small, as against an almost absolute certainty of death.

Dr. Charles B. Nancrede, of Philadelphia, said that laparotomy should always be performed except when certain contra-indications were present. Among the indications referred to were the vomiting of blood or passage of blood per anum, the rapid accumulations of fluids in the abdomen, etc. As to the time for the operation, he thought it should be done just as soon as the patient's condition would warrant the performance of a long operation attended with shock, and the proper assistance and surroundings could be secured. When much hemorrhage was probably taking place, however, it should be done earlier than otherwise.

Among the contra-indications were profound shock, unless this was due to hemorrhage. He thought that by no means every physician was competent to perform laparotomy, and that, as a rule, cases would do better if left to nature than if operated on by an incompetent surgeon. Experience was a prerequisite in this procedure; and, if possible, only one pair of hands should be allowed to enter the abdominal cavity. Acute peritonitis or wounds of other organs besides the intestines, he thought, might prove contra-indications.

The fourth question,

*What are the Essential Features of the Technique of Laparotomy, including the Management of the Wounded Intestine?*

was discussed by Dr. John B. Hamilton, of Washington. By way of

preliminary he said that he thought the first thing to do in small pistol wounds was to use the probe; the instrument which he preferred being the flexible spiral probe of Nélaton. If the cavity of the abdomen was found to be penetrated laparotomy was indicated. Even if there were great shock, exploratory laparotomy was indicated, as this was probably due to the wounding of a vessel, nerve or ganglion.

As to the technique of laparotomy in cases of this kind, it did not differ from that of ordinary laparotomy, except as regards the treatment of the intestines. Strict antiseptic precautions should be employed, and towels wrung out of hot water should be laid on the abdomen. On opening the cavity a careful inspection should be made for bleeding vessels, and no abrasion should be left untouched. The intestines should be drawn up loop by loop by the fingers, and allowed to remain in a towel wrung out with hot bichloride solution; another towel being placed over them. It was necessary to reduce potting mucous membrane. He used the Lembert suture, and preferred catgut for the purpose. The incision, he said, in conclusion, should be closed as in other cases of laparotomy, after the cavity had been thoroughly cleansed.

The fifth question,

*What are the Best Methods of After-treatment in cases of Shot-wounds Requiring Laparotomy and Suture of the Intestines?*

was discussed by Dr. Nancrede.

Dr. Charles T. Parkes went rapidly over all the various points of the discussion. He said that if the abdominal cavity was penetrated, it might be considered certain that the intestines were perforated, and the surgeon should be deterred only on the strongest grounds from operating. Deep-seated emphysematous crackling he considered a valuable sign of perforation, when present. In discussing the second question, he said that the first thing to do was to ascertain whether the wound entered the abdominal cavity; and he spoke particularly of the dangers associated with removal of the patient. As to the third question, under what circumstances laparotomy should be performed, he said, under all circumstances, unless the patient seemed likely to die during the operation. Complications of other organs were also contra-indications. As to the time for the operation it should be performed just as soon as the surgeon's preparations could be made for it.

In the methods of procedure, he said, we should be guided by the same rules as in all grave surgical injuries. If perforation was present, there was no contra-indication to operating; and it was impossible to say whether a case was likely to be a fatal one or not until after exploratory laparotomy had been performed. In speaking of the technique of the operation, he said, that the median line was the only one for incision, and that he considered this a very important point. The first incision should be free, and the cavity having been opened, all bleeding vessels should be secured. Then all the small intestines should be drawn up through the incision, and wrapped in warm towels. Wounds.

in the large intestines and other viscera should be looked for. The whole of the small intestines should be passed through the fingers and carefully examined. In speaking of the treatment of intestinal perforations, he said that he thought Lembert's suture the best, and that a double row of sutures was entirely unnecessary. He employed a small round needle, either straight or curved, and the material which he used for sutures was pure silk. Total resection of the gut was sometimes necessary. Finally, the abdomen should be closed in the ordinary way, care being always taken to avoid ventral hernia.

In the after treatment, Dr. Parkes said, it was necessary that the patient should have complete rest. Opium was required in sufficient quantities to secure this; and rectal alimentation was sometimes of service. If the temperature ran high, cold external applications were to be used; but if it did not rise above  $101^{\circ}$ , there was no necessity for interference.

The

#### DISCUSSION ON PULMONARY TUBERCULOSIS,

on the second day, was opened by Dr. Henry D. Didama, of Syracuse, who spoke of the causes, prevention, and treatment of the disease. He contended that it was not hereditary, stating that it had not been met with in the new-born, and that in the vast majority of cases of phthisis the parents of the patient had not been subjects of the disease. In treating of the etiology he expressed the opinion that among the employments which favored the disease was working in tobacco factories.

The first division of the subject considered by the other speakers who took part in the discussion was the etiological factors of tuberculosis. The *inherited* were discussed by Dr. John Cronyn, of Buffalo, the *acquired* (micro-organisms) by Dr. Herman M. Biggs, of New York, and the *predisposing* by Dr. Henry L. Elsner, of Syracuse.

Dr. Biggs said it was almost impossible to demonstrate the acquirement of pulmonary tuberculosis after a particular exposure; but it had been shown that the disease could be produced in animals by causing them to inhale air containing the bacillus. He thought that the long and intimate relation of a healthy person with a phthisical subject was capable of giving rise to the disease. As to ordinary exposure, the resisting power of a healthy organism was usually sufficient to prevent infection. Among the questions discussed by Dr. Elsner was: Is there not satisfactory evidence that some cases of pulmonary consumption are non-tubercular at the start, and that other cases remain free from tubercles throughout their course? and the speaker expressed his positive conviction that there is such a thing as non-tubercular consumption. He thought there were rare cases of phthisis in which the bacillus was absent or only incidentally present; but in true tuberculosis it was always present. We were justified in dividing cases into those of bacillary tuberculosis and those of non-tubercular consumption.

The second division was the matter of prophylaxis, and this was discussed by Dr. Wm. H. Flint, of New York. He spoke of the neces-

sity of removing the children of tuberculous parents from their homes during the period of infancy, and longer in certain cases, and of preventing the association of individuals with cellular impairment with the subjects of tuberculosis. He also advocated the regular disinfection of the sputa and dejections of tuberculous patients. One of the subjects discussed was: How can the medical profession most widely diffuse and inculcate the important truth that consumption in children is often the result of parental faults and vices? and he thought that this could only be done by conscientious individual efforts by the members of the profession. The third division, treatment, was discussed by Dr. John Shradý, who, in the course of his remarks gave an interesting *résumé* of what had, up to the present time, been accomplished in the way of local antiseptic therapeutics, including a notice of the results obtained by Dr. J. Blake White with the injection of carbolized iodine, and of some important experiments lately made by Dr. L. J. McNamara, of the Carnegie Laboratory, which have not as yet been published. While not expressing a positive opinion as to the value of such measures, it seemed to him probable that further investigations would establish their utility, in conjunction with the constitutional and hygienic treatment now generally recognized as appropriate in pulmonary consumption.

On the third day of the meeting there was a

#### DISCUSSION ON PUERPERAL ECLAMPSIA,

and it was opened by Dr. Wm. T. Lusk, of New York, in a paper in the course of which he said that enough well observed cases were on record to show that convulsions might occur without albuminuria. He spoke of the theory that convulsions were due to reflex irritation proceeding from the uterus, which manifested a tendency to contraction not only at the time of parturition, but to a greater or less extent throughout pregnancy. If a patient's disposition to convulsions was shown in a marked degree, the continuation of pregnancy was a source of danger. If the symptoms were not very marked, or if labor could not be brought on at once, measures should be resorted to to mitigate the violence of the attacks by lowering arterial tension and diminishing the irritability of the nervous system. Venesection rarely failed to produce temporary relief, and much value was to be attached to the three sedatives, chloroform, morphia, and chloral.

Dr. James Tyson, of Philadelphia, who, like gentlemen from a distance who took part in the discussion on laparotomy, came on by special invitation for the purpose of lending additional interest to the proceedings, discussed, in his learned and forcible manner, the connection between uræmia and the eclamptic attack. He said that in the great majority of cases the latter was the result of a renal complication, but it must be admitted that, in a few instances, it was quite independent of any such complication. With those few exceptions, puerperal convulsions were due to uræmia. He thought they would be more often arrested if bleeding were resorted to. The questions, should labor be

induced in cases of the occurrence of eclampsia during pregnancy? and under what circumstances, in case of threatened eclampsia, shall premature labor be induced as a prophylactic measure? were discussed by Drs. Isaac E. Taylor and T. Gaillard Thomas, of New York.

Dr. Thomas said he thought that the following points would be accepted as resting even now upon a substantial and enduring basis: 1. That as we have a form of renal disease entitled desquamative nephritis, due to certain causes about which pathologists are pretty well agreed, and another entitled scarlatinous nephritis, due to the blood-poisoning of scarlet fever; so have we still a third which should be entitled puerperal nephritis, which commonly attends upon and is undoubtedly due to the condition of utero-gestation. 2. That puerperal nephritis is the great, if not the sole, cause of puerperal eclampsia. 3. That puerperal nephritis accomplishes this result by leaving the blood surcharged with certain noxious elements which the crippled condition of the kidneys causes them to fail to eliminate. 4. That while we are ignorant of the method by which the puerperium induces this form of nephritis, we have abundant evidence of the fact that, so soon as utero-gestation ceases to progress, the renal trouble, as a rule, diminishes, and soon disappears.

Dr. Thomas said that in all his extended experience he has seen but two cases in which puerperal convulsions were unattended by the unquestionable evidences of renal disease. In both these cases, after the immediate eclamptic seizures had disappeared, albumen in large amount was found present in the urine. He related an interesting case illustrating the point of the disappearance of the renal trouble as soon as pregnancy ceases to progress. He unhesitatingly and in the strongest possible manner advised the induction of premature labor in eclampsia occurring at the sixth, seventh, or eighth month of pregnancy, as he had found by long experience that any other course was attended with great danger and was in every way unsatisfactory. He explained, however, that he did not by any means maintain that when a patient is rigid with puerperal convulsions labor should always be immediately brought on. In many cases in which the seizures yielded to appropriate remedies it was wise not immediately to excite the nervous system by the establishment of parturition; but to wait for two, three or four days, until the morbid chain was broken which had registered itself upon the nervous system. It was not such judicious delay as this that he was opposed to; but to that delay which for weeks and months exposed the patient to a re-establishment of all the morbid elements necessary to eclampsia, to the development of which she had already shown herself prone. Under these circumstances parents who were anxious for offspring would often oppose the establishment of premature labor; under the idea that delay would secure for the child a greater chance of life. If the process of gestation had advanced beyond the seventh month, so far from this being the case, the chances of life for the child were much enhanced by interference.

There were three circumstances, and three alone, he went on to say,



which would prompt a different line of action from that which he had advocated: 1, the fact that the convulsions were due to some direct and certainly ascertainable irritant influence susceptible of removal by emesis, catharsis, or some similar method; 2, that they were of purely hysterical character, or partook of the form of true epilepsy, to which the patient had long been subject. Under these circumstances the seizures would depend upon no condition which was likely to prove cumulative from the prolongation of utero-gestation. Besides this, it was to be borne in mind that these seizures would not come into the category which was now being considered. 3. If it should be ascertained that the child had lost its life during the existence of maternal convulsions, and the seizures were controlled by treatment, he should, from his own experience, be willing to leave the case to nature, confident that the ending of the progress of gestation would remove all danger for the future, even although a dead child with its secundines still occupied the uterine cavity.

In answer to the query, Under what circumstances, in case of threatened eclampsia, should premature labor be induced as a prophylactic measure? he said: 1. Every obstetrician mindful of his duty will invariably, after the third month of pregnancy, examine the urine up to the full term, at least as often as every ten or fourteen days. 2. If evidences of puerperal nephritis demonstrate their existence before the end of the seventh month, the period of foetal viability, every effort should be made by daily warm baths, the milk diet, laxatives, and the nightly use of the bromides, to "tide the case over" until that period has been reached. 3. If the amount of albumen, tube-casts, and epithelium be plentiful in the urine; if the secretion of urine be scanty; the patient complain of headache, dimness of vision, and decided gastric disturbances, and all these symptoms did not at once diminish under the prophylactic measures already mentioned, we should not hesitate to bring on premature delivery at once. 4. Should the patient have passed through several pregnancies with safety, having at the same time presented the symptoms of puerperal nephritis; should the amount of albumen be moderate and the secretion free, with a good proportion of solid elements in it; should the evidences of constitutional disturbance be slight, and the effects of prophylactic measures satisfactory, it would not be advisable to induce premature labor, but would be better to await the full term of gestation. "But," said Dr. Thomas, "I should await it as a soldier waits who 'lies on his arms,' watchful and wary, ready at a moment's notice to meet an issue which threatens night and day."

Dr. Taylor would not ignore the value of mild measures in cases of moderate severity, and, before inducing labor, he would consider whether the patient could not be carried along until the child became viable.

The third question, What are the most reliable therapeutic agents for the control of the convulsions, and should bleeding be employed in

eclampsia? was discussed by Dr. Darwin Colvin, of Wayne County, who strongly advocated bleeding, and Dr. George T. Harrison, of New York, who opposed it. Dr. Harrison spoke first of narcotics, among which one of the most reliable was chloroform; but a case of death from its use, immediately after venesection, had been reported. Chloral was more continuous in its action than chloroform, and its inefficiency in the hands of some physicians was probably due to its having been used in too small a quantity. The rational treatment was to produce free diaphoresis by hot baths, etc. Pilocarpine was dangerous. For his own part he regarded catharsis as useful in only a few cases. As to the value of blood-letting, he quoted from Schröder and other German writers who condemned its employment.

After the discussion of the fourth question, In what proportion do the insane in public asylums owe their insanity to puerperal convulsions? by Dr. J. R. MacGregor, of New York, who regarded it as still uncertain whether puerperal convulsions were a cause of insanity, a general discussion of puerperal convulsions and their treatment was participated in by the Association at large.

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## MISCELLANEOUS.

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A NOVEL TREATMENT OF PHTHISIS.—The *British Medical Journal* says that Dr. Bergeon, of Lyons, recommends a method of treating phthisis which has, at any rate, the merit of novelty. His plan is to utilize the effects of sulphuretted hydrogen, and this he proposes to do by injecting carbonic acid gas, saturated with sulphuretted hydrogen, into the intestines. If care be taken to secure the absence of atmospheric air, no inconvenience, it is said, results from the injection even of large quantities of the mixture, absorption into the venous system and elimination by the lungs taking place very rapidly. It is claimed for this procedure that, by its means, the use of sulphuretted hydrogen is unattended with any toxic effects, and exerts its influence directly on the lungs themselves. It has been employed in a number of cases at the hospitals of Lyons, Bordeaux, and Paris with great benefit to the patients, even in very advanced cases, and, latterly, similar observations have been made in the consumption hospitals of London, the results of which have not yet been made known. The method has been very much simplified by the introduction of an ingenious but simple apparatus whereby the carbonic acid gas is generated, and saturated with sulphuretted hydrogen, ready for use.

A VALUABLE LITERARY DISCOVERY.—In the course of some literary explorings connected with the life of Charles Brockden Brown, the novelist, which he is preparing, Mr. E. I. Stevenson has discovered the complete MS. journal of Dr. Elihu H. Smith, of New York, born Sep. 4, 1771, one of the most brilliant of our post-Revolutionary men of letters, who died Sept. 21, 1798, during the yellow fever epidemic at the close of the last century. These journals are said to constitute

a history of the literary life of the day, and are full of references and statements concerning the notable men of that date. Mr. Stevenson hopes to ultimately edit this discovery.

This Dr. Smith, in connection with Drs. Samuel L. Mitchell and Edward Miller, projected *The Medical Repository*, copies of which are now exceedingly rare, although the New York State Medical Association has been fortunate enough to secure a complete series for its library. He also was a playwright ballad writer, and editor of the first collection ever made of American poetry. During the horrors of the yellow fever he was unremitting in the discharge of the duties of his profession. He escaped the infection for a long time, but finally fell a victim, under circumstances creditable to his humanity as well as intrepidity. A young Italian, Joseph B. Scandella, who, during his brief sojourn in the city, was removed from the Tontine Coffee House, ill with the fever, by Smith to his own apartments, where physician and patient both died.

M. PAUL BERT AS A PHYSIOLOGIST.—M. Paul Bert, whose death the French press is just now lamenting, was, before he seriously turned his attention to politics, won over to physiology by Pierre Gratiolet, the head of the Anatomical Laboratory at the Jardin des Plantes, and was for five or six years Claude Bernard's assistant. At the sitting of the Academy of Sciences on Monday, the President, M. Jurien de la Gravière, expressed regret that politics had diverted M. Paul Bert from physiology, and M. Vulpian remarked that his death, though glorious for the country, was a calamity for science, his numerous memoirs having placed him among the first physiologists of the age. It is told of the late M. Paul Bert, as an instance of his scientific enthusiasm and fearlessness, that at one time, when he was impressed with the prevalence of small-pox, from which those vaccinated in youth and not revaccinated had suffered largely, he decided to test for himself the value of revaccination; and he did so in a manner which might possibly have cost him his life, had his doubts been justified. He was vaccinated, and afterwards had himself inoculated at Havre with virus from a man who was dying of small-pox. He escaped the disease.—*British Med. Journal*.

ABORTION OF FELONS.—That genial and eminent light of the profession, Dr. John T. Metcalfe, whose restoration to health after a protracted illness has been received with rare delight by an immense circle of friends all over the country, writes to the *Boston Medical and Surgical Journal*:—My father was a medical man, who graduated from the University of Pennsylvania in 1816 or 1817. In 1839, I learned from him that a felon could, if seen early enough, be made to abort by wrapping the finger-end with narrow strips of adhesive plaster. When pus has been formed, I learned twenty years ago from a country doctor, that immediate relief and speedy cure would follow the gentle, slow separation of the nail from its envelope by means of a pen-knife blade, not too sharp, at the point nearest the seat of greatest pain. Very soon a drop of pus shows itself, and relief comes. I am aware

that the plan described is known to many medical men. It was not known to me at the time referred to, when the country doctor showed me how to treat a paronychia patient, whose finger I was about to lay open by the "free incision down to the bone," taught in the lessons of my great masters.

What a lot of valuable information a man decently furnished with humility can learn from our "one-horse-shay" brethren, who practice and *do their own thinking*, far removed from Poly- or Molly-clinics, and proximity to big batteries of consultation celebrities! And what a pity that so much of the knowledge they have slowly and painfully acquired should die with them!

SCIENCE VERSUS SUPPER.—On Thursday evening, November 18, by special invitation of the College of Physicians of this city, Dr. E. O. Shakespeare delivered an "informal *talk*" before that body, reviewing briefly the main points in his forthcoming official report on cholera. We can truly say that it has been many a long day since those who were present have listened to a "talk" so instructive and so interesting. We do not like to indulge in strong language, but we feel compelled to say that the mass of the profession of this city ought to be ashamed of themselves. To listen to this wonderfully interesting address less than one hundred doctors assembled, although the whole profession was invited. If it had been stated on the card of invitation that fried oysters, chicken salad, and champagne would be served free after the address, the neighborhood of the college would have presented a scene somewhat analogous to the late Chicago riots. We always knew that doctors had stomachs, and we realized that they had a perfect right to enjoy the good things of this world as much as any one else (even though the matutinal headache and sick stomach might follow), but we also imagined that they had brains, and we were foolish enough to believe that they enjoyed a somewhat higher order of cerebral development than is vouchsafed to the common mortal; but we fear that our exalted estimate of our glorious brethren has been placed a niche too high.—*Medical and Surgical Reporter.*

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## MEDICAL NEWS.

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NEW YORK STATE MEDICAL ASSOCIATION.—At the stated meeting held December 20, Dr. Frank Grauer, of the Carnegie Laboratory, who has been making special researches upon the subject during the past summer in Friedländer's Laboratory in Berlin, read a valuable paper on the pathological anatomy of scarlatinal nephritis, which will shortly be published in full in the JOURNAL, with original illustrations.

STATE LUNATIC ASYLUM AT UTICA.—At the annual meeting of the Board of Managers of the Utica State Lunatic Asylum, held December 14, Dr. G. Adler Blumer was unanimously elected Super-

intendent, to fill the vacancy created by the death of Dr. John P. Gray. Dr. Blumer became connected with the institution in 1880, and was promoted to the position of First Assistant in 1884, since which date he has very acceptably performed the duties of Superintendent a considerable portion of the time. He was to have read a paper in the discussion on puerperal eclampsia at the recent meeting of the State Association, but was prevented from attendance by the illness of Dr. Gray.

NEW YORK POLYCLINIC.—Dr. R. C. M. Page has been elected to the Professorship of Diseases of the Chest and General Medicine in the Polyclinic. This appointment, which is an excellent one, fills the chair made vacant by the resignation of Dr. Leaming, who, as Professor Emeritus, still remains President of the Faculty.

DOUBTS IN REGARD TO THE PREVENTIVE TREATMENT OF RABIES.—Dr. Colin, of Paris, read a paper before the Paris Academy of Sciences, December 2, showing that the annual average number of deaths from rabies in France is 26, and that since M. Pasteur began his course of treatment the same number of patients have died. According to official statistics the number of persons bitten by mad animals last year in France was 351, while M. Pasteur has treated 1,700 patients. Dr. Colin concludes that the Pasteur system is of doubtful efficacy, and he is alarmed for the results of virulent inoculation as now practised.

MORTALITY IN THE STATE OF NEW YORK.—The total mortality reported by the State Board of Health for the month of October was 7,370; of which 1,667 deaths were from zymotic diseases, a ratio of 226.20 per 1,000 mortality.

THE SOCIETY OF MEDICAL JURISPRUDENCE AND STATE MEDICINE on December 9 elected the following officers: President, Amos G. Hull; Vice-President, Dr. E. A. Harwood; Secretary, Dr. E. C. Spitzka; Assistant Secretary, Mr. W. I. Daniel; Corresponding Secretary, Dr. J. F. Chauveau; Treasurer, Dr. R. C. M. Page.

DEATH RATE OF MEMPHIS.—The best evidence of an improved sanitary condition of a place which has had a high annual death rate and been the subject of epidemic diseases, is freedom from epidemics and a comparatively low death rate. The average death rate for the last three years, 1883–85, has been 24.40 per 1,000—a gain of about ten per cent.—*Sanitarian*.

MEDICO-CHIRURGICAL COLLEGE, PHILADELPHIA.—Dr. William Wile, of Newtown, Conn., editor of the *New England Medical Monthly*, has been elected Lecturer on Diseases of the Nervous System and Electro-therapeutics.

NEW MEDICAL JOURNALS.—The latest additions to the list of medical journals are two small monthlies (the first numbers of which

appeared in December) *viz.*: *Practise*, published in Richmond, Va., and edited by Dr. J. F. Winn, and *The Pittsburgh Medical Review*, published in Pittsburgh, Pa.

NEW YORK SOCIETY FOR THE RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—The following officers have been elected for the ensuing year: President, Dr. Gouverneur M. Smith; Vice-Presidents, Dr. Thomas F. Cock, Dr. Everett Herrick, Dr. Henry Tuck; Treasurer, John H. Hinton.

SPLENECTOMY for floating hypertrophied spleen was recently successfully performed by Dr. J. R. Nilsen, at the New York Post-Graduate Hospital.

MERLATTI'S FAST.—The Italian, Merlatti, recently completed fifty days of fasting under surveillance in Paris. The *Lancet* has published sphygmographic tracings of his pulse taken on the twenty-fourth, twenty-eighth, thirty-second, thirty-third and thirty-fourth days, which indicate a progressive decrease in the volume of the blood.

FIRE AT THE UNIVERSITY OF VIRGINIA.—The anatomical hall belonging to the medical department of the University of Virginia, was destroyed by fire on the 20th of November. The loss is estimated at \$8,000, a portion of which is covered by insurance. The medical course has not been interrupted in consequence of the loss sustained.

THE BALTIMORE ACADEMY OF MEDICINE has conferred its annual prize this year upon Dr. Frank Donaldson, Jr., and Dr. A. B. Arnold. These two gentlemen have submitted to the Academy papers of equal merit. Dr. Donaldson's paper was on "Diaphragmatic Pleurisy," and Dr. Arnold's on "Circumcision."

CENTENNIAL CELEBRATION OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.—A committee, consisting of Drs. Alfred Stillé, S. Weir Mitchell, I. Minis Hays, J. Ewing Mears, and S. W. Gross, has been for some time engaged in making preparations for an appropriate celebration of the centennial anniversary of the founding of the College of Physicians of Philadelphia, which occurs early in January.

PASTEURISM IN NEW YORK.—Dr. Valentine Mott has been making a series of preventive inoculations in the case of two sons and an office-boy of Dr. T. W. Foster, of Yazoo County, Miss., who were bitten by a rabid dog in November. Immediately afterwards Dr. Foster left home with the intention of taking the boys to Paris to be treated by Pasteur; but learning, on his arrival in this city, that Dr. Mott was provided with proper material for inoculating, which had originally been obtained from Pasteur, he decided to have the treatment carried out here. The process has now been completed, and the children, who suffered no inconvenience from the inoculations, are all in good condition.

UNIVERSITY OF PENNSYLVANIA.—Dr. N. A. Randolph has been elected Professor of Hygiene, to succeed the late Dr. Joseph G. Richardson.

A YOUNG MOTHER.—The papers report the case of a girl twelve years old who last month gave birth to an eight pounds child in Williamstown, N. J. Supposing that she would not survive the event, she confessed that her own father was the father of the infant, and it is said that this brute is now father and grandfather to two children by two of his own daughters.

THE WORLD'S EXCHANGES.—Messrs. Moore & Schley, Bankers and Brokers, of this city, have had prepared for presentation to their friends, by the house of Root & Tinker, a large and very handsome colored engraving entitled "The World's Exchanges," which gives accurate and beautifully executed representations of the Bank of England and Stock Exchange, London, the Paris Bourse, the Berlin, Hamburg, and Frankfort Stock Exchanges, the Brussels Bourse, the New York Stock Exchange, and the Chicago Board of Trade.

DEATH OF DR. JOSEPH C. RICHARDSON.—Dr. Joseph C. Richardson, Professor of Hygiene in the University of Pennsylvania, and a member of the Board of Health, died very suddenly of apoplexy, at his home in Philadelphia on the 13th of November. He was a voluminous writer on hygienic subjects, being the author of several well-known works in this department of science, and he also wrote a "Hand-book of Medical Microscopy" which is used as a text-book. An untiring student of hygiene and microscopy, he attained a well-deserved scientific eminence, and his opinions were always eagerly sought after, while his many noble traits of character will long be held in grateful remembrance by all who knew him.

DEATH OF MRS. A. B. COOK.—The beloved wife of Dr. A. B. Cook, of Louisville, whose maiden name was Fanny M. Downing, died November 29, after a two weeks' illness. Mrs. Cook was a lady of many admirable qualities, and her death was a great shock to a large circle of devoted friends.

DEATH OF DR. EDWARD J. DARKEN.—Dr. Edward J. Darken, for many years the highly esteemed house physician of the Demilt Dispensary, in this city, died December 3d.

DEATH OF DR. JOSIAH T. MATTHIS, OF AUSTIN, TEXAS.—This estimable gentleman and skilled physician died November 30th, at the age of 59. Dr. Matthis came to Texas from Tennessee some twelve years ago, and soon had a lucrative practice and made for himself a wide reputation as an oculist. He was also an exemplary citizen, and his loss will be severely felt in this community, where he was universally respected. The Travis County Medical Association attended the funeral in a body.—*Daniels' Texas Medical Journal.*

## EDITORIALS.

HEPATIC PHLEBOTOMY.—Dr. George Harley, who is justly regarded as the leading authority on diseases of the liver at the present day, in a most interesting paper, introductory to a discussion on the surgery of the liver in the Section of Surgery at the annual meeting of the British Medical Association at Brighton last summer, which has recently been published in the journal of the Association, strongly advocates the abstraction of blood directly from the liver, by puncture, in certain engorged conditions of the organ, and in support of his position cites cases in which he has actually resorted to the procedure.

Every reflecting practitioner must be aware, he says, that neither cupping nor leeching the abdominal parieties can have any direct effect on the amount of blood present in an inflamed liver, from the simple fact that there exists no direct communication whatever between the blood-vessels in the abdominal walls and those of the hepatic organ. It is evident, therefore, that the only way in which either cupping or leeching the hypochondriac region can diminish the amount of blood present in an engorged liver, must be simply from the indirect effect the cupping or leeching has upon the hepatic circulation by its reducing the total amount of blood circulating in the patient's body. But, seeing that many of the patients attacked with hepatitis in such a climate as that of England are more or less of intemperate habits, (though they may be by no means drunkards), and have usually too little blood in their systems to admit either of leeching or cupping being carried sufficiently far to abstract such an amount of blood from the general circulation as would suffice to make an appreciable impression on the quantity present in the engorged liver, the idea of abstracting blood directly from the liver itself, as a remedial measure, naturally suggests itself. Indeed, he thinks it impossible that such an idea can have failed to cross the minds of all who, like himself, have had occasion to withdraw blood by a trocar from the livers of healthy living animals; for the result of their experiments would make them aware that the livers of dogs, rabbits, and other animals can be tapped for blood with perfect impunity, in so far as any actual danger to life is concerned. This fact he first became conscious of while working in Paris, in 1853, at the artificial production of diabetes in animals by the direct introduction of stimulants into the portal veins. He then had frequent occasion to withdraw small quantities of blood from the livers of such animals by a trocar, without, on any single occasion, as far as he can now remember, observing any bad consequences follow upon the procedure.

The idea, then, of withdrawing blood directly from the tissues of an inflamed human liver is neither so Utopian nor so heroic a curative procedure as the uninitiated might at first sight imagine. There is little risk, for instance, of air entering a vein during the operation, if the latter is properly performed. This arises from the simple fact that



the trocar is to be inserted into the upper and convex part of the liver, where no large veins whatever exist; and even should there chance to be, on account of some abnormality in the distribution of the vessels, one or two in this portion of the organ, it is a most unlikely thing that a canula of the size of between a No. 2 and a No. 3 English catheter would encounter one of sufficient calibre to admit of the accidental lodgment of its free extremity within the interior of the vessel, so as to admit the entrance of air into it. It is to be remembered, too, that the entrance of air as a source of danger exists only in the case of the hepatic vein; for it alone could by any possibility allow of a sufficiency of air arriving at the heart in an undivided state to cause death.

When called in consultation to see patients with severe hepatitis, who seemed to be dying from nothing else than the intensity of the engorgement of the liver's blood-vessels, Dr. Harley ventured, however, to suggest the advisability of trying the curative effects of hepatic phlebotomy, the proposition usually met with scant courtesy, especially when he mentioned that the operation was one that had never as yet been performed on the human subject. But at length he was fortunate enough to meet, in a hopeless case of hepatitis, with ascites and anasarca, a medical brother sufficiently freed from the trammels of erroneous clinical teaching, and a patient and husband brave enough to let him try the effects of hepatic phlebotomy as a forlorn hope, when the case had already reached the very gates of death.

The case was that of a married lady, aged thirty-eight, and of intemperate habits, who had been attacked a month before with hepatitis and dropsy, and whom he was asked to see by Dr. Dunbar Walker. At the time he was called in, the patient appeared to be in a perfectly hopeless state, and Dr. Walker agreed with him that although the withdrawal of blood directly from the engorged liver appeared to be but a forlorn hope, yet as it might mitigate some of the most distressing symptoms arising from the inflammation of the organ, it would be well to try it. The patient and her husband at first declined to have the operation performed: but as the symptoms soon assumed a still more aggravated form, they gave their consent. The patient having been anæsthetized, Dr. Harley pierced the upper part of the liver from right to left with an eight inch long trocar of the diameter of between a No. 2 and No. 3 sized English catheter. The normal liver being at least ten inches broad in an averaged sized woman, and this liver being greatly enlarged, he felt perfectly safe in running the trocar up to its very hilt. This was done in the hope that during its transverse penetration of the organ it might wound one or more vessels of sufficient calibre to yield a free stream of blood. In this hope he was not disappointed; for, on gradually withdrawing the end of the cannula about an inch or two, so as to allow of the blood oozing from the wounded vessels to enter the canula from the canal left in the liver tissue by the receding instrument, a stream of blood immediately issued from its free or-

ific. Twenty ounces of hepatic blood were thus abstracted without the slightest deleterious result.

After the operation was finished and the canula withdrawn, a two-inch square piece of sticking-plaster was put over the seat of the abdominal puncture, and the abdomen tightly bandaged (with a four-inch deep cotton roller), in order to bring the abdominal parieties into close contact with the wound in the liver's capsule, so as to avoid all possibility of hemorrhage into the peritoneal cavity, should the natural resilience of the hepatic tissue not suffice to close the opening; a thing very unlikely to occur, unless the operation were bunglingly performed, and some large blood-vessel wounded, on account of the trocar not having been properly inserted.

The result was gratifying beyond all anticipation. "From the day of the operation," to use Dr. Walker's words, "the liver became gradually reduced in size. With the aid of tapping and the administration of the resin of copaiba, the ascites and general anasarca disappeared, and by the beginning of December (that is to say in two months) the patient was already able to walk out." Exactly eleven weeks after the blood had been abstracted from her liver, the patient walked from her own house at Notting Hill to Dr. Harley's in Harley Street, a distance of nearly three miles, and expressed herself as feeling "perfectly well, only a little weak and stiff from the walk." All the dropsy had by this time disappeared. He could detect no fluid in the abdomen; while, from the hepatic dulness in the right nipple perpendicular being just above four and a half inches, the liver might, he thought, be said to have regained its normal dimensions.

The latter portion of the paper treats of puncturing the liver's capsule, as a remedial measure, in cases of chronic congestive hypertrophy. All familiar with the course of liver inflammations, he goes on to say, are aware that the first stage in the sequelæ to a severe attack of hepatitis—no matter whether it be the direct result of intemperance, malaria or chill—is a chronic, enlarged, hardened condition of the liver. While in different cases the extent of the enlargement varies considerably, the amount of induration, as calculated by palpation, differs but little. The general symptoms arising from this condition of liver are more or less marked in direct proportion to the extent of the enlargement. When the increase in the size of the liver is slight, even although the induration be marked, the discomfort it occasions is, comparatively speaking, trifling; whereas, when the organ is considerably enlarged—say, more than eight inches—in the right nipple perpendicular line, the general symptoms become as well marked as the physical signs. The chief thing the patient complains of is, however, the local discomfort, proceeding from the enlarged liver; its pressure on the neighboring organs producing feelings of heavy weight, and a dull pain all over the hypochondriac region especially complained of when lying on the side—sometimes most when on the right, sometimes most when on the left side. The weight of the organ, too, when the patient is in an upright position, is frequently spoken of as being a great burden. Acute pain

is rarely complained of; but even the bodily distress, the mere feeling of discomfort just alluded to, is, in general, sufficient to make the sufferer seek medical advice. The action of the bowels is usually irregular (most often constipation is troublesome), and the kidneys act capriciously. The urine is usually of high specific gravity, and frequently deposits, after standing for twelve hours or more, both oxalates and urates. The complexion assumes a dingy hue, and the whites of the eyes become yellow; although it is seldom that the discoloration either of skin or eyes is sufficient for the patient to be called jaundiced.

Unfortunately, little can be done for such cases. The symptoms not being acute, cupping or leeching is out of the question, while blistering, in the majority of instances, does more harm than good. The application of hot fomentations and the administration of saline purgatives are usually about the only things that afford relief. Even their action has the disadvantage of being slow, as well as but little effective. The impotency of the usual routine forms of treatment in these cases led him, he says, to reflect on their pathology, in the hope that probably some more efficient form of treatment might suggest itself. The result of the reflection was that he came to the conclusion that, first, nearly all the pain, and a great deal of the discomfort, in cases of hepatic congestive hypertrophy is directly due to the pressure to which the but recently, inflamed and still congested hepatic tissues are subjected, from their being confined within a strong inelastic plexus capsule; and, secondly, from knowing that immediate relief often follows upon the puncturing of other equally unyielding fibrous coverings (when their contents are in a state of acute or subacute inflammation), it occurred to him that it was not improbable that cases of congestive hepatic hypertrophy might be equally advantageously treated by puncturing the capsule of Glisson. This view of the matter obtained, to his mind, additional support from the fact that not only he, but many others, had met with cases where patients expressed themselves as feeling more comfortable after an unsuccessful exploration of the liver for an abscess, than they did before the operation. While, in some cases, even although the operation had to be regarded as unsuccessful, in so far as the discovery of pus was concerned, it might, nevertheless, occasionally be looked upon with satisfaction, from its being followed by a marked diminution in the physical signs, as well as by an amelioration of the constitutional symptoms. It was these and such like facts that led him to think of trying the effects of hepatic capsule-puncture, as a remedial measure, in severe cases of congestive hypertrophy; and although he has as yet only ventured to perform it in exceptionally bad cases (where one could not possibly expect more than a temporary advantage to arise from it), the results have been sufficiently favorable to lead to the hope that when the benefits arising from the method have been further tested, it is not unlikely that they may be found to be sufficiently satisfactory to ensure the operation attaining to the position of an ordinary remedial measure in suitable cases of hepatic congestive hypertrophy.

As regards the mode of procedure, it is described as follows: With ordinary trocars, varying from the calibre of a No. 2 to a No. 6 sized English catheter, he makes, according to the strength of the patient and the gravity of the symptoms, from three to six punctures into different parts of the anterior of the liver; the punctures being distributed proportionally in the right or left lobe of the liver, according to which is the most gravely affected. He withdraws the trocars, and leaves their canulæ in the wounds for a minute or two, to admit of the oozing away of any liquid that may chance to be present at the seats of puncture. No anæsthetic is necessary, nor any other precaution beyond the employing clean instruments lubricated with carbolized oil. When the operation is completed, all he does is to cover over each seat of puncture with a separate two inch square sized piece of diachylon plaster, and secure them from being rubbed off, as well as keep the abdominal wall close against the liver, by putting a few turns of a four-inch broad cotton roller around the abdomen. The patient is told to remain in bed for twelve hours, and to take no stimulants for twenty-four hours. In this connection Dr. Harley relates the histories of two very bad cases in which the operation was attended with the most marked temporary advantages.

Altogether, the paper is eminently a suggestive one, and one that seems likely to be productive of the most excellent practical results. In our Southern States there are doubtless many cases in which the procedures proposed by Dr. Harley might be adopted with advantage; and if in any instance in which they were tested the results should be disappointing, it would seem to be established by his experience that at all events no harm could be done to the patient by the operation.

BEATS THE FAITH CURE.—The *Baltimore American* publishes the following: "WHAT THE PRESIDENT'S PATCH DID. Parkersburg, West Va., December 18. Ten years ago Mrs. Ada Martin, living in a small town in Ritchie County, punctured one of her limbs so severely as to cause permanent paralysis of it and deprive her of her power of speech. During the period of her affliction she has been making crazy quilts, and endeavoring to obtain patches from prominent men. Presidents Hayes, Garfield and Arthur sent her patches, and a day or two ago she received a patch from President Cleveland, with his compliments autographically expressed. Her pleasure at the event was so great that she jumped up suddenly, and in doing so knocked a revolver to the floor, causing it to be discharged. The ball entered her paralyzed limb, and the shock removed the paralytic effects and restored her speech. Ever since the occurrence she has had the use of her tongue, which for ten years has been silenced. The physicians say she will have the use of her limb as soon as the bullet wound is healed." We may now expect to hear of all the deaf and dumb asylums and hospitals for the crippled and paralyzed laying in a stock of assorted revolvers for therapeutical purposes.

N. B.—SUBSCRIBERS will confer a favor upon the publisher by mentioning this journal in their correspondence with the advertisers.

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## ORIGINAL ARTICLES.

### ARTICLE I.

THE PATHOLOGY OF SCARLATINAL NEPHRITIS.\* By FRANK GRAUER, M. D., Instructor in the Carnegie Laboratory of the Bellevue Hospital Medical College; Pathologist to the Harlem Reception Hospital.

*Mr. President and Gentlemen:*

The subject of my paper is one that has interested the medical profession both from a clinical and pathological point of view; and

\*Read before the New York County Medical Association, Dec. 20, 1886.

although a great deal has been done within the past ten years in the pathology of scarlatinal nephritis, there still exist differences of opinion as to the minute changes that occur in the various forms of this trouble. The different forms of scarlatinal nephritis that we meet with, post-mortem, may be classified, according to Friedländer,\* under one of the following three types :

First—the initial catarrhal nephritis. Second—the large, flabby, hemorrhagic kidney. Third—acute glomerulo—nephritis, or nephritis post-scarlatinosa.

The initial catarrhal nephritis is the form that we meet with in the first week of the disease, generally accompanying the exanthema, lasting from a few days to a week, and then gradually disappearing. It rarely leads to death. It is only recognized by a chemical and microscopical examination of the urine, in which you find a slight amount of albumen, mucus, and hyaline casts; more rarely, red and white blood-corpuscles, renal epithelium, and granular casts. You very rarely have symptoms pointing toward kidney trouble, and if any are present, they are liable, in the majority of cases, to be overlooked, or else attributed to the febrile condition.

The kidneys are slightly enlarged and hyperæmic. The capsule strips off very readily, and on a cut surface there is seen thickening of the cortical substance, with more or less loss of striæ and the glomeruli appearing as red dots.

Microscopical examination shows swelling and granular degeneration, with desquamation of the epithelium lining, especially the convoluted tubules. Hyaline and granular casts are often found in the straight tubes, and, where the process has been more severe, the beginning of a round cell infiltration in the interstitial tissue. Friedländer has also noticed proliferation of the epithelial cells lining the convoluted tubules, characterized by the following points: The nuclei of the cells are closer together, and stained more deeply, with a nuclear staining fluid, than normal; and occasionally four or five nuclei are found in an epithelial cell. It is only in those cases in which children die from the sequelæ or complications that are associated with the disease, amongst which diphtheritis and broncho-pneumonia play an active part, that we are able to witness the above changes. From the description just given, one would think that the changes were those of a parenchymatous inflammation. Friedländer, who probably has examined the largest number of cases microscopically, points out the following differences: Parenchymatous inflammation, according to

\* *Fortschritte der Medicin*; No. 3.

Virchow, leads to fatty degeneration of a cell, with disturbance of its function. This process does not occur in the epithelial cells lining the uriniferous tubules of the above form of nephritis. Then again, on the other hand, we have a cellular proliferation in initial catarrhal nephritis that, as a rule, does not occur in parenchymatous inflammation of the kidney.

The second form of nephritis that we meet with, namely, the large, flabby, hemorrhagic kidney, is not as frequent as the preceding or following form of nephritis. Friedländer found it present in only twelve cases of the two hundred and twenty nine that he examined. It generally occurs between the first and the fourth week of the disease. It runs a rapid course, and in some cases the urine is normal up to within twenty-four to forty-eight hours before death. Œdema rarely occurs. This form of nephritis is generally found in those cases accompanied by extensive angina and diphtheritic inflammation. The kidneys are enlarged and softened. The cortical substance is thickened and greyish-red in color. There is complete loss of the striæ, and the glomeruli, as a rule, are invisible. The cortex is studded with ecchymoses and large hemorrhagic infiltrations.

Microscopically, the tubules are found to contain the various forms of casts, red blood-corpuscles, degenerated and desquamated epithelium, and an increase in the connective tissue characterized by a round-cell infiltration, situated mainly around the glomeruli and between the convoluted tubules. Besides the above changes, you often find small abscesses situated in the cortical substance, and in which, by means of one of the aniline dyes, you are often able to detect micrococci. Whether these micrococci have any distinct relation with the etiology of scarlatina or diphtheritis, or whether they are merely one of the various forms of micrococci found in acute abscesses, such as *staphylococcus pyogenes aureus*, etc., I am unable to state; not having made cultivations from the same. This form of nephritis is not characteristic of scarlatina. It has been found in some forms of primary diphtheritis. Friedländer regards this as a septic inflammation of the kidney.

Acute glomerulo-nephritis, or nephritis post-scarlatinosa.

This form of nephritis is almost characteristic of scarlatina. It rarely occurs in other diseases. I met with it once in a case of heart trouble, in which it was verified by a gross and a microscopical examination. Klebs\* found it present only in scarlet fever. To quote his own words, he states that the purest form of acute glomerulo-nephritis is found following scarlatina.

\*Handbuch der Pathologischen Anatomie, III.

It generally occurs in the third or fourth week of the disease. The patient is convalescing, there is no fever, and the urine is normal. Then, probably without other symptoms, œdema is noticed about the eyes and lower extremities. Examination of the urine shows evidences of albuminuria. It is turbid, contains albumen, is diminished in amount, and of a high specific gravity. Microscopical examination shows renal epithelium, red blood-corpuscles, and hyaline casts; more rarely, epithelium and blood casts. In some cases the œdema disappears within a few days, the urine approaches the normal type, and in a short time the patient fully recovers. In other cases the process is not as favorable. The œdema increases, fluid accumulating in the peritoneal, pleural, and pericardial cavities; the urine keeps on diminishing, it becomes bloody, varying in color from slight smokiness to a dark brown, and contains a large amount of albumen. If examined microscopically at this stage, it is seen to contain a large number of red blood-corpuscles, pus, and renal epithelium cells, hyaline, blood, granular and epithelial casts. If the process still increases, we have uræmic symptoms setting in, with anuria and death. Friedländer found this form of nephritis present in forty-two cases out of the two hundred and twenty-nine that he examined.

To Klebs is due the honor of first pointing out to the profession that the glomeruli were affected in scarlatinal nephritis, and the results of his examinations were briefly as follows: In making fresh sections of the kidney with a double knife, he found that the glomeruli were anæmic, and on washing the same in water they became dark and cloudy. By allowing the light to fall directly on the specimen they appeared as white points.

Microscopically he noticed small, irregular nuclei imbedded in a granular mass; within the capsule, proliferation of the capsular epithelium and capillaries, almost completely covered by a mass of nuclei. On teasing apart a glomerulus with needles, he found the glomerulo-epithelial cells more adherent than normal, varying in shape, some polygonal, others club-shaped, in the centres of which were large, pale oval nuclei. Occasionally some of the cells were found fatty. Situated between the glomerulo-epithelial cells and the walls of the capillaries were small and irregular nuclei, and from their shape and appearance he came to the conclusion that they were nuclei of proliferated connective tissue cells, and that they produced a compression of the capillaries which caused the diminution and suppression of the urine. In this he probably was mistaken, as there is no evidence of connective tissue situated between the glomerulo-epithelium and the walls of the capil-



varies in a normal glomerulus. As there still exist differences of opinion amongst histologists as to the microscopical anatomy of a glomerulus, it may probably be advisable to consider the structure of the same here before proceeding to its pathological changes.

The uriniferous tubules all arise within the labyrinth of the cortex by means of a globular enlargement 1-200 to 1-125 of an inch in diameter, called Bowman's Capsule, which invests the tufts of capillary blood-vessels called the glomerulus. This capsule consists of a homogeneous membrane lined by a layer of flattened epithelial cells. The nuclei of these cells are generally arranged in groups, thus resembling in this point of structure the epithelium lining the air cells of the lung. The vasa afferentia, which is derived from the interlobular artery, enters the capsule at the side opposite the urinary tubule. Within the capsule it breaks up into a plexus of capillaries called the glomerulus. A vein, the vasa efferentia, which is smaller than the afferentia, proceeds from the centre of the glomerulus and leaves the capsule at the point at which the afferent vessels enter it.

Each glomerulus is covered by a layer of flattened nucleated epithelial cells, which dip down between the capillaries, separating them from each other. The epithelial cells that cover the capillary loops are readily distinguished from those that dip between them. The former appears as a thin, arched plate—being concave only on one side, which is attached to the convexity of the loop. The latter appear wedge-shaped, and occasionally one side of the cell appears like a double arch; that is, two concavities on one side, which fit into two capillary loops.

As regards the capillaries, their walls consist of two distinct coats: first, an external, thick, homogeneous membrane, called by Langhans\* *vasal membrane*; second, an internal endothelial or nuclear layer, the protoplasm of which is so fine and delicate that it is hardly perceptible, but which in certain pathological conditions becomes thickened and is readily detected. In slight waxy degeneration of the kidney these two layers are shown very nicely by staining with methyl violet.

The external homogenous layer, having undergone waxy degeneration, is stained violet; the internal layer, being normal, is stained blue. With reference to the nuclei of the endothelial cells, they are very scarce, as first pointed out by Ribbert. I think most authorities agree that there is no connective tissue situated between the capillary loops and the glomerulo-epithelium, as first described by Oxel Key and still sustained by Klein and others. In an examination of over one hun-

\*Virchow's *Archives*, Vol. 96.

dred teased and cut sections, I was unable to detect the slightest evidence of connective tissue between them.

Klein,\* in an examination of twenty-five bodies of those dead of scarlet fever, observed the following microscopical changes in the kidney: first, increase of nuclei, probably epithelial, covering the glomeruli; second, hyaline degeneration of the elastic intima of minuter arteries, especially the afferent arterioles. The intima of these vessels appear from place to place swollen up into cylindrical or spindle-shaped hyaline masses which produce a distinct narrowing of the lumen of the vessels. In connection with this he observed a similar hyaline degeneration of the capillaries of the Malpighian corpuscles, in the course of which greater or smaller parts of the glomeruli became obliterated. The degenerated parts are at first hyaline; later on they assume a more fibrous aspect. Bowman's capsule at the same time becomes greatly thickened.

A third change that he observed was multiplication of the nuclei of the muscular coats of minute arteries, and a corresponding increase in thickness in the walls of these vessels. The changes referring to the glandular part of the kidney were indications of a parenchymatous nephritis. Klein does not think that the anuria and uræmic poisoning are due to compression of the vessels of the glomerulus, but attributes them to the changed state of the arterioles.

Ribbert,† in his examination, came to the following conclusion: That glomerulo-nephritis consists in a swelling and desquamation of the glomerulo and capsular epithelium, with more or less accumulation of the same in the capsular space. The nucleated mass in the lumen of the capillaries he regards as thrombosed white blood-corpuscles.

Langham's‡ results in the examination of twelve cases were as follows: The capillaries were dilated, cloudy, and filled with a rich nucleated protoplasm. Long and cross sections of the tufts showed in their lumen a reticulum with fine meshes, in which there were occasionally red and white blood-corpuscles. In some capillaries thickening of the endothelium layer was only noticed. There was also swelling of the glomerulo and capsular epithelium, with slight desquamation of the former.

My observations are based upon nine cases of glomerulo-nephritis that occurred at the Allgemeine Städtisches Krankenhaus in Berlin, and were conducted at the pathological laboratory of Dr. Carl Fried-

\* *Transact. Path. Soc.*, London, 1877. xxviii. p. 435.

† *Nephritis und Albuminuria*, 1881.

‡ *Virchow's Archives*, Band 96.

länder, to whom I am indebted for the above material. The results of the post-mortem examinations are briefly as follows:

*Case I.*—A. K., aged ten years. Sudden death on the twelfth day after beginning of the first symptoms of scarlatina. No albumen or casts were found in the urine. Strong-built child. Slight œdema of the lower extremities. No fluid in the abdominal or pleural cavities. Weight of the heart 185 grammes. Hypertrophy and slight dilatation of left ventricle. No valvular lesions. Bloody imbibition of the endocardium. Left lung showed hypostatic congestion. Right lung adherent, the adhesions of which were infiltrated with a gelatinous material. Extreme redness and swelling of the larynx. No diphtheritis. Spleen swollen. The kidneys were slightly enlarged, and the cortical substances were hyperæmic. The glomeruli were very pale.

*Case II.*—M. K., aged eight years and three months. General anasarca. Weight of body 25,840 grammes. Fluid was found in the abdominal, pleural, and pericardial cavities. Weight of heart 155 grammes. Extensive hypertrophy of the left and dilatation of the right ventricles. No valvular lesions. The kidneys were enlarged and the glomeruli were pale and prominent. The cortical striæ were somewhat obliterated. The brain showed evidence of a pachymeningitis. Suppuration. The ventricles were small, and contained an excess of clear fluid.

*Case III.*—J. I., aged eight years. Death in the sixth week of the disease. œdema of the lower extremities noticed in the third week. No fluid in the abdominal, pleural, or pericardial cavities. Excessive hypertrophy of the left ventricle. No valvular lesions. Weight of heart 180 grammes. Kidneys were slightly enlarged. The glomeruli were prominent and pale. No other changes.

*Case IV.*—M. B., aged three years and six months. Death in the third week of the disease. Albuminuria in the second week of disease. œdema was present during the last three days of life. Slight œdema of lower extremities and face. Excessive hypertrophy and dilatation of the left ventricle. Weight of heart 110 grammes. The kidneys were swollen, the cortical substance was hyperæmic, and the glomeruli were slightly enlarged and pale.

*Case V.*—F. S., aged eight years. Death in the fourth week of the disease. General anasarca. Fluid in abdominal and pleural cavities. œdema of the lungs. Left lobe showed hypostatic pneumonia. Weight of the heart 163 grammes. Hypertrophy of both right and left ventricles. No valvular lesions. Kidneys were not enlarged. They were apparently normal, with the exception of the glomeruli, which were very pale.

*Case VI.*—C. S., aged six years. No œdema. Fluid in the abdominal and pleural cavities. Both ventricles of the heart hypertrophied. Weight 150 grammes. Œdema and congestion of both lungs. Swelling and congestion of the mucous membrane of the larynx and trachea. The kidneys were enlarged. Medullary and cortical substances were slightly congested. The glomeruli were enlarged and pale.

*Case VII.*—R., aged twenty-nine years. Œdema fourteen days before death. There was fluid in the pleural and the abdominal cavities, with œdema of lungs. Left ventricle of the heart greatly dilated and hypertrophied. Weight of heart 430 grammes. Kidneys were enlarged, the cortical substance was swollen and congestive, and the glomeruli were very pale.

*Case VIII.*—D., aged fourteen years. Death in the fourth week of the disease. Œdema of the lower extremities and face. Fluid in the pleural and abdominal cavities. Left ventricle of the heart slightly enlarged. Extreme swelling and inflammation of the larynx and trachea. Spleen enlarged. The kidneys were smooth, and the cortical substance was apparently normal. The glomeruli were pale and prominent.

From the above descriptions we see, then, to recapitulate, the following microscopical changes in the kidneys: They are enlarged and hyperæmic; there is no loss of cortical striæ, and in some cases the cortices may be somewhat thickened. The glomeruli are pale, prominent, and more or less enlarged. As regards the microscopical examination, the uriniferous tubules are apparently normal. There may be some evidence of a slight parenchymatous inflammation, the epithelium may be somewhat swollen, and occasionally you may see a cast in the tubules. The following changes are found in the glomeruli: They are bloodless. You very rarely see a red blood-corpuscle in the lumen of a capillary, especially when stained with hæmatoxylin and eserin. If present they would be stained a rose color by the eserin. When examined with a low power, the glomeruli are found larger than normal and covered with a mass of nuclei. With an immersion lense the following changes are noticed in the capillaries, and can be verified by looking at the specimens that I have arranged here under the different microscopes:

In some capillaries the only change that is noticed is a thickening of the endothelial layer, which becomes more granular. In others the lumen of the capillary is filled with a rich nuclear protoplasm. The question that arises is, Are these nuclei the nuclei of proliferated endothelial cells, or do they belong to white blood-corpuscles, as described by Ribbert and Hortallis? My opinion is that they are the

nuclei of proliferated endothelial cells, very much smaller and darker than the nuclei of white blood-corpuscles. Occasionally you meet with a nucleus that resembles somewhat one of the pictures of nuclear segmentation. Again, I have seen an endothelial cell swollen and projecting into the lumen of the capillary like a cubical epithelial cell, and completely obliterating its calibre. In certain loops you have the lumen filled with a reticulation, as described by Langham, in the meshes of which you may have red and white blood-corpuscles. I think we can safely say that it is a proliferation and thickening of the endothelial cells that is producing an obstruction to the circulation of the blood through the capillaries. The hyaline degeneration of the capillaries, as described by Klein, was observed by the writer in only two glomeruli.

In reference to the glomerulo-epithelium, I have noticed swelling and proliferation of the same. It is still considered by some authorities that it is the proliferation of the glomerulo-epithelium that is producing a compression of the capillaries, and thereby obstructing the circulation. In all the specimens that I examined, although proliferation of the glomerulo-epithelium was present, the loops of the capillaries, as a rule, were larger than normal, showing that the pressure was from within, and not from without. Proliferation of the capsular epithelium, as described by Klebs, was not observed in 182 sections that I examined, although I have observed it in other forms of scarlatinal nephritis. The vasa afferentia is occasionally found dilated to twice and three times its normal diameter. This is beautifully shown in injected specimens with gelatin and Prussian blue, as you will see in one of the specimens under the microscope. Hypertrophy of the left ventricle of the heart is always present in cases of glomerulo-nephritis, as first pointed out by Friedländer. It is due to the heart being compelled to do more work on account of the obstruction to the circulation and the Malpighian tufts.

A few remarks as regards technique may not be amiss in this place. The best results are obtained by taking a small piece of the kidney, about one-third of an inch in width and thickness, and hardening it immediately in absolute alcohol for four or five days. At the end of this period it is put into a solution consisting of equal parts of alcohol and ether for twenty-four hours. It is then put for forty-eight hours in a very dilute solution of celloidin, subsequently in a thick solution, mounted on cork, and thrown into a 90 per-cent. solution of alcohol for two or three days. By this method I was able to obtain sections one-one-hundredth of a millimetre in thickness, in which the glomeruli were intact and had not fallen out of the sections. This is the main ob-

ject to be gained. The specimens were then stained with hæmatoxylin and eserine, very deeply with the latter, so as to show the presence of red blood-corpuscles in the capillary loops. Fairly good results were also obtained by first hardening the specimen in a one-half per cent. solution of osmic acid for twenty-four hours, then followed by the above method, and stained with a watery solution of fuchsine. In order to see the glomerulo-epithelium well you can macerate your specimen for two or three days in a solution of bichromate of potassium, and then tease the glomeruli apart by fine needles, as recommended by Langham. A method that I have found very useful was to inject the kidney with gelatin, then harden in alcohol and imbed in celloidin. In cutting the sections I used a comparatively dull razor, which had a tendency to tear rather than cut the glomeruli. The torn glomeruli, examined under the microscope, showed very nicely the glomerulo-epithelium with its pathological changes. After a certain number of sections were cut in this manner I substituted a good razor, and was then able to get good sections, so as to study the changes in the lumen of the capillaries.

I attempted to obtain figures of nuclear segmentation by hardening the specimens in Fleming's\* solution, and then staining them with a watery solution of safranin. In this I was unsuccessful, as it is necessary to have the organs immediately after death in order to obtain good results; this was impossible in the cases that I examined. Specimens remain in this fluid for three or four days, and are then washed out thoroughly in water for twenty-four hours; then for twenty-four hours in 60 per-cent. alcohol; subsequently in absolute alcohol.

The experiments so far that have been made in attempting to produce artificially acute glomerulo-nephritis in animals have been unsuccessful.

In concluding, I would like to state that the term glomerulo-nephritis ought to be limited to those affections in which there is an obliteration of the loops of the capillaries, and not applied to those affections in which there is only a proliferation and desquamation of the glomerulo and capsular epithelium, as this change has been noticed in all forms of chronic nephritis.

#### DISCUSSION.

Dr. A. Flint said that one of the questions of interest suggested by the paper was in regard to death from so-called uræmic poisoning. This is a live question to-day, and personally he had very positive

\* Fleming's Solution consists of 1 per cent. solution of Chromic Acid, 15 pts. ; 2 per cent. solution of Osmic Acid, 4 pts. ; Glacial Acetic Acid, 1 pt.

opinions in regard to it, which were considerably at variance with those formerly held by him. From the investigations which he had made during the last four years in regard to excrementitious substances, he had begun to doubt whether, after all, urea is a poison. His experiments had led him to believe that water was formed *de novo* in the system from the union of oxygen and hydrogen; so that under these circumstances it was an excrementitious product, and yet it was certainly not a poison. So there was good reason to suppose that carbonic acid was not a poison in itself. Some experiments made as long ago as 1840 showed that animals might be exposed to its effects indefinitely without any injury if the quantity of oxygen supplied to them was proportionately increased. It was the carbonic oxide, a deadly poison, which did the harm in cases where the fatal effect was usually attributed to carbonic acid. As to the cause of death in those cases following scarlatinal nephritis in which it was commonly attributed to uræmic poisoning, he believed that those parenchymatous degenerations are due very largely to the excessive pyrexia of the scarlatina. The special direction which these parenchymatous degenerations take in different infectious fevers is governed, he thought, by the special cause of the disease; each affection having its own peculiar *contagium vivum*, with its specific mode of action in the system. In scarlatina there is a strong tendency for trouble to locate in the kidneys, and in scarlatinal nephritis the urine is diminished in quantity and concentrated, and contains a large quantity of albumen, because these organs become choked with excrementitious matter and can no longer be washed out by the water derived from the Malpighian tufts.

Dr. Isaac E. Taylor said that, in the cases to which Dr. Grauer had directed special attention, death had occurred in from four to eight weeks. He should like to inquire what would be the result of an examination of the kidneys in those cases which sometimes occurred in which children were struck down in thirty-six hours. He related one case in which a child was suddenly seized with spasms, after which it became comatose, and died in a few hours. In another case, occurring in a family where scarlatina already existed, no eruption could be found except a slight blush upon one of the child's feet. In a few days, however, purpura hæmorrhagica of an alarming character ensued; but recovery finally took place. He also related the case of two children in the same family. The eruption consisted in a slight blush upon the hands and feet, but in a few days anasarca set in, and death resulted.

Dr. L. J. MacNamara said that if there was swelling of the

endothelial cells, filling up the calibre of the tubules, as described by Dr. Grauer, it would overthrow the theory formerly entertained that these tufts of capillaries are composed of nothing but epithelial cells, without nuclei. Or the condition noted might, perhaps, be explained by the existence of two sets of cells, one variety being nucleated and the other not nucleated. Again, it had occurred to him that if it were true that scarlatina has a special action upon the epithelial cells of Bowman's capsule, why did it not also have the same actions upon such serous structures in other parts, as, for instance, the endocardium? It seemed to him that its action was on the endothelial cells.

Dr. Gouley said that a number of years ago, during several epidemics of scarlatina at the Nursery and Child's Hospital, it had been somewhat surprising to him that so many of the children were affected with nephritis; and the point that interested him most was that, of the many who recovered, the larger number recovered promptly and completely. He should like to inquire, therefore, whether it was not rare for chronic nephritis to result.

Dr. Daniel Brown expressed the opinion that the virus of scarlatina finds a soil particularly fitted to it in the skin, the intestines, and the lining membrane of the glands, and that by its effect upon these structures an irritation of the nervous system is set up that is sufficient to account for the class of cases to which Dr. Taylor had referred. It is very much as though the child died from shock. Scarlet fever has the effect of arresting almost all the secretions of the body; and, therefore, in his treatment he is in the habit of employing such remedies as tend to stimulate the secretions. By pursuing this course he has found that the temperature is kept down, and that the danger of unpleasant sequelæ is greatly diminished.

The President, Dr. C. A. Leale, said that some fifteen years ago, when attending physician for diseases of children at one of the largest dispensaries of the city, he was struck by the large number of cases of dropsy that presented themselves, and he found that the great majority of them were in children who had passed through attacks of scarlet fever without any medical attendance. Another important point was that in examining the urine, from day to day, in cases of scarlet fever, although for a time there might be no sign of kidney trouble, it was a fact that albumen appeared in it almost invariably on the twenty-first day. It thus followed close upon desquamation of the skin. When scarlatinal dropsy is moderate in amount, there is usually little difficulty in promptly relieving the patient.

Dr. Grauer said that in the cases referred to by Dr. Taylor, in which



death occurred within twenty-four or forty-eight hours, there was complete suppression of urine, and that the condition found after death was acute glomerulo-nephritis. In reply to Dr. Gouley's question he stated that while, in the majority of cases, the children undoubtedly recovered promptly, in a certain proportion of cases the kidney trouble became chronic. He had at present under observation a child eight years old, who had an attack of scarlet fever two years ago, and who was now, as a result of it, suffering from chronic interstitial nephritis, with bloody urine.

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## ARTICLE II.

HYSTERIA, ITS CLINICAL PHENOMENA AND TREATMENT. By J. LEONARD CORNING, M.D., New York, Consultant in Nervous Diseases to St. Francis Hospital, Jersey City.

(Concluded from page 56.)

*Prognosis.*—In cases of long duration, with a previous neurotic history, the prospects of recovery are decidedly unfavorable; this is especially true when the psychical disturbances are persistent and permanent in character. On the other hand, even violent transitory mental disturbances are not necessarily of bad omen as regards eventual recovery from the purely hysterical symptoms; but it is unfortunately true that these attacks of insanity are liable to leave an ineffaceable trace behind in the form of psychical weakness, and even complete demetation.

When the disease is of short duration and the result of psychical infection (by imitation) the prognosis is favorable, provided that the subject can be properly isolated and placed under appropriate treatment.

Again, when manifest physical debility is the demonstrable cause of the disease, reinvigoration by forced feeding and rest often yields surprising results. It must be admitted, however, that the danger of relapse is always more or less great, unless the subject can be properly protected from the ill-directed sympathy of over-zealous friends.

Fore-warned is, however, fore-armed, and if the physician, realizing his personal responsibility in the case, presents a true picture of the possible dangers of excessive sympathy to the friends and family of the patient, much future difficulty and annoyance may be avoided.

*Treatment.*—The proper management of hysterical cases is one of the most complicated problems in the whole range of medicine. In the

first place, owing to the imitative qualities of the affection, the conscientious practitioner has much difficulty to persuade himself that he is really confronted by a true pathological condition, and that he is not the victim of deception pure and simple. The fact that hysterical women are, of all others, most prone to prevarication of all kinds, lends force to his scepticism. As a result of this uncertainty of mind the efforts of the attending physician are characterized by a perfunctory observance which is apt to dispel the confidence of patients and friends alike. It is therefore necessary above all things to evoke confidence on the part of the patient. This is best accomplished by the adoption of a manner expressive of firmness, but not necessarily devoid of feeling. Above all things, anything approaching exaggeration of manner should be carefully avoided. If the physician be called during the progress of an hysterical attack, he should avoid alarming the friends of the patient by abrupt or unnecessarily harsh injunctions. A very good mode of procedure is as follows :

Cause the patient to be held firmly by those present, in such a manner that she is prevented from throwing herself about in a violent and aimless manner. Then, having loosened her clothing, particularly about the throat and neck, cold water may be dashed upon the face until there is undoubted evidence that the paroxysm is over. This is an old but effective expedient. Again, a towel may be dipped in cold water and the face of the patient submitted to a species of mild flagellation. Or, the nose and mouth of the patient may be held closed so as to interrupt breathing—a very effective method of bringing the attack to a speedy termination. Should a faradic battery be at hand the patient may be treated with the wire brush. Care should be observed, however, not to employ currents of too great intensity. Carter has laid down the following rules for treating the attack :

“The attacks will in all probability occur during a meal, or when there are strangers present, or at some most inconvenient time and place, and it may on this account be necessary to have the patient removed to her bedroom. In such case she should be carried there as quickly as possible, placed upon the floor, and immediately left quite alone, the door being shut, and no one being suffered to open it on any pretext whatever until the patient does so herself. But if the room in which the attack takes place can be spared for a few hours, it should be cleared and shut up in the same manner, and in either case special care must be taken not to give utterance to a single expression either of sympathy or of alarm. After the lapse of a longer or shorter time, often at a meal, and sometimes not until the next morning, she will

present herself as usual, and will perhaps offer some apology, or express some regret for her illness. This should be graciously received; and then every attempt on her part to return to the subject must be carefully and industriously foiled, no inquiries being made about her health, and all complaints being interrupted by the introduction of ordinary conversational topics."

The inhalation of chloroform has been proposed with a view to aborting the attack, and in severe cases some excellent results have been reported. Hypodermic injections of morphia and injections of opium have also been advocated for the same purpose. Except, however, in very severe attacks, these potent remedies should be discarded in favor of the more simple and available means already referred to.

In France, the hystero-epileptic phase of attack is much more common than with us, and in this condition Jolly has seen good results from large doses of the bromide of potassium in this titanic manifestation of the affection.

In very rare cases there is spasm of the glottis, during the attack, of sufficient intensity to cause grave apprehension. Under these circumstances a sponge saturated with chloroform or ether may be held over the mouth and nose of the patient; or, the physician may pass his finger below the epiglottis and draw it upwards. The latter expedient will, however, rarely be required. So much, then, for the hysterical seizure.

But what of the fully developed disease; what shall we do to overcome the multiform manifestations of the hysterical state? To begin with the state of the patient in general, we must endeavor to ascertain some peccant physiological feature which will, in a measure, account, or at all eventstend to perpetuate, the unstable condition of the central nervous system. Undoubtedly a most common feature of this sort is general anæmia. The best method of combating this state of bloodlessness when it exists in a hysterical person is by appropriate tonics, and, above all things, by feeding and passive exercise. Should there be an inordinate accumulation of fat as well as lack of blood, we should prescribe massage, general faradization, and plenty of fresh air. Weir Mitchell has, perhaps, understood these matters better than any other modern medical writer. To the medical man who is unacquainted with this gifted writer's contributions to the literature of physiological alimentations, there remains for exploration one of the most fascinating chapters in scientific literature.

States of plethora are far more rare in hysteria than those of sanguineous impoverishment. A failure to recognize this fact led among

the older physicians to an incredible amount of blood-letting and other depleting measures. As a consequence of such mistaken treatment, many hysterical persons were doubtless forced into a condition of premature decline, in which the outcome was not infrequently fatal to life itself. In the eyes of modern physiology all this seems incredible enough; and it must indeed be conceded that, if we have not arrived at perfection, we are, at least, far ahead of the preceding generation of physicians in the management of many phases of hysteria.

The relations of affections of the genital organs to hysterical symptoms is a question which is liable to be presented to every practitioner who is brought much in contact with the manifold neuroses which constitute such a baneful feature of the lives of women residing in great cities.

Most authors who have written on hysteria are accustomed to devote much space and ingenuity to a discussion of this interesting conjunction of symptoms. To me all this seems a useless waste of energy. In the first place, I have seen many women suffering from hysterical symptoms, in whom the reposition of a displaced uterus, or the sewing up of a lacerated cervix brought no relief so far as the neurotic manifestations were concerned. On the other hand, I have seen such persons improve in a most wonderful way under treatment by hyper-nutrition, massage, Franklinization, and appropriate moral restraint. By moral restraint I mean removing the patient from the vicinity of friends and family, so that there is no danger of subjecting the patient to the highly prejudicial influence of ill-advised sympathy.

Among the remedies which have been largely employed by physicians in former times in the treatment of hysteria, I would mention galbanum and asafoetida. Since, however, modern physiological research has made itself more generally felt in practice, the tendency to rely upon the specific action of remedies of all kinds has grown progressively less. This applies with particular force to hysteria, where, as we have seen, general hygienic measures are asserting themselves more and more. Among the therapeutic measures of most uniformly good effect is the cold douche or sponge bath. It may be employed where there is an absence of manifest debility, and should always be immediately followed by vigorous frictions.

The anæsthetic manifestations of hysteria may be treated with advantage by daily applications of Faradism, or, still better, Franklinism. The application of metals, magnets, and the like, as recommended by certain French physicians, has no other advantage than the appeal which such devices inevitably make to the titanic imaginative powers

of the patient. To me there is a kind of mediæval quackery about such expedients, which has given rise to a feeling of repugnance that I am quite unable to overcome. I am quite willing to thus avow my scepticism in the presence of the general alchemistic state of the whole question of metallotherapy.

Narcotics and even anæsthetics may be resorted to in combating the hyperæsthesia and neuralgia which are such a tormenting complication of many hysterical cases.

As to the hysterical headaches frequently met with, bromo-cafein, inhalation of the nitrate of amyl, the bromides, and chloral, in considerable doses, will be found useful.

Where paralytic complications are a marked feature, electricity, particularly the static and faradic varieties, should be persistently and systematically employed. On the other hand, when we have to do with spasms, as for instance in persistent *globus*, the constant galvanic current may be employed with advantage. Alternate hot and cold applications also frequently render good service. When the spasm is limited to the stomach syphonage with hot water may be resorted to, provided that the introduction of the tube may be attained without too much nervous shock to the patient. In order to facilitate the entrance of the tube into the larynx, and to prevent spasm in the latter, I have found the painting of the pharynx with cocaine, and the projection of a fine spray of a strong solution of the latter into the upper air passages, an excellent expedient.

When there is spastic or paralytic retention of urine, no hesitancy should be exhibited, the catheter being at once called into requisition. In spraying the upper air passages, as above described, I have incidentally observed that a severe attack of *globus* may often thus be arrested. This, then, is a brief sketch of the resources at our disposal in the treatment of this most paradoxical, aggravating, obstinate, and obscure neurosis.

As a matter of course the thousand and one little exigencies liable to occur in the course of protracted treatment cannot be separately treated of in a paper of this kind. Enough that we have given an outline of the policy to be pursued in the treatment of the cases most commonly met with. After all has been said which can reasonably be said, it must in truth be admitted that the personal ascendancy which the physician is able to gain over his patient must ever constitute one of the most important, if not the supremely important, factor of successful treatment.

26 West 47th Street.

## ARTICLE III.

TWO CASES OF BILIARY COLIC, WITH VOMITING OF ENTIRE GALL-STONES OR FRAGMENTS OF THEM. By THOMAS E. SATTERTHWAITE, M.D., Professor of Pathology and General Medicine in the New York Post-Graduate School and Hospital.

The following case is so exceptional in the records of biliary colic that I wish to put it on record:

On March 2, 1886, about 4 P. M., I saw the patient, a well-developed man, 64 years of age. He then complained of pain in the epigastrium, but the point of most distress was a little to the left of the pylorus, at least as far as was indicated by the patient. The same evening I saw him again. He had then taken McMunn's Elixir twice in 15 drop doses, but had obtained little relief. During the course of an hour I gave him an additional 75 drops of the elixir, and he then went to bed. The pain was materially lessened; but the patient continued to take the medicine in 20 drop doses for some hours without entirely abolishing the pain; which, however, stopped at 4 P. M., when he began to vomit. The attack had then lasted 16 hours. The vomited matter was of a deep greenish color, heavily loaded with mucus. On examining it at about 10 A.M., on March 3, I found that the quantity of vomited matter collected since 4 P. M. amounted to about one and half pints, and that it contained at the bottom solid gritty particles of a brownish black color; some flat, laminated and soft, and others of a hard, crystalline appearance. Evidently, from the inky color of the sediment, some other particles had undergone solution. After removing these particles I directed the patient to retain for examination all vomited matter. This was done, and I came in the possession of a dozen or more similar fragments. When the vomiting began at 4 P. M., on March 3, the pain ceased entirely, and though it afterwards recurred during the day for a few moments at a time, the severity of the attack was past.

I gave directions from the first to have the intestinal dejections preserved for examination, but the patient neglected the matter, though he examined them sufficiently to observe that they contained similar fragments. This attack was the shortest from which the patient had ever suffered. He had no fever; no pain in the shoulder; no jaundice; nor did any appear during the subsequent two weeks. Since the attack just described the patient has been in unusually good health, and has had no symptoms of his former trouble. In consulting the records I find but for similar instances, though in some of the older works there is allusion made to the possibility of such occurrences. The cases to

which I refer are found in Von Schueppel's article on Gall Stones, in Ziemssen's Cyclopædia. He there cites the two cases by Petit (Mem. de l'Acad. de Méd. et de Chirurg. 1743, vol. 1.), the vomited stone measuring  $2\frac{1}{2}$  inches. The third case cited was that of Jeaffreson (Path. Trans. Vol. XII., p. 129), where a woman, 94 years of age, vomited a stone the size of a nutmeg. The fourth example was given by Miles, from whose patient two were ejected by vomiting (Lancet, Jan. 19, 1861). But even in these cases it has been thought by some writers that the size of the calculi would indicate that they did not enter the stomach per *vias naturales*, but by ulceration. Bartholow,\* however, in citing one of these cases, infers that the former theory is possible. I have now to add another case to my own, thus swelling the total number I have found to six. It was given me by Dr. C. D. Fitzgerald, of Lathrop, Missouri, last winter.

Miss L. J., 20, daughter of a well-to-do farmer, has been in fairly good health for two to three years up to the autumn of 1881, when she began to have fever of an ill-defined but intermittent type, which left her in an asthenic condition, with pulse and temperature about  $100^{\circ}$ . Tongue red and dry, sore throat, appetite and digestion poor. The food was often vomited. Pain was referred to the pylorus, and there was a hard pyriform tumor in the region of the gall bladder, measuring fully six inches in length. Jaundice well marked, urine scanty and high colored. After the patient had remained in this condition about six weeks, she developed one night a sudden nausea, and while vomiting threw up several gall stones, some of them the size of a filbert. During the first week of vomiting a dozen or more were ejected, but during this time they also began to pass by the bowels, coming in "crops" 15 or 20 at a time. She seemed to know the precise time when the "crop" would drop out into the towel, and at that time gave symptoms of "shock," so much so that her life was at times despaired of.

For fully a month these attacks would recur at intervals of two or three days, and it was estimated by an actual count that she passed per rectum over 150 gall stones, ranging in diameter from a pea to a good sized walnut. They consisted mostly of the carbonate of lime, with little admixture of anything else.

The young lady made a tolerably good recovery, after an illness in all of about three months. Her mother had previously died of an hepatic abscess, which discharged into the peritoneal cavity.

251 Madison Avenue, New York City.

\*System of Med., Vol. II., p. 1076.

## ARTICLE IV.

A CASE OF PERFORATION OF THE APPENDIX VERMIFORMIS; LAPAROTOMY. By JOSEPH D. BRYANT, M.D., Professor of Anatomy and Clinical Surgery, and Associate Professor of Orthopædic Surgery, in Bellevue Hospital Medical College, New York.

On the 22d of June, 1886, I received a telegram at a late hour of the evening, from my colleague, Prof. E. G. Janeway, requesting that I come at once to a neighboring town, and that I come prepared to perform laparotomy. The same summons informed me, also, that the friends of the patient desired a consultation of surgeons, and consequently I invited the attendance of Dr. W. T. Bull.

The patient in question was a male of about 45 years of age, with a good family history, and without a predisposition, hereditary or otherwise, that can be claimed to have been directly the cause of his illness. About fifty hours before this time, and without any appreciable exciting origin, the patient had been suddenly attacked with a moderately severe griping pain in the epigastric region. He attached but little importance to the pain, attributing it to a mild diarrhœa by which he had been annoyed during the last ten or twelve hours preceding the attack of pain.

Domestic remedies were administered, including a mild cathartic, which afforded him great relief from the trouble.

He noticed no pain or tenderness in the right iliac region. About fifteen hours afterward the pain became more severe than at the onset, and was still located in the epigastric region.

The family physician was called in at this time, and his view of the case did not seem to differ materially from the view entertained by the patient on the preceding day, since he also administered a cathartic, followed by an anodyne. The cathartic produced no characteristic effect. The pain increased in intensity, the abdomen became tympanic, and nausea, with occasional vomiting, took place.

The vomited matter was not characteristic of any especial morbid process. Enemata were administered, which served to dislodge only a few small scybalous masses. The condition of the patient became gradually worse, and Prof. Janeway saw him, in consultation with the family physician, about forty-five hours after the first attack of pain.

About fifty hours after the attack the patient was seen by Drs. Janeway and Bull, myself and the family physician, and the following facts were noted :



The patient's perceptions were intact, although blunted somewhat by the previous use of opium. Persistent though not severe nausea existed, with occasional vomiting. The vomited matter had no distinctive characteristics. The abdominal walls were fully distended, having a drum-like tension, with tympanitic resonance well marked at all situations; hepatic dullness normal.

Tenderness on pressure was general, but was best marked, however, at the lower portions of the abdomen. No isolated point of extra tenderness was discovered. All pain was referred to the epigastric region, the same as at the onset of the attack. The abdominal walls were too tense to render deep palpation of any service as a diagnostic measure.

Temperature, 102 F.; pulse, 108. The respirations were painless, but increased in frequency. The increased frequency appeared to be largely due to the abdominal distension. The bowels were obstinately constipated, with an absence of all intestinal sound and of appreciable muscular movements. Digital rectal examination disclosed nothing abnormal. The thighs were flexed. Urine drawn with a catheter.

As the result of this examination, the consultants believed (1) that a more or less general peritonitis existed; (2) that it was secondary to other obstructions of the intestinal tract or perforation of it; (3) that immediate measures of relief must be taken to insure a chance for recovery; (4) that medicinal measures afforded no such chance; (5) that an explorative incision of the abdomen was warranted. The patient was informed of the conclusion, and willingly acceded to the proposition, which was carried out in as thoroughly antiseptic a manner as the circumstances of the case would admit.

As soon as the peritoneum was incised, a very small amount of a thin, non-offensive, reddish colored fluid escaped. The small intestines were extremely distended, and their serous surfaces were deeply congested. The sigmoid flexure (which extended across to the right iliac fossa) presented similar appearances. In some situations evidences of recent lymph were seen. No characteristic local indications of an obstruction could be found anywhere.

The intestines at and about the right iliac fossa presented the evidences of a more profoundly inflamed condition, and for this reason the caput coli was examined closely. It too presented appearances similar to the contiguous intestines. The vermiform appendix was then sought for and found, but with not a little difficulty. It arose from the inner and peritoneal surface of the cæcum, was about two and one-half inches in length, was covered entirely by peritoneum,

and was unattached, except at its origin from the cæcum. It was standing nearly erect between the intestinal folds. It was swollen and darkly congested, and presented somewhat the outline of a small, distended leech. At its base three perforations were found, two of which were each about the size of a small pea, while the other was of a smaller size. In one of the openings a small, soft mass of fæcal matter was located. At and around the base of the appendix a considerable amount of the reddish fluid just mentioned was seen, mixed with flakes of recent lymph. The odor of the fluid in this portion also was not distinctively offensive.

The appendix was tied at its base, below the points of perforation, with a strong silk ligature, and removed with scissors. The abdominal toilet was carefully performed with antiseptic sponges and a warm solution (1-10,000) of bichloride of mercury. A drainage tube was introduced, and the abdominal wound closed and dressed antiseptically. During the operation the patient was stimulated frequently with hypodermic injections of whiskey. At its termination the pulse was 120 and feeble. The patient was aroused to continued consciousness with difficulty, owing, it was thought, to the influence of the opium which had been administered previously. He rallied, however, from the immediate effects of the operation, but died twelve hours after it from exhaustion.

It will be seen that there are not a few interesting features connected with this unfortunate case: (1) The preceding diarrhœa; (2) the absence of distinctive pain at the seat of the lesion; (3) the location of this pain in the epigastric region; (4) the comparative quiet following the first attack; (5) the existence of normal hepatic dullness; (6) the extension of the sigmoid flexure to the right iliac fossa; (7) the unusual arrangement of the vermiform appendix; (8) the absence of the evidences of any restricting inflammatory process; (9) the uncertainty attending the diagnosis of the exciting cause of the patient's condition; (10) the unusual means adopted for the relief of the patient.

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## ORIGINAL TRANSLATIONS.

NATURE AND TREATMENT OF TRUE ANGINA PECTORIS. By HENRI HUCHARD, Physician to the Bichat Hospital. Translated from the *Union Médicale* by H. MCS. GAMBLE, M. D., Moorefield, W. VA.

### PART II.

If true angina pectoris is the result, not of a nervous affection, but of an arterial affection, it is necessary to address one's self to remedies the

principal action of which bears upon the arterial system : in a word, *to an arterial disease, it is necessary to oppose an arterial medication.*

Now, the paroxysms of angor are nothing else than paroxysms of cardiac ischæmia, and the anginous subjects, who are always the subjects of aortic and most frequently of arterio-sclerotic troubles, present under this double title a sometimes considerable elevation of the arterial pressure ; hence it is necessary severely to banish from the therapeusis every substance capable of increasing the vaso-constriction, as ergot of rye, or of elevating the arterial pressure, as digitalis.

It is necessary, on the contrary, to have recourse to those remedies that produce vaso-dilatation, diminution of the vascular pressure, increase of the frequency and energy of the cardiac contractions. Now, all these results are obtained, in order to combat the paroxysm, by the employment of inhalations, of nitrite of amyl in the dose of 4 to 10 drops. These inhalations, which I could not too strongly recommend with Lauder Brunton for the treatment of the anginous paroxysms, possess an efficacy of promptitude and sureness truly surprising ; and, as it is clearly and absolutely proved that the nitrite of amyl possesses no anti-neuralgic property, but that it acts solely in its capacity of a vascular medicine, it results that, if the arterial theory of true angina still had need of being demonstrated, it would be sufficiently so by the benefits of the medication : *naturam morborum ostendunt curationes.*

*Morphine*, in subcutaneous injections, possesses an efficacy less rapid and less certain ; and in all cases it acts less as an anæsthetic or hypnotic remedy than as a cardio-vascular remedy, as I demonstrated several years ago in resting upon my personal observations, upon the old opinion of Sydenham, Borden, Cullen and Brown, and also upon the recent experiments of Gscheidlen, of Laborde, and Picard (Lyons), all observations or experiments that have recognized in morphine three important effects : increase of the force of the cardiac pulsations, diminution of the blood pressure, and passive dilatation of the arteries.

As to *nitroglycerine* or *trinitrine*, which after Murrell (of London), I have applied to the treatment of angina pectoris, it contributes in great part towards producing slowly the effects of amyl-nitrite, vaso-dilatation and diminution of arterial tension, which renders it a remedy of valuable aid in all those diseases, as in angina pectoris, arterio-sclerosis and interstitial nephritis, in which one of the principal features or dangers is constituted by the increase of the vascular pressure.

But if the amylic inhalations cure the paroxysms of angina, they do not cure the arterial disease that gives rise to them (aortitis, arterio-sclerosis, coronary sclerosis). It is here that the really *curative treatment*

assumes a capital importance. In 1883, in the work to which I have alluded, I said: "Of all the remedies, that to which we give the preference, and to which we never fail to have recourse, although all authors are silent upon this subject in regard to the primitive treatment of the paroxysms of angina pectoris, is the iodide of potassium." I made then a simple mention of six cases of angina pectoris very happily modified by the iodide treatment. Since that time I have collected twenty-five personal observations, and, *taking care to eliminate every suspected case of false angina*, I have been able to demonstrate that this medication, continued without intermission, has effected fifteen times a definite cure, six times a considerable improvement, and four times only results nearly negative.

Here theory is in complete accord with the results of practice. Besides their resolvent virtues and their very probable action upon the arterial walls, the iodides owe their efficacy in great measure, in the treatment of aortitis and of true angina pectoris, to their action upon the circulation. Under their influence, the pulse gains in force and in frequency, the vessels are dilated and developed, the circulation becomes more active and more rapid, the peripheral heat is regulated and elevated, the vascular tension is lowered and tends to become normal. Finally, this artificial fever is accompanied by facial and cephalic congestion, recalling thus very closely the effects of nitrite of amyl. *The iodide is an arterial remedy par excellence*, since it has cured *non-syphilitic* aortic aneurisms; since it so happily modifies the asthma of which the arterial lesion, very probable now in my opinion, will be demonstrated to you later; since it is the best means of opposing the progress of arterio-sclerosis and of a whole class of cardiac affections which might be designated under the name of *arterial cardiopathies*; since it can also, according to my experience, contribute towards preventing cerebral hemorrhages by assailing the vascular changes; since it may also be considered as the remedy of the arthritic diathesis characterized *clinically* by its tendency to congestive attacks and to arterio-sclerosis, and not *chemically* by a sort of retardation of nutrition.

In all that concerns angina pectoris, one of the principal conditions of success is, *perseverance and constancy in the treatment*. It is necessary for fifteen to eighteen months, *at the least*, to subject the patient to the iodide medication, in the daily quantity of one to three grammes, *even though every anginous symptom should have disappeared for several months*; and I believe that a durable and final cure can only be obtained after at least three years of treatment. But, as the latter is to be thus prolonged, and as we have to deal with an affection of the

cardio-vascular apparatus, I recommend rather the use of *iodide of sodium*. For it must not be forgotten that the salts of potassium may at length become poisonous to the heart, of which they first weaken and then paralyze the contractions, and that the iodide of potassium, reaching the stomach in the presence of an excess of chloride of sodium, is converted into chloride of potassium and iodide of sodium. This latter salt is better supported; it is more active since it contains a little more iodine; it is more harmless and more assimilable. I will say as much for the *iodide of lithium*, which I have been testing for several months among the subjects of sclero-arthritis disease, and which to the same quantity of salt contains more iodine than the iodides of potassium and sodium.

Three years have passed since the day I indicated and tested the treatment of true angina pectoris by the iodides; three years, during which I have been able to subject to the test of time this medication, of which I will now confine myself to reporting very succinctly a few remarkable successes taken at hazard among the numerous cases that I have recorded.

*Case 1.*—Fifteen months ago, a gamekeeper, 49 years of age, came to consult me for anginous paroxysms that had become very frequent and very painful, arising under the influence of the least effort, of fatigue, of walking, of an emotion. He could not walk more than ten minutes upon an inclined plane without being obliged to stop, in prey to an extremely intense sub-sternal pain which held him fast in his steps, and, under these circumstances, he was about to be compelled to renounce his profession, by which he obtained his living. The unfortunate patient, in fact, could execute no movement without being exposed to a paroxysm, and the act alone of undressing provoked before my eyes, in my office, an anginous attack of an intensity so violent that I feared for a moment seeing him succumb in my presence. I discovered then a præaortic dulness of about six centimetres and a half, the abnormal elevation of the right subclavian artery, and some arterial pulsations in the neck; but there was no abnormal souffle at the level of the aortic orifice; only the second sound at the base of the heart presented a tympanic and clangorous clap peculiar to the slightest aortic ectasis. This man was neither the subject of alcoholism, of syphilis, nor a smoker. Under the influence of a medication composed of inhalations of nitrite of amyl at the moment of the paroxysms, of iodide of sodium in the daily dose of one to three grammes taken very regularly for fourteen months, *taking care, as with all the other patients, to omit the iodide treatment for four or five days in each month*, the

attacks diminished quite rapidly in frequency and in intensity, and finally disappeared completely four months ago; so that the patient, a good walker formerly, can very easily make about twenty to twenty-five kilometres per day on foot. At the same time, the arterial symptoms have considerably improved; there is no longer any abnormal elevation of the sub-clavian, no more loudness of the second aortic sound, almost no more dilatation of the aorta, since its dullness measures hardly five centimètres and a half. The patient is cured of his aortitis and of his angina pectoris, but he ought, in order to insure the cure definitively, to continue the iodide treatment in small doses for a year longer.

*Case 2.*—E——, the subject of alcoholism and syphilis, 57 years old, was seized with a violent attack of angor nearly four years ago. Soon the paroxysms succeed each other with an unheard of violence and are provoked by the slightest movement. He was sent to me, eighteen months ago, by one of my confrères of Morbihan, who, in his letter, regards the situation as absolutely desperate. In fact, the effort of ascending the stairs in coming to consult me, determined such a paroxysm that he was obliged to remain in a state of the most complete immobility for more than ten minutes; he succeeded in reaching me with difficulty, and, whether in consequence of a certain emotion, whether more likely by the act of undressing himself and of making a slight effort, the patient had again, in my presence, a violent paroxysm which lasted some minutes and which manifested itself by an extreme pallor, a slight coldness of the hands, a marked weakness of the radial pulse, and an agonizing sub-sternal pain with radiations towards both breasts and both arms. Besides, the patient complained, in the interval between the attacks and in an almost continued manner, of a pretty sharp dorsal pain. When this storm was appeased, under the influence of an inhalation of six drops of nitrite of amyl, which immediately produced the purplish color of the face, the elevation of the pulse and the cessation of the pain, I detected all the signs of generalized arterio-sclerosis, of a sub-acute aortitis with slight dilatation of the aorta (arterial pulsations in the neck, elevation of the sub-clavian, nearly seven centimètres of aortic dullness, first sound slightly blowing at the base of the heart, second sound very loud, radial pulse hard and a little bounding). After three months only of the iodide treatment (three grammes of iodide of sodium a day), the paroxysms of angor diminished very much in intensity and frequency; a year after they had almost disappeared, and with them all the symptoms of aortic dilatation. For three months past the cure has been maintained absolutely, and the patient is able to attend to his business freely.

*Case 3.*—M. L. de V——, issue of arthritic parents, 46 years of age, syphilitic, a smoker, was attacked two years ago with his first anginous paroxysm. Soon the attacks became so frequent and so intense that they allowed neither truce nor rest to the poor patient, who was obliged to preserve the most complete quietude. There was discovered then, in the month of March 1884, a dilatation of the aorta with notable elevation of the sub-clavian, an inequality of the pulse in the two radial arteries, etc. Under the influence of the iodide treatment, long continued in the quantity of three to four grammes of iodide of sodium per day, a considerable amelioration was not long in being effected, and his usual physician, four months ago, in the month of April 1885, described to me in the following terms, the state of health of his patient after eleven months of treatment: “The paroxysms of angor have disappeared, or the little that remains of them is insignificant. The arterial and aortic symptoms (dilatation and aortitis) observed by you more than a year ago, no longer exist.”

*Case 4.*—M. P. C——, 60 years old, has been sick for four years. The 2d of January 1884, he was attacked with a paroxysm so violent that his physician, Dr. M—— (of Paris), immediately had me called to see him. I discovered then all the signs of a commencing arterio-sclerosis, with a touch of acute aortitis (precordial pains upon pressure, dyspnœa provoked by walking, an effort, an emotion, etc.). Under the influence of the iodide treatment, continued for ten months, all these symptoms disappeared, and with them the paroxysms of angor. The patient can now (June 1885) make from three to four kilomètres on foot, without stopping and without suffering.

*Case 5.*—M. C. B——, 62 years old, neither syphilitic, nor addicted to the use of alcohol, nor a smoker, sick during past six years, who consulted me in April 1884, cannot walk ten minutes without being arrested by an extremely agonizing sub-sternal pain. Nocturnal attacks very long and intense. After six months of the iodide treatment, the paroxysms became much less frequent and violent; at the end of thirteen months the patient could, with impunity, make several kilomètres on foot. In June 1885, several paroxysms supervened again, but with a very feeble intensity. The patient, attacked with an aortic stricture, ought not to be considered as entirely cured, although the improvement obtained up to the present day has been considerable.

I would expose myself to the danger of repetitions if I related here, with more or less of detail, all the observations that I have collected, and which almost all demonstrate the truly remarkable efficacy of the iodide treatment in cases of true angina. I prefer to close this

enumeration by the history of two cases interesting in two different respects: the first demonstrates the necessity of pursuing the treatment still for a long time, even after the suppression of the paroxysms; the second demonstrates, for its side, that in an unfavorable case (since the aortic lesions were very strongly accentuated and seemed to be irremediable), the iodide treatment was followed by an improvement unhopèd for both on the part of the patient and on my own.

*Case 6.*—M. V. de M——, arthritic, aged 54 years, consulted me in June 1883 on account of anginous attacks from which he has suffered for only a year, and which supervene under the influence of the least effort, and when he walks. I discovered in his case all the signs of a commencing arterio-sclerosis: radial pulse hard, concentrated; arteries resistant and flexuous; increase of the præaortic dulness, dry, aortic sounds, parchment-like; accentuation of the second sound; slight elevation of the sub-clavians; from time to time cardiac *bruit de galop*. After three months of treatment, all the anginous and dyspnœic symptoms ceased completely, and the patient, tormented by some of the symptoms of iodism, thought that he ought to renounce entirely the plan of treatment that had brought about such a great relief. Four months more passed without his experiencing a single anginous attack; but towards the 15th of January 1885 the paroxysms again returned. In February 1885 a violent paroxysm seized him; which decided the patient to resume the iodide of sodium, which he ought not to have left off and which, since the month of April up to the present day (August 1st, 1885), has afforded him the most perfect rest.

*Case 7.*—The patient, 51 years of age, presented very strongly marked lesions of the arterial system: atheroma, considerable dilatation of the aorta (nearly eight centimètres of præaortic dulness), aortic contraction and insufficiencies. Seven years ago he had "pains in the stomach," treated wrongly for attacks of gastralgia, and accompanied sometimes by lipothymia or by syncope. But these "pains of the stomach" were nothing else than paroxysms of angor characterized, as I have witnessed in numerous cases, by the presence of the pain at the lower part of the sternum, at the level of the xyphoid appendix, and of the epigastric hollow. For three or four years, frank attacks of angina pectoris characterized by a vise-like pain at the middle and lower part of the sternum, radiating from the breasts on each side into both arms. The least effort, the least movement, brought on these truly intolerable and agonizing pains. Under the influence of iodide of sodium, prescribed in quantity of three to four grammes per day, the violence and the frequency of the attacks diminished considerably. But symp-



toms of iodism having at length supervened, I omitted the use of the iodide and ordered an arsenical solution (8 milligrammes of arseniate of soda per day). At the end of three weeks the painful paroxysms again assumed such an intensity that the patient returned of his own accord to the iodide. Four months have passed since that time, and the patient, almost freed from his paroxysms, which had several times placed his life in jeopardy, finds himself in the enjoyment of a considerably improved condition, to that degree that he can take in the course of the day long promenades without any pain, and can, without experiencing any malaise, engage in all those acts which necessitate the least effort.

Such are the remarkable effects produced by the iodide treatment, patiently and regularly continued, against true angina pectoris; but, as the latter is most frequently the result of exacerbations of aortitis, I need hardly add that it is necessary also to insist upon a revulsive medication (the hot iron, blisters frequently repeated over the cardio-aortic wall), upon a regular alimentary hygiene from which are excluded principally exciting substances and alcoholic liquors, upon the absolute prohibition of smoking, upon the mixed or even exclusive milk regime, from which I have witnessed excellent results at the beginning, not only of cardiac affections, but also, and above all, of aortic or arteriosclerotic affections, etc., etc.

In the statistics that I have given of cases treated by the iodide plan of medication, I have cited four cases in which no improvement was observed. All curability has its limits, and these four failures are explained by the state of the lesions discovered in the patients. The arteries were very hard, atherometous, almost ossified, and one readily understands why the iodide treatment, too tardily prescribed against changes henceforth irremediable, has not produced any real improvement. One may see, however, by reading the history of the last case, that sometimes, even in the most unfavorable cases, the treatment that I have instituted may be followed by an unhoped-for amelioration.

It remains then proven in the most positive manner that science is now in possession of a treatment capable of curing permanently the gravest cases of angina pectoris, upon condition that the iodide treatment be continued with the greatest perseverance for months and even for years.

SELECTIONS.

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THE PROSTATE MUSCLE. By Reginald Harrison, F.R.C.S., Surgeon to the Liverpool Royal Infirmary, and Lecturer on Clinical Surgery in the Victoria University.

In previous communications\* I have drawn attention to the nature and causation of prostatic hypertrophy. There are one or two points arising out of these to which I should like to refer.

We have been too much accustomed to regard the prostate from its post-mortem aspect—that is to say, as a mass of muscle about the size and form of a chestnut, in which is contained some secreting tissue. It will be as well clearly to understand that under no circumstances during life, save the rare and momentary one when the bladder is absolutely empty, does the healthy prostate present such a form as that referred to; on the contrary, the muscular fibres of which it is largely composed are spread out like a funnel, so as to form an ample support for the bladder and its varying amount of contents. The degree to which it is spread out is, of course, relative to the contents. Hence the action of the prostate may be said to be just as continuous as that of the heart. This is a point which can be readily determined by examining persons in different bodily positions, and under varying circumstances so far as the contents of the bladder are concerned. If a person is examined by the finger in the rectum when he is in a semi-erect position, with a healthy prostate and some urine in the bladder, it will be found that the limits of the prostatic area are bounded on either side by a marked ridge of muscular fibre in a state of more or less tone, whilst the centre of this area is softer and more yielding to the touch. In making an examination of this kind for the first time, and taking our idea from what we have previously learnt in the dissecting-room, we naturally expect to find the converse of this—namely, a rather hard centre, which gradually loses its definition as the finger passes towards the sides. It is a matter of common remark that, unless the prostate is diseased, a surgeon has to examine it a good many times before he thinks he can realize what he has learnt as a part of his anatomical studies.

We may, I think, conclude that the primary function of the prostate is that of supporting and controlling the outlet of the bladder. Where there is no such function to fulfil, the prostate muscle is only met with in a rudimentary form, as we see in cases of extroversion of the bladder where there is no receptacle for the urine. In advanced

\* *The Lancet*, March 6 and August 28, 1886.

life, so far as I have been able to ascertain, hypertrophy of the prostate in these malformations never occurs.

That this is the principal function of the prostate is further indicated by what follows wounds inflicted on the urinary tract from the bladder downwards. The only incision that renders a person absolutely incontinent for a time is when the prostate muscle is involved. Openings made into the membranous urethra, either for exploration or for median lithotomy, are not followed by incontinence unless the prostate has been temporarily paralysed by over-distension with the finger. In lateral lithotomy the continence of the bladder by the action of the prostate is maintained to the last moment of the deep incision, when the gush of urine will often carry the stone into the jaws of the forceps. Nor does continence return until sufficient time has elapsed for healing to take place.

I have met with several cases where stones in the bladder have occupied unusual and somewhat remarkable positions relative to what may be regarded as the laws of gravity. I refer to these instances where the calculus is lodged in a sort of space hollowed out above the pubes. On two or three occasions I have had to reverse the blades of the forceps to extract stones from this position, and I have twice recently met with instances where the sound passed beneath calculi thus placed without giving a clue, and thus causing errors in diagnosis which this knowledge enabled me to correct. From my observation of calculi in the bladder I am disposed to connect their occasional supra-pubic position with the upheaving movement of the floor of the viscus, which is constantly though imperceptibly going on, principally through the medium of the spread-out muscular fibres of the prostate. From the dissecting-room standpoint it would seem almost impossible to understand how a healthy prostate could influence the position of a stone in the bladder in the slightest degree; when, however, we learn to recognize how differently the muscle is disposed and occupied during life from what we previously believed, it is not difficult to see that a vermicular movement of the muscular floor of the bladder, which is constantly going on, might tend to lodge and fix a calculus above the pubes. It is quite clear, however, that a stone independent of sacculation, occupying a resting-place in the anterior wall of the viscus, must have been put and retained there by some agency. These points will, I think, be found to have their bearing upon the practical surgery of the parts referred to.—*Lancet*.

OXYGEN IN THERAPEUTICS. By Charles J. Smith, M.R.C.S., F.R.G.S., &c.

English medical literature is singularly deficient in works upon the value of oxygen as an addition to our therapeutic agents—and for this reason, that from one cause or another, but chiefly from the difficulty and cost of production of the gas in any quantity, oxygen has never been brought into general use by the profession in this country, so that no large experience of its advantages has been gained; while, unfortunately, those persons who have written at all upon the subject have done so in such a manner as to have exposed it to the suspicion of quackery. This is greatly to be deplored, because there can be no question that the gas which Lavoisier characterized as “the vivifying spirit *par excellence*” is an agent of the highest value to the physician.

Those who are desirous of learning what has been done with oxygen must look to the papers read before the various scientific societies on the Continent, and to the records of the practice of many distinguished continental physicians. Demarquay appears to have been a somewhat enthusiastic believer in the efficacy of oxygen inhalation, and he has written strongly upon the subject in his work on “Pneumo-therapeutics.” He considers this as one of the safest agents in the treatment of pulmonary phthisis in every stage of the disease, and that its curative action is still more manifest in bronchitis, asthma (spasmodic no doubt is meant), and whooping-cough. Hayem, as well as Demarquay, reports favorably of its use in anæmia and scrofula. Durand-Fardel, Béranger-Feraud, and Thierry-Mieg have utilized its combustible action in the treatment of diabetes, in which disease its use is highly extolled by Dr. E. Morin, who, in his prize essay, read before the Society of Medicine in Antwerp, states: “In inhaling from ten to twenty litres of oxygen every morning the sufferer from diabetes will add to his treatment an incontestably useful agent, especially if his lungs have any tendency to become congested.” Dr. Campardon read a paper before the Society of Practical Medicine in Paris. Mayer, Maunoir, Pinard, and Dorean have published among them the details of eight cases, of which the last three were cases of incessant vomiting. Quinquod and Kirnberger have also contributed to the records of success which has attended the administration of oxygen. The most recent, and perhaps the most interesting, use made of this agent was during the late terrible epidemic of cholera at Toulon and Marseilles, when highly favorable results were obtained, and are duly recorded in the official reports of the Chief Medical Officer of the Marine. There is every reason to believe that the surgeon, too, may find a faithful aid in oxygen. Langier appears to have met with

considerable success in the treatment of senile gangrene and "local asphyxia congestion" by oxygenated baths. There are many others who have published the results of their experience with oxygen; but those already quoted will be sufficient to show how well worth attention it is as a therapeutic agent.

The two great difficulties which have opposed the use of oxygen on the very threshold, have been the cost of its production and its impurity when produced. These difficulties, however, have been successfully overcome by MM. Brin, members of the Société d'Hygiène Française, who have succeeded (after the devotion of fifteen years of their lives to the subject) in perfecting a process by which oxygen is obtained in an absolutely pure state from atmospheric air, and this at a cost which places it as much within reach as the ordinary medicinal agents in daily use. This process of obtaining oxygen is really a most simple one. Although Boussingault stated in a report made to the French Academy of Science thirty years ago that oxide of barium was an unstable agent for the purpose, yet it is this selfsame agent that MM. Brin have succeeded in making their servant. Their anhydrous oxide of barium, placed in retorts heated to a given temperature, and served with a supply of purified atmospheric air, will give off every two hours oxygen at the rate of one cubic foot per pound of barium oxide. Perhaps the most interesting point in connection with this process is that it is absolutely a mechanical one. There is no loss or waste of the agent employed—namely, the anhydrous oxide of barium. There is no visible difference under the microscope between the low and the peroxide, and no chemical change takes place. The oxygen is absorbed from the purified air passed through the retorts under pressure; it is given off again under vacuum; and the proof that in carrying out this method MM. Brin call to their aid no complex chemical decomposition is, that the same pound of barium, increased in weight when it takes up the oxygen, returns to its exact original weight when, under vacuum, the oxygen is yielded up. Moreover this same pound of barium is at once ready to perform, and repeat *ad infinitum*, its task of absorbing and yielding up this perfectly pure oxygen.—*Lancet*.

#### SEVERED DIGITS.

During the last few months the *Journal* has contained several communications in regard to the re-union of portions of fingers to the stump from which they had been completely severed. Five different physicians have recorded ten cases which have fallen under their own observation; eight in the reporter's practice, and two in the practice of the reporter's father. Of these ten cases four are reported as per-

fect; three cases were successful, but there was more or less impairment of sensation; one lost half the last phalanx by sloughing; two only can be considered as failures; both of them united, but one afterwards separated, the other shriveled, and was practically worthless. We have also quoted during the same time a case from a Russian surgeon in which a portion of a thumb became re-united with perfect sensation but limited motility, and this week's *Journal* contains another equally well-authenticated case occurring in domestic practice.

That as large a number of cases should be reported in so short a time is quite surprising. It establishes, however, the fact that re-union is possible—a fact in opposition to the former belief of the majority of the profession. The cases reported are, with two exceptions, all successful. How great a proportion they would bear to the utter failures it is impossible to guess; but twelve cases in which some sort of adhesion has taken place are enough to warrant much more careful attempts to restore small portions of the body which have been accidentally amputated.

The fingers most suitable for preservation, or those most likely to reward the attempt, would seem to be those which have been removed by a clean cut, so that suppuration between the two portions may be avoided. The time which may elapse between the accident and the successful replacement of the separated portion would seem to be very long. In Dr. Nivison's case three or four hours had elapsed, during a portion of which time the fingers had been covered by snow. In these successful cases great care was evidently taken to secure perfect cleanliness of the cut and careful apposition of the fragments, together with such other care as seemed likely, in the eyes of the surgeon, to secure union without suppuration.

The literature of the subject is evidently not very large; still, a very considerable number of reported cases are accessible of fingers and other portions of the body which have re-united after separation. An interesting case, for the fullness of detail with which it is reported, is that of Dr. Goschler, in the *Wiener Medizinisch Wochenschrift* for 1868. A man of sixty chopped off nearly the whole of the last phalanx of the ring finger, preserved the fragment for three-quarters of an hour in water at a temperature of 11° Réaumur. In thirty-six hours there was evidently agglutination; during the third, fourth, and fifth days the extremity was cold, but adherent and evidently sensitive. On the ninth day the re-union of the soft parts was assured, but there was no union of the bony fragments. At the end of a month recovery was complete.—*Boston Med. and Surg. Journal*.

## ABSTRACTS.

QUESTIONS CONCERNING TUBERCULAR CONSUMPTION.—In his introduction to the discussion on this subject at the recent meeting of the New York State Medical Association, Dr. H. D. Didama said that though consumption of the lungs is a well-worn subject, which has engaged the attention of the keenest observers, the shrewdest pathologists, the best practitioners for ages; though its bibliography would fill large volumes, and an immense library would be required to hold the vast array of tomes and monographs and articles which it has inspired; yet no apology need be offered for renewed consideration of a disease which still kills one-seventh of the human race.

Some points in its etiology, nature, prophylaxis, and treatment yet remain moot, obscure, and unsatisfactory, notwithstanding the patient research and experimentation of past centuries, and the dazzling discoveries of the present decade.

In the short time allotted to the subject, it would not be possible, he said, to present more than a condensed epitome selected from observations, discoveries, deductions, and suggestions, whose very abundance is embarrassing and almost overwhelming.

I.—*In addition to a feeble vitality, which may be derived from parents who are or are not consumptive, do the children of consumptive parents inherit tuberculosis itself or any special phthisical taint or tendency?*

In a paper entitled "Is Tubercular Consumption Ever Inherited?" read at the last meeting of the Association, Dr. Didama discussed this question at some length. Further investigation and reflection have but strengthened the convictions and opinions then expressed that, as a rule, with few exceptions—and, possibly, with not a single exception—the unborn or newly born child of a consumptive parent is entirely free from tuberculous disease, taint, or tendency.

That tubercles themselves are not found in the lungs of the foetus or the very young babe is the latest testimony of the best observers.

That the new-born babe of a consumptive mother, when instantly removed from unhealthy surroundings and influences, and shielded from bacillic infection, is likely to remain free from tuberculous disease, is also a well established fact.

That the vast majority of those who die of consumption are born of parents who are entirely free from lung disease is the unimpeachable testimony of individual observation and of the statistics furnished by Consumption Hospitals and Life Insurance Companies.

The fair inference from these facts seems to be that consumption is acquired and not inherited; that the so-called phthisical taint or tendency is simply an impaired resisting power—a vincibility of cells—which may be inherited as well from non-consumptive parents as from consumptive ones, or may be acquired without inheritance; and that, in the contest unceasingly waged between cells and destructive organ-

isms, the vigorous cells may effectually resist while the vincible ones are overcome and destroyed.\*

II.—*What are the chief habits, peculiarities and diseases—other than consumption—which impair the constitution transmitted to children and facilitate tubercular infection?*

Among those which Dr. Didama left to his colleague to elaborate were inebriety, debauchery, advanced age of the father, great disproportion between weight and high stature, various exhausting diseases, suppurations, fluxes, diabetes, cancerous affections, and the like.

He selected but one for emphasis. The late Dr. Gross, in lectures and addresses, was wont to declare that all chronic diseases are but varied manifestations of syphilis. He made special mention of skin affections and tubercular consumption.

Perhaps we may not fully endorse the sweeping arraignment made by this careful and eminent practitioner, whose opportunities for observation were exceptionally abundant; but the larger our experience the more reason we find to regard this loathsome scourge a forerunner of, or element in, a great variety of complaints.

It is coming to be the rule with many practitioners, when the etiology is obscure, and the history has ignorant or lying lips, to give the patient the benefit of the doubt, and treat for syphilitic contamination.

How many cases of arthritis deformans and local palsies; of persistent headaches and other neuralgias; of spinal sclerosis; of heart-murmurs from deposits; of bowel diseases and lung complaints, have we known to yield, partially or wholly, to a vigorous specific treatment!

The taint may have been an ancestral legacy or a personal acquisition; but the prompt efficacy of the remedy has often been a miracle to the patient and a revelation to the physician. How many more miracles might have been wrought if we had oftener ventured to subject human testimony to the irreverent touchstone of therapeutics!

In cases where the parental syphilis has not manifested itself as the specific disease, its malign influence is often evident in the sickly offspring's enfeebled and fragile cells, which fall an easy prey to the virus of consumption.

III.—*Through what avenues do the bacilli of tubercle find lodgment in the lungs?*

If tuberculosis is not a congenital disease, and tubercular consump-

\* Dr. Schwer, of Kiel—*Allgemeine Central Zeitung*, No. 6, 1886—asserts that no tuberculosis exists in children under nine weeks of age. So that tuberculosis cannot be regarded as ever a congenital or connate disease. The statement in a New York medical weekly, reporting this assertion of Dr. Schwer, that "John a year ago reported a case of undoubted fetal tuberculosis, and veterinarians have often shown fetal tuberculosis in animals," is misleading. John's case, reported in *Fortschritte der Medicin* was tuberculosis in a calf. Several marked cases of this kind were reported by Dr. Wise, superintendent of Willard Asylum. All the cases were noticed in the paper read at the last meeting of this Association.

But no authentic modern instance of congenital human tuberculosis is on record. The bacilli of human and bovine tubercle resemble each other; their identity is still questioned. Military tubercles are readily produced in animals by inoculations with bacilli obtained from human lungs. But has characteristic *Perlsucht* ever been produced by such inoculations? And what indubitable evidence is there that a pearl nodule—the peculiarity of bovine tuberculosis—has ever been produced in man by eating the flesh or drinking the milk of consumptive cows?



tion is always the product of a *contagium vivum*, introduced from without, this question is pertinent and its answer important.

The chief avenue through which the destructive micro-organisms gain access to the lungs is doubtless the air we breathe. Infected saliva and sputa are swallowed. Do they produce intestinal tuberculosis? Do bacilli exist in the milk of a consumptive mother? If so, do they infect the nursing child through the digestive tract?

It must always be difficult to determine, in any individual case, whether the infection came from the maternal breast or lungs.

The flesh or milk of consumptive cows, used as food, may produce great disturbance, if not actual disease, especially in children.

The disastrous effect on infants of the "Pure Orange County Milk," obtained from the stump-tailed cows fed on distillery slops, in dark, filthy stables, in New York, was brought to public notice and horror years ago by the indefatigable efforts of *Frank Leslie's Illustrated Newspaper*.

But that this disgusting food produces tuberculosis directly has not been established. Its first effects are impaired digestion, impoverished blood, exhausted vitality. If these do not prove fatal they at least break down the defences against the hordes of Lilliputian organisms, and facilitate their deadly assaults.

IV.—*What does observation prove regarding the likelihood of bacillary infection when there is no constitutional enfeeblement either inherited or acquired?*

Not many places in this world are exempt from pulmonary consumption.

Bacilli are widely diffused. We all breathe them. Autopsies show that most lungs contain tubercles or their scars. Healthy people have but few of them. No harm comes to these people from this limited number. The normal resisting power of healthy lung substance is sufficient to overcome the attacks of these minute marauders.

Priceless is the legacy of a good constitution. Wise and wealthy is he who preserves it unimpaired. The microscopic cells of which he is composed are always panoplied against the innumerable microscopic enemies which assail him on every hand. A few of these enemies may find vulnerable points and do slight mischief, but their success is of short duration. There is little likelihood of wide-spread infection. Lacking suitable sustenance, meeting constant and vigorous resistance, the invaders fail to multiply and soon die of starvation.

V.—*What are the principal surroundings, climate, occupations, habits, and diseases which impair cellular resistance, and so favor infection and development of consumption?*

Leaving his colleague to furnish an enumeration with comments, he called special attention to cigar-making.

Stone-cutting, dry, grinding, and polishing in machine shops, milling, coal heaving, etc., expose the delicate pulmonary tissues to an irritating dust which often does much harm.

But the dust, as a rule, is a mechanical irritant and not a chemical poison. And, in many factories, strong currents of air blow the dust away, and masks of magnetized wire catch the fine particles of steel and thus afford a partial protection.

Cigar-making, however, as frequently if not usually conducted, has no redeeming features. The rooms are low and poorly ventilated, if ventilated at all. They are crowded with operatives and filled with dust. And such a dust! Not merely a mechanical irritant, but a poison as well, whose baneful effect stops not with the air vesicles but extends to all parts of the system—the stomach, the heart, the blood, the nerves, the brain. A cough, a lost appetite, dyspepsia, emaciation, palpitation, anæmia, nervousness, neuralgia, loss of mental grip and endurance—these, with injurious personal habits, are the early outcome of the perilous occupation; and these prepare the way for the fatal bacilli.

The most devoted users of tobacco candidly confess that the habit is not specially neat and cleanly; that it is offensive to many men and most women; that it may do and often actually does harm; that it does not add vigor to health nor length of days to life. And, curiously enough, there is no claim as yet that it is a food.

If it were not for the pleasurable excitement and good fellowship, followed by a peaceful tranquillity, which it produces, resolute and persistent attempts would oftener be made to abandon its use.

Perhaps the self-denying efforts of the philanthropic tobaccophilists would be more successful if they could appreciate fully the testimony of medical observation:

It isn't tobacco alone men smoke,  
But human creature's lives.

VI.—*Is the presence of tubercle bacilli in the sputa an indication that the existing lung disease was originally tuberculosis; and is their absence proof that the disease is not consumption? In other words, is there not satisfactory evidence that some cases of pulmonary consumption are non-tubercular at the start, becoming infected afterward; and that other cases remain free from tubercles throughout their course?*

In a diagnostic point of view the question is important. Severe bronchial and pulmonary lesions may be produced by exposure, diseases, habits, and occupations. This is especially true if constitutional enfeeblement exists. The symptoms manifested may resemble those of tubercular consumption. The lesions may prepare a suitable soil for the lodgment and growth of tubercle bacilli. This bacilli, which are ubiquitous, occupy the inviting premises. They multiply. If at this time examination of the sputa be made, the micro-organisms may be detected.

This detection is held to authorize an unequivocal diagnosis of pulmonary tuberculosis.

The correctness of such a sweeping diagnosis may well be questioned. Serious disease of the breathing apparatus may, and often does, exist before the invasion of the bacilli. And careful dissections by competent observers have demonstrated that, in a large proportion of deaths from consumption, tubercles are entirely absent.

Conceding, as we must, that tuberculosis is caused exclusively by bacilli, their frequent presence in non-tubercular forms of phthisis has no diagnostic or etiological significance. Neither does it justify a prediction that tuberculosis will ever certainly occur. Under proper treatment, or by tissue resistance, the bacilli may disappear without producing tubercles.

The bacillus tuberculosis is known to be a great criminal. But the hue and cry raised by the unequalled detective, Koch, and echoed by scientists like Tyndal, and by the whole force of keen-sighted pathologists, must not lead us to forget that there are other dangerous malefactors in the world.

In many varieties of lung disease, the micro-organisms are not the instigators nor principals; they may be accidental and innocent bystanders; they are more likely to be willing accessories after the fact, and the chief partners in the wickedness. But there is no absurdity, as some have claimed, in the statement that consumption may originate without the bacilli, and that tubercles may be a supervention and a rapidly aggravating one.

More than this, it is not difficult to believe that, in all parts of the world—especially in those where bacilli do not abound—pulmonary consumption may have its rise, progress, and fatal termination, without the slightest assistance from the iniquitous parasites.

Lobular, interstitial, and even lobar, pneumonitis, abscesses, infarctions, nodules, may be followed by destructive ulcerations, cavities, and death. And yet in each case an indisputable *alibi* may be sustained for these pathogenic suspects.

VII.—*What precautions should be taken, and when, to prevent the invasion of tubercle bacilli; and what measures should be employed to fortify enfeebled cells against their attacks?*

The off-hand answer to these questions is: Remove at once the newly born infant from a home where tubercular consumption is present: give it good food, pure air, proper clothing, abundant sunshine.

Unfortunately this course is usually impracticable. In many instances, where the expense is not an obstacle, the maternal instinct is stronger than any cold regard for the child's future welfare. The mother will not give up her baby. In other instances, where all the surroundings are unfavorable and unsanitary, the prolific parents are too poor to employ a suitable second nurse. And even if the affection of the mother and pinching poverty were not barriers to the permanent or prolonged removal of the dearly beloved offspring, it is often next to impossible to find a fit person willing to assume the duties and responsibilities of the mother.

Is the hope utopian that—one of these days—people will learn that children are not born infiltrated with the seeds of consumption which are certain to germinate; nor tainted with a malign tendency from which there is no escape? And that enlightened charity will establish and endow numerous *creches*, or nurseries, where the infants of consumptive parents can be rescued from the infecting atmosphere of

home, and have all the advantages which competent nursing, medical skill, and affectionate, motherly care can bestow?

But while waiting for the advent of this "good time coming," we need not be idle. Important achievements are still practicable. The active co-operation of the public is indispensable to success. But, if our efforts, inspired, not by doubt or half belief, but by thorough conviction, are earnest and zealous, this co-operation ought to be secured without difficulty. The people have a vital interest in the subject. They can be taught that tubercular consumption is communicated by contagion; that the contagious material consists of microscopic organisms; that these organisms abound, probably in the breath, certainly in the expectoration, of a consumptive person; that drying does not kill them; and that they are diffused through the air of apartments chiefly in the dust which is raised by sweeping or otherwise, from dry, expectorated material. They can be taught also that, to prevent contagion, these bacilli must be killed. To do this every particle expectorated by the consumptive must be destroyed while it is still moist. To allow it to become dry is to imperil precious lives. So expectoration must never be on floors or carpets or clothing. Large and small spittoons must contain disinfectants of known efficacy, and must be cleaned daily with boiling water. Little pieces of cloth or paper must be used in lieu of handkerchiefs, and at once thrown into the fire or into the disinfectants in the spittoons.

By following this course strictly, the great mass of bacilli can be annihilated.

By proper—that is constant and thorough—ventilation, those bacilli which have escaped destruction, can be so blown away and scattered into the out-door atmosphere that they will do a minimum amount of mischief.

To guard against possible infection by breath or milk, the consumptive mother must not nurse her babe, nor permit it to sleep or remain in any room occupied by a consumptive member of the family.

To strengthen cells weak by inheritance or acquisition, so that they will be invincible by bacillary enemies, requires careful study of each case, and unremitting vigilance and perseverance.

The least smirch or suspicion of venereal virus must be removed. Bad habits must be broken. Injurious occupations must be abandoned. The best attainable hygienic influences must be secured. A change of climate may be important. Pure air, abundant sunshine, suitable raiment are indispensable. Food and medicine adapted to the peculiarities of each case must be prescribed. One person may need bark and the martial preparations; another, oil and phosphorus; a third, mercury. Some may require arsenic; and many will derive benefit from strychnia.

VIII.—*How can the medical profession most widely diffuse and inculcate the important truth that consumption in children is often the result of parental faults and vices?*

Unanimity of professional opinion is desirable, if not essential, to

begin with. Zeal and discretion will be required. The zeal needed will be founded on knowledge. The discretion which is to help will not be cowardice nor timidity. It will not be a conservatism which diligently uses its retrospective eyes but never those placed in its forehead; which resolutely braces its feet and refuses to budge, whether the procession runs over it or leaves it in the rear.

Now what are the unquestioned facts which corroborate the statement that consumption in children is often the result of parental faults and vices? The parents of more than two-thirds of all who die of consumption are themselves entirely free from the disease. They do not transmit what they do not possess. But many of these parents have faulty habits and practices. Among them are: compressing the chest by dress, or by stooping while in the street or school-room or at work; breathing by day the foul odors of shops and factories and offices; sleeping at night in small, close bed-rooms, where the air is not only robbed of its oxygen but is saturated with effete and poisonous emanations from the lungs; impairing digestion by eating and drinking at the wrong time or in the wrong manner or the wrong articles; breaking down the nervous system by worry or too prolonged or severe mental work and too little physical exercise; venereal excesses; too frequent child bearing; permitting exhausting discharges to remain unchecked and uncared for.

In many instances the only legacy which a child receives is a human form, a mass of enfeebled, mushroom cells, or diseased and nearly putrid ones. These cells insure a life of suffering to their innocent possessor. They have little resisting or recuperative power; they readily succumb to insignificant exposures; they rally slowly from slight ailments; they cannot withstand the onslaught of the bacilli tuberculosis, so that, nearly or remotely, consumption of some kind results.

Persistent iteration rarely fails to make an impression upon the public mind and conscience. By the living voice, the medical and sanitary journals, and in a guarded way by the public press, with the ready aid of the pulpit and the potent co-operation of woman, the medical profession can diffuse and inculcate the momentous truth specified in the question. And, in a multitude of instances, must not radical reform follow the alarming conviction that he, who, by faults within his control, handicaps his child in the struggle for survival, or in the race for honorable success, is guilty of a great misdemeanor, while he, who, by his vices, entails a life of disease and pain on his offspring, is a monstrous criminal—a curse not only to his family but to mankind!

IX.—*What therapeutical benefit has been derived from the discovery of the bacillus tuberculosis?*

The relation of the bacillus to the etiology, diagnosis and prophylaxis of tubercular phthisis has already been considered. Years ago the opinion was entertained that consumption is not hereditary. Koch's discovery has aided in confirming this opinion. Formerly, tubercles

were thought to originate invariably from some unknown element in caseous material. This element has been shown to be microscopic organisms. The presence of bacilli in sputa is still believed by many pathologists to be pathognomonic of tubercular phthisis. We have seen there is reason to question this belief. In preventing tubercular consumption, the knowledge that this disease arises from infection may and should prove of immense benefit.

Killing the bacilli or preventing their access to the lungs, and fortifying impotent cells against their attacks, comprise at present our chief if not sole prophylactic resources. Unfortunately no practical method of destroying the bacilli which have colonized in the lungs—and at the same time saving the life of the patient—has received extensive professional endorsement.

What the future may have in store no one will have the temerity to conjecture or deny. But that the treatment of every form of consumption remains substantially as it was before the discovery of the bacillus, is the sad confession which every enthusiastic admirer of Koch, as well as every practical physician, must reluctantly make.

COCAINE INEBRIETY.—In a paper on this subject, published in the *Med. and Surg. Reporter*, Dr. T. M. Crothers, Superintendent of Walnut Lodge, Hartford, Conn., says: The treatment of cocaine inebriety is the same as that of alcohol or opium cases. Forced abstinence from the drug, rest, and building up the system, are the general methods pursued. More profound degeneration and debility exist than in other forms of inebriety requiring a longer time for successful treatment.

States of mania and melancholy often continue for some time after the use of the drug is given up, and disappear very slowly. It is for these states that special surroundings and care are essential. The prognosis is always uncertain. The craving for drugs for their effects may be broken up and restoration follow, but such cases generally are unable to bear much exposure, and not unfrequently relapse on the slightest temptation. In the cases under my care, both recovered, but will probably relapse, using the same or some other drug in future.

The following conclusions are sustained by the best evidence which has been presented so far:

The use of cocaine to excess in persons who have never used alcohol or other narcotic drugs before is very rare.

Among inebriates and drug maniacs, cocaine inebriety is no doubt increasing.

Its peculiar dangerous effects on the body will prevent its general use as an intoxicant to any great extent.

It acts more rapidly than opium, but its effects pass off more quickly.

Its first effect is more exhilarant than alcohol, but it is uncertain and variable.

This stimulant action develops mania, followed by narcotism and melancholia.

When given in cases of melancholia in large doses, it changes the case to mania, then finally relapses bring back the case to melancholia again.

As an intoxicant, it is more dangerous than alcohol or opium.

As a form of inebriety it is more difficult to treat, requiring a longer time to break up, because of the physical and psychical complications.

It cannot be used as a substitute for any other narcotic, or as an antidote or remedy.

CHRONIC CONSTIPATION IN CHILDREN—Dr. W. B. Cheadle thus concludes a clinical lecture on the "Pathology and Treatment of Chronic Constipation in Childhood, and its Sequel, Atony and Dilatation of the Colon" (*Lancet*): My object in these lectures is not so much to describe the cause and symptoms of constipation as to point out the disastrous results of mistaken treatment, and to enforce the necessity of a more rational procedure. Look at the evil effect of strong purgations—how they enervate and wear out the tone of the bowel. No occasional purge of rhubarb or scammony is efficient to cure. Look, again, at the evil effect of frequent enemata. Enemata are only to be used on an emergency. They, equally with strong purges, impair tone and do direct harm by actual dilatation. In confirmed cases of constipated habit, treatment must not be intermittent, but continuous; the daily administration of appropriate remedies steadily, for a considerable period, is absolutely essential. Intermittent treatment is abortive, ineffectual, and aggravates the evil. What, then, is the proper treatment for these cases? First, be sure that there is no malformation, no intussusception, no sore about the anus, rendering defecation painful. Then use saline laxatives. Their mode of action is by increasing the flow of secretion, rather than by stimulating peristalsis. Thus tone of returns when distension is relieved by the easy evacuation of fluid stools. Further aids to this are strychnia, nux vomica, iron, and belladonna. They act by increasing muscular tone and nutrition, not by stimulating peristalsis directly. In the case of little children up to two years old, simple carbonate of magnesia in milk is sufficient (5 to 10 or 20 grains); this is better than the piece of soap in the rectum, or the repeated castor oil or manna so constantly advised. In older children the sulphates of magnesia and soda, with the tonics named above, and daily massage with castor oil, or cod liver oil, are most useful. In older children still, a pill of aloes or euonymin, with sulphate of iron and nux vomica, may be given as an alternative to the salts and strychnia, but no frequent rhubarb, or scammony, or podophyllin, or jalap (these are for the relief of temporary difficulty only); in mild cases, perhaps, or if the liver is not acting, a dose of calomel, grey powder, and soda or senna. Regimen is an important element in the treatment if the child should have chronic constipation: abundant water, pure, not hard; "salutaris water" is excellent. In little children add a good infants' food to milk; fruits; fruit jellies; treacle; cooked green vege-

tables of the more soft and more delicate kinds. Some variety in food is useful; a good mixture is better than a monotonous diet. It is, I think, extremely doubtful if coarse food is useful in the long run. It causes atony and weariness of muscle eventually by over-stimulation. And you must insist on regular evacuations. Take care that the stools are not dry and hard, or the child will resist action and increase constipation. Other useful adjuncts are—abundance of fresh air, which aids in improving nutrition; and exercise, which mechanically aids the passage of the contents of the intestine down the tube, and improves general health and muscular tone.

AMPUTATIONS FOR JOINT DISEASES WHEN LUNG TUBERCULOSIS CO-EXISTS.—Dr. L. C. Pilcher, of Brooklyn, recently read a paper on this subject before the New York Surgical Society, in which he arrived at the following conclusions:—1. The probabilities of a spontaneous cure or prolonged abeyance of a tubercular bone or joint trouble as the result of expectant and palliative treatment—*e. g.*, by improved hygiene, rest, and counter-irritation—are much greater in children than in adults. 2. The probability of the presence or early development of lung tuberculosis in cases of tubercular bone and joint affections is much greater in adults than in children. 3. Incomplete operations, such as drainage and irrigation of joints *évidement*, and resections in which all the diseased tissue is not removed, are less likely to be followed by ultimate good results in adults than in children. 4. Operative interference of a radical character is justifiable at an earlier date in the history of a bone or joint tubercular affection in an adult than in a child. 5. When a lung tuberculosis is present, and an operation for the relief of a co-existing bone or joint affection is indicated, as the result of such operation, the lung affection, while in some cases uninfluenced, is more frequently temporarily checked in its progress, and, in some instances, is apparently entirely recovered from. 6. Local relapse after operation for an osteo-arthritic tubercular disease, lung tuberculosis co-existing, is exclusively conditional on incompleteness of the operation—the fact that somewhere tubercular tissue escapes removal—and not on any influence exerted by the lung affection. 7. In any case of osteo-arthritic tuberculosis demanding operation in which a doubt exists as to the possibility of removing absolutely all the diseased tissue by the more conservative methods of arthrectomy or excision, the co-existence of a lung tuberculosis would be a circumstance that would add weight to the reasons for having recourse to the more radical operation of amputation. 8. After amputation in perfectly healthy parts, as prompt healing may be expected in persons suffering from lung tuberculosis as after such an operation in a healthy person. Relapses at the stump do not occur even in persons with advanced lung disease.

DIAGNOSIS OF INFANTILE DISEASES.—Dr. Bradley (*L'Union Médicale du Canada*), gives the following summary of points on the diagnosis of disease in infants:



(1) Congestion of the cheeks, excepting in cases of cachexia and chronic disease, indicates *an inflammation or a febrile condition*.

(2) Congestion of the face, ears, and forehead of short duration, strabismus, with febrile reaction, oscillation of the iris, irregularity of the pupil, with falling of the upper lids, indicates *a cerebral affection*.

(3) A marked degree of emaciation, which progresses gradually, indicates some *sub-acute or chronic affection* of a grave character.

(4) Bulbar hypertrophy of the fingers and curving of the nails are signs of *interference in the normal functions of the circulatory apparatus*.

(5) Hypertrophy of the spongy portions of the bones indicates *rachitis*.

(6) The presence between the eyelids of a thick and purulent secretion from the Meibomian glands may indicate *great prostration of the general powers*.

(7) Passive congestion of the conjunctival vessels indicates *approaching death*.

(8) Long-continued lividity, as well as lividity produced by emotion and excitement, the respiration continuing normal, are indices of a *fault in the formation of the heart or the great vessels*.

(9) A temporary lividity indicates the existence of a *grave acute disease, especially of the respiratory organs*.

(10) The absence of tears in children four months old or more suggests a form of *disease which will usually be fatal*.

(11) Piercing and acute cries indicate a *severe cerebro-spinal trouble*.

(12) Irregular muscular movements, which are partly under control of the will when the patient is awake, indicate the existence of *chorea*.

(13) Contraction of the eye-brows, together with a turning of the head and eyes to avoid the light, is a sign of *cephalalgia*.

(14) When the child holds his hand upon his head, or strives to rest the head upon the bosom of his mother or nurse, he may be suffering from *ear disease*.

(15) When the fingers are carried to the mouth, and there is, besides, great agitation present, there is probably some *abnormal condition of the larynx*.

(16) When the child turns his head constantly from one side to the other, there is a suggestion of some *obstruction in the larynx*.

(17) A hoarse and indistinct voice is suggestive of *laryngitis*.

(18) A feeble and plaintive voice indicates *trouble in the abdominal organs*.

(19) A slow and intermittent respiration, accompanied with sighs, suggests the presence of *cerebral disease*.

(20) If the respiration be intermittent, but accelerated, there is *capillary bronchitis*.

(21) If it be superficial and accelerated, there is some *inflammatory trouble of the larynx and trachea*.

(22) A strong and sonorous cough suggests *spasmodic croup*.

(23) A hoarse and rough cough is an indication of *true croup*.

(24) When the cough is clear and distinct, *bronchitis is suggested*.

(25) When the cough is suppressed and painful, it points toward *pneumonia and pleurisy*.

(26) A convulsive cough indicates *whooping-cough*.

(27) A dry and painless cough is sometimes noticed in the course of *typhoid and intermittent fever, in difficult dentition, or where worms are present*.

THE HYGIENIC TREATMENT OF OBESITY.—In a lecture on Hygienic Therapeutics, Prof. Dujardin-Beaumetz thus sums up his treatment of this condition (*Med. News*): I begin by a thorough examination of the patient who claims my care for the cure of obesity. I take note whether there exists in him any organic vice which explains or complicates the obesity; for, as Bouchard has well remarked, in a great many cases the polysarcia constitutes a secondary disease. I examine attentively the heart and circulation; fatty degeneration of the heart is, in fact, a complication which is often found in the polysarcous, and the existence of such degeneration should considerably modify the rigorousness of our treatment. When once these points are settled, and after having satisfied myself as to the soundness of the organs, I order the following regimen:

As for drinks—either the patient drinks at his meals, or he pledges himself to drink nothing at all at meal-time. In the first case I limit the quantity of liquid to a tumblerful and a half, or about ten fluid-ounces. This drink shall consist of red or white wine, diluted with an alkaline water, Vals or Vichy. In the second case—*i. e.*, where only drinking between meals is practiced—the patient may drink more abundantly, but he must drink nothing until two hours after meals; then he may take weak tea without sugar. I prescribe absolutely beer, bitters, and spirits. In some cases I allow a little strong coffee after breakfast.

As for foods, I forbid soups, and authorize fish, eggs, meat, green vegetables and fruits, but I reduce to a minimum starches. As for bread, I prefer the light baker's loaf of which the crust forms the principal part, such loaves as are known in Paris by the name of "Peter's flute bread;" the American rusks and light pilot biscuits are also to be commended, while pastries should be utterly interdicted. I require that the patient shall weigh all his food, and that he shall keep within the following limits: Breakfast at 8 A.M.: one ounce of bread; two ounces of cold meat (ham or beef); seven ounces of weak tea without sugar. Lunch at noon: two ounces of bread, three ounces of meat or ragoût, or two eggs (the egg without its shell weighs from eleven to twelve drachms); three and one-third ounces of green vegetables, half an ounce of cheese; fruit *ad libitum*. Dinner at 7 P.M.: two ounces of bread, three and one-third ounces of meat of some kind, or ragoût, four ounces of green vegetables, half an ounce of cheese, fruit *ad libitum*.

I join to this treatment the employment of purgatives, whether under the form of purgative waters, or of laxative pills or powders. I order physical exercise appropriate to the subject, and lastly, I enjoin massage. I have obtained remarkable results from this regimen.

MICROSCOPY AND PATHOLOGY.

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THE PATHOLOGY OF PUERPERAL ALBUMINURIA. By Robert Maguire, M.D., London, M. R. C. P.

The cases of puerperal albuminuria complicated with retinitis are of great importance, as presenting a feature which links the affection, in one of its forms, more closely to albuminuria the result of organic kidney mischief; and I should be glad if the ophthalmologists could tell us whether the occurrence of retinitis in puerperal cases has any influence on the prognosis of the albuminuria. The common form of puerperal albuminuria is characterized by the fact that in the later stages of pregnancy a large quantity of albumen appears in the urine, which, after delivery, disappears in a marvellously short space of time, and the patient then resumes her usual health. Such is a common course. But sometimes the termination is more serious; uræmia in its various forms may appear during the pregnancy and labor, or after delivery the albumen may still continue to appear in the urine, and the case may lapse into one of chronic Bright's disease. It is evident, then, that in the more serious form we have to do with an organic kidney lesion. This lesion was for long considered to be a venous hyperæmia from pressure; but, as a matter of fact, this has seldom been found, and, moreover, the urine of these cases is not in all respects the same as that met with in venous hyperæmia. A lesion more commonly found is the very opposite to this—that is, anæmia of the kidney with fatty degeneration, believed to be due to reflex spasm of the renal arteries, although obviously for this view there is no sufficient basis. But knowing that such a lesion is found, let us consider the more favorable cases, and inquire, how can it be that an extensive fatty degeneration of the kidney, and what is more, a *chronic* fatty degeneration, should clear up in so short a time after delivery and leave no trace behind? *A priori*, this seems hardly possible. Such a consideration, too, brings into one's mind those cases of functional or cyclic albuminuria which are now occupying so largely the attention of physicians, and one cannot help asking whether also, in the less grave form of puerperal albuminuria we have to deal with a merely functional derangement. In this connection I may be permitted to refer to some observations upon which I am engaged, and which, although not yet completed, have already yielded curious results. I will not go into details, for I purpose publishing the results later on in a more complete form.

The precipitate obtained by the action of nitric acid or heat upon an

albuminous urine is not one simple albuminous body, but is composed of serum-albumen—possibly in several varieties, only distinguishable by their *physical* properties—and, in addition, a substance *chemically* different from serum-albumen—that is, globulin. This may be separated from the serum-albumen by saturating the neutralized urine with sulphate of magnesium in the cold; the globulin is precipitated in a soluble (noncoagulated) form, and the serum albumen remains in solution. I am engaged in trying to determine what is the proportion of globulin to serum-albumen in albuminous urines, and whether this ratio varies in the different varieties of kidney disease, and in the different stages and phases of the same disease. Such a research seemed likely to throw light on the intimate pathology of albuminuria, and I specially hoped to find by this means a chemical diagnosis between albumen due to organic kidney disease, and that occurring, usually in cyclic rhythm, without kidney disease. My observations are as yet too limited in number to permit me any generalization, but their results are certainly suggestive.

In four observations upon the urine of a case which presents all the most characteristic phenomena of functional albuminuria, I have found that the precipitate with nitric acid or heat is composed entirely of globulin, not a trace, or only the very faintest trace, of serum-albumen being present. This determination may be contrasted with that of a case of granular kidney, where, of the total amount of albumens, 70 per cent. was serum-albumen and 30 per cent. globulin; it may also be contrasted with that of a case of extreme general anæmia, and probably fatty degeneration of the kidney, in which, of the total amount of albumens, 30 per cent. was serum-albumen and 70 per cent. globulin. These figures are only approximations, but they will serve the present purpose equally well, with the decimals in which the determinations were worked out. In connection with the latter case it may be mentioned that, if one may trust the clinical features, the disease was at first functional and afterwards became organic; and it will also be observed that, if the diagnosis be correct, there is here a kidney lesion, similar to that found, in one variety at least, of puerperal albuminuria.

Now, to come more directly to the point in discussion, I have examined the urine of one case of puerperal albuminuria in which the pregnancy and labor had terminated without mishap, and in which the urine, although still containing a large amount of albumen, was rapidly becoming normal. Here I found, as in the case of functional albuminuria already described, that there was an entire absence of se-

rum-albumen and a precipitate with nitric acid and heat, which was composed entirely of globulin. Thus, if my observations be correct, and I of course admit that they must be multiplied before making any generalization, this form of puerperal albuminuria, which cures itself, is chemically allied to functional or cyclic albuminuria, and a strong suggestion arises that, as in the latter, so in the former, we have no organic kidney mischief. It is, from a practical point of view, highly desirable to diagnose during the progress of a pregnancy the one form associated with organic change, which will probably not recover, from the other form, in which, from what appears above, there is probably no organic change, and which will recover. Retinitis is a complication, which under other circumstances is generally found in connection with organic change in the kidneys and serious symptoms. It is important then, to ask if, when it occurs in puerperal albuminuria, it has the same grave significance; if the cases of puerperal albuminuria associated with retinitis invariably continue after delivery as cases of chronic Bright's disease, and if, finally, we may call this complication to our aid, possibly together with the chemical phenomena I have mentioned, in determining the prognosis of a given case. To summarize the above remarks, there is undoubtedly a form of puerperal albuminuria which is associated with an organic lesion of the kidney, and which we may call nephrogenic; but there is also another form, in which there is probably no such kidney lesion, which is probably due, as I believe, to the profound blood change of pregnancy, and which may hence be styled hæmatogenic.—*Lancet*.

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## HOSPITAL NOTES.

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THE TREATMENT OF ACUTE RHEUMATISM.—The *Medical News* has recently published reports on the treatment of rheumatism from the principal hospitals of New York, Philadelphia, and Boston, from which the following extracts are taken :

### NEW YORK HOSPITAL.

Dr. George L. Peabody treats his cases of acute rheumatism with a combination of salicylic acid and iron, the formula for which was obtained in the following way :

About a year ago a nurse was pouring into a common receptacle some remnants of different medicines, when she noticed that a black precipitate formed by iron was turned into a transparent solution of a

rich red hue as soon as she poured in the fluid contents of another bottle. Being a young woman of an inquiring turn of mind, she asked the house-physician the cause of this phenomenon. The house-staff, to help her in her desire for information, experimented with the drugs that she had been throwing out, and ascertained that her manipulation of chemicals had been this: She had first poured into the receptacle a solution containing salicylic acid. Into this she had poured a solution of iron, with the results of producing a black precipitate. To this she had added some sodium phosphate, with the result of producing a clear red solution.

This at once gave a clew to the means of combining iron and salicylic acid without forming a precipitate. The facts were submitted to the apothecary of the hospital, and from them he produced the following formula, which has been in constant use for nearly a year:

℞.—Acidi salicylici	-	-	-	gr. xx.
Ferri pyrophosphatis	-	-	-	gr. v.
Sodii phosphatis	-	-	-	gr. l.
Aquæ	-	-	-	℥ ss.

This method of giving this drug in rheumatism has now been fairly tested. It may be said to agree as well with the stomach as any other, and it has the great advantage of not being followed, even if its use be long continued, by the severe anæmia that so often follows the use of salicylic acid, if it be given without iron.

The dose which is described in this formula is given every two hours until improvement justifies a diminution in the frequency, or until constitutional effects are pronounced.

Dr. Peabody has tried antipyrin in several cases of subacute rheumatism without satisfactory results; but has had too little experience with it thus far in acute rheumatism, for the cure of which it has such high celebrity in Germany, to speak from personal knowledge in regard to it.

There is nothing, beyond these trifling details, at all peculiar or out of the common way in the treatment of acute rheumatism at the New York Hospital.

BELLEVUE HOSPITAL, NEW YORK.

Dr. A. L. Loomis recognizes in the treatment of acute articular rheumatism two classes of patients, the anæmic and the non-anæmic or robust. This distinction is made with great care, and, in

cases of doubt, patients are usually treated as belonging to the first class.

The treatment employed with the robust patients is as follows: Salicylate of sodium in thirty-grain doses is given every two or three hours, according to the severity of the symptoms, until its effects are marked by decided ringing in the ears. The intervals between the doses are then increased to four or six hours, and its use is continued until the acute symptoms have subsided, and the articular inflammation is quiescent. When the salicylate is decreased, the administration of the sodium bicarbonate is begun, in doses of twenty to thirty grains every four hours. It is rapidly pressed till the urine gives a decided alkaline reaction with litmus paper. Every passage of urine is tested, and the soda is used throughout the acute course of the disease in quantities sufficient to maintain its alkalinity. In the earlier stages, and later if necessary, the pain is controlled by hypodermatics of morphia, and the bowels are kept freely moving by the use of Rochelle salts. The affected joints are wrapped in cotton sufficient to maintain a uniform temperature. The body is clothed in flannel, and great care is exercised to avoid exposure—examinations of the heart being avoided so far as possible. As soon as the temperature reaches normal, or nearly so, the patient is put upon iron and cod-liver oil. If fever runs very high it is controlled by aconite.

In the anæmic cases the salicylate is not given at all. The use of the alkalis is begun at once, and the amount graduated by the same test of the urine. Tincture of aconite in the liquor ammoniæ acetatis is used both to control the fever and as an anti-rheumatic, but its use is discontinued when the acute symptoms have subsided. In these cases cod-liver oil and iron are given in large doses from the very first, and continued for some time after recovery seems complete. *Tr. opii deodorata* is used for pain in these weaker cases, and the joints are protected as before; even more care is given to protecting the patient and avoiding exposure.

In all cases patients are put upon a milk diet throughout the entire course of the disease.

*Oleum gaultheriæ* has been used in a few cases, with marked success in some. It often relieves the distressing symptoms with surprising rapidity, but it is uncertain in its results, and its use has been attended at times with severe delirium and alarming symptoms of poisoning. It is seldom employed now.

Although salicylic acid is used in robust cases, its effects are believed to be such as favor cardiac complications.

## ST. LUKE'S HOSPITAL, NEW YORK.

During the past six years several methods of treatment of acute articular rheumatism have been carried out under Dr. Kinnicutt's personal observation in the wards of St. Luke's Hospital, and the effects carefully observed. Dr. Dechilly's and Dr. Herbert Davies's methods of encircling the limbs just above the affected joints with blisters have afforded more or less relief of the articular pain, much less prompt, however, than that obtained by the use of the salicyl compounds; the duration of the disease, and the implication of the peri- and endocardium, have not been apparently affected. Dr. Harkin's suggestion of applying large blisters over the præcordial region alone, has given wholly negative results, and the substitution of other treatment has invariably been rendered necessary.

In the winter of 1882, Dr. Kinnicutt introduced the treatment of acute articular rheumatism by the oil of wintergreen, a methyl ether of salicylic acid. The mode of administration consisted in giving the oil in fifteen or twenty minim doses in sealed capsules, or floated on water or milk, at intervals of two hours, to the extent of two and a half to three drachms in the twenty-four hours. The initial dosage was maintained during the first week of the disease, and then, in the absence of arthritic pains and fever, gradually diminished until the daily amount was reduced to one drachm, which was continued throughout convalescence. With the establishment of convalescence, some one of the various preparations of iron invariably was combined with the above treatment, and during this period exposure, exercise, and dietetic errors were carefully guarded against. For the joint stiffness, which frequently persists after the disappearance of pain, the salicylate of lithium, to the amount of forty to sixty grains daily, in divided doses, was not infrequently found to give greater relief than was attainable by a continuance of the oil of wintergreen. The results obtained by this method of treatment was sufficiently favorable to warrant its continued use since that date. The average stay in the hospital, in a number of cases thus treated during the winter and spring of 1882, was twenty-four and one-third days, which average has since been closely maintained.

On account of the rapid elimination of the various salicyl compounds, their effects are of comparatively limited duration. The maximum benefit obtainable from their use in acute rheumatism will therefore be found, he is convinced, in conforming the doses to the rate of elimination, in so far as is possible.

The only other method of treatment which has been used in Dr.



Kinnicutt's wards is the combination of alkalies with a salicyl compound. The rule has been to give indifferently the oil of wintergreen, salicylic acid, or its sodium salt, in one-half the customary daily amount, combined with four drachms of the sodium bicarbonate, or the potassium citrate in the twenty-four hours. Their use has been continued, in diminished doses, throughout convalescence. The mixed treatment has been found equally efficient with that of the salicyl compounds alone, in controlling the arthritic symptoms and the fever. Believing that the use of salicyl compounds, when begun at the onset of acute articular rheumatism, affords a limited protection to the heart, a larger number of cases than are yet at his disposal are necessary to permit an expression of opinion in regard to a greater efficiency of the *mixed* treatment in averting cardiac complications.

## HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

Dr. Osler employs in mild cases, with only one or two joints involved and the temperature not above  $102^{\circ}$  F., the citrate of potash in  $\mathfrak{zss}$  doses every four hours. If there is much pain and the patient is restless, Dover's powder, grs. x, at night. In more severe attacks, with polyarthritides, and fever above  $103^{\circ}$ , he orders salicylate of sodium, grs. xv, every two hours, with a similar quantity of citrate of potash. The important influence of the salicylate is believed to be in the reduction of the pain and fever. It is not thought to have much influence in lessening the duration of the disease; and, on the other hand, when pushed for many days and in large doses, it is thought directly to favor the recurrence of a relapse. Hence, as soon as the pain is relieved, the amount of the salt is reduced, and it is stopped as soon as possible. It does not, probably, influence, one way or the other, the occurrence of endocarditis. When the temperature is above  $103.5^{\circ}$  antipyrin, grs. xx, is ordered. With fever of  $105^{\circ}$  the cold pack is employed. Lemonade and carbonated waters are allowed freely. An unstimulating liquid diet is given. Blankets are preferred for the bedding of the patient. Special care is enjoined in changing the clothing, and a wad of cotton-wool is placed over the front of the chest. The joints are wrapped in cotton-wool, or, when very painful, in spongiopiline, or flannel, soaked in Fuller's lotion (hot) (Liquor Opii Sedativus,  $\mathfrak{z}j$ ; Potass. Bicarb.,  $\mathfrak{z}iv$ ; Glycerin.,  $\mathfrak{z}ij$ ; Aquæ,  $\mathfrak{z}ix$ ). If the salicylates and the local application fail, as they sometimes do, to relieve pain, opium is frequently given. During convalescence iron and tonic doses of quinine are ordered.

## JEFFERSON COLLEGE HOSPITAL, PHILADELPHIA.

Dr. Da Costa treats his cases of acute rheumatic fever, as a rule, with salicylic acid, about a drachm in twenty-four hours; he does this especially in the cases of active, frank character in which the joint affection is decided. Where marked cardiac complications exist, he greatly prefers the alkaline plan of treatment; indeed has little faith in the use of salicylic acid either to prevent cardiac complications or to remove them. Nor does he, in any case, continue salicylic acid or the salicylates if no impression is made on the rheumatic malady in three or four days. When the remedy does good at all, his experience is that it does good quickly.

In cases of acute or subacute muscular rheumatism, or in subacute articular rheumatism with much pain and only moderate swelling of the joints, he often employs bromide of ammonium, or, if this fail, nitrate of potassium. He uses opium sparingly, and generally confines it to a moderate dose or two of Dover's powder, given at night.

He strongly insists, no matter what plan of treatment be adopted, on the addition of quinine, from twelve to sixteen grains daily, as soon as the more active symptoms have subsided, believing that thereby the patient's strength is sustained and relapses prevented.

From tincture of chloride of iron he has seen no good, except in pyæmic rheumatism or in kindred forms of rheumatism.

Locally, he uses little, enveloping the swollen joints, if very painful, in a thin layer of cotton-wool; where the joints are very much swollen he envelops them in cloths wrung out in a strong solution of nitrate of potassium, with morphia added.

The diet is always bland and unstimulating, chiefly milk, farinaceous substances, and very moderate amounts of broths, eggs, and fish. Alcohol is not given except in so-called "typhoid cases," in which also high temperature is generally found.

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Dr. Roberts Bartholow finds that the cases which come under his observation may be divided into three types: The robust nervo-muscular subject, often having a distinctly hereditary tendency to the occurrence of rheumatic inflammation; the obese, beer-drinking subject; and the pale, anæmic, feeble subject, most frequently female, living under unfavorable hygienic conditions, and leading a closely sedentary life.

His choice of remedies for these three classes of rheumatic subjects, when the seizure has actually occurred, is confined to the salicyl

compounds for the nervo-muscular type, to alkalies and tincture of iron in the obese type, and to tincture of iron in the anæmic. The recent additions to our knowledge of the good effects of antipyrin in acute rheumatism incline him to its use in place of salicin and salicylic acid, and for the hyperpyrexia in any of the cases. Although he cannot agree with those enthusiasts who regard antipyrin as a specific in rheumatism, he cannot overlook the good effects obtained from it in appropriate cases—especially in the neuro-muscular group. As the disease manifests a tendency to relapse the earlier and the more abruptly defervescence and cessation of pain take place, he keeps up the use of the remedies for several days after all morbid manifestations have ceased. With these remedies he combines, *pro re nata*, quinine, morphine, and, more particularly, blisters in the neighborhood of the affected joints.

In the obese, beer-drinking type of rheumatics, the use of alkalies, or the combined alkaline and quinine treatment as advocated by Fuller, appears to him to be most efficacious during the existence of the acuter manifestations. When these have distinctly subsided, the tincture of iron freely administered becomes the most important remedy, and will do more than any other to prevent recurrences, which are particularly apt to take place in this type. Furthermore, the acute rheumatism of these obese subjects manifests a certain sluggishness of disposition, so to speak, and slowly glides into the subacute and chronic forms. Until he learned the value of tincture of iron in these cases, he had to observe this tendency of the malady only too often.

For the third group of rheumatic cases, he uses the tincture of iron with excellent results. The anæmia, the depression of the bodily forces, and the exquisite sensibility characteristic of this type, are conditions generally improved by iron; but as no other preparation manifests the same power in acute rheumatism, there must be a special action due to the hydrochloric acid in the combination. This view is the more probable, since the mineral acids have themselves been used successfully in the treatment of this disease.

The blister treatment, which has alone accomplished excellent results, may well be combined with any other special plan.

Whatever mode of treatment has been pursued, he finds it necessary to keep it up, somewhat modified as to quantity, for several days after the apparent cessation of the systemic and local disturbance.

## PENNSYLVANIA HOSPITAL.

Dr. Morris Longstreth, in cases of decided articular manifestations

and high temperature, orders salicylic acid to be given in ten grain doses every hour until six doses are given—*i. e.*, a drachm every twenty-four hours. The salicylic acid is given with the object of reducing the temperature, and the quantity and frequency of the dose are proportioned carefully to the end to be attained. In the large majority of cases it is successful. The temperature, and with it the frequency of the heart's action, diminishes. Cardiac complications, endo- and peri-carditis, do not seem to contraindicate its employment or its continued use. Occasional cases present themselves in which great depression of the heart follows the employment of the drug in large doses, even without evident inflammatory cardiac complications. In such cases, other medication must be employed; and occasionally restoratives have been required to overcome its effects. Usually its use is continued for one or more days after the subsidence of the temperature, in much reduced doses and at longer intervals.

In cases in which salicylic acid fails of its usual effect, or in cases with great anæmia or previous debility, salicin has been found very useful. It has been given in fifteen grain doses, four times a day. Its administration in smaller doses is often continued during convalescence, either alone or in connection with iron or other tonics.

The alkaline treatment Dr. Longstreth resorts to less frequently. When employed, bicarbonate and citrate of potash, in equal portions, are given in divided doses to the amount of one ounce daily.

Quinine and *tr. ferri chloridi* seem to be demanded during convalescence in nearly all the cases. The disordered digestive functions, evidenced by coated tongue and sluggish bowels, seem to be most favorably and promptly aided by the administration of small doses of calomel, gr. i-12, with bicarbonate of soda, gr. iij, given at frequent intervals during one or two days.

Locally, to the affected joints, three modes of treatment have been found of service. Joints hot and tense are covered with cloths wet with lead-water and laudanum, equal parts, and enveloped with waxed paper or gutta-percha sheeting. In some cases, the local application of a saturated solution of bicarbonate of soda is useful; sometimes the impermeable sheeting is omitted from the dressing—coolness from evaporation being more comforting than the heat. In other cases, the joints are enveloped in cotton, with or without the covering.

Cold-water sponging or packing is employed in cases of high temperature with delirium. Antipyrin has been employed in some of these cases, but without good results. Morphia or opium is always used as required.

## PHILADELPHIA HOSPITAL.

Dr. James Tyson uses both salicylic acid and salicylate of sodium, but recently has confined himself rather more to the former. He gives it preferably in the form of a compressed five grain pill, of which two are ordered every two hours until the symptoms yield. This is generally within twelve hours, and almost always within twenty-four. After the pain has decidedly subsided he diminishes the dose one-half, or increases the interval to four hours. If the administration is cautiously continued for a week or ten days, he finds that it is comparatively seldom that relapses occur. Sequelæ and complications are less frequent by this than the older methods of treatment. It is comparatively seldom that anodynes are required as adjuncts to relieve pain, but when they are, the hypodermatic use of morphia is promptly efficient.

In giving the salicylate of sodium, he prescribes ten to fifteen grains every two hours, or half as much every hour until relief is obtained. Its sickening taste in solution is a great drawback to its use, but it, too, may be given in five grain compressed pills, although the larger bulk makes this method of administration inconvenient.

When salicylic acid or its salts fail, he finds that flying blisters to the painful joints are the next most efficient measure, and their effect upon the pain is usually very prompt.

Dyscrasic cases are, of course, treated with iron, quinine, and an abundance of nourishing food, and flannel garments worn next to the skin.

In muscular rheumatism salicylic acid is seldom efficient, although Dr. Tyson often uses it with results which lead him to believe that it is not totally without effect. By far the most satisfactory measure is dry heat, applied most conveniently by the hot-water bag.

In the treatment of chronic rheumatism Dr. Tyson has much more confidence in the use of local measures and manipulation. Salicylic acid is also sometimes useful, but the effect is more frequently temporary.

Dyscrasic conditions are treated with cod-liver oil and iron, which alone are sometimes curative. Counter-irritation by blisters and strong liniments are sometimes useful adjuncts, but are in no degree equal to manipulation.

## MASSACHUSETTS GENERAL HOSPITAL, BOSTON.

Dr. Francis Minot usually employs in the treatment of acute articular rheumatism ten grains of salicylic acid or fifteen grains of sodium salicylate, for an adult, every hour, or every two hours, until

the pain and fever abate ; after that, at longer intervals according to circumstances. If there be indications of endo- or pericardial complications, sinapisms are applied, followed by fomentations, and quinine is given in two grain doses, three or four times daily. In cases of suspected cerebral inflammation ice is applied to the head, with opium, chloral hydrate, aconite, etc., internally. The affected joints are simply wrapped in cotton wadding. Purging is avoided.

The diet during the acute stage consists chiefly of milk and farinaceous articles. Wine and other stimulants are ordered according to the degree of prostration. The patients are kept in bed at least a week after all pain and swelling have subsided, and the temperature and pulse have fallen to the normal standards.

In the more chronic forms of the articular rheumatism, reliance is chiefly placed on quinine and iron. In all cases care is taken during convalescence to prevent fatigue, exposure to cold, and errors in diet.

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Dr. F. C. Shattuck uses a combination of salicyl and alkaline treatment, with a view to—first, relief of the articular pain and swelling ; and, second, the prevention of cardiac complications, the results of which are far more serious than are those of the inflammation about and in the joints. He finds that under the use of the salicyl compounds the joint pains and the fever yield more promptly and fully than under any other medication. Relapses are, however, common ; and it would seem that, though the patient is made much more comfortable, his stay in the hospital is but little if at all shortened. There are good authorities who maintain that this treatment tends directly to lessen the liability to cardiac complications ; there are other equally good and more numerous authorities who maintain that it has no such direct action. That the full alkaline treatment has some effect in averting and curing these complications, rests on evidence strong enough to make us listen to it ; and the stay in hospital under its use is, if the statistics quoted by Professor Howard in Pepper's "System of Medicine" are reliable, rather shorter than under the salicyl compounds.

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Commenting on these reports, the *News* remarks : For a knowledge of the natural history of rheumatic fever uninfluenced by drugs we are indebted to the late Dr. Flint, who treated thirteen patients in Bellevue Hospital with infusion of quassia, and to Dr. Sutton, of London, who treated a large number of cases with mint water. The observations of the latter physician, in conjunction with Sir William Gull, deserve a more thoughtful consideration than has been afforded them by many

clinicians, as they are of primary importance in enabling us to judge of the effect of medicines on the disease.

Since the introduction of salicylic acid in 1875, this remedy and its compounds have been universally employed in rheumatism, and about sufficient time has now elapsed to permit us to arrive at a safe judgment of its uses. On looking over the reports, we find that in some form or other it is still employed in every one of the hospitals represented, and we ask for no better guarantee of its merit than this one fact. As a rule, a decade plays sad havoc with a drug announced with the *éclat* which attended the introduction of salicylic acid, but the experience of many physicians the world over seems to have accorded it a safe place in the therapeutics of rheumatism. The early anticipations, however, that we had in it a specific had not been realized, and too rapid cures have been expected. The elaborate analysis by Palmer Howard in Pepper's "System of Medicine," vol. ii., seems to indicate very surely that cases treated by this method do not get better any quicker than on the old alkaline plan; indeed, if statistics are worth anything, they show that the cases do not get well so soon. Cardiac complications are probably more frequent, though in the reports we have published Dr. Loomis alone suggests that the effects of the acid favor their occurrence. It is a very general opinion, also, that under the salicylate treatment relapses are more frequent. Unquestionably the most striking action of the drug is in the relief of the pain and the reduction of the temperature, so that the extreme suffering and the general misery of the patient are promptly relieved. Upon these manifestations of the disease it often acts "like a charm," and possibly relapses are in many cases brought on by careless exposure or errors in diet in patients whose acute symptoms have been rapidly removed while the *materies morbi*—whatever that may be—still remains in the system. A combination of the salicylates and alkalies has probably a more decided effect upon the disease than either remedy alone. Dr. Kinnicutt, as shown by the report from St. Luke's Hospital, New York, continues to have good results from the use of oil of wintergreen, which seems to act almost as promptly as salicylic acid, of which it is a methyl ether.

That rheumatic fever is essentially a self-limited disease, and is not materially influenced in its *duration* by drugs, is an opinion fully justified by a comparison of the reports of Sutton with those of the various writers who have published the results of the alkaline and salicylate plans of treatment. We have been too ready to mistake the relief of symptoms for the cure of the disease.

The reports do not refer very fully to the use of antipyrin in this disease, which is spoken of by recent German writers as a specific. It would seem, like the salicylates, to reduce the fever and to relieve the pain, and so far it may be specific, but we require further evidence to show that it really limits the course of the malady. Fränkel, in *Deutsche medicinische Wochenschrift*, Nos. 43 and 44, speaks very highly of its value in thirty-four cases, but acknowledges that in certain cases it cannot replace the salicylates.

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## SANITARY.

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THE DURATION OF INFECTIOUSNESS IN THE FOLLOWING DISEASES: SCARLATINA, SMALL-POX, MEASELS, MUMPS, AND DIPHTHERIA. Read before the Section of Public Medicine at the Annual Meeting of the British Medical Association held at Brighton. By Frederick Pearse, M.D.—There is one point I wish to raise in this discussion. We must distinguish infection from the person and that from clothes. We must know for how long infection is exhaled from the patient as well as the potency and duration of infection attaching to the cast-off *débris* of pathological processes induced by the disease. A case may be said to be first infectious and later contagious.

Infection is exhaled for a much shorter time probably than we have generally imagined. The question to determine is, for how long the pathological processes induced by the different diseases—for example, the disquamation of scarlet fever and the catarrh of measles—continue the carriers of the contagion. How long will the discharge from skin and mucous membrane bear infective properties?

I have reason to believe that personal infection, or exhaled infection, in contradistinction to infection by contact or inoculation of the disease products, has a definite duration, and that a special period of duration of this exhaled infection characterizes each disease. On the other hand, many things are explained to hasten or hinder the elimination of infection with the characteristic discharges of the disease.

The rules given, that scarlet fever is infectious as long as desquamation lasts, small-pox as long as every scab or scale remains on the skin, diphtheria while sore-throat, or albuminuria, or discharges from mucous surface continues, are all open to question. Upon this hypothesis, we could never say when a person ceases to be infectious.

I would suggest that infection only attaches to those cast-off products of the disease when they were formed during its strictly infectious period; that, for example, the early desquamation of scarlet fever, and not the second or third peeling, is infectious; the primary albuminuria of diphtheria as well as scarlet fever, but not that which may remain for weeks or months or years afterwards. I hold that these pathological



conditions and their products, induced in a characteristic way for each disease, are not any guides as to the continued infectiousness of a patient, and on this basis I would urge that a mild case is as long infectious as a severe one.

My observations make the duration of infection in the several diseases as follows: Measles, from the second day, for exactly three weeks. Small-pox, from the first day, under one month, probably three weeks. Scarlet fever, at about the fourth day, for six or seven weeks. Mumps, under three weeks. Diphtheria, under three weeks.—*British Medical Journal*.

HOW TO LIMIT THE SPREAD OF SCARLET FEVER.—Dr. Jamieson (*Edinburgh Medical Journal*) thinks that very much can be done in this direction by the use of warm baths nightly, of the affected child and all who come closely in contact with him, the body being afterwards greased with an antiseptic ointment (the one which he himself employs contains 30 grains of carbolic acid and 10 grains of thymol to the ounce), and by the regular application of a solution of boroglyceride to the throat. If these precautions are taken at the very outset of the disease and kept up through the entire course, cases which cannot be thoroughly isolated may be rendered innocuous so far as transmission of the disease is concerned. The author adds that all cloths and bedding should be steeped in a dilute solution of carbolic acid.

WATER AND MALARIA.—It is a significant fact of malaria, and of importance in a sanitary view, that those who, residing in malarious spots, abstain from drinking the surface-water of wells or that of badly constructed cisterns, are more exempt from malarial disease than those who drink such water. The fact that water *does* attract, absorb and hold in solution malarial poison, has been too long and too generally neglected by our people in their arrangements for water supply and health. That the human system becomes infected in this way, as well as from breathing malarious air, is as true as that water, polluted by other substances, is productive of disease. In the one case the water becomes impregnated with malarial poison, and in the other with infection of another type. Bad drinking-water has been too greatly disregarded as a factor in summer complaints, autumnal fevers, and other diseases incident to the different seasons. Our eastern people especially need reform in this important line of comfort and health. Water for drinking and cooking purposes should either be obtained from the bottom of good wells, uncontaminated by surface-water or other impurities, or from good cisterns, constructed to exclude air, surface-water, and every impurity. Malarial poison not only lurks in the surface-water of wells, springs, and badly-constructed cisterns, but in the turbid waters of our sluggish streams, muddy creeks and rivers, as they bear themselves to the ocean. Significant facts like these tend to settle a question often raised by objectors that heat, moisture, and vegetable decomposition are necessary to malaria in this, that malarial diseases are sometimes found in hilly regions and moun-

tainous sections, where these factors seem to be absent. But these objections fall to the ground in the face of the fact that these factors *are* sometimes found in hilly regions and mountainous sections. The physical condition of such localities, with their basins and obstructed low places alternately wet and dry, explain the liability to malarial fevers. The hills, valleys, and mountains of the middle and western counties of our State are not destitute of malarial localities and conditions. While autumnal rains and winter snows bear back to the surface of the soil atmospheric and other impurities, acting as sources of disease, the natural streams of a country are nature's chains for bearing atmospheric as well as soil impurities, as so much sewerage, to the ocean.—*Dr. S. G. Satchwell* in the *North Carolina Medical Journal*.

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## PHARMACY AND THERAPEUTICS.

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OBSERVATIONS ON DR. BERGEON'S TREATMENT OF CHRONIC DISEASE OF THE LUNGS AND AIR PASSAGES BY MEDICATED GASEOUS ENEMATA. (D. J. Henry Bennet, M. D., in the *British Medical Journal*.)—Dr. Bergeon commenced his inquiries and experiments some years ago. Imbued with the parasitical, microbic, bacillary views of the day, he wished to discover a mode of destroying these morbid germs. Like many other experimentalists, he tried to do so by medicinal means, by inhalations, by hypodermic injections, but all in vain. He then remembered the experiments made by Claude Bernard thirty years ago on the absorption of gases by the large intestine. That eminent physiologist discovered that carbonic acid gas, when injected, was absorbed by the intestines in large quantities, without any toxic effect whatever. The same result was obtained with sulphuretted hydrogen, although it is poisonous if inhaled. Dr. Bergeon repeated these experiments on animals, principally on rabbits, with the same result. He then tried the injection of large quantities of the carbonic acid gas in human beings—to the extent of two, three, or four litres (quarts) two or three times in the twenty-four hours, with absolute immunity from any toxic effect. The gas is expelled by the mouth in the course of a few minutes after injection, without oppression, dyspnoea, or intestinal disturbance. The carbonic acid gas appears to be innocuous, but without any decided medicinal effect. It is the sulphuretted hydrogen, a powerful microbicide, which appears to exercise the therapeutic influence.

Dr. Bergeon, having got so far, having obtained an innocuous medium in the carbonic acid, began a series of experiments with various medicinal agents, which it would be too long to enumerate, stopping at last at sulphuretted hydrogen, as evolved from natural mineral waters. He found the most efficacious to be that of the Eaux Bonnes, in the Pyrenees. By passing the carbonic acid through a bottle charged with this water, it becomes impregnated with the sulphuretted

hydrogen gas which it contains, and this is well borne by the intestines. It is absorbed by the intestinal venous system, and rapidly exhaled by the mouth through the lungs. In two or three minutes, on applying the nose to the patient's mouth, the air emitted is found to be tainted by the sulphurous gas. Twenty minutes is the time prescribed for the slow, gradual injection of four litres. The abdomen becomes distended, but without pain, unless atmospheric air is, from imperfect manipulation, injected with the medicated gas. If this is the case, there are intestinal colics, or tormina, atmospheric air being apparently an irritant. Within half an hour after ceasing the injection, all the gas is absorbed and expelled through the lungs and mouth, the abdomen regaining its usual shape and softness.

Dr. Bergeon claims marvellous therapeutic effects for this medication. He says that he has been applying it for the last two years to all the cases of chronic pulmonary and throat disease that have come under his observation; indeed, in more than two hundred cases, although the experiments were made at Lyons, where the climate is bad, the results have been successful to a degree that has surprised and astonished him. He says that, in early phthisis, even in acute general phthisis, a form of the disease nearly always rapidly fatal, in two or three weeks there is generally an arrest, and in a few months a cure. Even in advanced, incurable phthisis great amelioration is obtained. The pulse is lowered, the temperature falls, the night sweats cease, the appetite returns, the expectoration rapidly diminishes, losing its purulent character, and the cough becomes less harassing and frequent. The amelioration, he says, is also rapidly obtained in advanced laryngeal phthisis, when all local or constitutional treatment has failed to give ease, or to arrest the ulcerative process. Asthmatic attacks are relieved with more certainty than by any other means, including the hypodermic injection of morphine.

These are very marvellous statements; but, coming from a scientific man of mature age, occupying a prominent orthodox position in a great medical centre (Lyons), and brought forward as the result of several years of trial and observation, they must command attention and counter-trial. Certainly, to pass from eight to ten or twelve litres of medicated gases through the intimate structure of the lungs several times in the twenty-four hours is a tangible reality, and a new departure in thoracic therapeutics. The entire structure of the lung is certainly reached; both the healthy and the morbid tissues are thoroughly searched out and permeated.

In September I was in Geneva, and saw several physicians there who were trying this treatment, as they stated, with apparent benefit. On my arrival at Mentone in October, I found a young Russian patient of former days, aged 21, dying of advanced phthisis under the charge of her travelling physician, Dr. Cacace, of Naples. We tried the injections, merely to see if we could give her ease. This was certainly done, and at first the treatment was attended with such an unhopedor rally, that the family wished to see Dr. Bergeon himself, so I sum-

moned him from Paris, where he then was. The rally, however, was only temporary, and she has since died.

Dr. Bergeon says that non-success is generally the inevitable result of inefficient application of the treatment or of the bad quality of the sulphur-water. At first the medical attendant must himself give, or see given, the enemata twice a day, slowly and cautiously, twenty minutes at least being devoted to each injection. He must begin at first with one litre, gradually increasing the amount, an hour before meals or three hours after, with careful study of what each individual is able to bear. All this, he states, cannot be left to unskilled hands at first. When, however, tolerance has been established, and the patient has become familiarized with the treatment, it can be entrusted to a skilled nurse or to a clever member of the family, or even to the patient. The carbonic acid must be generated on each occasion, and the bag or balloon must be first scrupulously emptied. If any gas remains in the balloon, atmospheric air enters through its walls by endosmosis and acts as an intestinal irritant. This is the all but invariable cause of the pains when they exist. On each occasion a half bottle of Eaux Bonnes water has to be used. The water must be opened and smelt, and if not loaded with sulphuretted hydrogen, as is often the case, it must be thrown away. Dr. Bergeon has tried chemically-made gas, but all such preparations cause pain and do not succeed. The penalty for the neglect of any of these precautions is failure.

The only agent beyond the natural sulphuretted hydrogen of mineral waters that he has found quite innocuous and efficient is the fluid sulphuret of carbon, the preparation that has been found so successful in destroying the phylloxera on vines. A teaspoonful is put into a glass tube, stopped at both ends with cotton, and the carbonic acid gas is passed through the tube, having previously been washed by passing it through a bottle of pure water.

Thus, there are many points to be scrupulously attended to in applying this treatment, and it has some drawback. It is most painful to the feelings of the patient, and not less so to those of the medical attendant. Both these considerations will have more weight with an English than with a foreign population, owing to natural habits and peculiarities. It imposes a very arduous and unpleasant task on the medical attendant, especially on those advancing in life and very busy. And yet if the microbes and bacilli can be destroyed—or, in other words, if the morbid local conditions can be improved or cured thereby, and if they are really important factors in the disease—it will have to be adopted. I may remark that although the bacilli diminish in number, they do not disappear from the sputa, even in the cases most completely cured. This, says Dr. Bergeon, seems to imply that their presence is not the *fons et origo mali* in phthisis. He says that he does not propose his plan as a microbicide treatment, but merely as one that succeeds. In any case this treatment will have to be put to the test of experiment. He feels certain, however, that the treatment by injection of sulphuretted hydrogen is decidedly antiseptic, and curative of

local lesions. This is all that he feels warranted in asserting in the present stage of the therapeutic question. In Paris several leading physicians are now trying it in the hospitals, and report very unexpected good results.

We are accustomed to connect the respiration of atmospheric air containing an abnormal amount of carbonic acid, as in badly-ventilated dwellings, churches, assembly-rooms, with decidedly toxic results. The introduction of many litres of gas daily through the venous system by intestinal injection, although it is speedily got rid of by the lungs, would, one would think, be equally if not more pernicious. One would expect this immense amount of carbonic acid thrown into the venous blood to interfere with retrograde nutrition, with the transformation and elimination of used-up nutritive material. Singular to say, such does not appear to be the case. All the functions of life, of retrograde nutrition and elimination, are said to take place normally, as I have myself seen in several cases in which the treatment has been continued daily for weeks. Probably what, according to Claude Bernard, occurs with sulphuretted hydrogen may also occur with carbonic acid and other gases. They are poisonous when they pass into the arterial system through pulmonary inhalation, but innocuous when merely present in the venous system by intestinal absorption. Recent researches also have shown, I believe, that the air expired by animals contains animal products—*ptomaines* they are called in French—of a very poisonous nature. Dr. Bergeon seems so impressed with the innocuous character of carbonic acid introduced into the animal economy in any form, that he does not, in my opinion, attach enough importance to ventilation in the daily life of his patients—a common error abroad. Dr. Bergeon asserts, with great emphasis, that so far from nutrition being impeded or deteriorated, the very reverse is the case; the appetite returns very soon, and the power of digestion with it, and most patients begin to increase in weight, often very rapidly.

Since the above was written, I have seen a young Englishman, aged 27, whom I placed under Dr. Bergeon's care four days ago. He had been suffering from severe idiopathic asthma for six weeks, had never had a good night during that time, and had passed the last five nights out of bed on a chair. He had been sent from London to try change, but had found no relief at Cannes or at Monte Carlo. The very day he arrived at Mentone, and consulted me, he was placed under Dr. Bergeon, who gave him an injection. He remained in bed all night and this he has continued to do ever since. The last, or fourth, night has been the best he has had for more than six weeks. He now feels free from oppression, and quite well. The case is a very remarkable one.

Several instruments have been proposed for the administration of the gas. That which Dr. Bergeon uses is one constructed by his pupil, Dr. Morel. It can be procured at La Pharmacie Centrale, 7, Rue de Jouy, Paris; cost, 70 francs.

CORROSIVE SUBLIMATE IN CHRONIC BRIGHT'S DISEASE (Dr. John C. Peters in the *Therapeutic Gazette*).—There are three great varieties of chronic nephritis:

1. Parenchymatous, generally with the large white kidney.
2. The interstitial, with the small, hard, granular kidney.
3. The diffuse or general nephritis, which is the most common and important of all, which may attack the parenchyma and tubes predominantly, and then closely resemble pure parenchymatous nephritis, or it may attack the arteries and connective tissue more particularly, and then mimic interstitial nephritis, with the small, hard, granular kidney.

Corrosive sublimate is possibly a specific against the curable or not too far advanced cases of chronic diffuse nephritis, and there is no reason why it should not be equally useful against chronic parenchymatous and chronic interstitial nephritis. But there will always be a large number of cases of all three of these varieties of kidney-disease in which no absolute and perfect cure is possible, but only palliation and prolongation of life. Hence too much must not be expected, and a hasty rejection or abandonment of a good remedy should not be indulged in. Richardson says in some cases life may be prolonged almost indefinitely, and the bodily and mental powers retained with so little loss that the patient may be equal to most of the duties and some of the pleasures of life. For the kidney is not equally affected throughout all its parts, and the less injured portions may carry on reasonably well the depurative functions. We must conserve what is left of the kidneys.

Theoretically, corrosive sublimate should be a good remedy against the small, hard kidney, and also against the arterio-capillary fibrosis which so often attends it. \* \* \* To get the full effect of corrosive sublimate upon the kidneys, salivation must be sedulously guarded against.

The use of mercury in scrofulous and cachetic subjects has always been viewed with some fear. But the orthopædic surgeons of this city use corrosive sublimate fearlessly and very successfully in scrofulous affections of the joints in small or what they call tonic doses, and with such great success that some of them have inferred that more than an usual proportion of these cases are really syphilis in a masked form, so closely resembling scrofula in all its manifestations that a positive diagnosis cannot be made between them. We may allude here to the large number of cases of chronic arteritis, which are really syphilitic in nature. Senator, who is almost entirely sceptical about the efficacy of medicines in Bright's disease, approaches this view in a slight degree when he says there is at most (or at least) one drug, viz., iodide of potassium, which must be allowed to possess a certain amount of efficacy in some forms of chronic nephritis. He says he refers to the albuminuria and not to the other symptoms, such as the dropsy and asthmatic attacks, for which we possess really efficacious remedies. Again, in some diseases mercury is known to increase the proportion of red globules in the blood.

THE TREATMENT OF CHOLERA INFANTUM.—A very successful run of cases treated by the very frequent use of Dover's powder and calomel, in small doses, dry on the tongue, has made the writer rely chiefly on these drugs.\* Stimulants, of course, are used. The prescription of morphine and sulphuric acid, long ago advised by Meigs, is one that often checks vomiting; yet so often has the writer been disappointed, all medicine being rejected, that he resorts to placing the powders mentioned above on the tongue. They are so minute that they are readily taken into the pharynx, and the water or stimulant washes them down. If the child sleeps, the powders are not given so frequently. The writer has not had the misfortune to see the stage of collapse ensue in cholera infantum since instituting the above plans of treatment. He sorrowfully admits that he has never had any cases to recover from the cholera collapse. After the more acute symptoms of cholera infantum are controlled, tonics and astringents are used.

The writer's experience with small enemas containing astringents and opiates has been extremely unsatisfactory. He failed to see any benefit that could not be accounted for by the other drugs.

It is to be remarked, finally, that these methods of treatment are not to replace the removal of the sick patient to the seashore or mountains. They are especially for the unfortunates who cannot be removed from the depressing influences of the heat, bad air, and generally unhygienic surroundings.—*Dr. J. H. Musser in the Therapeutic Gazette.*

SALICYLATE OF IRON IN DIARRHŒA IN CHILDREN (Dr. James Braithwaite in the *British Medical Journal*).—There is a form of diarrhœa in children, usually occurring after weaning, and from that period to four or five years of age, which is characterized by the most horrible offensiveness of the motions. This is so marked that it is generally at once mentioned by the parents. It is commonly met with in summer, but is not strictly what is known as infantile diarrhœa, in which disease the stools are sour, but not necessarily fœtid. Probably this form of diarrhœa differs from the diarrhœa of younger infants, in being caused by the growth of the ordinary bacteria of putrefaction. It is not amenable to treatment by any astringent, nor has any alteration of diet much effect upon it.

It may, however, be successfully treated by disinfecting the bowel contents by means of salicylate of iron, as in the following prescription, which is suitable for a child two years of age :

Sulphate of iron, ℥j ;  
Salicylate of soda, ℥j ;  
Glycerine, ℥iij ;—Water to three ounces.

The iron and the salicylate should be dissolved separately, and the solutions mixed. The color is darker than port wine, and the taste not unpleasant. One teaspoonful must be given every hour, until the stools

\* ℞ Pulv. Doveri, gr. i ;  
Hydrarg. chlor. mit., gr. i.  
M. Ft. chart. No. xii.

Fig.—One every fifteen minutes until asleep or relieved (child six months).

become well blackened, which happens in about twenty-four hours; or a larger dose may be administered at longer intervals. The medicine should then be given every three or four hours, and occasionally a small dose of castor oil, to clear the bowels well out, and to get the secondary constipating effect of the oil. I have employed this mode of treatment for many years. It was one result of a long series of microscopic observations upon the action of reagents upon the bacteria found in putrefying animal fluids, which I read before the Leeds and West Riding Medico-Chirurgical Society eleven years ago. The addition of the salicylic acid to the iron I made more recently. In hospital practice, and amongst the poor, it is not so successful as it would be if it were possible to remove the child from the family living room, the air of which is usually very impure, and is made worse by the smells incidental to cooking, and the presence of a sink.

TREATMENT OF THE DISORDERS OF PERSPIRATION.—There is no doubt, in many cases of simple idrosis, that the disease owes its origin to a chronic inflammation of the perspiratory tubes themselves, and is therefore a purely local disease; but in other cases it is evidently symptomatic of some derangement of the general system. Notwithstanding this, it is usually an obstinate disease, and requires tedious treatment for its cure. The first duty in the treatment is to regulate the secretions of the alimentary canal. For this purpose a dose of blue mass should be given, followed by the following mixture:

℞	Sodii sulphat.,	ʒj.
	Acid. sulphuric, dilut.	ʒ iss.
	Aquæ Caruri,	ʒ viij.
	Ext. gentian. fld.,	ʒj.
	Fowler's solution,	ʒj.

M. Sig.—Shake well. Dose, a tablespoonful before each meal.

This should be continued until the arsenic shows its effect in producing puffiness of the eyelids and slight swelling of the face. At the same time the following will be found very useful:

℞	Resorcin,	ʒ iss.
	Tinct. aconit. rad.,	gtts. xxxij.
	Liquor ammoniæ acet.,	ʒij.
	Syrup. aurant. cort.,	
	Aquæ destil., aā	ʒj.

M. Sig.—Shake well. Dose, a teaspoonful every three hours. The dose of tinct. aconite should be increased gradually to fifteen drops a day.

It is reported that extract of aconite cured a case of chronic general ephidrosis which had lasted for six years independently of any other affection, and which, after resisting various remedies, did yield to the power of this drug, given in the beginning in doses of one-half grain three times a day, and gradually increased until sixteen grains a day were given, and so continued until the disease was cured. In cases needing a tonic treatment, this formula will probably be found to be very serviceable:



℞ Tinct. ferri perchlor., ʒij.  
 Liquor strychniæ, gtt. xxxvj.  
 Liquor ergotæ, ʒ ss.  
 Syrup. simpl.,  
 Aquæ destil., āā ʒ iij.

M. Sig.—Shake well. Dose, a tablespoonful three times a day.

Local treatment is not to be neglected in cases of idrosis of the hands and feet. As an application to the hands, I have found the following most effectual:

℞ Pure Carolina pine tar,  
 Alcohol, āā ʒj. M.

Sig.—Shake well, and apply with a camel's hair brush to the hands twice a day, and keep them protected by cotton gloves.

Should this fail, a mixture of—

℞ Acid. tannici, grs. xxx.  
 Glycerinæ, ʒj. M.

Sig.—Shake well and apply two or three times a day to the hands or feet.

Should this also fail, chloride of lime and tannic acid may be tried:

℞ Calcis chlorin., ʒ iij.  
 Aquæ destillat., Oj.  
 Solue et cola, et adde,  
 Acid. tannici, ʒiij. M.

Sig.—Apply to the hands or feet two or three times a day.

The following will be found a good application to the hands and feet:

℞ Richardson's styptic col., ʒj.  
 Carbolic acid, grs. xx. M.

Sig.—Apply three or four times a week.

A strong solution of alum may be tried, and for the feet a strong brine foot-bath ought to be tried every night at bedtime. This course, or whatever course of treatment is adopted, must be continued patiently and with perseverance.—*Dr. J. B. Johnson in the Med. and Surg. Reporter.*

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## PROCEEDINGS OF SOCIETIES.

### SECTION OF OBSTETRIC MEDICINE AT THE ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION AT BRIGHTON.

ON CERTAIN MOOTED POINTS IN GYNÆCOLOGY. By Thomas Addis Emmet, M.D., Surgeon to the Woman's Hospital of the State of New York.

I have for many years held the conviction, and have taught, that the key to the diseases of women is to be found outside of the uterus, and that this organ is not prone to take on disease except in connection

with new growths, or as the result of some injury received during childbirth. I have, therefore, attributed a far greater degree of importance than have most of my *confrères* to the existence of pelvic inflammations, and to their bearing on the pathology of these diseases. This teaching has been the means of pointing out how common has been the confusion of cause and effect, and of treating symptoms for the disease. It can thus be shown that a displacement of the uterus is not always the primary difficulty; that a version is often but a symptom, and a flexure but an exaggeration of a version.

Mechanical dysmenorrhœa must, therefore, be considered a myth; and a supposed stenosis of the uterine canal is to be regarded, therefore, as of little importance in connection with menstruation.

Vaginal and cervical discharges, in the absence of gonorrhœa, are held to be due, as a rule, to an effort of nature to relieve an obstructed or impaired circulation in the pelvic, cardiac, or portal system.

We are able to recognize, from this view, that the uterus must become retroverted and prolapsed with any inflammatory change in one or both broad ligaments; and, as a rule, the uterus becomes extremely anteverted when the utero-sacral ligaments have been involved; but where an unusual degree of prolapse had existed previously, the version then becomes a backward one. The inflammation extends to the peritoneal surfaces in Douglas's *cul de-sac*; and, as adhesions form, the uterus becomes drawn over backward and fixed in this position. No one holding these views will attempt to replace a retroverted uterus before the inflammation has been removed; and it will prove a revelation to many, when the fact is realized that there is a limited field for the use of a pessary and a defined period for its employment.

With an apology for this digression—and yet it has a bearing—I beg to state briefly my conviction that a pessary can accomplish little by bringing about a simple change of version; for I hold that, in a state of health, the mere backward or forward turn of the uterus is often immaterial. The purpose to be attained by an instrument is to relieve the prolapse—a change which cannot be made to any advantage if the inflamed peritoneal surfaces above are to be put on the stretch when the uterus is lifted.

When a pessary is properly used, it will correct a prolapse, but give relief only indirectly by “taking in the slack,” as it were, of the relaxed or overstretched fascia and connective tissue of the pelvis. With the adhesions accompanying a local peritonitis, undue traction is exerted on one part or direction, with the effect of relaxing the tissues in another. The benefit, then, to be derived from the use of a properly-fitting pessary is, that the fascia and connective tissue are thereby enabled to give the proper support to the blood-vessels, thus diminishing their calibre, and, as a consequence, the congestion is lessened throughout the pelvis. Diminishing the quantity of blood, therefore, gives the relief, and not the change of version.

When an enlarged uterus is anteverted, and the displacement is

accompanied by irritability of the bladder, this and other kindred symptoms are not due to the version, but to the degree of prolapse; any means fitted to correct this prolapse of the cervix, and to lift it to the proper plane in the pelvis, where the circulation could go on unobstructed, will relieve all the symptoms, notwithstanding that the degree of version may be thereby greatly increased. This is clearly shown in the relief afforded from the symptoms attributed to ante-version when, by the use of a long lever-pessary, with a sufficient curve behind to lift the cervix well up in the pelvis, the result is obtained, notwithstanding the position of the fundus may remain unchanged.

In corroboration, I shall also state that we have the same train of symptoms as those accompanying prolapse, when the uterus is lifted proportionately high in the pelvis. In both instances the symptoms are due to the fact that the neck of the bladder, being bound down by the subpubic ligament, and being the only real fixed point in the pelvis, traction in a special line will excite a desire to empty the bladder, without reference to the version of the uterus.

A retroversion is often a congenital condition, and the female will be unconscious of the malposition so long as she remains free from any pelvic inflammation. In the congenital absence of the posterior *cul-de-sac* of the vagina, an inflammation is frequently established as a consequence of the futile efforts to correct a supposed deformity when the backward version of the uterus is the natural one for that individual.

A flexure of the body of the uterus is closely connected with an obstructed circulation, and has its cause in pelvic peritonitis, which at the same time intensifies the version.

It has certainly come within the observation of many here present to have seen instances of exaggerated dysmenorrhœa, where the largest-sized sound could be passed to the fundus without difficulty.

Twenty years ago, and more, when it was the practice to apply the nitrate of silver or caustics to an erosion, with the object of healing a supposed ulceration, it was then not rare to meet with instances where the os became eventually reduced in size to a minute opening. I have placed such a woman in Sims's position while she was menstruating, and after introduction of the speculum I have watched the escape of blood, drop by drop, from an opening too minute in size to be readily found at any other time; and yet, if there existed no pelvic inflammation, or impaired nutrition, the process was one free from pain.

Dysmenorrhœa is certainly not due to flexure of the uterine body, for it is a matter of common occurrence to observe all degrees of deviation in women where the menstrual flow takes place without pain. Dysmenorrhœa and flexure frequently exist together, but their association is an accidental one, though both may be due to a common cause.

We are to regard a dysmenorrhœa as a symptom merely, and one generally of perverted or impaired nutrition, where the fault will be found to lie in the nerve-centres, and not in the uterus or its appendages. An anæmic girl, whose nervous system has been unduly taxed

by over-study, or from any other cause, will often suffer from dysmenorrhœa, whether her uterus be straight or flexed. Why should we, then, in treating this symptom retrograde for nearly a generation, and again practice division and dilatation of the cervix?

Under favorable circumstances, and with care, gradual dilatation may be carried out by means of graduated steel sounds, and the use may do as little harm as permanent good. But why employ forcible dilatation, and even with the object of lacerating the tissues of the cervix, as has been recently advocated and practiced? If no other evil consequences followed this practice, and they are many, I should still enter my protest; but a new danger is to be anticipated. During the past spring I was consulted by a woman whose cervix had been forcibly dilated two years before and purposely lacerated, as stated at the time, with the object of keeping the canal open. This operation was done for the purpose of curing an existing dysmenorrhœa and sterility, due, it was thought, to some degree of stenosis, but an examination satisfied me that the two conditions had resulted from an old pelvic peritonitis. She stated that she was very ill from an attack of inflammation after the operation, and never regained her health. I found in the cleft of a triple laceration of the cervix an epithelioma which was there springing up, and so rapidly did it develop within a few days that I fear the operative procedure proposed to her physician will prove of little benefit.

If there is a point in gynæcology clearly defined from my experience during the past fifteen years, when my attention was first given to the subject, and from the observation of others placed apparently beyond dispute, it is the close relation, as by cause and effect, between the injury resulting from laceration or division of the cervix uteri and the development of epithelioma.

This is the first instance I have known that disease to follow division or forcible dilatation, and in placing it on record, in this connection, I offer it for the consideration of those who advocate the practice.

I admit that there seems to be, occasionally, a temporary improvement in the dysmenorrhœa after the cervix has been incised, or after the canal has been gradually dilated; but this apparent benefit is due, I believe, solely to the revulsive effect of the operation, and no especial harm is done unless septic poisoning takes place. If this does occur, the pelvic inflammation existing previously becomes intensified as a consequence, and the patient's life is then placed directly in jeopardy, or is, at least, rendered more miserable than before.

I have met also with a few instances where the Fallopian tubes happened not to have been involved in the neighboring inflammation, and pregnancy has followed careful dilatation of the cervix, without lighting up the old pelvic trouble. The effect has been that the pelvic inflammation of long standing has been removed gradually through the new action, or revulsive effect, established in consequence of the advancing pregnancy. But this result is, unfortunately, not the rule, and is a very rare solution of the difficulty.

During my early connection with the Woman's Hospital, I was an advocate for division of the cervix, and I practiced dilatation for the relief of dysmenorrhœa. But, in time, I became convinced that the practice was an irrational one; that it did a great deal of harm as a rule; and unless an accidental pregnancy supervened, no one was ever cured permanently by it. I was then in a position which will scarcely be presented again, in being at the head of the only hospital of the kind, and practicing at a time when the gynæcologists of the country could be counted on the fingers of a single hand. I was then so situated that I could watch clearly the effect of my practice, and held this supervision over a period of years, so that I feel confident the views I have expressed will stand the test of trial, and be confirmed eventually by the experience of everyone.

How few in practice realize that an overlooked pelvic inflammation is one of the frequent causes of irregular loss of blood from the uterine canal, and that sometimes the entire absence of the menstrual flow is due to the same cause. It calls, then, for some appreciation of the responsibility assumed, when the canal is dilated under such circumstances, and, as is often done, without the slightest knowledge as to the existing condition. Often, no less empirical, to say the least of the practice, in this condition, is the use of the curette, in blindly scraping away tissues from the uterine canal which have become only soddened from a hyper-secretion, due to the obstructed pelvic circulation; and the difficulty is often increased by the ignorant use of ergot, when given in large doses. The effect is but to increase the pelvic congestion, and though the loss of blood may sometimes be temporarily checked, it is only done by kindling afresh the existing pelvic inflammation.

Many a pelvic peritonitis has been set up, and complicated adhesions have been formed, through the injudicious use of ergot. With the general practitioner, it is common to mistake a small ovarian tumor for a fibroid, as, at that stage of its growth, a loss of blood is a frequent symptom of the former disease. In this condition, and without a knowledge of the consequences, ergot is often administered as well as where a fibroid is so situated that no expulsive power of the uterus could act upon it. In point of fact, ergot, in large or ordinary doses, does not act in any way upon a uterus which is not enlarged, or whose canal is not dilated, and its only action, where these conditions are not present, is to increase the pelvic congestion. Unless the os is dilated, and a fibroid is so situated that, with the aid of gravity, it can be expelled, it is bad practice to administer ergot, except in minute doses. In such doses, and by long-continued use, its action through the ganglionic system, is as a tonic on the muscular coats of the blood-vessels situated in erectile tissue, and is thus most useful in the treatment of old pelvic inflammations.

Here exists a condition which beautifully illustrates the action of hot water when administered by vaginal injection. If the injection be given in the recumbent position, while the pelvis is elevated, very hot water used, and the injection prolonged for a sufficient time, the loss

of blood will be arrested by the reflex action thus exerted upon the capillaries. On the other hand, if the menstrual flow be arrested or absent from over-congestion, a flow will again take place as soon as the hot water shall have excited contraction enough to bring the circulation within the proper limits, and this can be aided by other efforts to increase the action of the skin.

We possess no more efficient means for relieving dysmenorrhœa than in the proper administration of these hot water injections, if they be continued at short intervals from the first pain, and until relief is obtained. But this agent could have no effect in relieving dysmenorrhœa if the latter were due to any mechanical cause, such as a flexure, or to the existence of a partial stenosis.

In the absence of malignant or specific disease, and of new growths, we may feel satisfied that an existing discharge from the uterine canal is not due to a diseased condition of its lining surface. And, these conditions excepted, we hold that inflammation of the uterine tissue itself does not occur except during the puerperal state, when we have metritis, and it is easy to demonstrate, by its products, that it is then one of active inflammation. No such condition, however, can exist in the non-puerperal state, and after death we may look in vain for any evidence of so-called chronic metritis, endo-metritis, or endo-cervicitis. These conditions, therefore, I believe, do not exist, except in theory.

The discharges from the uterine canal, under ordinary circumstances, are due to extraneous causes, and the most common is some obstruction in the venous circulation attending an old pelvic inflammation. There is a constant tendency to resolution, from the great reparative changes in tissue attending each menstrual period. Granting, as recently claimed, that at this time the whole of the epithelial surface lining the uterine canal is not removed and replaced, yet certainly a large portion is thrown off, and under such circumstances the condition termed "endo-metritis" could not exist but for a limited period. The most extensive erosion recognized during life cannot be found after death, as there is no loss of tissue, and the tissues involved therein then become blanched, owing to the emptying of the capillaries. It is thus shown that the leakage, or over-secretion, is due to an obstructed circulation outside of the uterus. And even when the discharges seem to be due directly to an injury, as from the surfaces of a lacerated cervix, the rule still holds good. But for the septic inflammation set up at childbirth, and the continued obstruction afterwards to the circulation, as a consequence, the lacerated surfaces would promptly heal soon after the reception of the injury, and no ill effects would arise. Therefore, the cervical discharges are kept up afterwards by the existing pelvic inflammation; but, as soon as the circulation can become restored to a normal state, by the disappearance of the inflammation, and by the rupture or puncture of the distended mucous follicles, all excessive secretion will cease, and the raw surfaces will rapidly heal.

Holding the views I have so long maintained in relation to the cause of the discharges from the uterine canal, it followed that I abandoned

early the practice of internal applications, and I believe that I was the first to do so. During the past seven years I have not made, in ordinary practice, an application of iodine within the uterine canal, and had, to a great extent, abandoned the practice some time before. While writing the first edition of my book on "The Principles and Practice of Gynæcology," I advocated the giving up of this mode of treatment; but, by the advice of a friend, I re-wrote that portion, and expressed less decided views; being convinced that the profession was not then prepared to receive such radical teaching. Within the period specified, I have only resorted to the practice, in a few instances, for the introduction of Churchill's iodine to arrest a loss of blood, and only when, after an examination, I felt satisfied that the hemorrhage was due to granulations, or to some growth within the canal.

I may now state that I have long reached a point in practice where I avoid, if possible, the introduction of any instrument or remedy within the uterus. I have not owned a sound for years, and my uterine probe has been broken for fully eighteen months—both instruments having become useless to me since I first acquired any knowledge of bi-manual palpation.

Last year, in my private hospital, I obtained the average time under treatment of all the non-surgical patients admitted previous to 1879, in whom any pelvic inflammation has been detected. Then I took the average on all those treated under like circumstances, and who had been admitted since that time. I must confess that I was not prepared for the showing. It was found that the patients who had been admitted since I had abandoned the use of internal applications to the uterine canal had averaged forty-eight days, or nearly seven weeks, less time under treatment than those treated in the usual manner. Accepting the facts, the deductions to be drawn from them are significant.

I can now recall clearly the condition of a number of patients who were under my care years ago, where I considered the existing pelvic inflammation as insignificant in importance as the recognized extent of the disease seemed to be. Yet these women were often under treatment year after year, and each relapse, with a fresh increase of inflammation, was then attributed to exposure to cold, or to some imprudence on the part of the patient herself, but never to the mode of treatment.

The service of the uterine canal is, beyond question, a most ready absorber of any remedy, however applicable; but its connection, or contiguity, or sympathy with the peritoneum, is too close to make the practice safe. To abandon the intra-uterine method of treatment, and to substitute for the uterine surface, the more extended vaginal one, for the application of any agent which would be suitable for introduction within the uterus, is a positive gain.

The better results obtained by me during the past six or seven years, referred to above, can only be attributed to a greater appreciation of the different shades of pelvic inflammation, and to a knowledge of their relative importance.

So far as the general principles of treatment are concerned, I know no other special change, unless it be that I now pay a closer attention to the details of general treatment, where formerly I relied much more upon local means.

The chief change in local treatment has consisted in giving up, as already stated, internal medication to the uterine canal. But an advance, no less important, has been made in the more judicious and more limited use of pessaries. Consequently, there have been but few instances of lighting up again the old pelvic trouble, since the displacement of the uterus, as regards the version, has been allowed to remain unchanged until the inflammatory cause has been so far removed that the uterus has gradually returned to its natural position, or the use of a pessary has been rendered both safe and of advantage. But, while the version is thus to remain unreduced for a time, it is necessary, throughout the course of the treatment, to correct the prolapse, as far as possible, by the use of cotton-wood pledgets, saturated in glycerine. This will fully test the skill of the operator, as to the proper position of the pledgets, and as to the plane in the pelvis to which it would be safe to lift the uterus, without exciting fresh inflammation, and where the circulation would be the least obstructed.

I have made, purposely, no reference as to the especial form of pelvic inflammation which is supposed to exist. We have phlebitis and cellulitis, lymphangitis and peritonitis, existing alone or together. But the limit and purpose of this paper will not admit of going into details. I may, however, state that, in my observation, cellulitis seems to be the most common form of inflammation met with, and one tending to rapid recovery, if septic poisoning do not occur. But the space in the pelvis is a very limited one where a cellulitis could exist to any extent without involving, by contact, more or less of the peritoneum. In time, the inflamed connective tissue seems to disappear, as if by absorption; and, when a pelvic inflammation has been of long standing, the condition then found must necessarily be more characteristic of an old peritonitis.

The chief purpose of this paper has been to show the necessity for abandoning the use of internal medication to the uterine canal, except under the conditions already specified. But to do so, it was necessary to enter somewhat into details, with the object of pointing out the pathological condition which, if admitted, renders it necessary to change a mode of practice which has consisted in treating the symptoms instead of the disease.

I have presented, perhaps, views familiar to many of you; but, as Herbert Spencer somewhere says: "Only by varied iteration can alien conceptions be forced upon reluctant minds;" and this is especially true of the general medical mind, which is so conservative, and so opposed to change, that, only by many iterations, can any advance be made.

#### PATHOLOGICAL SOCIETY OF LONDON.

#### EXPERIMENTAL RESEARCHES CONCERNING PASTEUR'S PROPHYLACTIC.

At a meeting of the Society held December 7, T. Whiteside Hime



M. B., read a paper on this subject, in the course of which he said: In fine, the following results are established: The virus used by Pasteur for protective inoculations originated in the rabid dog, and is the virus of rabies. Pasteur had published results showing that the material used for his later protective inoculations of man caused rabies in animals which were unprotected. If virus be taken from a rabid dog and be passed through a series of rabbits it will produce the same disease as is developed in the rabbits from which Pasteur takes his matter for preventive inoculations. If the virus from such rabbits be inoculated back into the dog or other susceptible animal, it will produce true rabies in them, and if then passed back to the rabbit it will reproduce the same symptoms *ad infinitum*. Human rabies, if inoculated on the rabbit, will produce the same symptoms, with such variations only as are due to its origination in the dog, cat, etc. These variations are exhibited chiefly in the length of the period of incubation, and the period elapsing before death, the disease invariably terminating fatally. No other known disease produces the same results, nor can the symptoms be caused either by surgical brain lesion or the intra-cranial injection of inert material such as sterilized bouillon, or with putrid material. The Pasteurian disease is specific, and very distinctly characterized by its course and symptoms, which are different from those of any other disease; it invariably ends fatally, and is indefinitely transmissible by inoculation from animal to animal. Dr. Hime did not enter into the question of the success of Pasteur's treatment, but stated that the protection afforded to dogs by Pasteur was proved beyond a doubt or question, and analogy would suggest that the same method was applicable to man. Dogs could be protected either by inoculation before infection or afterward. Further, they had been protected against the action of the rabbit virus, which is much more active than ordinary canine virus. The reality of this protection established the truth of Pasteur's principle. That his practice was capable of improvement was not improbable; but he had already effected a great deal in a short time. It had been objected that the inoculated prophylactic virus is inert because the patients show no specific reaction. A foolish objection. As well say arsenic is inert because a patient taking it shows no toxic symptoms. Indeed, Dr. Hime was inclined to think that there was a decided though slight reaction. He himself had experienced local symptoms and distinct axillary tenderness, and in others these were more marked still. He had made numerous thermometric observations on patients under treatment, but so far could not assert that there was any characteristic thermal change. Some, while admitting that protection had been afforded by Pasteur after slight wounds, denied that this was true in severe ones. These persons at least admitted the scientific basis of Pasteur's method. But of Pasteur's patients persons most seriously wounded by rabid animals had escaped, and, Dr. Hime believed, entirely owing to the treatment. The accuracy of the method being admitted, he thought this objection was not only in fact unfounded, but was at most one of

detail. Finally, from the fact of the extraordinary low mortality—little over 1 per cent.—corroborative evidence was obtained. The rabid condition of the animals in a large number of these cases was proved either by experimental inoculation or by certificates from veterinary surgeons, and the number includes no doubtful cases, these being purposely omitted. Dr. Hime expressed his opinion that Pasteur had established a true prophylactic treatment against rabies, one of the most formidable and hitherto intractable diseases. He had thus crowned a glorious career of research directed to the benefit of man by a most notable discovery, primarily salutary to man himself.

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## ORIGINAL CORRESPONDENCE.

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THE ADMINISTRATION OF QUININE TO SMALL CHILDREN.

AUSTIN, TEXAS, Jan. 1, 1887.

*To the Editor of Gaillard's Medical Journal.*

DEAR SIR: Herewith I send a prescription for administering quinine to small children. I have used this formula many times, and find it very efficient and satisfactory in every way. There is nothing new or original about it; but it may furnish a convenient suggestion to those who may choose to use it.

Fraternally yours,  
Q. C. SMITH.

℞ Bimuriate Quinine and Urea,  
Lanolin, āā, gr. viii.  
Ext. Ipecac, gr. i.

Mix well, and divide into 8 parts, and put into 8 No. O hollow cocoa butter capsules.

S. One capsule to be introduced into the rectum every 2 to 4 hours, as may be directed.

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## REVIEWS.

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MANUAL OF OPERATIVE SURGERY. By Joseph D. Bryant, M.D., Professor of Anatomy and Clinical Surgery, and Associate Professor of Orthopædic Surgery, Bellevue Hospital Medical College; Visiting Surgeon to Bellevue Hospital, etc., etc. With about eight hundred illustrations. New York: D. Appleton & Company. 1887. Pp. xxvi.—530.

The appearance of Dr. Bryant's book, on which it has for some

time been known that he was actively engaged, has been awaited with much interest. As a popular teacher and an able exponent of the principles of modern surgery, it was expected by all who knew him that he would produce an admirable practical manual, and the profession in general, it is safe to say, will have no reason to be disappointed with the results of his labors. Dr. Bryant's experience as a lecturer and in the class-room has been of great service to him in enabling him to form a correct idea of just what was needed in a work of this kind, and he has shown excellent judgment in deciding what to leave out.

The style of the author is clear and nervous, and wherever it is possible to elucidate the text by such means, wood-cuts are introduced. The illustrations constitute, indeed, a very prominent feature of the book, and while they have been to a large extent selected from standard works, a considerable number of original and modified ones have been added. These for the most part are excellent, and fulfil very satisfactorily the purpose for which they are designed.

One of the best and strongest points of the work is the happy manner in which the author goes into details, without becoming verbose, in all the subjects upon which he treats; and the novice in surgical procedure will find in it, therefore, just the kind of practical information which he requires.

To mention but a few of the special excellences which characterize it, particular attention may be called to the chapter on the ligation of arteries, in which the muscular and linear guides to the arteries and the linear guides to the operations are given with clearness and detail, and the descriptions accompanied by numerous cuts to render them as plain as possible. The accounts of the different forms of sutures now in use, and of the various operations in the different forms of hernia, are also worthy of special notice.

As an instance of the value of the illustrations, that on page 260 may be referred to (Figure 386). On a single diagram representing the bones of the foot are indicated, with precision, the lines of no less than seven different amputations, viz.: Lisfranc's, Hey's, Skey's, Baudens', Forbes', Miculiez's and Chopart's. It is worthy of note that in the chapter on miscellaneous operations O'Dwyer's method of intubation of the larynx is described, and cuts of the instruments required for it presented.

As one would naturally expect, due attention is given to the matter of antisepsis throughout, though Dr. Bryant mentions in the preface his regrets that sufficient data are not at hand to permit the "results"

to be given in all instances as modified by the antiseptic method of treatment. Taken altogether, the manual may be confidently recommended as the most satisfactory work of the kind now in the hands of the profession.

To Dr. Glover C. Arnold much credit is due for the preparation of the very complete indices with which the book is furnished.

MILK ANALYSIS AND INFANT FEEDING. A PRACTICAL TREATISE ON THE EXAMINATION OF HUMAN AND COW'S MILK, CREAM, CONDENSED MILK, ETC., AND DIRECTIONS AS TO THE DIET OF YOUNG INFANTS. By Arthur V. Meigs, M.D., Physician to the Pennsylvania Hospital, and to the Children's Hospital; Fellow of the College of Physicians, etc. Philadelphia: P. Blakiston, Son & Co. Pp. 95.

The *raison d'être* of this little work is the conviction of the author, arrived at after long and careful study of the matter, are that human milk contains a very much less quantity of casein than is commonly attributed to it. In it he puts forth his reasons, and gives the details of the methods by which the conclusion was reached. Thus, on page 27 he says: "The observation of the author, therefore, that human milk never contains more than about 1 per cent. of casein is an original one; for, although Henri and Chevallier, and other investigators, long ago arrived at nearly the same analytical results, yet none of them ever enunciated the belief that human milk contains always the small amount of casein, and never 3 or 4 per cent., as commonly supposed, thereby denying the correctness of the analyses commonly accepted as standard."

In order to render cow's milk similar in its constituents and behaviour under reagents to human milk, Dr. Meigs advises that packages of pure milk sugar, containing  $17\frac{3}{4}$  drachms, should be kept on hand, the contents of each of which are to be dissolved in a pint of water. When the child is to be fed, two teaspoonfuls of cream, one tablespoonful of milk, two tablespoonfuls of lime-water, and three tablespoonfuls of sugar-water, are to be mixed and warmed. If the infant is healthy, he states that this quantity will not satisfy it after the first few weeks, and then double the quantity must be prepared for each feeding. The food should not be given any stronger, however, until the child is eight or nine months old; though the quantity may be still further increased from time to time.

This food, he states, was the result of study of the subject both from a theoretical and practical stand-point. "It had been proved

by experience and experiment that about such a mixture of milk and cream as was recommended by Dr. J. Forsyth Meigs (see page 88) was digested by the infant stomach better than any other food, except human breast-milk; and then a careful study of the relative composition of human and cow's milk led to the concoction of the food in which the various constituents are mixed as nearly as possible in the same proportions as they exist in human milk." This food has been quite extensively tested by the author, and he states that in all instances in which it has been tried thus far, it has proved successful. "It has been used when condensed milk had failed, for infants that were partially nursed and partially hand-fed, for entirely artificially fed children, in cases of disease and of malnutrition, and, as already said, it has proved to be wonderfully useful and easily digested."

Whether Dr. Meigs's observations and conclusions will ultimately be confirmed or not, the work constitutes, as a recent reviewer has remarked, a commendable attempt to place infant feeding upon a more scientific basis.

TRANSACTIONS OF THE TEXAS STATE MEDICAL ASSOCIATION,  
EIGHTEENTH ANNUAL SESSION, Held at Dallas, Texas, April  
27, 28, 29 and 30, 1886. Austin, Texas: Printed for the Texas  
State Medical Association, 1886. Pp. 691.

"Now in the name of all the gods at once,  
Upon what meat doth this our Cæsar feed,  
That he is grown so great?"

Such, doubtless, was the exclamation, or at least the sentiment, of many a proud member of the Texas State Association when he first received his copy of last year's transactions. As compared with the volume of 1885, it is more than twice the bulk, although the actual number of pages is not quite doubled. It is also a handsome and attractive book in every way, and affords a gratifying indication of the activity and zeal of the working practitioners of the great State of Texas, the rising star of whose fortunes so clearly augurs its magnificent future.

Still, as has been pointed out in other notices of the transactions, the volume is not without certain faults and deficiencies, which could easily have been avoided by a little more careful editing, and which it is to be hoped will be avoided in succeeding volumes. For instance, it seems curious, to say the least, that with the exception of the list of officers, sections, committees and delegates, and the report of the business proceedings, occupying in all but thirty-eight pages,

the entire transactions are arranged in the form of an appendix ; while the lack of an index is a serious one.

The first paper is naturally the address of the President, (Dr. E. P. Beaton), which presents a hopeful picture of American medicine, and incidentally contains a graceful tribute to the National Association and inculcates the duty of sustaining it in its work. The reports made to the various sections, by Drs. Barker, Burts, Paine, Daniel and others, are able and interesting, and many of the papers, which include a great variety of subjects, are of marked practical or scientific value. Among them may be mentioned, The Prophylaxis of Small-pox, by Dr. S. H. Stout, in the course of which he claims superior safety for the humanized vaccine virus over that derived directly from the calf; Boracic Acid in Surgery and Gynæcology, by Dr. C. M. Ramsdell, who has obtained excellent results with this agent, and particularly in cases of otorrhœa; report of two cases of congestive fever in which electricity was used, in addition to other measures, by Dr. O. L. Williams; The Treatment of Acute Sporadic Dysenteries, by Dr. Q. C. Smith, who expresses the opinion that opium, mercury, and starvation are responsible for thousands of preventable deaths from dysentery, and states that the remedies which he has found most useful are, belladonna, capsicum, ipecac, gelsemium, aconite, iodine, nux vomica, turpentine, cinchona, baptisia, ammonia, salacin, lupulin, logwood, bismuth, and vegetable charcoal; report of a case of pneumonia, of malarial origin, by Dr. T. C. Osborn, in which he used with success hypodermically the bimuriate of quinine with urea, which, on account of its much greater solubility, he thinks greatly preferable to the sulphate, for subcutaneous injections; The Prophylactic Treatment of Hydrophobia, by Dr. J. A. McGee, in which he advocates excision as well as cauterization of the wound, and reports a case in which this plan was adopted; *Lycopus Virginicus* (bugle wood), for the Bite and Sting of Reptiles and Insects, by J. R. Briggs, who reports its successful use, in the form of alcoholic decoction, in the case of a patient stung by a large centipede; Malarial Irritation of the Bladder in the Female, by Dr. Henry K. Leake, who relates a case of this kind in which immediate relief was secured by the administration of quinine in anti-periodic doses after the trouble had obstinately resisted the ordinary treatment of cystitis, and in which he concludes that malarial congestion of the mucous membrane of the organ constituted the essential pathology of the case; four cases of gunshot fracture of the femur, in which conservative treatment was followed by recovery, by Dr. J. T. Field; Simultaneous Amputation of Both Legs, recovery from operation,

death on the 121st day, from abscess of the pancreas; Hemorrhoids and Fistula-in-Ano, and their Surgical Treatment, by Dr. J. B. Stinson; Uterus, with its Contained Fibroid, Removed; post-mortem, with report of case, by the same author; Labyrinthian Deafness, by Dr. J. R. Briggs; The Teeth in Hereditary Syphilis, by Dr. B. A. Pope; Two Obstetrical Heresies, by Dr. S. F. Stanley, the first concerning the part that the distended membranes play in affecting dilatation in the first stage of labor; the second, the supposed necessity of waiting for the rupture, and the escape of the waters, before applying the forceps, in every case; Puerperal Convulsions, by Dr. J. D. Bass, who contends that albuminuria is not the prime or principal cause of the convulsions, and Elongated Nymphæ a Sign of Sterility, by Dr. Chas. L. Gwyn.

The Prize Essay on Physical and Mental Culture, by Dr. J. R. Briggs, of Dallas, is a lengthy effusion of nearly one hundred pages; and it is to be noted that considerable dissatisfaction has justly been manifested with the decision awarding the prize to this paper. Incorporated in the Transactions are two valuable papers by Dr. Edward Sanchon, of New Orleans, who was present at the meeting by invitation; one being a recapitulation of surgical cases treated by him in Charity Hospital, New Orleans, with remarks, and the other the report of a case of resection of the superior maxillary bone for cancer.

MEDICAL EDUCATION AND MEDICAL COLLEGES IN THE UNITED STATES AND CANADA, 1765-1886. Illinois State Board of Health, Springfield, Ill. 1886.

The admirable work in the cause of a higher medical education of the Illinois State Board of Health, through its able and industrious Secretary, Dr. Rauch, has long been known and appreciated, not only in this country, but abroad. Many of the results which have been accomplished by the painstaking labors of the Secretary are set forth in this volume; and in his preparatory remarks—which are largely taken from his address in State Medicine before the last Meeting of the American Medical Association—he states that since 1765 a total of 224 medical educational institutions have been founded—not established—in this country, of which number 105 are now fortunately extinct. There are still remaining 120 medical schools in the United States, and among them, it is only fair to say, are some in which the facilities and the competency of the teachers are as high as anywhere in the world. Within the last twenty years there has been, in fact, a marked and gratifying improvement in the standard of medical education.

For sixty years there was no marked departure from the orthodox three years of study and two courses of lectures, as the requirements for graduation; but now there are twenty-four colleges which practically require four years of study, and attendance upon three terms of lectures; and fifty-eight others which make provisions for a similar extended course. The domain of medicine has so far widened its borders, especially within the present generation, that the methods and periods of study which sufficed thirty or forty years ago are no longer adequate.

A low standard of medical education and the absence of uniform legal requirements are also responsible, almost exclusively, for the overcrowding of the profession; and from a careful statistical study of the matter, Dr. Rauch believes that it is within bounds to say that the excess of the percentage of increase of population represents the number of unnecessary recruits to the ranks of the profession every year. The answer to the question, "What becomes of them?" is indicated by certain figures collected by him in regard to the profession in Illinois, which shows that over seven per cent. of the entire number failed as physicians, and sought other modes of obtaining a livelihood. It is noteworthy, by the way, that non-graduates fall out in much larger proportion than the graduates, and that the graduates of three-course schools show the smallest percentage of loss, either by removal from the State, or by abandonment of practice. The rate at which some of these superfluous men fall out of the ranks is shown for Chicago, thus: In 1880 there were certificates issued to 172 new-comers; five years later, only 84 of these remained—a loss of over one-half. In 1881 there were 183; in 1882, 171; in 1883, 200; and in 1884, 198 new-comers; and in 1885 there remained, of each year's group, 97, 116, 145, and 168, respectively. In one year the loss was 15 per cent.; in two years, 30 per cent.; in three years, 32 per cent.; in four years, 47 per cent.; and in five years, over 51 per cent. There are in the State of Illinois from 1,500 to 2,000 physicians more than are necessary to supply the legitimate demand for professional services, and who are not earning a comfortable livelihood from legitimate professional exertion. And what is true of Illinois Dr. Rauch thinks is no doubt substantially true of every State in the Union.

On the other hand, and by way of contrast, that during the past nine years, in which his official position has made him familiar with the professional history and status of over 13,000 men, more or less directly connected with the practice of medicine in Illinois, he has followed up, with especial interest and care, the careers of 789 out of



1,000 physicians who studied four years, and attended three terms before graduating. "These are," he says, "with a few exceptions, the successful and prominent members of the profession in the different communities in which they reside. They are well equipped by general education, by an ample period of professional study, by didactic and clinical instruction, and by hospital practice. They are successful, as a rule, because they have fitted themselves to command success."

After the introductory paper by Dr. Rauch, is given a summary of institutions and students, arranged in exhaustive tables; and then follows a complete list of all the medical colleges of the United States and Canada from 1765 to 1886, which is invaluable for reference, as it embraces the titles, locations, addresses of corresponding officers, organizations, curricula of study, requirements for admission and graduation, fees, and number of matriculates and graduates of all existing medical schools, as well as the titles, locations, dates of organization, periods of existence, and other historical data of all extinct medical schools. The volume is further supplemented by copies of the Illinois Medical Practice Act, the Illinois State Board of Health Act, and the Illinois law regarding dead bodies for dissection, and by a complete index.

SPINAL IRRITATION ; POSTERIOR SPINAL ANÆMIA. By W. A. Hammond, M.D., Surgeon-General U. S. Army (Retired List); Professor of Diseases of the Mind and Nervous System, in the New York Post-Graduate Medical School and Hospital, etc. Detroit: George S. Davis. 1886.

THE CLASSIFICATION AND TREATMENT OF OVER TWO THOUSAND CONSECUTIVE CASES OF EAR DISEASES, AT DR. SEXTON'S AURAL CLINIC, NEW YORK EYE AND EAR INFIRMARY. By Samuel Sexton, Aural Surgeon, and W. A. Barclay, M.D., and Robert Barclay, M.D., Assistant Surgeons. Detroit: George S. Davis. 1886.

THE PHYSIOLOGICAL, PATHOLOGICAL, AND THERAPUEUTICAL EFFECTS OF COMPRESSED AIR. By Andrew H. Smith, M.D., late Surgeon to the New York Bridge Company (Caisson Work); Physician to the Presbyterian Hospital, New York, etc. Detroit: George S. Davis. 1886.

THE MODERN TREATMENT OF ECZEMA. By Henry G. Piffard, A.M., M.D., Clinical Professor of Dermatology, University of the City of New York, etc. Detroit: George S. Davis. 1886.

PRACTICAL GUIDE IN ANTISEPTIC MIDWIFERY IN HOSPITALS AND PRIVATE PRACTICE. By Henry J. Garrigues, A.M., M.D., Professor of Obstetrics in the New York Post-Graduate Medical School and Hospital, etc. Detroit: George S. Davis. 1886.

These volumes belong to the popular Physicians' Leisure Library, published by Mr. Davis, of Detroit, and, as will be noticed, are all by authors of reputation in special departments. A great part of the matter contained in them has previously appeared in other forms, but much of it has also been prepared expressly for this publication. One of the largest and most valuable of the series is the treatise on antiseptic midwifery, by Dr. Garrigues, who, from many years' study of the subject, and an exceptionally large practical experience, is well qualified to write such a guide. While a great deal of material is condensed within a comparatively limited space, the practitioner will find in this little work every essential detail pertaining to the subject described with clearness and minuteness. No more instructive history pertaining to the triumphs of modern medicine was ever written than the chapter describing the prevention of puerperal infection in the New York Maternity Hospital. The concluding chapters of the book, which are brief, but directly to the point, are devoted respectively to the antiseptic treatment of mastitis, of ophthalmia neonatorum, and of the cord, and to a summary of preventive measures going over the whole ground treated by him.

This, like the other volumes of the series, is printed on fine paper, and the typographical work is excellent. The female who figures in the illustration employed by Dr. Garrigues would hardly be selected as a model to pose for Aphrodite Anadyomene; but her Bernhardt-like form serves sufficiently well to exhibit the position of the various binders and dressings described in the text.

OUTBREAK OF YELLOW-FEVER AT BILOXI, HARRISON COUNTY, MISS., AND ITS RELATION TO INTER-STATE NOTIFICATION. New Orleans. 1886.

This is a pamphlet containing first, a preface giving an extract from the proceedings of the Sanitary Conference of State Boards of Health, held at New Orleans in June, 1884, at which the resolutions in regard to inter-state and local quarantine against yellow-fever were adopted; second, the report of Dr. Joseph Holt, President to the Louisiana State Board of Health, upon the Biloxi fever, bearing the date September 6, 1886; third, the report of the meeting of the State Board on September 11, when extinction of the fever was claimed, and quarantine restric-

tions were removed; fourth, the resolutions of the citizens of Biloxi passed September 15, and the views of Dr. Formento that the quarantine had been unjustifiable; fifth, the report of the Secretary of Louisiana State Board on October 17, when quarantine was declared against the whole of Harrison County, in consequence of the continued sickness at Biloxi; sixth, the history of the outbreak and the manner in which it was investigated by the various authorities; and, seventh, the final raising of quarantine by the Louisiana Board, November 17, on the official representation of Dr. A. Parker Champlin, inspector of the Mississippi State Board of Health, that there were no more cases.

It is announced with much pleasure that Dr. Champlin has kindly consented to prepare for the *JOURNAL* some account of his personal observations of the Biloxi fever.

MANUEL DE TECHNIQUE DES AUTOPSIES. Par Bourneville & P. Bricon. Paris.

According to the statements of the authors of this little book, the study of pathological anatomy in France is very much hindered by the laws regulating the time and conditions under which autopsies may be made, and their purpose is, in the first place, to call attention to the insufficiency of the present mode of teaching pathology, and to induce teachers to demand reforms in that respect; in the second place, to enable physicians to make autopsies more frequently in private practice, and, finally, to teach students of medicine how to make autopsies in hospitals quickly and properly. Hence, the book is divided into two distinct parts; the first devoted to an examination of the regulations imposed upon the practice of autopsies in France and other countries; the second treating of the technology of autopsies, and closing with directions bearing upon the preservation of anatomical preparations and other useful matter.

All questions of a medico-legal character are omitted. The importance of examinations as soon after death as possible is insisted upon, in view of the post-mortem changes which are so prejudicial to researches in histology and pathological anatomy. The minimum delay imposed by law in France is twenty-four hours, and this for the purpose of preventing premature burial; but, as the authors remark, at the mortuary *dépôt* established in Bavaria for the preservation of dead bodies and as a protection against hasty burial, no one has ever observed any of those "resurrections" about which imaginative journalists love to frighten the popular mind.

The importance is urged upon physicians—and this applies equally

to all countries—of popularizing autopsies by example, in demanding in their will that their own autopsy be made; by conversing upon the subject frequently with the people; by showing the utility of the autopsy, and even its necessity, in the interest of the public and of their own families.

The second part of this little work, the "Technology of Autopsies," gives clear and concise directions and details for the proper examination of every organ of the body, the instruments required, the precautions to be taken, individual and social, by those engaged in making post-mortem examinations, etc., etc.

H. McS. G.

MANUEL DES INJECTIONS SOUS-CUTANIES. Par Bourneville et Bricon. Paris.

The call for a second edition of this work in less than two years after the first was issued indicates that it supplied a real want in French medical literature.

After a very brief historical and bibliographical review, the authors touch upon the subject of subcutaneous absorption, solutions, instruments and mode of using them. They commend the tablets of Wyeth & Bro., Philadelphia, and regret that they are not more generally known and used in France.

The medicines used by hypodermic injection are arranged in alphabetical order, and the effects of each one, physiological and local, are given, its therapeutical use, and in some cases its antidote. A great many formulæ are given which the authors advise practitioners to discard.

As a manual of hypodermic medication, this little work is a safe and reliable guide.

H. McS. G.

AN EPITOME OF THE NEWER MATERIA MEDICA, STANDARD MEDICINAL PRODUCTS, AND FINE PHARMACEUTICAL SPECIALTIES, Introduced and Manufactured by Parke, Davis & Company. To which is added a Complete Proprietary and Dose List of all the Fluid, Solid, and Powdered Extracts, German Tinctures, Normal Liquids and Concentrations prepared by them, together with a Complete Formula List of their Sugar and Gelatine Coated Pills. Designed for the Special Convenience of the Busy Physician. Fourth Edition, Revised and Enlarged. Detroit: Parke, Davis & Company. 1886.

The title page above given sufficiently explains the scope and character of this *brochure*. The first edition was issued in January,

1886, and the publishers state that the speedy absorption by the profession of three editions indicated such an interest in it that it was deemed advisable to revise the matter originally contained in it, and enlarge the work so as to render it of still greater value. More than four times the amount of information contained in previous issues is given, and in order to make room for some of the added matter, it has been necessary to omit the "Classified List of Pharmaceutical, Therapeutical, and Ethical Literature" before given. A paper bound copy of the volume will be mailed, without charge, to any physician applying for the same to Messrs. Parke, Davis & Company.

#### BOOKS AND PAMPHLETS RECEIVED.

"A Text-Book of Medicine for Students and Practitioners." By Dr. Adolf Strümpell. Translated by Herman F. Vickery, A.B., M.D., and Philip Cowels Knapp, A.M., M.D., with Editorial Notes by Frederick C. Shattuck, A.M., M.D. New York: D. Appleton & Company. 1887.

"Eighth Annual Report of the State Board of Health of Illinois." Springfield, Ill. 1886.

"Biennial Report of the Alabama Insane Hospital, at Tuskalooza." Montgomery, Ala. 1886.

"Report of Proceedings of the Illinois State Board of Health. Report on the Water-Supply and Sewage-Disposal of Chicago." Quarterly Meeting, Chicago, October 28-29, 1886.

"Treatment of Fissures and Ulcers of the Rectum and Anus with the Aid of an Improved Rectal Speculum." By W. S. Watson, M.D., Matteawan, N. Y. Reprinted from the *Medical and Surgical Reporter*.

"The Relative Influences of Maternal and Wet-Nursing on Mother and Child." By Joseph E. Winters, M.D., New York. Reprinted from *The Medical Record*.

"Insanity in the Colored Race." By J. D. Roberts, M.D., Superintendent of the Eastern Insane Asylum, Goldsborough, N. C. Reprinted from *The North Carolina Medical Journal*.

"Report of the Chairman of the Section on Medical Jurisprudence, North Carolina Medical Society." By J. D. Roberts, M.D. Goldsborough, N. C. Reprinted from *The North Carolina Medical Journal*.

"Original Deductions Based on a Study of One Hundred Cases of

Fractures of the Upper Extremities, Excluding the Hand." By Samuel W. Smith, M.D., New York. Reprinted from *The Medical Record*.

"Diphtheria and Its Treatment." By Samuel W. Smith, M.D., New York. Reprinted from *The Medical Record*.

"Method in Medical Study." By Charles H. May, M.D., New York. Reprinted from the *New York Medical Journal*.

"Sydenham and Hahnemann." By F. B. Stephenson, M.D., U. S. Navy. Reprinted from the *New York Medical Journal*.

"The Necessity of Recognizing 'Reflex Spasm.' Produced by Point Pressure in Contractured Tissues, and of Making Proper Division of the Same before any Mechanical Patent can be Effectual." By Lewis Hall Sayre, M.D., New York. Reprinted from the *Virginia Medical Monthly*.

"Cases in Orthopædic Surgery." By Ap Morgan Vance, M.D., Louisville, Ky. Reprinted from the *New York Medical Journal*.

"Heredity; Preliminary Considerations." By M. A. Rust, M.D., Richmond, Va. Reprinted from the *Virginia Medical Monthly*.

"The Present Status of Abdominal Surgery. The Address in Surgery delivered at the Thirty-seventh Annual Meeting of the American Medical Association." By N. Senn, M.D., Milwaukee, Wis. Reprinted from the *Journal of the American Medical Association*.

"Minutes of the Thirtieth Annual Session of the Kentucky State Medical Society, 1886."

Two papers by W. H. Daly, M.D., Pittsburgh, Pa. 1. "Laryngology and Its Cognate Branches in America." 2. "The Simplest and Most Efficient Treatment of Diphtheria."

"Antisepsis in Ovariectomy and Battey's Operation. Seventy Consecutive Cases, with Sixty-eight Recoveries and Two Deaths." By Robert Battey, Rome, Georgia. Reprinted from *Transactions Medical Association of Georgia*, 1886.

"Climate of the United States Considered with Reference to Pneumonia and Consumption." By W. D. Bizzell, M.D., Mobile, Ala. Reprinted from the *Transactions of the Alabama State Medical Association*, twenty-eighth Session.

"Some Recent Experiences in Clinical Surgery." By Donald Maclean, M.D., Detroit, Mich. Reprinted from the *Transactions of the Michigan State Medical Society*, 1886.

"Address in State Medicine, Delivered at the Thirty-seventh

Annual Session of the American Medical Association. By John H. Rauch, M.D., of Illinois. Reprinted from the *Journal of the American Medical Association*.

"A Case of Pregnancy Complicated with Uterine Fibroids and Measles." By D. W. Cathell, M.D., Baltimore, Md. Reprinted from the *Transactions of the Medical and Chirurgical Faculty of the State of Maryland*, 1886.

"Pneumatic Differentiation. Proceedings of the Medical Society of the County of King's, February 16 and March 16, 1886." Reprinted from the *New York Medical Journal*.

"Address on Relation of Quarantine to Shipping Interests." Delivered before the American Shipping and Industrial League at Pensacola, Fla., November, 1886, by Joseph Hill, M.D.

"Spondylitis and Rotary Lateral Curvature of the Spine." By Lewis A. Sayre, M.D., New York. Reprinted from the *Transactions of the New York State Medical Association*.

"The Differential Diagnosis of Scrotal Tumors." By D. A. K. Steele, M.D., Chicago, Ills. Reprinted from the *Journal of the American Medical Association*.

"Certain Hereditary and Psychological Phenomena in Inebriety." By T. D. Crothers, M.D., Walnut Lodge, Hartford, Conn. Reprinted from *The Alienist and Neurologist*.

"The Microbic Revolution in Surgery." By D. A. K. Steele, M.D., Chicago, Ills. Reprinted from the *Western Medical Reporter*.

"University of Pennsylvania; Catalogue and Announcements, 1886-87. Department of Biology."

"Fourth Annual Announcement of the Northwestern Ohio Medical College, Toledo, O."

"Catalogue and Announcement of the Albany Medical College."

"Annual Announcement of the Louisville College of Dentistry."

"Catalogue of a New Series of Manuals for Medical Students and Practitioners." P. Blakiston, Son & Co., Philadelphia.

"Papers on Hypertrophy of the Prostate Muscle." By Reginald Harrison, F. R. C. S. Reprinted from *The Lancet*, 1886.

"A Novel Procedure for the Removal of Subglottic Laryngeal Growths." By Wm. C. Jarvis, M.D. Reprinted from the *New York Medical Journal*.

"Transactions of the American Dermatological Association, at the Tenth Annual Meeting." Boston, 1886.

“Report on Experiments in Trap Siphonage at the Museum of Hygiene, U. S. Navy Department, Washington, D. C.” By Glenn Brown, Architect Washington, 1886.

“Third Annual Announcement of the School of Pharmacy, Purdue University, 1886-87.”

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MISCELLANEOUS.

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KEEPING UP HIS COURAGE.—During his recent famous speech on the Army Bill, in which he declared that the Reichstag must obey orders or be dissolved, Bismarck is said to have taken nine glasses of brandy and water.

THE SEQUEL OF A DIVULGED SECRET.—For some time past the wife in Gloucester County, N. J., who hit upon the brilliant and successful device of applying croton oil to her husband's under-clothing for the purpose of keeping him at home at nights, has been endeavoring to get the Court of Chancery to compel him to allow her alimony. In an ill-fated moment she communicated her secret to a friend, and the latter unfeelingly told the husband, who promptly deserted her. Having become acquainted with the reasons for the desertion, Vice-Chancellor Bird has now filed an opinion denying the woman's application.

STORY OF A FREAK.—Under this title the Philadelphia Correspondent of the *Globe Democrat* of this city gives one of the most remarkable histories of the influence of ante-natal impressions that we have ever read. It is too long to insert here, but the gist of it is that Antoine Bellini and his wife, show people, impressed with the idea that a human monstrosity of more frightful appearance than any hitherto exhibited would be a mine of wealth, deliberately set themselves to work to manufacture one by what might be termed physiological and psychological methods. The man first mutilated his hands by eroding the fingers with oil of vitriol, undergoing most frightful torments while doing so. He caused his pregnant wife to look upon his sufferings and also to see various other terrible sights, but the child born of this pregnancy was in every way natural. The father then reasoned that the miscarriage of his infamous design was due to the knowledge and acquiescence on the part of the wife, and that to succeed he must produce mental and physical shock in her while she was in a pregnant condition. He therefore pretended to give up the idea and persuaded her to do the same thing, and after waiting for a considerable time he caused her to be brought unexpectedly and suddenly in contact with the most horrible and loathsome objects. The result was that she was delivered at term of a most revolting and hideous monstrosity combining all the fearful features which the unnatural parents had desired so ardently in the woman's first pregnancy.—*St. Louis Med. and Surg. Journal.*



THE TERRIBLE MICROBE.—We have seen the carpets stripped from the floors, the floors scrubbed, the cracks puttied, the whole room carbolized and made to look like a howling wilderness, just to scare out this concentrated, infinitesimal trituration of evil. It has been vaguely hinted that the ardent lover, swinging on the gate and seeing his soul reflected in the eyes of his fair charmer, may have his lips covered with these festive creatures, and that certain exercises that at one time in the world's history were considered innocent and gratifying, are now regarded as the very refinement of cruelty. The cigar, our solace when troubled by the anxieties of professional life, may have a little colony, transplanted from the hands of the leper celestial cigar maker, all ready to prey upon our vitals when twirled in the mouth. Once upon a time we could sit down in an up-town restaurant and eat our peck of dirt with a relish—but now we are haunted with the dread of the untold millions of microbes that are swarming down our throats, and that may convert our economy into a Gettysburg or Waterloo. Once we could pass the sputa of a phthisical patient on the sidewalk with only a slight grimace—but now! the sputa dries, becomes dust, is scattered by the wind and breathed in by us, and our lungs become the home of comma bacilli. Once we could assist a brother physician in an operation without literally denuding ourselves of epithelium—that comfortable period is past. And what next? Our beards, moustaches and hair must go! It has just been noticed that these appendages may fairly swarm with these omnipresent and omniscient propagators of disease. It will be a mournful day for the profession, but it is our solemn duty to inform them that the day has come. The *Medical Record* heralded its approach in a recent issue. We, like good sentinels, standing on the ramparts of the Rocky Mountains proclaim the order, *beards, mustaches and hair must go*, for the microbe must be crushed.—*Denver Medical Times.*

NOT AVERSE TO TURNING AN HONEST PENNY.—At the beginning of 1886, the authorities of Newtown, Long Island, which contains a number of the cemeteries used by the people of this city, resolved to exact a charge of one dollar for every burial permit granted, and the result for the year was an increase of \$31,000, which reduces the tax-rate in the town from \$4.50 on the \$100 to \$2.27.

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## MEDICAL NEWS.

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COLLEGE OF PHYSICIANS OF PHILADELPHIA.—The centennial anniversary of the institution of the College of Physicians was celebrated January 3, 4, and 5. On the evening of the 3d, the President, Dr. S. Weir Mitchell, delivered the commemorative address in Association Hall; after which there was a reception at the hall of the College, on Locust Street. On the 4th a meeting was held at noon, at which

Prof. Alfred L. Stillé made an address on "Reminiscences of the College." At the conclusion of the address the President announced the newly-elected Associate Fellows: Henry P. Bowditch, M.D., of Boston, Mass.; John C. Reeve, M.D., of Dayton, Ohio; David W. Cheever, M.D., of Boston, Mass.; Nicholas Senn, M.D., of Milwaukee, Wis.; William H. Draper, M.D., of New York; George C. Shattuck, of Boston, Mass.; R. Palmer Howard, of Montreal, Canada; T. Gaillard Thomas, M.D., of New York; Hunter McGuire, M.D., of Richmond, Va.; James T. Whittaker, M.D., of Cincinnati, Ohio; David W. Yandell, M.D., of Louisville, Ky.

After the ceremony of introduction was over, Professor J. M. Da Costa, M.D., LL.D., delivered an address of welcome.

On the 5th the Annual Meeting of the College was held, when the following officers were elected for the ensuing year: President, Dr. S. Weir Mitchell; Vice-President, Dr. John H. Packard; Secretary, Dr. Isaac Norris; Treasurer, Dr. Charles Stewart Wurts; Honorary Librarian, Dr. James H. Hutchinson; Recorder, Dr. J. Ewing Mears.

In the evening there was an elaborate banquet at the Union League Club-House, when Dr. Henry Hartshorne read a poem, and Professor D. Hayes Agnew responded to the toast, "Our Fellows;" Professor T. Gaillard Thomas to the toast of "Our Associate Fellows;" Professor William Pepper, Provost of the University, Professor John Ashhurst, Jr., and Professor Theophilus Parvin respectively to "The Physician," "The Surgeon," and "The Obstetrician;" and Dr. John S. Billings, U.S.A., to "The Medical Societies of America." Dr. S. Weir Mitchell concluded the exercises by reading a Commemorative Ode, entitled "The Doctor's Century," in which occurred the following stanzas:

Our century's dead; God rest his soul!  
 Without a doctor or a nurse,  
 Without a "post," without a dose,  
 He's off on time's old rattling hearse.

What sad disorder laid him out  
 To all pathologists is dim;  
 An intercurrent malady—  
*Bacterium chronos* finished him—!

Our new-born century, pert and proud,  
 Like some young doctor fresh from college,  
 Disturbs our prudent age with doubts  
 And misty might of foggy knowledge.

Ah, but to come again and share  
 The gains his calmer days shall store,  
 For them that in a hundred years  
 Shall see our "science grown to more."

The superb Mutter Museum now occupies four rooms in the upper story of the hall of the College, which was recently added at a cost of nearly \$30,000, and one of its architectural features is a magnificent fire-place, the cost of which was paid out of a gift of \$2,500 made to the institution by Mr. George W. Childs. The library of the College (now containing 38,160 volumes, besides 16,026 pamphlets), has more than trebled in size in less than twenty years, and in this country is second only to the library of the Surgeon-General's Office in Washington.

NEW YORK COUNTY MEDICAL ASSOCIATION.—The Annual Meeting of this Association was held January 17, when the following officers were elected for the ensuing year: President, Dr. John Shrady; Vice-President, Dr. J. R. MacGregor; Recording-Secretary, Dr. P. Brynberg Porter; Corresponding and Statistical Secretary, Dr. Glover C. Arnold; Treasurer, Dr. Chas. Ellery Denison; Member of the Executive Committee, Dr. Edwin Sanders.

GUY'S HOSPITAL.—Owing to a decrease in the revenues of this venerable institution, its friends have made, through the Lord Mayor of London, an appeal to the public for aid in carrying on its work. It is hoped to raise a fund of £100,000 for this purpose, and at a meeting at the Mansion House, held December 20, at which Cardinal Manning, Mr. Leopold de Rothschild, and other representative men spoke, £17,000 was subscribed.

NEW YORK ACADEMY OF MEDICINE.—The following officers were elected January 6: President, Dr. A. Jacobi; Vice-President, Dr. Wm. H. Draper; Trustee, Dr. E. Herrick; Member of the Committee on Admissions, Dr. H. E. Crompton; Member of the Committee on Library, Dr. F. P. Kinnicutt.

ST. LUKE'S HOME.—The success of this institution is remarkable. Established and owned by Dr. McGuire, it is managed by a number of ladies, who, after paying the running expenses, devote any surplus received from the Board to the care of charity cases. These "guests" of the Home are not known as such to any other patient or employee, and are attended free of all charge. The charity of the ladies and generosity of Dr. McGuire is certainly great. Drs. H. McGuire, H. M. Taylor and Lewis Wheat are the attending surgeons, Drs. Edward McGuire and R. L. Bocock resident physicians.—*Virginia Med. Monthly*.

ST. LUKE'S TRAINING SCHOOL FOR NURSES.—St. Luke's has established a "Training School for Nurses," and have now eight ladies employed as nurses in the institution. When properly educated, physicians and surgeons in the South can obtain at any time a trained nurse from St. Luke's. This will supply a great need in the profession in the South.—*Ibid.*

MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA.—At the annual meeting held January 3d, officers were elected as follows: President, Dr. Joseph Taber Johnson; Vice-Presidents, Dr. D. S. Lamb and Dr. E. Carroll Morgan; Recording Secretary, Dr. H. M. Cutts; Corresponding Secretary, Dr. Thomas C. Smith; Treasurer, Dr. C. W. Franzoni; Librarian, Dr. J. H. Mundell.

PHILADELPHIA COUNTY MEDICAL SOCIETY.—At the annual meeting for the election of officers, held January 5, the following officers were elected for the ensuing year: President, J. Solis-Cohen; Vice-Presidents, W. W. Keen and E. T. Bruen; Treasurer, L. K. Baldwin; Corresponding Secretary, M. S. French; Recording Secretary, S. Solis-Cohen; Reporting Secretary, W. H. Morrison; Assistant Secretary, A. C. W. Beecher; Librarian, C. W. Dulles; Censors, W. Joseph Hearn and De Forest Willard.

PHILADELPHIA HOSPITAL.— At the recent election Dr. John B. Deaver was elected surgeon; Dr. Roberts Bartholow, neurologist; and Dr. W. H. Wallace, physician-in-chief of the Insane Department.

APPOINTMENTS AT THE NEW YORK CITY LUNATIC ASYLUMS.—The Commissioners of Charities and Correction have appointed Dr. E. C. Dent Medical Superintendent of the Insane Asylum on Blackwell's Island, and Dr. A. Trautman Medical Superintendent of the Asylum on Ward's Island. Dr. Macdonald has been made General Superintendent.

CHOLERA IN SOUTH AMERICA.—Cholera is prevailing to such an extent in Chili that Peru has been compelled to close her ports against Chilian vessels. This is said to be the first time that the cholera has ever visited Chili, and it is reported that the infection was carried across the continent and over the Andes from the Argentine Republic. The disease was introduced into South America by Italian immigrants.

THE INTERNATIONAL MEDICAL CONGRESS.—J. J. Chisolm, M.D., of Baltimore, Md., has been appointed President of the Section of Ophthalmology of the Ninth International Medical Congress, in the place of Dr. E. Williams, who was compelled to resign on account of ill-health. Judson B. Andrews, M.D., Superintendent of the Hospital for the Insane, Buffalo, N. Y., has been appointed to the office of President of the Section of Psychological Medicine and Nervous Diseases, made vacant by the recent death of Dr. John P. Gray. These are excellent appointments, both parties being widely known and eminently well qualified for the respective positions assigned to them. No vacancies now remain in the list of chief officers of the Preliminary Organization of the Congress or of its Sections; and our information from all departments is of the most encouraging character.—*Journal of Amer. Med. Association.*

**GIFT TO THE PASTEUR HOSPITAL.**—The Emperor of Russia has sent a donation of forty thousand roubles (\$20,000) toward the erection of the proposed Pasteur Hospital in Paris. With this new addition, the hospital fund now amounts to \$320,000, a sum sufficient to erect a fine building.

THE "ANNUAL OF THE UNIVERSAL MEDICAL SCIENCES" is a new publication having for its object to present at the end of each year a report of the progress of every branch of medicine, during that year, in the different parts of the world. "Corresponding Editors" have been appointed in all countries with which postal communication exists, whose duties will consist in furnishing the editorial department here, once or several times a year, an outline of all new facts relating to the branches of medicine assigned to them. This information, added to that obtained from journals, new publications, and other sources, will be placed in the hands of "Associate Editors," chosen among the most eminent men of this country, who will write the final sections of the work, each being entrusted with a subject to which he has given special attention. In addition to procuring information upon the progress of general medical sciences among medical men, efforts will be made to investigate the methods employed by uncivilized races in their efforts to treat disease, in the hope that among the many crude measures practiced by them, some valuable remedy or procedure may be discovered. There will be about one hundred and fifty Corresponding Editors, and sixty-four Associate Editors. The work will consist of five royal octavo volumes of about five hundred pages each, fully illustrated with wood-cuts, colored plates and maps. Dr. Charles E. Sajous, of Philadelphia, is Chief Editor.

**UNUSUAL PREVALENCE OF MEASLES.**—During the week ending January 15 over 700 cases of measles were reported in this city.

**MORTALITY IN THE STATE OF NEW YORK.**—The State Board of Health announces that the total reported mortality for the month of November was 6,872; of which 35.2 per cent. were under the age of five years. From zymotic diseases there were 1,466 deaths, a ratio of 213.33 per 1,000 mortality. From diarrhœal diseases the ratio per thousand is 24.15; from typhoid fever, 22.85; from croup and diphtheria, 98.22. From consumption the ratio of mortality is 142.90 per 1,000, and 220.66 per 1,000 above the age of five years. The combined death-ratio per 1,000 from zymotic diseases, consumption and puerperal diseases is 366.41.

**DEATH OF THE OLDEST GRADUATE OF HARVARD.**—Dr. William Perry, the oldest graduate of Harvard College, died January 11, at Exeter, N. H., aged ninety-eight years. He was the sole survivor of the passengers on Fulton's first steamboat ride on the Hudson eighty years ago.

AN EXTREME AGE.—*New Orleans, January 9.*—Information is received of the death, at his home on Prairie Grieg, Vermillion Parish, of Mr. Henry Myers, who was one of the oldest men in the world. One hundred and twenty-six years ago Mr. Henry Myers was born in Holland, and came to this country in his young manhood. The advanced age attained seems almost incredible, but his son-in-law, Mr. Primeau, vouches for its accuracy, as Mr. Myers was in possession of documentary proof of his age, his certificate of baptism showing that he was baptized on the 31st of August, 1760, while another certificate shows that he was admitted to his first communion in 1775. He died of cancer.

AN ASSOCIATION OF GENITO-URINARY SURGEONS has been formed, with a Committee of Organization consisting of Dr. Edward L. Keyes, (Chairman), Dr. Robert W. Taylor (Secretary), Dr. F. R. Sturgis, Dr. C. M. Mastin, Dr. A. T. Cabot, Dr. J. W. White, and Dr. J. N. Hyde.

“THE DOCTOR” is the title of a new twelve-page, double-columned semi-monthly “popular paper for physicians and their friends,” owned and edited by Charles Avery Wells, of this city.

MACON MEDICAL SOCIETY.—At the annual election of this society Dr. E. G. Ferguson was elected President; Dr. H. McHatton, Vice-President; Dr. J. Edward Green, Secretary and Treasurer; Dr. R. O. Cotter, Corresponding Secretary; D. W. C. Gibson, Reporter; and Dr. C. H. Hall, Librarian.

THE ALABAMA GYNÆCOLOGICAL AND SURGICAL ASSOCIATION was organized in Birmingham, Ala., in December. Dr. H. N. Rosser, of Birmingham, was elected President; Drs. C. Foxey, of Mobile, and Benj. H. Riggs, of Selma, Vice-Presidents; and Dr. W. E. B. Davis, of Birmingham, Secretary.

THE ATLANTA SOCIETY OF MEDICINE.—At the annual meeting of the Atlanta Society of Medicine, held December 21st, the following officers were elected for the ensuing year: President, Dr. Virgil O. Hardon; Vice-President, Dr. Henry Wile; Recording Secretary, Dr. F. W. McRae; Corresponding Secretary, Dr. W. S. Elkin; Treasurer, Dr. Hunter P. Cooper; Reporters, Dr. James A. Gray, Dr. W. F. Westmoreland, Jr., Dr. H. H. Scott.

NEW YORK STATE MEDICAL ASSOCIATION, FIFTH DISTRICT BRANCH.—The next meeting of the Fifth District Branch will be the third *annual meeting*, to be held in Brooklyn, on Tuesday May 24th, 1887. There will be a morning and an afternoon session. All Fellows are solicited to contribute to the meeting, either by reading papers, notes or communications, or by exhibiting specimens. All papers

offered are the property of the Branch, and in future will be published in a current medical journal. The secretary desires to be notified of the title of any paper to be offered as early as convenient.

E. H. SQUIBB, M.D., Secretary.

P. O. Box 94, Brooklyn.

THE ST. LOUIS MEDICAL SOCIETY celebrated its semi-centennial anniversary on Saturday evening December 18, 1886.

THE THIRD MEETING OF THE ALUMNI ASSOCIATION OF THE WOMAN'S HOSPITAL IN THE STATE OF NEW YORK was held at the New York Academy of Medicine, January 19.

THE LOUISVILLE CLINICAL SOCIETY was organized in December, with Dr. John A. Ouchterlony, President, and Dr. I. A. Bloom, Secretary and Treasurer.

THE HOSPITAL SATURDAY AND SUNDAY COLLECTION.—It is expected that the amount raised this season for the hospitals will exceed \$52,000, which is a considerable advance over the large collection of 1885 and 1886.

KILLED FOR FIFTEEN DOLLARS.—The three Baltimore negroes who were arrested for killing Emma Brown, a helpless white woman, on December 10, for the purpose of selling her body for \$15 to the University of Maryland dissecting-room, have been found guilty of murder in the first degree.

ANNALS OF SURGERY.—Among the papers in the December number of this journal are Szymanowski's Operation as Applied to the Cure of Urethro-Perineal Fistula, by Dr. Charles McBurney, the report of Dr. W. T. Bull's Second Case of Recovery from Perforating Gunshot Wound of the Abdomen, Through Laparotomy, and a leading article on Operative Attacks upon the Human Brain. This is the only journal in the English language devoted exclusively to surgery, and it numbers among its contributors many of the leading surgeons of America and Great Britain. Messrs. J. H. Chambers & Co., 914 Locust St., St. Louis, are the publishers.

THE FIRST COURSE OF THE MIDDLETON GOLDSMITH LECTURES, given under the auspices of the New York Pathological Society, were delivered at the College of Physicians and Surgeons, January 25th and 28th, by M. Allen Starr, M.D., Ph.D.; the subject being: Multiple Neuritis, and its Relations to Peripheral Neuroses.

A TABLE KNIFE SUCCESSFULLY REMOVED FROM THE STOMACH BY GASTROTOMY.—The January number of the *St. Louis Medical and Surgical Journal* contains the report of a successful case of gastrotomy

by Dr. Augustus C. Bernays. The patient, a healthy man, thirty-eight years of age, who is an expert in the so-called sword-swallower's trick, accidentally allowed an ordinary table-knife,  $9\frac{1}{4}$  inches long, to slip down into his stomach, handle foremost, and less than an hour elapsed before the operation was performed for its removal. He was discharged from treatment on the fourteenth day. The knife which was swallowed is apparently the longest foreign body which has been successfully removed by gastrotomy, and the time which it was allowed to remain in the stomach was far shorter than in any other similar instance.

REPORTING CONTAGIOUS DISEASES IN CINCINNATI.—In the first week of January three physicians were arrested in Cincinnati for failure to report cases of contagious disease.

“PRACTISE.”—The date of publication of this journal has been changed from the 1st to the 15th of each month. Several new features will be introduced, the principal one being “Medical Methods and Opinion,” and a cover has also been added.

NEW YORK PATHOLOGICAL SOCIETY.—At the anniversary meeting, held January 12, the following were elected officers for the ensuing year: T. Mitchell Pruden, President; W. P. Northrup, Vice-President; John H. Hinton, Treasurer; Wesley M. Carpenter, Secretary; John C. Peters, Editor.

THE SOUTHWESTERN MEDICAL GAZETTE is the title of a new medical monthly published at Louisville, Ky., and edited by Dr. M. F. Coomes and Dr. J. B. Martin.

A FRENCH SLEEPING BEAUTY. *Paris, Jan. 15.* Margaret Boyenval, the girl in Aisne who has been sleeping for forty-three months, is beginning to attract great attention. Physicians say she promises to continue her slumber indefinitely. She is perfectly healthy and in good condition.

DEATH OF PROFESSOR YOUMANS.—Prof. E. L. Youmans, the distinguished scientific writer, and editor of the *Popular Science Monthly*, died at his home in this city January 19. He studied medicine and received the degree of M.D. at the University of Vermont, but never engaged in practice.

DR. W. S. ROBERTSON, President of the Iowa State Board of Health, died at Muscatine, January 20.

THE LATE DR. JOHN P. GRAY.—The members of the Council of the New York State Medical Association, while humbly submitting to the decrees of Providence, realize with much grief that the year now closing is made notably sad in the loss by death of so many of their



Fellows whose labors have largely contributed to the honor, dignity, and usefulness of the medical profession.

They now mourn the loss of the Second President, Dr. John Perdue Gray, whose aid, wise counsels and personal work have been of such signal service.

In common with all the Fellows of the Association and with the medical profession at large, they sorrow for the death of one who had rendered himself so useful to the State in the guidance of the charitable work in the department of Medicine in which he had become a shining light.

The Council therefore *Resolved*,

That the above be published in the forthcoming volume of the Transactions of the Association, and in the medical journals; and that a copy thereof be transmitted to the family of the deceased.

Done by the Council, January, 1887.

E. D. Ferguson, Secretary.

## EDITORIALS.

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THE RESPONSIBILITY OF PHYSICIANS IN REPORTING CASES OF CONTAGIOUS DISEASE.—The decision of the Superior Court reversing the judgment in the Brown-Purdy case is an eminently just one; and while affording unqualified satisfaction to all members of the profession in this city, it will also tend to add greatly to the safety of the community at large by encouraging a more general reporting of suspicious cases on the part of physicians.

The action, it will be remembered, was for damages from the alleged responsibility of the defendants—the Drs. Purdy, who were the physicians of the plaintiff—to the plaintiff, as their patient, for her removal by the public authorities to the small-pox hospital. The jury having found for the plaintiff, an appeal was made by the defendants from the judgment entered upon the verdict and from the order denying a motion for a new trial.

In their able argument on the appeal, which was well backed-up at all points by abundant authorities, and which it would be interesting to present in detail did space permit, Messrs. G. P. Lowery and F. L. Stetson, of Lowery, Stone & Auerbach, attorneys for the defendants, made the following points:

First.—The Health Department of the City of New York has the right and power to take exclusive control of all cases of contagious disease, and when, in their discretion, the safety of the public health requires it, to remove the sick person to a public hospital.

Second.—The defendants never consented to assume the relation of physician to plaintiff in her then present illness, but declined so to do. Their first duty on seeing the case, and suspecting it to be varioloid, was to call in the Sanitary Inspector; and, this being done, their responsibility wholly ceased.

Third.—The paramount moral and statutory obligation of the de-

fendants, as soon as they, in good faith, reported the disease to be infectious, was to report it without loss of time and without awaiting any confirmation of their opinion. The period of twenty-four hours within which notice must be given is a limitation, and not a grant of time to be availed of when less will suffice.

Fourth.—Irrespective of the terms of the Act of 1850, and assuming that the statutory obligation is to be found only in Section 131 of the Sanitary Code, the duty of the physician was to report promptly any case which he suspected as being one of contagious disease. This was done, and thereafter all private responsibility ceased.

Fifth.—The public safety requires that the extreme liability of the physician in this judgment should not be upheld.

Sixth.—The injury in this case was not the natural or necessary consequence of the report of Dr. Purdy, but of the official opinion and action of Dr. Lockwood, the sanitary inspector.

The seventh point is in reference to the joint liability of physicians as partners; the eighth, to the state of the case and powers of the Court to consider the facts, as well as the law on the appeal; and the ninth, based on a consideration of the foregoing points, is, that the judgment should be reversed and a new trial ordered, under such instructions as will secure a proper application of the principles of law.

In his opinion on the case Judge Sedgwick, of the Superior Court, stated that the plaintiff was taken involuntarily from her dwelling to the Small-pox Hospital, and that this was effected by the action of a sanitary inspector, in conformity to the Health Laws. The validity and regularity of his proceedings were not questioned in this case, excepting in one respect, namely, that when the inspector examined the plaintiff, to ascertain if she had small-pox, her appearance and symptoms did not justify him in thinking or dreading that she had. If there was any case for his judgment, or any fact of appearance or symptom as to which a question of small-pox or not could arise, his determination was final as to the legality or propriety of removal.

There was a case for his judgment in the eruption upon the skin of the plaintiff and the history of the case as given by the plaintiff herself. It was clear to him that the condition of the plaintiff, and particularly the eruption, as shown by herself, and after the exact appearance of the eruption had been ascertained, made the question, and would necessarily make it, to any physician, of whether it was a case of small-pox. The law imposed upon the inspector the duty of adjudging as to this question of fact and his decision of it was final; and no action even irrespective of the statute giving inspectors immunity from actions could be maintained against him.

This action was in reality placed by respondent's counsel upon the proposition that the defendants were liable for the inconvenience and pecuniary loss the plaintiff suffered from the conduct of the inspector, which the Court considered not to be actionable.

As matter of proof in the case, the defendants were not present when the removal was made. They had no part or lot in the execution of the report made by the inspector. Immediately before it was made, and while the inspector was examining the case, one of the defendants was with him, at the bedside, and said to him, "Did you notice her breath? That was what convinced me more than anything else." And one of the defendants had reported the case to the Board of Health, as one of small-pox, and this was the occasion of the inspector examining the case. He could not see that this was a wrong to plaintiff. It was an address to the judgment of a public officer bound to exercise that judgment. It was in the direction of enlightening that judgment. It was not an attempt to prevent the judgment. It was not an appeal to the officer not to act upon his own observations and inferences. It was admitted that the defendants acted in good faith, without malice. It was not at all a case of conspiring with a public officer to use his power irrespective of whether there was the legal occasion of such an use.

It was to be observed that it cannot be maintained that the action of the officer was caused by anything said or done by the defendants. The cause of that action arose in the will and judgment of the officer. Between the statements of the defendants and the forming of the officer's judgment there was not the relation of cause and effect.

Nor, as he viewed the case, could it be maintained that the defendants' omission, if there was such an omission, to use ordinary skill as physicians, in coming to their opinions, was actionable under the facts in this case. There was no improper or hurtful treatment or medication, in pursuance of the opinions. These opinions led them to make an honest report to the Health Board. The statutes had made it their duty to report cases of contagious diseases. The performance of this duty was not part of the functions of a physician in his relation to a patient, but rather to the public. Judge Sedgwick's opinion was that in order to give the public the protection due to it according to the intention of the statute, any physician that possesses in fact an opinion that a patient has a contagious disease is bound to report the case, whether he has or has not used ordinary professional skill and knowledge. A physician of skill in everything but cases of small-pox, which, happily were not numerous, might unexpectedly to himself, be called to a case which presented to him the appearance of small-pox. It might be said that he could call in counsel. It could not, however, be said that private counsel should be called in rather than such as the law has appointed. Certainly, if he really thought the case to be one of small-pox, it was his duty to communicate his opinion to the public authorities, who furnish skilled physicians peculiarly competent to pass upon the case. They were the experts that the law points out for the physician. The attendance of these experts upon a patient could cause no injury. And, thereafter, the responsibility rested solely upon the public officer.

For these reasons, he was of opinion that the plaintiff had no cause of action and the complaint should have been dismissed.

THE MAURI CASES IN BROOKLYN.—A good deal of blame has been attached to the physicians who attended the Mauri family, as well as the Brooklyn sanitary authorities, for failing to recognize the true nature of the disease which ravaged it (*purpura variolosa*) until after the bodies of three of the children who died of it had been removed to the Morgue; but at the same time many allowances must be made on account of the obscurity of the cases. The symptoms were not at all those of ordinary small-pox, and hence the physicians were thrown off their guard. There was much gastric disturbance, with violent abdominal pains, and as it was shown that the family had partaken of chicken which was supposed to be tainted, it was inferred that this was the cause of the trouble. Deputy Health Commissioner Otterson agreed with Dr. Raub, who was first called in, that the children had eaten something that had disagreed with them, and remarked that it was a strange coincidental circumstance that all should be taken sick at the same time and show the same symptoms. During their illness they were seen by a number of practitioners of large experience, who coincided in the opinion that the family were suffering from pemphigus.

In view of the circumstances attending this case, the valuable paper by Professor Janeway, on the diagnosis of certain of the infectious diseases, which was published in the *JOURNAL* in November last, is of much interest and significance. In speaking of small-pox he remarks that one of the greatest safeguards against an error in diagnosis consists in having such a classification of the disease fixed in the memory as shall serve to take count of the varied methods of its manifestation. Such a one he has endeavored to teach for several years past, and while he has found that others have used somewhat the same, yet this or that feature is lacking in most, and it is upon this that the matter hinges. In not a few text-books some important fact, bearing upon the methods of development of certain forms, if variable, is omitted. "The distinction," he goes on to say, "between *purpura variolosa* and the ordinary hemorrhagic type, where the blood is extravasated into the vesicle, should be kept in mind, and in my experience the failure to recognize, even to have any knowledge of the existence of the purpuric type of the disease, has led to very serious consequences. . . . What I wish to emphasize is, that we must not be content to simply consider the eruption and the patient's condition, but must use every means in our power to establish a correct opinion as to the nature of the disease which has produced this state which is denominated purpuric or malignant. The cases of this nature which I have seen, died on or before the sixth day, not of the eruption. It is a great mistake to suppose that hemorrhages from mucous surfaces, or previous diffused scarlatinal-like rash, or maculo-papules becoming flattened purpuric spots, are necessary accompaniments of this type of

hemorrhagic variola. We meet variations from this, from that which I have described, up to that in which characteristic spots of small-pox eruption occur, embracing those with the above-mentioned conditions."

But whether the real character of the trouble in the Mauri family could be recognized or not, it would seem that there were enough suspicious circumstances about the cases to cause the sanitary authorities to take every precaution in the way of establishing complete quarantine, etc. A short time previous one of the children had had an eruption which, in the light of the subsequent developments, there can be little doubt was of a variolous character, and even at an early period in the disease the possibility at least of its being small-pox occurred to some of the physicians who saw the cases. In addition, small-pox had been for some months more or less prevalent in the city. All intercourse with the family should therefore have been at once interdicted; but this was not done, and as the report got abroad that the children were the victims of some mysterious form of poisoning, a large number of newspaper reporters and individuals prompted by curiosity were naturally attracted to the house.

THE RELATION OF QUARANTINE TO SHIPPING INTERESTS.—In his address on this subject before the Conference of the American Shipping and Industrial League at Pensacola, Dr. Joseph Holt, President of the Louisiana State Board of Health, has expressed in a forcible manner views of great practical importance, which are the result of an extended experience and much special study.

In harmonizing the preservation of the public health with the necessities of commerce, as the matter has to be dealt with in the Gulf ports, there are, he says, three essential elements upon which success depends.

1. To keep out pestilence by a strictly scientific system of maritime sanitation, which should properly begin in the thorough treatment of a vessel in the port of departure previously to taking in cargo; and he thinks that the National Government should establish in all foreign ports, from whence pestilence might be introduced, consular agents whose duty it shall be to see that all vessels clearing for the United States shall be in a perfect sanitary condition before taking in cargo, and at the moment of departure. The method of quarantine sanitation should begin its work at the port of departure and be completed at the port of entry, to include approved methods of ship sanitation under competent authority during the voyage of a vessel from one port to another.

2. In case that pestilence from any direction should enter, he says it is the adopted policy of the Louisiana State Board of Health, to report at once "every actual" or "suspected" case of cholera or yellow fever; in so doing, recognizing the right of every citizen to be instantly informed of danger threatening himself and his family, and recognizing, also, that the only hope of subduing pestilence is to deal with it as we do with fire, by extinguishing the first spark, instead of

waiting for the proof of fire in the spread of conflagration. This timely information enables us to fight the disease, and to make an intelligent effort to quench a pestilence by isolation and disinfection.

3. The consent of all who are concerned in the keeping out of pestilence. This, he contends, can only be accomplished by an alliance between the seaboard and the States of the interior upon the basis of confidence begotten of truth, in the outspoken announcement of pestilence or of that which is reasonably "suspicious" of pestilence, in order that all may be timely warned. This confidence, without which all else is impossible, is secured through the medium of "Inter-State Notification," previously agreed upon by specific treaty, and dependent upon the honor, courage and fidelity of boards of health and the medical profession.

To prevent the introduction of pestilence while imposing the least hindrance to commerce, he goes on to say, is the established maxim of an honestly conducted and beneficent system of quarantine. Any departure from this rule indicates a serious fault which should not be tolerated. The revenues derived from quarantine sources should never exceed the expenditure in quarantine maintenance, economically administered.

He thinks, therefore, that, inasmuch as the State and its maritime port are, at least, one-half beneficiaries of commerce, these should bear at least one-half the entire expense of quarantine maintenance, and should therefore cut the charges down one-half. "Every sentiment of equitable dealing and principle of progressive movement endorse this proposition; not to allow which, is simply a part of that narrow and short-sighted policy which has consistently made the Gulf ports their own most formidable enemies." The address ends as follows: "The Quarantine and the Board of Health should be a State institution, appointed and controlled by the Governor of the State, and should not be local and therefore subject to local influence and interference. In conclusion, gentlemen, and as the logical answer to your inquiry; 'Can a state of public health be maintained at the Gulf ports while constant intercourse is had with the Tropics?' I point you to Louisiana and its great maritime port, New Orleans, for the reply—'It can!!'"

MEDICINE AND PHARMACY ABROAD.—It is with unfeigned satisfaction that the reappearance of Dr. Squibb's *Ephemeris*, the publication of which was suspended when he went to Europe last year, will be greeted by the profession. In the first number of the present volume (January, 1887), he has had the temerity, not apparently appreciating the fact that he is "in danger of the Council," to publish before the appearance of the *Transactions* two papers read by him at the meeting of the State Medical Association last November, and his impressions of Medicine and Pharmacy abroad, as given in one of them, are of much interest, as the following extracts will show:

As a broad generalization, there seemed to be fewer butcher shops, more bakeries and vegetable shops and markets—more fruit and

flower shops ;—fewer wine and beer shops and much fewer candy shops, than in this country. But in the special interest of medicine and pharmacy, the contrast was far greater than in anything else. In all the nations of civilized Europe this interest is recognized as being of superior importance, and is under more or less of legal and moral restraint and control. In no nation—not even Great Britain—is this interest so nearly a free trade as in this country. The theory is that all governments—that of this country included—have laws for the protection of the people against the pretensions and deceptions of quackery, and deficient knowledge and skill, in the important art of medicine ; but certainly in no nation has this art become debased so nearly to the level of the money-making trades as in this country, and Great Britain seems to rank next in this unenviable debasement, while Denmark and Sweden seem really to have the interest under the best practical control. Not that the science of medicine is as advanced in these nations as in Germany, for example, nor the art practiced with so high a degree of knowledge and skill as in England and this country, but it is simply under better control, and therefore the people's interests in it are better protected.

In counting the physicians' offices in the large European cities, and trying to compare the numbers with those of Boston, New York, Philadelphia and Baltimore, it seemed to the writer that in the latter cities the numbers were more than double. In the European cities street after street of those occupied as residences would be traversed with but one or two doctors' signs—or with none at all. And among the few signs the number of comparatively new ones was very small indeed. From occasional glimpses into these offices—or at least into the front rooms, through open windows, they were judged to be very plainly furnished—hardly what would be called comfortable, and never luxurious, whilst the absence of any degree of ostentatious display marked the infrequency of the quackish class. The number of physicians' vehicles that could be in any way identified as such, in the streets during the customary hours for visits, was so small that a pretty close scrutiny was needed to find them at all. Indeed, the conclusion was reached that in those cities physicians must generally walk or use public conveyances, and this conclusion was strengthened by seeing that visits to patients at hotels were commonly made on foot.

The pharmacies of European cities offer a much more striking contrast to those of this country. In England and Ireland they appear to be similar in character, but perceptibly less numerous. In Scotland they are less conspicuous and less numerous than in England, and in France the character and number are still further modified for the better. But it is in other European cities that the contrast becomes most marked. As a broad generalization it may be that in number they reach one-third of the number in this country, but probably not over one-fourth ; but the contrast in character and appearance is still more remarkable than in number. Never near together, they are commonly in prominent locations, and not uncommonly appear to occupy

the whole of a small building. No show window nor colored bottles nor any other form of display. Windows of ordinary size and character, and used only to admit light, except that they may occasionally have one or two growing medicinal plants. No glaring nor large signs anywhere, but generally a small one over the entrance door with the name of the proprietor, and the word "Apotheke." Inside the door is a clean clear space occupied by a few chairs. Then a very simple counter without show cases, and without furniture, or with one or two scales of large size. Behind the counter and with their backs toward it are from one to four clerks, each with a prescription scale and measures, engaged in putting up prescriptions or orders. Beside these, the proprietor or his representative appears to be engaged in receiving those who enter, and in superintending the work of the clerks. The furniture and apparatus were clean and in good order, but clumsy, and there was a notable absence of gaudy overgilt labels and ostentatious decoration of anything, everything being plain and substantial, even to ugliness and clumsiness. Not a patent medicine card, nor any proprietary article in sight, and no perfumery, fancy goods, soaps, cigars, wines, waters, nor soda fountain in sight. In short, the whole pervading tone was of quiet, earnest and accurate work of a high order, carefully done, and this tone gave a dignity and an honorable rank to the whole place. The writer commonly made an errand of buying a few grammes each of ether, chloroform and carbolic acid, articles the quality of which could be fairly judged by their sensible properties, and such purchases gave access to the pharmacies, and opportunity to observe the work.

The articles bought were often of very good quality, and never of bad quality, and were uniformly dispensed quickly and neatly, but never elegantly.

The general conclusions reached by these observations were, that in the United States there is a class of physicians who, in ability, knowledge and skill in the application of their art, are not excelled by any similar class in Europe, but that in this country this class is so diluted and obscured by the much larger class with superior pretensions and inferior knowledge and skill, who keep themselves so prominently before the public as to overshadow the better class and give a superficial appearance of inferiority to the profession as a whole. The condition of pharmacy in the United States appears to be fairly parallel to that of medicine. In no country are there any better medical supplies than in this, and in none are these better managed and dispensed for use than in this. Indeed, with respect to both quality and management, there is a strong probability that there is a superiority here. But, there is certainly no country more abundantly supplied with bad drugs, nor with the ability and skill to put them in the place of good ones. In most European countries pharmacy is so controlled that it is not very easy to get bad medical supplies, while in this country, with pharmacy almost uncontrolled, it seems not very easy to get good ones.

GENERAL PARALYSIS OF THE INSANE IN THE NEGRO.—In his instructive paper on Insanity in the Colored Race, which recently ap-



peared in the *North Carolina Medical Journal*, and has now been republished in the Annual Report of the Eastern N. C. Insane Asylum for 1886, Dr. J. R. Roberts, superintendent of the asylum, makes the remarkable statement that, notwithstanding his exceptional advantages for observation, he has never seen a case of general paralysis in the negro. This is the more noteworthy from the undoubted fact of the rapid increase of other forms of insanity among the blacks; to throw some light upon the causes of which constitutes one of the objects of the paper in question. As to the predisposing cause of general paralysis, which, among whites, is becoming more common in the last few years, no definite decision has as yet been arrived at. In discussing its etiology in connection with the negro's immunity from the affection, Dr. Roberts says: If it is caused, as some authorities hold, by drink, it should exist to some extent at least in the colored race. Other writers say its cause is to be looked for in excessive venery, and holding this view of it we should certainly expect to find it often in the negro. Exposure to cold is given as a factor in its production, but then we cannot well claim that the negro can endure more cold than the white man. It is, too, contended that business cares and trials are prime factors in its production. As we know that the negro as a race has engaged but little in business affairs, we would not look for general paralysis in him, at least to much extent, if such were the case. Whatever its cause it cannot exist alike in both races, or we would certainly see more of it in the colored man.

EQUALITY IN THE PROFESSION.—In discussing the proposed University of Westminster, which it is designed to provide with a faculty which shall afford the students of the London medical schools due facilities for acquiring a degree in medicine under equitable and reasonable conditions, the *British Medical Journal* makes an earnest plea for absolute equality for all who enter the profession, which cannot but appeal with much force to the characteristic English sense of justice and fair play, and which will meet the warm approval of every American reader. In the course of its able leader it very properly calls Sir Andrew Clark to task for his proposition to create class distinctions; a suggestion which is wholly unworthy of so prominent and distinguished a member of the profession.

The Apothecaries' Society will, in our opinion, it says, be justified in claiming that its licentiates, who will have passed through the same curriculum, under the same teachers, and for the same length of time as other candidates, and who have been tested by an examination sanctioned by the Medical Council, and in all respects equivalent to that of the two Colleges (the Royal College of Physicians and Surgeons) shall be admitted to the examinations of the new University on the same footing as licentiates of the two colleges. Nor will the practitioners of England be satisfied to see the Apothecaries' Society of England extinguished by this side-blow, after the Privy Council has expressly declared that it does not intend that that corporation shall be extinguished.

If the Apothecaries' Society is—as we doubt not it will be—supported by the profession at large, and if it states its case forcibly and ably before the Privy Council, and, if necessary, before Parliament—we do not doubt that the colleges will see the propriety of making some arrangement by which that corporation may be united with them, in such a way as to avoid that division, and that invidious distinction in qualifications for general practice to which the Medical Act was intended to put an end. Sir Andrew Clark gave expression to a plausible sentiment, and one which is often repeated, when he said, in the course of his reported speech at the Comitia, that he could see no harm in the creation of a new class of general practitioners of inferior qualification, intended to practice amongst the poor. Such a qualification, he said, should be open to men of small means and secondary education, and they would be a useful and convenient class of persons. For our part, we desire to see no helots in the profession. We desire to see no class stamped, from their birth into the profession, with the odious stamp of inferiority, which is to adhere to them throughout life. In what sense are the licentiates of the Apothecaries' Society to be held inferior to the licentiates of the other Colleges? By what right is it assumed that they are to be men of less means or less education? The very essence of the Medical Act is that the minimum qualification shall be uniform and similar for all. It is fair, and we believe it would be true to assume that the licence of the Apothecaries' Society will not be in any way inferior to the licence of the two colleges.

DR. BATTEY'S CONTINUED CONFIDENCE IN ANTISEPTICS.—In his report of seventy consecutive cases of ovariectomy and Battey's operation performed during the last two years, which has been reprinted from the transactions of the Medical Association of Georgia, it is of interest to note that Dr. Battey has continued to follow essentially the same method as in the preceding series of cases reported by him. "I have," he says, "continued to use the carbolic spray, to immerse my instruments and sponges in solutions of carbolic acid of strength 1 to 40; the pedicle tied with carbolized silk, the abdomen closed with sutures of the same material." He states that in all the cases the abdominal incision was made in the *linea alba*, and that all the patients were treated in his private infirmary at Rome.

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## LECTURES.

RICKETS, ITS TREATMENT BY OSTEOTOMY. A Clinical Lecture Delivered at Bellevue Hospital by FREDERIC S. DENNIS, M.D., New York, Professor of the Principles and Practice of Surgery in the Bellevue Hospital Medical College; Attending Surgeon to Bellevue and St. Vincent Hospitals.

Reported by THOS. McCANN, Jr., Junior Assistant Bellevue Hospital, and revised by the author for GAILLARD'S MEDICAL JOURNAL.

*Gentlemen:* In the clinic to-day I propose to discuss a subject which at present occupies a good deal of attention among hospital surgeons.

It is a subject, I may add, that is not considered in detail in any of our standard text-books upon surgery. A mere reference to the operation is found in the recent surgical works. The description of the operation and the results are to be found only in medical journals or in special monographs, devoted to a consideration of the subject. I have here in this clinic to-day a number of cases to illustrate the varieties of rachitic deformity for which osteotomy is performed, and I shall avail myself of this opportunity to discuss the subject in all of its details. Rachitis is a developmental disease, which impairs the nutrition of the body. Every organ and every viscus is affected by it. Rickets is a disease essentially of childhood; but in rare cases the deformity of rickets is manifested in the adult. Without entering upon an argument as to whether it is possible for rickets to occur in the adult, I shall ask you to accept this statement, as pathologists have not as yet given us any description of a disease with the characteristic features of rickets to explain the deformity in the bones of the adult.

Until a disease is described to account for the few rare cases of rachitic deformity which occur in adults, it is better to assume that rachitis, or at least a disease closely allied to it, exists in adults and that this disease is the common factor in producing the deformity in the young and the old. The word rachitis is derived from a Saxon word meaning a hump, and the derivation of this word has also been traced to a Greek origin meaning a spinal disease; because it was supposed in early times that it was the spinal marrow which was the seat of the disease and consequently the cause of the deformity. The fallacy of this pathological doctrine has been proved, and it is now accepted by pathologists that the disease is one of a constitutional nature, depending upon malnutrition and having a local manifestation in the osseous system and the joints. The disease is congenital as a rule; but some writers have attempted to prove that it may develop in utero.

In an analysis of over twenty-three thousand fœtuses born dead at the Maternité only two cases of rachitic deformity were found by Chaussier.

In Guerin's tables comprising three hundred and forty-six fœtuses, examined with reference to this point, three cases only were discovered where the characteristic deformity existed. These exceptions are interesting as throwing light upon the etiology of the disease, but for practical purposes rachitis may be considered as a disease during the first few years of life. In a very large number of cases which have been sent to me for operation, I have found the average at which the disease may be considered at its height to be about three years.

This is the period when these rachitic children manifest the greatest deformity, because they experience the ill results of bearing the weight of the body upon bones which yield to pressure. These children walk late in comparison with healthy children and attain considerable size and weight, which aids greatly in causing the deformity, for the relief of which they are brought to the surgeon. The etiology of rickets is referred to hygienic conditions. The disease is one found among the children of the poorer classes, who live in dwellings which are ill ventilated and improperly drained, and where sun-light and fresh air have no admittance. Impure air seems to have the most important influence upon the development of this disease. Children brought up in the country rarely are afflicted with rickets and the disease may be said to be practically restricted to city children. In addition to hygienic causes may be mentioned also the feeding of infancy as a potent factor in developing the disease. Improper feeding leads to indigestion and to a want of proper assimilation, and hence a child suffers from mal-nutrition. It is a remarkable fact that rickets seldom is seen in a child who has nursed from a healthy mother's breast. I have treated a number of children for rachitic deformity where the mother would not nurse the infant on account of the flippant exactions of a fashionable society life.

These children were nourished upon artificially prepared food, and, at the time when they began to walk, their bones were soft and yielding, and lateral curvature of the tibiæ was the result. There is no equivalent for healthy mother's milk, and any substitute for this food has its serious objections.

Among the constitutional symptoms of rachitis may be cited diarrhœa from undigested food, diaphoresis, which is peculiar in that the upper part of the body seems to be most effected while the lower extremities are dry and hot, dentition, which is retarded, and when the teeth appear they are black and soon decay.

During my year's service in the children's hospital upon Randall's Island I saw a child with rachitis, and at eighteen months from birth not a single tooth had appeared, and with cranio-tabes most marked.

Another constitutional symptom is to be found in the condition of the muscular system. If the muscles be examined they will be found to be flabby, and if the skin is observed it is found to be pale and unhealthy. Irritability of temper is another symptom, and if the child is disturbed he is fretful and has a desire to be left alone, as lifting seems to cause pain. Open fontanelles are also characteristic of rickets, and as a result of this condition the head begins to assume

somewhat the shape of the hydrocephalic skull. The chin appears pointed from an arrest of normal development, and it likewise appears more prominent, owing to the peculiar shape of the skull. Outbursts of crying may also be mentioned, and the child often cries for a long period, and at times it is impossible to appease him or her. It is not the cry of acute pain nor the hydrocephalic cry, but it is a moaning and continuous cry, which is different from the usual cry of an infant.

Before dismissing the cerebral symptoms I would like to call attention to the shape of the skull.

If measurements of the normal skull be taken, it will be found that the diameter of the base is about one-fifth less than that of the diameter of the cranium. For example, if you place one leg of a compass upon the glabella, and the other leg upon a point just beneath the external occipital protuberance, the distance between the two points placed on a ruler marked with a scale will give the diameter of the base. If now the same test is made by the instrument by placing one leg of the compass upon the most prominent part of the frontal bone, and the other leg upon the most prominent part of the occipital bone, the distance between the two points will give the diameter of the cranium. This Dr. Gee, of London, has demonstrated to be about a fifth greater in the normal head. If now a skull is examined which is abnormally large, the measurements just described should be made; and if the head is simply large and round it is called a cyclocephalic skull, and thus it is indicative of tuberculosis, which is associated with dropsy of the ventricles; but if the head is abnormally long in its antero-posterior diameter, it is called a dolichocephalic skull, and this shape is characteristic of rachitis.

Having now considered the constitutional signs and symptoms of rachitis, it is pertinent to consider the local signs of rachitis, which subject embraces a study of the special manifestations of rickets as they appear in the bones and joints. The first thing which is noted in the changes in the bone as a result of rickets is the absence of solidity to the shaft.

Absorption of the compact structure of the bone takes place, and this loss is substituted by layers of soft cartilaginous tissue, which permits the bones to bend. The bones of the upper extremity are not affected to so great a degree as the bones of the lower extremity. The bones of the skull are also affected. Besides these changes of absorption of the compact tissue in the shaft, and the increase in the organic constituents of the bone, the epiphyseal extremities are also

altered in shape and consistency. The epiphyses are enlarged, and are often distorted by forces acting upon the softened and yielding diaphysis. The cartilaginous cells of the epiphysis, instead of becoming calcified as a result of proper assimilation and appropriation of the earthy salts, become pathologically transformed into a soft medullary tissue. Still further, in addition to the changes observed in the diaphysis and epiphyses of the bone, the ligamentous structures also undergo changes. The ligaments become lax and altered in their histological formation, and thus they permit of a free lateral movement in a joint where, under conditions of health, such mobility is not found. Besides laxity of a ligament, shortening may occur as a result of contraction, which is seen in genu-valgum, where the external lateral ligaments of the knee-joint are found to be very taut. Langenbeck placed much importance upon this change, and I have seen him divide the external lateral ligaments with a tentome, with a view to overcoming the obstacles which prevented the straightening of the leg. This was a plan Langenbeck resorted to very frequently before osteotomy became a recognized operation for relief in these deformities. The local changes which have thus been briefly described in the shaft, the extremity, and the ligamentous structures, may be divided into two well recognized stages. The first stage is when the bones are soft and pliable, and the second stage is when the bones are hard and unyielding in their deformed position. This clinical fact will be again referred to under treatment. The cause of the curvature in bones during the first stage has been erroneously assigned to muscular action. The anterior curvature of the tibia has been explained by a contraction of the tendo-achillis. The genu-valgum deformity has been ascribed to the contraction of the biceps. The bending of the humerus has been demonstrated to be the result of the action of the deltoid. Recent investigations have proved that muscular action is not the cause of the curvature in these cases, because the muscles themselves are flabby and weak, and if found contracted, it has been a result of the curvature rather than the cause. A corroboration of this statement is found in the fact that precisely those bones which support the weight of the body are those which are bent. In the few remaining bones which have no part in supporting the body, and which are found curved—as, for example, the curvature of the humerus—the curvature has been shown to be caused by nurses carrying the child by its arm. A still better proof lies in the fact that in children who are kept in bed no deformity exists, and the curvatures soon appear after attempts to creep or to walk. Before discussing the

different varieties of curvature for the relief of which osteotomy is performed, a few words in regard to the history of the operation would not be inappropriate. The word osteotomy means literally a section of the bone.

From 1815 to 1875 a few osteotomies were performed. A saw was used in the majority of the cases, and the chisel was first employed in 1868 by Little, of London, and nearly all of these operations were treated by the intervention of an open wound. During 1875 the operation was first performed under antiseptic principles by Volkmann, a few weeks later by McEwen and by Ogston, and from that date the operation has been considered a recognized one in surgery. I will omit a list of the many instruments which have been recommended for the performance of an osteotomy, and mention only those requisite for the operation as it is performed at the present time. It was my privilege as a member of the German Congress of Surgeons, held in Berlin in 1877, to be present at the time Ogston read his paper on osteotomy, and it was subsequent to this meeting that Volkmann began his work in this department of surgery. The osteotome should be of steel, with good temper and bevelled upon both sides. The entire instrument should be of one solid piece of steel. The cutting edge should be sharp, and one of the sides marked in half inch scale to enable the surgeon to accurately determine the depth to which the instrument has penetrated the bone. The handle should be octagonal, so that it can be firmly held by the operator, and a good head upon top of the handle against which the mallet can impinge with firmness and without danger of slipping. I have been in the habit of using McEwen's chisels, and have found them, as a rule, satisfactory. There should be at least two osteotomes, one smaller than the other, and in this way the accident of breaking the osteotome may be avoided. The larger chisel can be first used, and toward the end of the operation the second or smaller one can be employed. As the smaller one is narrower than the larger there is no danger of cutting the tissues and structures adjacent to the bone. The mallet should be of *lignum vitæ*, or of rawhide, which seems to answer best the purposes. A sand-bag, six inches square and covered with India rubber, is essential to a complete outfit for osteotomy. Beside the sand-bag upon which this bone is to rest during the section of it, there should be placed on either side of the child's limb two sand-bags, at least two feet in length, and equal in circumference to the thigh of a child. These long sand-bags are to be placed under the rubber, which is split in the centre so as to protect the limb to be operated



upon from coming in contact with the opposite limb. These two long sand-bags lying on each side of the limb thus form, with the rubber cloth over them, a complete trough; and if the head of the table is elevated about six inches and a large pail placed at the foot of the table, every facility is provided for carrying away the irrigation fluid. The child the night previous to the operation should have a mild laxative and a warm bath. The limb to be operated upon should be carefully scrubbed with a nail-brush and hot water and soap. This removes from the leg all the fatty and oily excretions of the skin. After this ablution a saturated solution of ether and naphthaline, or iodoform and ether, should be poured over the leg, and then a clean antiseptic bandage should be wrapped around the entire limb. At the time of the operation, the following day, free irrigation over the part will render it perfectly aseptic for the operation. The child should now be placed under the influence of ether, provided that no food has been taken a few hours previous to the time for the operation, and when fully anæsthetized osteotomy can be performed. The application of Es-march's bandage is unnecessary, as there is seldom any hemorrhage sufficient to counterbalance the objections to its use. Wet towels, wrung out of a (1-2000) bichloride solution, should be placed about the limb above and below, and around the part upon which the operation is to be performed. The technique of the operation itself may be divided, for convenience of description, into four stages, and a description of it will include the application of the permanent dressing to the wound. The *first stage* consists of the incision through the skin down to the bone. The *second stage* includes the section and fracture of the bone. The *third stage* comprises the correction of the deformity and the dressing of the wound. The *fourth stage* embraces the application of a permanent dressing. In the first stage the incision should be made by pushing the point of the scalpel straight down to the bone and cutting the skin, which should be firmly held between the thumb and index finger of the surgeon. The skin incision should be longitudinal and only sufficient to permit the chisel to be placed upon the bone, and any incision larger than this only adds a danger, by more fully exposing the seat of fracture. The incision should be squarely upon the centre of the shaft at the point where the bone is to be fractured. No vessels are wounded, and care should be exercised lest a tendon be injured or the knife slip off the bone.

The second stage now begins, and consists of placing the osteotome upon the bone and through the small skin incision. The edge of the osteotome must not overlap the side of the bone, and the direction of it must be away from the main artery lying in close juxtaposition to the

bone. The handle of the osteotome must be held tightly, and the mallet should strike firm blows upon the head of the osteotome. When the chisel has traversed about half the diameter of the bone it should be removed, and the smaller chisel should be inserted into the centre of the track of the first chisel, and the instrument can be safely hammered, as the blade can not come in contact with any soft structures, because the blade of the second chisel is narrower than the first chisel, and the sides of the bone itself prevents any accident. This can divide the bone still further, and then the chisel should be removed and a clean, small, antiseptic sponge placed over the wound while the surgeon attempts to break the bone. There is great protection in the use of the second and smaller osteotome; because, otherwise the first chisel is tightly held in the bone, and in extracting it the cutting edge of the chisel may break off and be left in the bone. This accident has occurred to me twice in badly tempered chisels; but in both cases no harm arose, though a good sized piece of steel was left imbedded in the bone, and could not be removed. This accident will not occur if the second chisel is used in the manner described. The bone should not be entirely cut through with the chisel, but only three-fourths of its diameter, and then it will fracture without splintering. It is not well, on the other hand, to attempt by violence to fracture the bone if the chisel has not traversed at least three-fourths of it. If a fracture is produced under these circumstances, the solution may be oblique, and a fragment with a sharp point may result, and give rise to serious difficulty.

With a green stick fracture of the lower fourth of the bone, and a clean transverse fracture of the upper three-fourths of the bone, there is no danger of any spiculæ of bone wounding a vessel at the time of the operation or later on by ulceration. If the bone is broken properly no danger follows, but it is only in those cases where there has been an improper use of the chisel or where too great mechanical violence has been employed that an osteotomy has been followed by suppuration and even death.

The third stage of the operation is now entered upon.

If, after the fracture, the limb cannot be placed in a normal position owing to the contraction of certain tendons, they should be subcutaneously divided, and this removes any obstacles to complete reduction. I have many times performed tenotomy on the tendo-achillis in cases of anterior curvature of the tibia. The physiological rest thus secured has a most salutary effect on the rapid repair of the fracture.

The lips of the small incision should now be pressed together and its edges pared of the subcutaneous fatty connective tissue by scissors

curved upon the flat, and between the lips of the small wound and down to the bone a few strands of aseptic catgut should be introduced by means of Sir Joseph Lister's drainage tube forceps.

This method of drainage by capillarity was introduced by Mr. John Chiene, of Edinburgh, and in this variety of wounds it is one of the best methods for drainage.

The catgut relieves any tension in the wound, and the dressings need not be removed to withdraw the strands of catgut, as they become absorbed and give rise to no harm. The lips of the wound should now be brought in exact apposition and sewed by fine catgut, and iodoform should be dusted over the wound, and a small piece of antiseptic gauze placed over the wound and around the limb at this point. The continuous irrigation can now be dispensed with, and the rubber sand bag upon which the leg rested during the operation can be removed, together with the wet towels which were placed about the limb and over the rubber cloth. A clean wet towel which has been standing in a (1-2000) bichloride solution should now be wrung out as dry as possible and placed over the rubber cloth and under the limb so that the dressings which are to be applied will not become stained with the blood and bichloride solution in the trough. The surgeon should rinse his hands and then dip them into a bowl of bichloride (1-2000), and everything is now in readiness for the application of the permanent antiseptic dressings, which brings us to the fourth stage of the operation.

The thin piece of iodoform gauze is now covered by a bandage wet in a warm solution of bichloride of mercury, and after fixing the iodoform gauze over the wound with the bandage, a piece of combined dressing should be made to envelop the entire limb and foot. The combined dressing consists of a layer of absorbent cotton placed between two layers of Von Brun's hospital gauze, which has been previously disinfected and prepared. This dressing is now fixed by a roller of antiseptic bandage, and then a plaster of Paris bandage can now be applied over the bandage which retains the combined dressing. I have found perforated strips of tin or sheet iron very useful to add strength to the splint, which makes it unnecessary to apply a very thick layer of plaster Paris. The child can now be placed in a bed and the nurse should steady the splint until the plaster is firmly set, and after the child has come out from under the influence of ether, the presence of the splint on the limb should give rise to no inconvenience or discomfort. This dressing can remain until it is time to remove it permanently, unless there is some local cause for changing it. I have pointed out the dangers of allowing plaster Paris splints to remain on

a limb too long in cases of compound fractures; but the osteotomy wound is so small that it is not likely to give trouble. Still the fact must not be lost sight of that even the osteotomy wound is capable of giving rise to suppuration, septicæmia, and death. The day following the operation the child can sit up and its ordinary diet be allowed, and, as a rule, there is nothing in the operation to in any way disturb the happiness of the child. I have found in some cases, however, some complications a reference to which might not be amiss. Retention of urine has occurred in one case, and this lasted for nearly a week despite everything that could be done. Fat embolism has been observed in several cases, and this would be attended by a sudden rise of temperature, a quick pulse, rapid respirations and such general symptoms as would naturally awaken anxiety on the part of the surgeon. Diphtheria has occurred once as a complication, but the wound remained aseptic and union had taken place. The child became very ill and symptoms of impending suffocation rendered tracheotomy necessary; but to no avail, as the child succumbed, after a few days, from exhaustion. Measles has occurred in quite a number of cases during an epidemic. These children were transferred from Bellevue to the Island, and one case died from the disease, but with no trouble with the leg.

The cases which were returned to Bellevue after convalescence were examined, and the fractures were found firm, the deformities corrected, and there seemed to be no ill-effects from the measles during the repair of the fractures. Bichloride irritation has followed in several cases where the skin was hypersensitive, and a small superficial ulcer followed, which involved only the outer layer of the skin.

In none of the many cases, amounting to more than a hundred, have I seen suppuration, or non-union, or ankylosis; but in every case the deformity was corrected; but not always by one operation; for it was necessary in some cases to resort to many osteotomies in the leg, thigh, and forearm. In certain cases when the deformity was nearly corrected the parents would be satisfied with the great improvement and remove the child from the hospital before a final operation was performed. In a careful analysis of a large number of cases occurring in the practice of other surgeons as well as those occurring in this city, there is every reason to believe that under proper precautions the operation is attended with little risk, and that the correction of this deformity is now entirely under the control of the surgeon. Osteotomy not only can overcome the rachitic deformity, but it offers an opportunity to correct a deformity arising from a badly united fracture, or an irregular contraction, due to a diseased joint. Osteotomy opens up a new field

for surgical interference, and cases of bow-legs, knock-knees, and deformities of upper extremity can now be safely corrected, which but a few years since were supposed to be entirely beyond the control of the surgeon to remedy.

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## ORIGINAL ARTICLES.

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CONCERNING THE DELIVERY OF THE PLACENTA. By RUFUS W. GRISWOLD, M.D., Sandy Hill, Conn.

Incidentally, in the discussion of other matters in relation to childbirth, I have had occasion to allude to the results sometimes derived from the *voluntary* efforts of the mother as impressed upon the muscles of the uterus, both as to the expulsion of the fœtus, and also as to the expulsion of the after-birth. The intention of this paper is to enter a little further into the matter in relation to the latter of these.

Fashions in dress are not much more changeable than fashions in medication and in obstetrical and surgical procedures, nor more radical, and sometimes not more irrational. As the baggy sleeve of my lady's dress of one-period is supplanted by the skin-tight covering of the next season, so also, in so far as the fashion of teaching by the authorities is concerned, the older mode of *extraction* of the placenta after childbirth is supplanted by the so-called *expression* of it.

By the term "extraction" is meant the procedure of seizing the cord in one hand, in due time after the separation of the child, and making gentle traction thereon, while the other hand grasps the uterus through the abdominal wall, and by friction and pressure stimulates a contraction, and thereby makes the removal of the mass from the uterus one partly of mechanical assistance and in part of uterine pressure. By the term "expression" is meant the more modernly taught method of seizing the uterus through the walls with both hands, and essaying to squeeze out the secundines by a forcible pressure from above downwards and together. This latter proceeding, styled in current literature the Credé method, seems to be the one now mostly taught in the books, and presumably in the lectures of the schools. The teaching of this latter way has obtained to that degree that we may reasonably expect the beginner in midwifery practice will essay to throw out of the account the other method, discarding any traction on the cord whatever, and, relying wholly upon an effort at expression, will often find his expectations quite misplaced.

It is proper to say here that this method of expulsion, which has come to be called the Credé method by the writers of the day, is not what Credé promulgated, but only what may be called the first clause of his teaching, and that really what he taught was nothing new, but only a perhaps happier way of putting on paper the rational procedure of nearly all sensible obstetricians. I have here what is given as his own description of his method :

“ The natural detachment of the placenta occurs within a few minutes after the birth of the child, and is recognized by a discharge of blood and by marked diminution of the size of the uterus, which may now be felt as a firm ball, the size of a child's head, between the umbilicus and pubes. As soon as any after-pains have occurred, the midwife grasps the entire uterus through the abdominal walls, with both hands, and presses it toward the cavity of the sacrum ; she repeats this several times, if necessary, but only during a pain, until the placenta is found at the vulva or is entirely expelled.”

Right here the modern interpretation of the Credé method stops, leaving us with the impression that the mass is literally to be squeezed out of the organ—which is a delusion and a snare. But the teacher continues :

“ If, from imperfect contraction of the uterus, or from tenderness of the abdominal walls, sufficient pressure to expel the placenta cannot be made, the attendant, guided by the umbilical cord, feels carefully in the vagina for the placenta ; if a portion is felt, then with one hand gentle traction is made on the umbilical cord, while with the other pressure is made on the uterus. If the point of insertion of the cord in the placenta cannot be reached, or if on gentle traction of the cord resistance is felt, no further effort to deliver the placenta in this way may be made until after several uterine contractions have occurred, which may be increased by gentle rubbing and pressure. If the placenta is found low in the vagina, and readily reached by the finger, then the attendant shall pass the index and middle finger as far up on the placenta as possible, and press it gently downward and backward, while with the left hand the cord is made tense ; when the placenta appears at the vulva the attendant shall grasp it with the fingers of one hand, and draw it gently upward, and slowly turn it upon itself several times in order that the membranes may form a cord and not be torn away.” All of which latter paragraph of Credé has been lost sight of by most of those who speak of his method.

The author ends with this addition :

“ All strong traction on the umbilical cord, or attempts to extract

the placenta when high up by introducing a part (of) or the whole hand, or to aid the efforts at extraction by straining, coughing, blowing in the hands, etc., are very dangerous, and therefore are forbidden."

It will be seen that, if we take the whole of this teaching, the idea of a *forcible expression* of the after-birth does not appear very prominently in it, and that gentle traction on the cord is not only not condemned, but advocated; but more recent writers, taking the first paragraph I have quoted from Credé, and dropping off the second one, have proceeded to give his method as solely one of expression, and then pronounced condemnation on any other effort. The prominence given to this notion of forcible expulsion by the hand-pressure of the attendant, and the insistence of writers that that method is of all the best, induced the writing of this paper, as also other articles in which the subject is alluded to.

After thirty odd years' experience in a fair obstetrical practice, one may be pardoned for thinking that he understands something of it, despite the teaching of authorities contrary to his observation. Actual manipulation, hundreds of times repeated, leaves such impressions of tactile virtue, in results, as are not lightly to be thrown aside as pernicious and wrong, simply upon the incoming of a new fashion; and if some faithful trial of a vaunted new method fails to give as good results as the old ones, one may be justified in putting himself on paper in criticism of the virtues of the newer mode.

I have essayed the practice of the so-called Credé method of expression of the placenta, and it has not proved so satisfactory to me as some have stated it to be to them. In most cases, in what is called the third stage of labor, that is, the removal of the placenta, I grasp the extended funis as high up as is convenient, and, making some gentle traction thereon, at the same time attempt to stimulate contraction of the uterus by continued manipulation with the other hand, and accomplish the removal by the co-ordination of the two forces. I think this the most satisfactory method of proceeding; and, high authority to the contrary notwithstanding, the most rational and the most philosophical way.

Let us look a little into the rationale of this matter.

The womb, relieved of the child, is like an inverted jug, the outlet of which has a much smaller diameter than any other part of the cavity. The placenta is a semi-solid mass, approximating in size to the capacity of the organ, and conformed to its ovoid shape, with the cord projected through the neck. A common sense consideration will lead

to the view that the easiest way to get out of a vessel any semi-solid mass, capable of being changed in its shape, and which has a considerably larger diameter above the neck of the vessel than it has at the neck, is to first reduce the diameter above. This is just what it is expected to do with a placenta. Some part of what is here desirable is accomplished by the after-birth emptying itself of a portion of its blood, thus reducing its size but not changing its shape; traction of the cord still further reduces the diameter of the mass at the outlet of the womb by elongating it at the expense of its diameter above, and also by aiding to enlarge the outlet by the pressure of the mass drawn down into it. A good illustration of the benefit of this process of elongation may be seen in the very interesting way in which the snake manages to get himself outside a toad whose circumference is three or four times his own. The susceptibility of the toad to compression in his breadth by elongation, without reduction in his weight, makes him a very good figure for our illustration. Seizing his victim by the hind feet, which may be taken to represent our funis, his snakeship easily compasses the toad up to the body; but now comes an obstacle. The body, nearly as broad as it is long, must be reduced in its circumference by increasing its length. The same process that engulphs the lower part of the body lengthens out the remainder, and brings its diameter to the size of the distended jaws, and the whole carcass is passed through the opening. An analogous elongation of the placenta, which is helped to by traction upon the cord, is one of the things desirable in the process of getting the after-birth outside the uterus. Further traction will assist delivery of the after-birth when made in connection with a contractile effort of the womb, in the same manner that traction with the forceps upon the child assists the womb in expelling it at the time of a pain. In both cases there is the operation of a force before and a force behind, one pulling and the other pushing, co-operating and assisting each other in a rational and philosophical effort to the accomplishment of the desired end. And further, traction of the cord is many times an important factor in stimulating contraction of the uterus by the irritation produced, and is useful in that direction.

I think this mode of procedure is philosophical, as it is certainly a rational and common sense one, and, if you please, quite as scientific as the effort to forcibly express out a placenta by pressure upon the containing organ; and so far as results have been manifest under my observation, it has been vastly more satisfactory than the squeezing-out process. But it should not be understood that the placenta is to be dragged out of the uterus by pulling alone, and independently of



the expulsive pains. The result attained is, that whereas, *without* the aid of the traction, two, three, four, or more contractions of the uterus, if you get them, may drive the after-birth into the vagina, one or two, along *with* the traction, will give the same result, with less of waiting, and with less pain to the mother.

It may be further noted here, that in addition to the mild tractile effort on the cord, it is often useful to hook a finger into the mass of the placenta as high up as convenient, and above the os, and use gentle force from that point. Tearing into the placenta in this way often induces the discharge of a considerable amount of fluid, and thus reduces the diameter of the body, making its passage through the neck a deal easier. I put this here for the special reason that some modern writers condemn this procedure as something that should not be done at all, and my experience justifies me in taking a pleasure in differing from them.

Now let us indulge in some criticism upon the method of *expression* of the after-birth. The idea involved in this mode seems to be that the secretions are to be squeezed out of the womb by the compression of its walls upon the contents. I will not undertake to say that this cannot be done, even without the aid of some other potency; but I do undertake to say that when it seems to be done without the aid of some other potency, the attendant is generally measurably deceived. When I have hold of a depending funis, using enough force upon it to make it tense, and there comes a pain, and the uterus contracts forcibly upon its contents, and the after-birth slides out into the vagina, I do not say to myself that I have pulled it away; I recognize the truth that the contraction of the walls of the organ upon its contents was the chief potency in the result attained, and that my gentle traction was only an aid thereto. So, also, when I take the uterus in my hands through the walls of the abdomen, and compress it, and the organ begins (perhaps partly in consequence of that compression, and perhaps independently of it) to contract, and the placenta slides out, I do not deceive myself with the notion that it has been *expressed* by my effort. I recognize the fact that it has been *extruded* by the power of the muscular walls of the organ itself, independent of the contraction of the organ, and by expression alone a placenta is not often got rid of except from a very flacid and open mouthed womb. The effort of expression alone may lessen the diameter of the cavity of the uterus from left to right, but at the same time it increases it from anterior to posterior. Pressure upon the fundus at the same time crowds the womb further into the pelvis, but it does not likely crowd the fundus into the inte-

rior of the organ, and if it did this last, no good could likely result; it would be in its effect very much like seizing a depending hernial tumor at its lower end, and crowding the whole mass upon the canal through which it has descended, the result being to push the entire mass up against and over the point of exit, thus preventing instead of helping to a return of the extruded intestine. Putting it in other words, the mechanical effort at expression of the placenta does not lessen the calibre of the cavity of the uterus, and it is the lessening of that calibre which crowds the contents out. The effort at expression may, and often does, stimulate muscular contraction; the muscular contraction *does* lessen the calibre, and as the cavity closes upon itself the placenta is forced into the vagina. This is the substance of the method of expression, the sum of what has come to be called the Credé method; though it is only one part of his method, and practically, the Credé method amounts to nothing more than the "grasping pressure" of Francis Ramsbotham; "grasping the uterus by closing the fingers upon it," as per Dewees; the "pressure of the half-closed hand," of Denman; "grasping, and rubbing the hand about the uterus," *vide* Blundell; the "occasional friction to the uterus," of Churchill (all of which were recommended with the idea of stimulating contraction of the organ) and the similar advice of nearly all of the older book-writers. The attendant who flatters himself that he expresses out placentas is generally deluded. He is not much less deluded than if, seizing the uterus between his hands before the expulsion of the fœtus, and forcibly squeezing it while the woman has the final pain that drives the head through the outlet of the vagina, he imagines his effort has "born" the child; and he is deluded in precisely the same way. And in any possible case where there was a flaccid womb, with a lax and open os, and the placenta could be expressed out, unaccompanied by contraction, the condition of the emptied organ would be precisely the same as if the after-birth had been pulled away without accompanying contractile effort. Neither of these procedures would be well until varied efforts had been made to induce a "pain" as the chief factor in unloading the organ.

It is not intended in this paper to go into a consideration of the efforts that may be used to induce a return of the pains after the birth of the child. Mostly, they are well known, and need not be alluded to. But there is one special matter I have a fancy to speak of, which is really the most important point in this article, and I am the more inclined to touch upon it for the reason that I have never seen it alluded to in print, except of my own writing. That especial point is the efficacy of

*voluntary effort* on the part of the mother in the expulsion of the placenta.

It will be observed that I have quoted Credé as saying that to "aid the efforts at extraction (of the placenta) by straining, coughing, blowing in the hands, etc., is very dangerous, and therefore they are forbidden." This may be in accord with the advice generally given, but to me the notion of "danger" therein is pure nonsense. True, if there was an adherent placenta, the expediency of voluntary effort might not be so clear; if there were hour-glass contraction it would certainly not be well. But we are not considering the subject with those or other special conditions existing; they are out of this account.

In the early periods of obstetrical discussion, the virtues of three factors in a natural delivery were considered, to wit: First, the effort of the child to escape from the womb when it has reached the natural end of its uterine life; second, the voluntary uterine and abdominal muscular efforts of the mother to expel the child; and third the involuntary contractile effort of the uterus itself. The supposed action indicated in the first of these has been for long thrown out of the account. No one at the present day gives any credit in the operation to the child; and the second has come to be not sufficiently well remembered, and is generally denied. So far as I know, most of the authorities on the obstetric process, either as book-writers or as lecturers, are in accord with so eminent a man as Dr. Dewees was in his day, when he laid it down flatly that the "contractions of the uterus are entirely independent of the will; these intervals can neither be accelerated or retarded by any exertion of it, nor can their force be either augmented or diminished by its influence." Other of the masters have put themselves in type to the same effect. Nevertheless, viewing the knowledge from my own observation, I have the effrontery to say that such teaching is erroneous. I have said in other papers that uterine efforts may be shortened and measurably retarded by the voluntary will and action of the patient, and also that they may be augmented and prolonged. I wish to repeat this here, and to add to it what I have also set forth in other places, that, in a considerable number of cases, in the second stage of labor a contraction of the walls of the womb can be anticipated, precipitated—brought on—if you choose that phrase—by a maternal effort to that end. That an additional amount of expulsive power is obtained by what is called the bearing-down effort, few old accouchers will question; but it is usually taken for granted that this additional power is altogether due to other structures than those of the uterus, and that the supplemental

labors of the mother in her delivery are solely impressed upon the abdominal and diaphragmatic muscles, as "assistants to the uterus," to "aid the uterine energies," (Ramsbotham); to "aid the expulsive efforts of the uterus," (Churchill); not to mention other writers. The muscles of the womb itself are supposed to be entirely removed from the influence of any exertion of the patient in her own behalf. This is a mistake. On the contrary, the bearing-down effort of the mother is often impressed upon the uterine tissue as well, and to an extent as difficult to assign limit to, as it is to determine the full efficacy of. Any practitioner who will take the trouble may observe that in many instances, after delivery of the head of the child, and when he is waiting for another contraction to expel the shoulders, if he will say to his patient, "Come, now, give us just one more pain!" she will gather up her energies for the effort, *and give it*; responding to his appeal, she will fill her lungs with air, hold in her breath, tighten the muscles of the abdomen, and, beginning to bear down, will *compel* a contraction of the uterus itself, under the pressure of which the shoulders and body of the child will be driven out. And this voluntary power over the action of the uterine structures is not limited to the final effort in delivery of the child; it holds, in greater or less degree, in very many cases, through nearly all the second stage of labor, and may be made to enter into the third with efficiency and power.

In a very large number of cases of child-birth, involuntary contraction of the uterus is suspended after delivery of the fœtus. If the case is left quite to itself, this cessation of contraction may continue ten, twenty, thirty minutes, or an hour, and sometimes several hours. Some of the authorities tell us to *wait*; how long is not certain. If you elect to do that, it may be but for a few minutes, or may be a few hours. There is neither necessity nor sense in waiting an indefinite time. Do not hurry matters; but when the woman is a little recovered from her previous efforts, and you have the child out of the way, straighten your patient out so as to bring the muscles of the abdomen as closely down upon the womb as possible, with your hand upon the bare belly get around and hold of the uterine tumor, take the cord in your other hand, well up, and twist it around your fingers to keep it from slipping; put it enough on the stretch to reduce the diameter of it at the os, and to pull it gently down through it, and say to your patient, and as if you expected her to respond, "Come, now, give us one more pain, and we will see if we can't get the after-birth." To this you will often get answer; the woman will begin to bear down; this effort will *originate* a uterine contraction—a voluntary contraction—easily perceived,

by which, aided by your traction of the cord, and by grasping pressure of the uterus, the placenta will be driven out—not *expressed*, but *expelled*—and this is the desirable way. If the writer has not allowed himself to be deceived by the observations made in a thirty years' experience, this voluntary effort has in it more virtue and more potency, as it has also more philosophy and more common sense, than can be found in the much talked-of so-called method of Credé, or any other of the like things. For myself, though I have often tried for it, I have never succeeded in squeezing an after-birth out of a uterus; I have a better way, and I have yet to see the first case of disaster arising from the attempt to provoke a voluntary contraction of the uterus in the manner indicated.

It is not to be understood that a single voluntary effort of the sort here described will always result in the contraction wanted, but that it often will. It is not to be thought that the effort, or repeated efforts, will not sometimes entirely fail, but rather that they will frequently succeed. It is not to be supposed that, the contraction brought on, the placenta will always be ejected by the first closing in of the walls, any more than by the first inclosing from an involuntary pain; but rather that one, two, or more of these solicited and well-induced contractions will generally procure the desired result, and thus this procedure is often one of the most potent factors to that end.

It may be added to this that, in cases of adhesion of the placenta, this stimulated or procured pain performs the same service in detaching the mass at the adhering points as the purely involuntary pain does. Whether the contraction comes wholly without volition, or is instituted by an attempt thereto on the part of the woman, can make no difference in the effect that the contraction accomplishes, either in the separation of the after-birth from the walls of the womb, or in its expulsion from it; and the procured result has this in its favor, that whereas you might wait a long time for the involuntary pain to come, you can often abridge the time by the stimulated inclosing of the uterine structure. And it may be added further that, in cases of retained placenta, after those sometimes troublesome abortions, in the earlier months of gestation, where rigidity of the parts and the high position of the womb and its small calibre render it somewhat difficult for a short-fingered attendant to seize the slippery secundines, a severe bearing-down effort on the part of the patient will often materially aid in the removal of the mass, both by first sinking the uterus into the pelvis, and, secondly, by impressing an expulsive action upon that organ.

Well aware that the physiological manifestation I have endeavored

to present in this paper, namely: power to *compel* a uterine contraction under the conditions indicated, or under any conditions, or to effect a sinking of the womb itself into the pelvis, is not only not generally recognized by the authorities, but is denied by many of them, I nevertheless have the opinion that the tactile observation and experience of thirty-three years have not led me into a delusion, and that when, calling the power into operation, one has many times seen a desired result attained through it, he may be justified in believing that the position thus practically substantiated is a correct one.

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## ORIGINAL TRANSLATIONS.

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TOXIC PARALYSES, THEIR COMPARATIVE DIAGNOSIS AND THEIR TREATMENT. By CH. ELOY. Translated from the *Union Médicale* by H. MCS. GAMBLE, M.D., Moorefield, W. Va.

“The toxic paralyses form a natural clinical group and deserve a separate description.” Thus M. Lancereaux expressed himself in a lecture in which, in 1881, he was discussing comparatively the paralyses caused by alcohol and arsenic. This was not a simple imaginary view; it was rather the development of an idea of which one easily perceives the trace in his anterior works and the categorical affirmation of a truth doubly legitimized by clinical observation and by pathological anatomy. It was moreover to rest the general diagnosis of paralyses upon new foundations, since, outside of organic paralyses and of functional paralyses caused by lesion, or by modification of the nerve centres or conductors, we should have in future to take account of the paralyses caused by alterations of the terminal nerve elements, and, among them, of the toxic paralyses, or, to speak plainly, of the paralyses arising from toxic neuritis.

### I.

The description of the disorders of motility in dipsomania does not constitute a contemporary discovery. And really it is no great effort of erudition to recall the name of Magnus Huss, his treatise *Ueber Alcoholismus chronicus* and his muscular asthenia of great drinkers. It is not necessary either to plunge into the past very far, according to the testimony of the Englishman Dreschfeld, to explore the work of the American James Jackson, and to find therein this passage in which it is written that “the hands and feet of the subjects of alcohol lose their use,” and that “their flexor muscles manifest, as in other diseases, a greater power than the extensors.”

But the distance is great between the indecision of this clinical picture and an exact determination of the peripheric lesions of alcoholic paralyzes. Here, a vague sketch and a testimony without precision; there, in the memoir of M. Lancereaux, the fidelity of a scrupulous anatomical description. "In reality," he writes, "in the cases followed by death the spinal cord was intact to the naked eye, and the examination of microscopical sections presented no appreciable alteration. The spinal roots were healthy. *The nerves of the paralyzed limbs, on the contrary, presented evident changes, similar to those that are observed after nerve sections, but affecting only a portion of the fibres of the nerve.*" And then the conclusions were evident. One had willingly or unwillingly "to consider alcoholic paralysis as having a peripheric origin, a symptomatology, and a distinct course, and even special anatomical characters."

Notwithstanding the researches of Hunter, Wilks, Lockardt Clark, Thompson, Strümpell, Dreschfeld, and others, in Germany or in England, it is M. Lancereaux, in 1865, M. Leudet, in 1867, M. Charcot, in 1884, and their studious pupils, who, by their labors and their teaching, have thrown light upon this very obscure corner of nervous pathology. Is it not always opportune to claim this inheritance of the national science? That is worth the trouble, for the comparison of arsenical, lead, opium, sulpho-carbonic, and oxy-carbonic paralyzes with alcoholic paralyzes permits us to synthetize their common characteristics.

Let us see, then, what these characteristics are:

Treated of in the thesis of M. Brissaud during the last competitive examinations, this question is not yet exhausted. Up to the present time the alcoholic, arsenical, lead, oxy- and sulpho-carbonic paralyzes have been the only ones to take rank among the toxic paralyzes. Others will come which one day will complete this group; such as the toxic paralyzes from ptomaines, phenol, benzine, or their derivatives; the paralyzes of lathyrisms, and those, more exceptional, from the essence of turpentine or balsam of copaiba. The field is vast and the enumeration very incomplete.

What is the signification of the word toxic paralysis? In itself it might be applied to every muscular paralysis provoked by the introduction of a soluble poison into the organism. A very comprehensive definition, and one which would also be too general, muscular paralysis of toxic origin being observed either as a common element of myélopathies and of toxic encephalopathies, or as an essential phenomenon of the action exercised by the poison upon the nerve tissue and its fundamental organs.

Let me explain myself; in the toxic myélopathies and encephalopathies, the autopsy demonstrates gross organic lesions, congestions, hemorrhages, œdemas, ramollissement, which have their *raison d'être* in the changes of the common anatomical elements—the blood vessels or the connective tissue. Atheroma has supervened with its usual cortège—thrombosis and sclerosis—so that the paralysis is then an event altogether episodic in the ensemble of the symptoms.

Quite otherwise are the true toxic paralyses. They have their origin in the action of the poison upon the noble elements of the nervous system—its cells, its tubes, or its terminations. The connective gangue of these elements and their vascular system preserve their integrity, or at most lose it secondarily.

Are they of a purely functional order? The noble elements undergo dynamic modifications, that is to say, escaping the present inefficiency of our means of investigation, and temporary, for their duration does not exceed the time necessary for the elimination of the poison. Finally, when this elimination is sufficiently rapid and the doses relatively moderate, the noble elements do not succumb and soon recover their proportion.

Are they organic? They betray the alterations of these same elements, and particularly of the terminations of the nerve trunks. Their lesions are those of peripheral neuritis; so that, upon the ground of pathological anatomy, they are rightfully designated under the name of paralyses from toxic neuritis.

Discovered by M. Lancereaux, and recognized after him by M. Leudet, this anatomo-pathological description has been confirmed by learned researches and by numerous observers: MM. Charcot, Gombaut, Cœtlinger, Déjérine, Westphall, Eisenlohr, Moritz, Von Monakow, Gaucher, etc. Segmentary or granular, these neurites are peripheral, symmetrical, ascending, and periaxillary. In the same nerve trunk there are altered tubes and others that are sound. The axis-cylinder is not interrupted, and the sheath of myeline has alone undergone modifications in one or several of its segments. Upon this point histological examinations accord with the results of the attempts at experimental saturnism of M. Gombaut upon cobayes.

Later on, by the evolution of the neuritic process, the axis-cylinder may be broken; the alterations resemble the lesions of nerve sections, and assume slowly the features of Wallerian degeneration. Thus admit MM. Lancereaux, in his "Treatise on Pathological Anatomy," Duplaix, Lejard and Gombaut, in their memoirs, M. Brissaud, in his thesis for the professorship.



Upon these anatomical foundations has been built the pathogeny of toxic paralyzes. An incomplete edifice still; for, outside of the *theory of toxic neuritis*, it has no other resting point. The *spinal theory* was still more precarious; so that after having suggested it in the first place *a propos* of saturnine neuritis, M. Lancereaux has frankly admitted that it does not hold good, in the absence of all medullary alteration.

However, this theory still possesses some partisans who are inspired by it in their electrotherapeutical measures. Some, with Erb, make peripheral neuritis directly dependent upon disorders of the trophic centres; others, as M. Hun, upon a degeneration of the cortical nerve cells, or, as M. Watteville, upon a transitory molecular alteration of the large cells of the anterior horns.

The duly demonstrated absence of encephalic or medullary lesions emphatically contradicts these hypotheses.

It is more modest to confess our ignorance and to admit that, outside of toxic parenchymatous neurites, capital and precocious lesions, and of toxic amyotrophies, secondary and in general more tardy lesions, we know nothing yet about the mechanism of these paralyzes. On the other hand, our poverty is less upon clinical ground.

## II.

The symptoms of these paralyzes are in direct topographic relation with the seat of the neuritis. Whether they be of vegetable or mineral origin, they possess a striking analogy by their symmetry, their ascending march, and the character of their neuro-muscular, sensitive and trophic disorders. Struck with these resemblances, the earlier observers did not hesitate to place them in one and the same family.

They possess as a common character their symmetry, their flaccidity, their localization upon homologous groups of muscles, the abolition of the reflexes, and a secondary amyotrophy.

In the *localized form*, the most common and the most classical, they affect by predilection the extremities of the limbs. In the *generalized form*, an exceptional form, in which they invade the muscles of the four limbs, sometimes of the abdomen, of the trunk, of the neck, and more rarely of the face, these paralyzes still affect with a greater intensity the symmetrical muscles of the extremities, and respect others—the diaphragm, the long supinator, and the oculo-motors.

At the commencement of *alcoholic paralysis* the patient walks badly, feels weak in both legs; then the numbness and muscular impotence are affirmed in the lower extremities; finally the paralysis is

localized in the crural triceps, in the extensor communis and extensor proprius of the toes, in the extensor of the great toe, in the peronæii, and, at a more advanced stage, in the crural abductor and adductor.

The antagonism of the sound muscles and of the diseased muscles is broken, and this rupture has as its result the *steppage* of the subject of alcoholism. Standing, he takes the anterior extremity of the curved toes as a base of support; seated, he keeps the legs pendant in the attitude of the pes equinus; lying down, he raises them painfully, or is even unable to lift them above the plane of the bed; and sometimes, in the acute cases observed by MM. Lancereaux and Glynn, brings them in a state of flexion under the thigh. Such is, in brief, *alcoholic paraplegia*.

In the upper extremities—this localization is exceptional—the paralysis affects by preference the extensors, the flexors, and the triceps, more rarely the muscles of the shoulder. The patient lets the hand drop, or his movements of prehension are at least wanting in precision.

M. Leudet has also described an alcoholic cubital paralysis, Lilienfeld a paralysis of palmar extensors, and, as a rarity, ocular, facial, and cervico-dorsal paralysees have been mentioned. The ensemble more or less complete of these muscular resolutions constitutes generalized alcoholic paralysis.

This generalization is observed more often in the *paralysees of arsenical poisoning*.

These latter, when they are localized, affect in preference the extensor muscles of the limbs; those of the upper limbs, according to Seeligmueler—the fingers being in a state of flexion; those of the inferior limbs, according to Scolozonboff—the foot taking the attitude of the club foot, and the patient progressing by taking the extremity of the toes for a support.

The generalized arsenical paralysees are those of slow and professional arsenicism; witness the patients of Kirchgasser (of Cologne), who had lost the use of the four members. Incapable of any movement of walking or of prehension, the arsenized subject remains then in the dorsal decubitus, and can no longer perform other movements than those of the articulations of the hip and the shoulder—that is to say, of the joints of the root of the limbs.

In spite of this generalization, the giving way of the muscular groups of the extremities advances more rapidly than that of the other muscles. M. Gautier has provoked the same phenomena by experi-

mental arsenicism of animals, so that the researches of the laboratory accord with clinical observation to establish the analogy of these localizations with those of alcoholic paralysis.

The *paralyses of poisoning by the oxide of carbon* affect the same muscles. Have they the localized form? They attack by preference the extensors of the toes and the flexors of the lower limbs. Do they extend still farther? They invade the antibrachials and the palmar interosseous muscles. The hand takes the position of flexion, and the patient can neither raise the wrist nor extend the fingers, nor separate nor approximate the phalanges.

With this oxycarbonic paralysis generalized in the four limbs have been noticed also facial, cervical, or ocular paralyses. Those are exceptional locations. Is it the same in the *hemiplegic form*? Laroche has pronounced it frequent; M. Rendu has remarked it primarily; M. Comby secondarily. Its pathogeny is, then, not yet well settled.

Here is placed the *paralysis from poisoning by sulphuretted hydrogen* and the *professional paralysis caused by sulphuret of carbon*, characterized at first by muscular weakness, later by the resolution of the extensors of the fingers, according to Delpech, or even by that of the lower extremities. In this event it takes the *form of paraplegia*—a form common enough, moreover, if we are to rely upon physiological experiments. Hence that *drunken gait*, dragging, staggering, and uncertain, of a patient whose history M. Berbis formerly read before the Clinical Society. Hence those troubles of co-ordination attributed to the sulphuret of carbon by M. Jaccoud, and noted formerly by Delpech and by M. Poincaré in their researches upon the toxic power of that liquid, and the necessity of assuring the walk by supporting oneself upon a stick. Since that time the learned works of MM. Dujardin-Beaumetz and Sapelier have demonstrated the necessity of arranging for the future, in the group of *sulphydric paralyses*, the muscular resolutions described under the name of *paralysies sulfo-carbonées*, and of attributing to the sulphuretted hydrogen all the evils of which pure sulphuret of carbon is innocent.

Localized *saturnine paralysis* is classically known in its *palmar variety* with resolution of the extensors, in its *brachial* or *superior variety* of Remak, in which the paralysis of the extensors is combined with that of the deltoid, of the triceps, of the biceps, and of the anterior brachial; finally, in its *plantar variety*, in which the lateral peronæii and the extensors of the toes lose their functions, and in which the tarsus takes the attitude of the paralytic club-foot.

Neuro-muscular saturnism possesses also its abnormal localizations; paralysis of the long supinator, hemiplegic type, with or without accessory symptoms; paralysis of the muscles of the larynx and plumbeic aphonia; sacro-lumbar paralysis, or even cervical paralysis. It also invades the muscles of the four limbs, more rarely those of the trunk—indeed, even the diaphragm; but whilst taking on the form of *generalized saturnine paralysis*, it is none the less characterized by the predominance of the paralysis of the extensors, and, in particular, of the antibrachial extensors.

Alcohol, arsenic, oxide of carbon, sulphuretted hydrogen, and lead then localize their action readily upon the extremities—extensors of the leg and foot, or extensors of the forearm, it matters little. The paralyzed muscles are homologous, the paralysees bilateral and ascendant. This community of characters would suffice, in default of anatomical proofs, to arouse the suspicion of their pathogenic unity.

Do there not exist other toxic substances endowed with the same properties? There are the *narcotic paralysees* of the *consumers of morphine*, of *smokers*, and of the *opium eaters*. They consist in weakness of the extremities, uncertainty of walk, and, at a more advanced stage, in absolute muscular resolution.

In 1862 M. Liberman described these phenomena; in 1881 M. Lancereaux compared them with other toxic paralysees, and since examples are easily found in the cases of *opium habit* published by Anglo-American physicians. Why not compare them to the other toxic paralysees? They certainly have the aspects of them.

For a long time the disorders of motility of workmen exposed to the vapors of spirits of turpentine have been noted. The experiments of Liersch, in 1882, have demonstrated that, in animals as in man, they provoke staggering and weakness of the extremities. There exists, then, a *turpentine paralysis*.

Along with these, here are other analogous paralysees: the toxic paralysees caused by the *aromatic essences* of lavender, of rosemary, of aspic, and of marjoram. These substances are poisonous to the animals that inhale their vapor in sufficient quantity. After a period of excitation, frogs lose the use of their limbs, cobayes and rabbits become paraplegic, and, phenomenon corroborative of the preceding conclusions, the paralyzing action of these essences, according to MM. Bruylands and Masoni, is proportionate to their richness in terpene.

Finally, one cannot separate *copaibic paralysis* from this same

group. The case of poisoning by copaiba published by M. Moestre is classical. In this patient the two upper extremities were in a state of resolution, and the two lower in a state of paresis. Here again the disorders of motility were seated in the extremities bilaterally and symmetrically. In the absence of an autopsy, is it rash to consider them as arising from toxic neuritis? After one or two septenary periods in lead paralysis, after two or three years in alcoholic paralysis, *amyotrophy* becomes apparent. Frequent in the first, relatively rare in the second, this atrophy is tardy in common arsenicism, and very exceptional in poisoning by oxide of carbon or sulphuretted hydrogen. It is known also that saturnine amyotrophy supervenes without fibrillary alterations, and that alcoholic amyotrophy seldom ends in fatty degeneration. Finally, a common characteristic of toxic amyotrophies is that they establish themselves upon the muscular groups attacked with resolution, and respect in their bulk the fasciculi still endowed with motility.

From a general point of view, and by reason of their localizations of choice, one sees that it is not illegitimate to categorize the toxic paralysees according to their seat. Here those that select most readily the extremities of the upper limb—that is to say, the paralysis of saturnism; there those that commence habitually in the extensors of the lower limbs, the muscular resolutions produced by alcohol, arsenic, sulphuretted hydrogen, oxide of carbon, and, reasonably, the essences rich in terpine.

### III.

What is the diagnostic value of the other symptoms?

There are the *modification of the tendon reflexes*. Their abolition is very frequent and their exaggeration very rare. However, by an inexplicable exception, their exaggeration accompanies the oxycarbonic paralysees, and more accidentally the paralysees of sulphuretted hydrogen. Thus there exist toxic paralysees with constant abolition of the reflexes (saturnism, alcoholism, arsenicism); others with inconstant abolition of the reflexes (hydro-sulphuric paralysees); others with exaggeration of the reflexes (oxycarbonic paralysees).

*Diminution or the abolition of electric contractility* characterizes all the paralysees from toxic neuritis. Formulated by Duchenne, and applied by this savant to the saturnine paralysees, this law is general. About 1881 M. Lancereaux verified it in alcoholic paralysees, a "circumstance," wrote he, "which approximates these paralysees one to the other." It has been observed by M. Rendu in the oxycarbonic paralysis of the extensors of the foot and of the forearm, by M.

Skolozonboff in arsenical poisoning, and by M. Haguin in the paralysis of workmen who work with sulphuret of carbon.

The *reaction of degeneration* is not a constant symptom of toxic paralyzes. Its chief interest lies in the information it gives upon the order of invasion of the different muscles. In alcoholic paralysis, M. CÉltinger has observed it at first upon the extensor proprius of the great toe, later upon the extensor communis, and still later upon the triceps cruris, the soleus, and the peronæii. The extensors of the fingers and the muscles of the thumb are the first attacked in lead paralysis, and the peronæii in arsenical paralyzes.

Electro-diagnostic analysis enables us to discover a phenomenon common to these three paralyzes, the return of the voluntary contractility before that of the electric contractility; the myalgias and the cramps of hydro-sulphuric paralyzes; the precocious, incomplete anæsthesias of the oxycarbonic paralyzes and the conservation of the thermic sensibility; finally, the less fixed and more transitory anæsthesias of the nervous territories occupied by the muscular resolution in saturnism.

To the hyperæsthesias and to the hyperalgesias of the beginning and of the period of stasis succeeds the anæsthesia of the diseased regions, a tardy sign of toxic paralysis; this tenacious anæsthesia still persists for some time after the most fortunate cures.

Such are the *disorders of the general sensibility* the association of which, according to M. Charcot, with the flaccid paralyzes is almost pathognomonic. Signs of forerunners, they settle by preference, but not exclusively, upon the extremities or the muscular groups in imminent danger of paralysis. They have the varied forms of prickings, of tingling, of numbness, of painful flashes, analogous to the fulgurations of ataxia, in a word of hyperæsthesia and of sensitive perversions. They persist during the period of stasis; such are those hyperæsthesias of alcoholic paraplegia that M. Lancereaux designates under the picturesque name of bottines, of molletières, or of hyperæsthetic boots; such also are the pseudo-rheumatic pains of arsenical paralyzes that persist still after the return of voluntary mobility.

Perversion of the sense of touch, the loss of the muscular sense, the delay in the transmission of impressions, the changes in the visual or auditory functions, and, in short, all the *disorders of special sensibility*, do not possess the same relations of constancy and of intimacy with muscular resolution. They have more direct relations with the intoxication itself or with the encephalopathies that it provokes.

Paralytic toxic neuritis asserts itself more readily by *peripheral*

*trophic disorders* : upon the integuments by the *glossy skin*, sclerodermy of the extremities, common among the subjects of alcoholism, frequent in oxycarbonic paralyzes, and rare, but not unknown, associated with ungueal lesions in the professional paralyzes of sulphuret of carbon. Let us note also the epidermic desquamation of arsenicism; the dermatoses of nervous origin, herpes and zona; the diffused œdemas, the œdemas in plaques, the carpal and tarsal swellings of the subjects of alcoholism, the palmar tumefaction of those poisoned by arsenic, the dorsal tumors from hypertrophic tenosity of the saturnine hand; finally the adhesions with tendonous retractions and false contracture of the individuals poisoned by alcohol or arsenic.

Vaso-motor troubles of various kinds precede these changes, accompany them or follow them. They betray themselves, upon the zones of hyperæsthesia of alcoholic subjects, by red spots; in the paralyzes of oxide of carbon, by more or less extensive eschars; and in arsenicism, by moisture and a reddish cyanosis of the feet and hands.

It is well to inquire into the pre- or post-paralytic phenomena. For the most part, the professional paralytics are cachectic. The subjects of lead poisoning have a yellowish color of the face, discoloration of the integuments, the striped appearance of Burton, sometimes symptoms of encephalopathy, and most frequently, by virtue of an anterior episode, an attack of lead colic. The subjects of alcoholism experience feelings of hebetude, of indifference, and suffer from anæmia, from visible disorders, and from well-known cerebral or medullary disorders.

In paralytic arsenicism, there existed primarily gastro-intestinal disorders: vomiting and rebellious diarrhœas; cutaneous eruptions, ulcerations; inflammations of the mucous membrane of the air passages, bronchitis and rhinitis; a palish tint of the integument of the limbs and trunk; an extreme surcharge of adipose tissue; in woman, menstrual disorders, menorrhagia, premature labor; an excessive mortality among the new-born and abortions; and finally, in the midst of these disorders, by a singular contrast, an almost absolute integrity of the intellectual functions.

The commencement of poisoning by sulphuretted hydrogen is the period of rebellious headaches, of vertigo, of dazzling, of feebleness, and of hyperexcitability. It is not yet the time for paralyzes; they will come later, when sadness, depression, and dejection shall replace the excitation of the beginning.

The oxycarbonic paralyzes manifest themselves still later. They are not observed at all in the stage of the headaches, of the sensation of temporal compression, of the flashes and of the ringing in the ears.

They are rare also during the coma, the period of globular asphyxia, and the circulatory and respiratory retardation. The time of convalescence is that of their manifestation. Finally, their cure precedes the disappearance of the psychic troubles which are the epiphenomena of this form of poisoning.

To sum up, in spite of their individual differences, the toxic paralyzes possess family characteristics, and the most recent works confirm the conclusions that M. Lancereaux formulated at a time when the question was open and undetermined.

#### IV.

The practitioner ought to intervene actively, and often intervenes with success by a medication at the same time prophylactic, curative, and symptomatic.

Professional prophylaxis is the work of the hygienists. The recent work of M. Poincaré exposes its resources in a masterly manner.

Individual prophylaxis is too often neglected by the patient. "He who has drunk, will drink," says a common proverb; the subject of alcoholism returns to his passion, the arsenized or the saturnized patient to his professional imprudences.

To diminish the impregnation of the organism by the elimination of the poison and to restore the nutrition is the object of the curative treatment. For this purpose, it appeals to the modifiers of the circulation and of the secretions, to the alkaline iodides, to balneation, and to hydrotherapy.

The local treatment has at its disposal less numerous means, but the efficacy of which has stood the test of time. Electrotherapy is its chief resource and massage its complementary means.

Faradization of the paralyzed muscles, with the coarse wire induced current, rapid intermissions and séances of eight to ten minutes, has been lauded by Duchenne (of Boulogne). The Germans prefer galvanization by the method of Erb; on the one hand, central galvanization of the cord by means of alternative and reversible currents directed between a cervico-dorsal and a pre-sternal electrode; on the other hand, peripheral galvanization by the application of the positive electrode upon the cervico-dorsal enlargement of the spinal cord and of the negative electrode upon the paralyzed muscular groups.

More recently, some have tried to restore franklinization. The success of the electropathist of the last century authorize these attempts.

The manipulations of massage and methodical passive movements happily complete electrotherapy and hydrotherapy. They stimulate



trophic activity, provoke reflex excitation of the motor nerves, and give here results that they are not able to procure in the paralyzes of central origin.

Finally, the treatment is palliative. The acquired deformities necessitate operative intervention, of which M. Charcot has taught us the propriety for the correction of the paralytic club-foot of alcoholism and of arsenicism.

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## SELECTIONS.

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THE ANTISEPTIC TREATMENT OF SUMMER DIARRHŒA.—By L. Emmet Holt, A. M., M. D.

I have chosen the title summer diarrhœa for this paper, as it indicates with sufficient exactness the clinical symptoms that we all understand, while not committing us to any of the theories advanced regarding their pathology. As my purpose is to consider a method of treatment, I shall only incidentally discuss the subjects of etiology and pathology, as these bear directly upon the therapeutics of the disease.

Lest any one may misunderstand me, I wish to state at the outset, and with emphasis, that I do not ignore nor undervalue other methods of treatment than the use of drugs. The question that I propose is, What is the best treatment for that vast number that crowd our dispensaries and other institutions, summer after summer, for whom no change of air is possible, and only limited and imperfect dietetic regulations are practicable?

One conclusion has been long forcing itself upon my mind with increasing strength every summer—viz. : that, excepting the comparatively rare cases of pure cholera infantum, nearly all the diarrhœas and intestinal catarrhs of young children are essentially dyspeptic in their origin.

I have been pleased, within the last few days, to find virtually the same statement from the pen of so high an authority as Henoch, of Berlin. All the well-recognized factors in the causation of summer diarrhœa—excessive heat, artificial or improper feeding, and bad hygienic surroundings—unite in this, that they prevent the food in the child's stomach from being digested, in consequence of which it undergoes fermentative or putrefactive changes. It is a combination of the three factors rather than any one alone which produces the resulting dyspepsia.

If it were heat alone, we should expect the greatest frequency of the disease to be at the most tender age—under six months. Such is not the case. Of four hundred and thirty-one patients of my own, only 12.8 per cent. were under six months, while 59.5 per cent. of the cases occurred between the ages of six months and two years. The explanation is obvious. Under six months the great majority of the

children of the poorer classes receive breast-milk either exclusively or principally, while from that time on they are accustomed to be fed from the table, or on articles totally unfitted for infantile digestion. It is a striking fact that Hope,\* of Liverpool, brings out, in his statistics of five hundred and ninety-one fatal cases of summer diarrhœa in children under two years of age, that only twenty-eight had the breast exclusively; while Ballard † states that of three hundred and forty-one fatal cases occurring in Leicester, only 2 per cent. of the children had had no food but the breast. These statistics show that we are to attribute to the feeding quite as much as to the heat, if not the occurrence of the diarrhœa, at least its fatality.

Heat is a causative factor in many ways. It impairs the child's power of digestion by depression of his nervous energy. It causes thirst from free perspiration and leads the child to take more food than the stomach can take care of, even though it be pure breast-milk. It increases all decomposition in the streets, in the sewers, and in filthy tenements, and these children breathe an atmosphere charged with the products and germs of decomposition. But more important than all else, perhaps, are the changes it causes in the food itself before it is taken into the body. Most of the articles of food are of such a nature that these changes readily take place, even in a few hours, in August weather.

An instance of how quickly diarrhœa is caused by tainted milk came under personal observation not long since, where every one of twenty-three healthy children occupying a ward was taken in a single day with diarrhœa after eating milk which subsequent examination showed to be unfit for consumption.

When we consider the manner in which food is prepared for these children in tenement-houses, the want of cleanliness in utensils and in hands, how it is often left standing for hours in open vessels at the temperature of the room, the wonder is only that so few suffer from diarrhœal diseases during the hot term.

This brings us to the subject of the poisons produced from food, or ptomaines, and their effects. The investigations of Brieger and others upon this subject have let in a flood of light, it seems to me, upon the pathology of some of these cases of diarrhœa.

In the investigation of the well-known Michigan cases of ice-cream poisoning recently, Professor Vaughn has reached the conclusion that the symptoms, prominent among which were the vomiting and purging, were due to an alkaloid developed from the milk, to which he has given the name tyrotoxinon.

Brunton states‡ that most of the alkaloids which have been obtained from the decomposition of albumin tend to produce diarrhœa.

This knowledge of poisons developed from food is of only recent date—too recent for us yet to say to what degree we may be com-

\* *Liverpool Medico-Chirurgical Journal*, July, 1885.

† *Brit. Med. Journal*, 1883, ii, 363.

‡ "Disorders of Digestion," chapter, "Food and Poisons," p. 291.

pelled to reconstruct our pathology of many diseases connected with the organs of digestion. But enough has been already established to lead us to hope that along this line of investigation we may find a solution to many hitherto insoluble problems.

A strong popular prejudice has long existed that there is great danger of the supervention of cerebral symptoms if diarrhœal discharges are abruptly checked. It is also well known that in severe and protracted cases a cessation of the diarrhœa often occurs for a few days before death, coincident with the development of symptoms commonly denominated hydrencephaloid. And now Bouchard tells us, as the result of his investigations upon ptomaines produced within the body, that "the poisonous activity of human fæces is very great, even when they are quite healthy. A substance obtained from them by dialysis caused violent convulsions in rabbits. Enough alkaloids are produced in the intestines of a healthy man in twenty-four hours to kill him, provided they were all absorbed and excretion stopped. There seems to be little doubt that the amount of ptomaines produced in disease is greater than in health."\*

Aside from the toxic effects which, it seems very probable, are produced by food-poisons, we have the local effects of undigested food in the stomach and intestines, and these it is which produce the catarrhal changes. The great proportion of these cases begin with vomiting and diarrhœa, the vomiting ceasing usually after the first day or two. The first stools are those of a dyspeptic character, and it is generally not until several days have elapsed that we find proof in the passages of catarrhal inflammation in the bowel.

I need not cite statistics, as it is the all but universal testimony that inflammatory changes are mainly in the colon; it is uncommon to find any changes in the small intestine further than a swelling and redness of Peyer's patches, and slight congestion of the lower part of the ileum.

In the colon itself the most marked lesions are found in the cæcum and sigmoid flexure, just where the irritating substances are longest detained in their movement onward. The colitis, then, I think, is to be looked upon, in most cases at least, as secondary and consecutive, depending upon how long the morbid process has been suffered to go on before it is checked.

Regarding a special microbe as a cause of summer diarrhœa, we lack as yet sufficient evidence of its existence. Immense numbers of bacteria of many varieties are found in the discharges. Baginsky † asserts that often the small white lumps seen in the passages and called curds are made up of nothing but masses of bacteria. This same investigator has isolated one bacillus which, he thinks, is peculiar to cholera infantum; but, as Clado and Damaschino have settled upon a different one, and as experiments with pure cultivations from neither have yet been made, we must consider the subject as still *sub judice*.

\*Brunton, *op. cit.*, p. 290.

† "Verdauungskrankheiten der Kinder," 1884.

We are now prepared to consider the different indications for treatment. These may be grouped under four heads :

1. To clear out the bowels.
2. To stop decomposition.
3. To restore healthy action in the intestine.
4. To treat the consecutive lesions.

The bowels should be emptied as completely as possible, as the first step in the treatment, and for precisely the same reasons that the surgeon cleanses a wound thoroughly before applying his antiseptic dressing. It is a rule laid down in all text-books that if an antecedent constipation has existed, or if there is evidence that indigestible food has been swallowed, it is the proper thing to begin with a cathartic.

I wish to go a little further than this, and say that in all cases, whether such a history is obtained or not, it is a good rule to follow. If not decomposing and irritating food, we have almost always altered secretions undergoing the same putrefactive changes.

If the stomach is not very irritable, nothing, to my mind, compares in efficiency with castor-oil. If there is severe vomiting, a copious injection of pure water at a temperature of about 65° F. may be used. To be efficient, this must be large enough to reach the ileo-cæcal valve. This, by experiment on the cadaver, I have found to be about one pint in a child six months, and about two pints in one two years old. It should, of course, be given slowly, with a fountain syringe, the abdomen meanwhile being gently manipulated.

I have had abundant proof, in the cases occurring among the children at the Infant Asylum, that a great many of the mild cases, if taken promptly at the start, can be cured by the castor-oil alone, provided suitable regulation of the diet after it can be enforced. In severer cases, and especially those in dispensary practice, it produces temporary improvement only. The value of oil in these cases is well understood by the laity—better, I sometimes think, than by many in the profession. I kept a record for a time, and found that about one-fourth of all the patients brought to the dispensary for treatment had been previously given the oil at home, usually at the outset. The almost invariable testimony was that on the day or two following decided improvement occurred; by the third day, however, they were usually as sick as ever.

There is obviously no need either of cathartics or of irrigation of the bowel in cases where, after two or three fæcal or semi-fæcal movements, the discharges consist of almost pure serum, large in amount, alkaline in reaction, and odorless.

To meet the second and third indications—*i. e.*, stop decomposition and restore a healthy action in the intestine—two things are requisite: the administration of an antiseptic, and attention to the diet.

The antiseptic must be given in small doses and frequently—in small doses, lest the stomach reject it; and frequently, as it is a continuous effect that we desire. It must be of such a nature and in such a form as to be easily administered. A nauseous prescription, no matter how excellent its ingredients, should never be given, and need never

be. I have seen many cases where, I am sure, the medicine given was the chief factor in keeping up the gastric disturbance. It must be one, if possible, which has the effect of restoring the tone of the alimentary tract. After experimentation with various drugs, my own preference is in favor of the salicylate of sodium. The details will be given in a subsequent part of the paper.

If there is much vomiting, no food whatever should be given for from twelve to twenty-four hours. Thirst can be satisfied by giving either carbonic-acid water or thin barley gruel, cold, and a teaspoonful at a time. If the child is at the breast, as soon as vomiting is controlled it can gradually be brought back to its accustomed diet, great care being used that too much food is not given.

In children under two years not fed at the breast it is better to *withhold milk entirely*. This has been a subject of careful investigation during the past summer, at the New York Infant Asylum, and both the resident physicians and myself have had this proved to our satisfaction by a large number of cases. Peptonized milk is very much less likely to disagree than either condensed milk or fresh cow's milk. But in many even this caused an aggravation in the intestinal symptoms, particularly in severe and protracted cases. Again and again have I seen relapses brought on when milk was added to the diet in cases where the stools had been practically normal for two or three days.

Our "no-milk diet," as it came to be known, comprised the following articles: wine whey, chicken and mutton broths, Mellin's food with barley gruel, expressed juice from rare beefsteak or roast beef, and in a few cases raw scraped beef. With this variety we usually had no difficulty in dispensing with milk.

The fourth indication, or the treatment of consecutive lesions, is not so easily met. As hinted above, the essential changes are in the colon, and consist practically of little else than a follicular colitis.

When the condition of ulceration is reached, I believe the use of astringents by the mouth to be absolutely useless. Cases treated by such means I have nearly always found to run on until cool weather came. What, in fact, ought we to expect from fraction-of-a-grain doses of nitrate of silver or acetate of lead when we remember that their action is needed upon the last four feet of the bowel? Bismuth in large doses seems more plausible, but practically it has failed with me five times where it has succeeded once.

I have settled upon three things as valuable:

First, as careful attention to the diet as during the acute stages, and in recent cases. Deviation from dietetic rules has been the most frequent cause of relapses.

Secondly, the continuance of the use of the antiseptic as the only sure means of the checking intestinal decomposition, and hence stopping the irritation.

Thirdly, the whole large intestine should be washed out once every day, either with pure water at a temperature of about 65° F., or with a weak antiseptic solution, or with an astringent solution. Of the

former the best are probably benzoate and salicylate of sodium; of the latter, the nitrate of silver and tannic acid.

Before taking up the use of antiseptics historically, I wish to call attention to this fact: that except opium, with regard to the value of which in summer diarrhœa there has always been much controversy, almost all the drugs that have held their place for the last twenty-five or fifty years are now universally recognized as antiseptics—some of them very powerful ones. Prominent among these I may mention bismuth, calomel, the mineral acids, especially sulphuric, the chloride and sulphate of iron, and the nitrate of silver. It seems to me altogether probable that the value of these drugs, for value they certainly possess, depends not upon their astringent action, as we have so long been taught, but upon their effect as antiseptics.

The earliest treatment of diarrhœal diseases by pure antiseptics of which I have been able to find record was by Mayes\* in 1846; the drug he used was *creasote*. He states that it should be preceded by a cathartic, since diarrhœal diseases are oftenest caused by undigested food in the intestine in a state of decomposition. In his second publication† he confirms his earlier impressions.

In 1847 an article on the value of creasote was published by Beirão.‡

In 1849, Spinks,§ after using creasote extensively, published some statistics of two hundred and twenty-four cases of simple diarrhœa. Ninety-three were treated by opium, chalk, etc., in all of which the disease lasted several days, and was followed by flatulence. One hundred and thirty-one cases were treated by creasote alone, "in all of which the diarrhœa immediately ceased." This drug he used in twelve cases of "rice-water purging," with equally good results.

In 1851, Kestevan,|| influenced by the writer just mentioned, published his results of the use of creasote in over one hundred cases of diarrhœa and dysentery; in no single case did improvement fail to occur. He thought it more efficient than any other drug in stopping the vomiting, purging, and pain.

Woodson\*\* the next year still further confirmed Kestevan's experience, after the use of creasote in twenty cases in children and in adults. Its action was prompt and invariably successful. He places it far above opiates.

Further testimony to the value of creasote was borne by J. G. and W. F. Westmoreland,†† who had seen cases of malignant army dysentery cured by it in large doses, and others of a protracted character which had resisted for months all the ordinary methods used.

Davis,‡‡ in 1872, spoke in high terms of the value of carbolic acid in diarrhœal cases, but, with this exception, for the last twenty years the

\* *Southern Med. and Surg. Journal*, 1846, ii, 583.

† *Ibid.*, 1847, iii, 151.

‡ *Jour. Soc. de Sci. Med.*, Lisbon, 1847.

§ *London Med. Gazette*, 1849, 254.

|| *Ibid.*, 1851, 235.

\*\* *Western Jour. of Med. and Surg.*, Louisville, ix, 1852, p. 289.

†† *Atlanta Med. and Surg. Jour.*, vii, 1866-'67, p. 249.

‡‡ *Boston Med. and Surg. Jour.*, Jan. 4, 1872.

drug is scarcely mentioned in current literature, and then usually only as a means of controlling vomiting.

*Oil of Naphtha* was used as early as 1849 by Lavisotte,\* whose published experience, although embracing reports of ten cases only, was still enough to show that some very obstinate cases of diarrhœa, which had resisted for months the usual treatment of opium and astringents, could be cured by naphtha alone in a few days.

Two years later, Mavel† contributed to the same subject reports of four chronic cases of diarrhœa promptly relieved by naphtha.

*Salicin* was first recommended in diarrhœal diseases, so far as I have been able to learn, by Mattison, in 1873.‡ He alleged for it, after considerable use, great superiority over opium and astringents in the treatment of cases of protracted diarrhœa, both in children and in adults.

During the next three or four years numerous articles appeared in the Southern medical journals, by Tucker,§ Bishop||, T. C. Smith,\*\* Hughson,†† Tidd,‡‡ and others, confirming the statements made as to the great value of salicin. Many of the gentlemen referred to had used it extensively, but all were inclined to regard its mode of action as tonic or specific. In 1877 Mattison published §§ a second article, collecting quite a large number of cases, the experience of all who had used salicin being that, especially in protracted cases, it was the most valuable drug we possessed.

I have found but scanty reference to this treatment since that date, except by S. W. Smith,|||| in 1884, who states that, as early as 1858, the value of willow charcoal was made known to him by some sea-captain upon the Mediterranean, and that since that time he had regarded salicin as “a sheet-anchor in diarrhœal cases.” He calls special attention to its antiseptic properties, which, he states, exceed those of carbolic acid.

*Salicylic Acid and its Salts.*—The acid was first applied to the treatment of intestinal diseases by Stephanides,\*\*\* who reported in 1875 two cases of obstinate dysentery promptly relieved by this drug. The acid was further employed in the same disease by Abelin in 1877.††† In 1879, Kilner ‡‡‡ published the results of some extensive experiments with the salicylates of bismuth and calcium. He speaks of them in the highest terms in cases depending upon summer heat, also those in autumn from sudden changes in temperature, and in all cases where indigestion and disturbance of the stomach are present. In 1880,

\* *Gazette des hôpitaux*, 1849, i, p. 46.

† *Ibid.*, 1851, i, 565.

‡ *Southern Med. Record*, 1873, p. 671.

§ *Ibid.*, 1873, p. 590.

|| *Ibid.*, 1874, p. 585.

\*\* *Ibid.*, 1875, p. 328.

†† *Charleston Med. Jour.*, ii, 1875, p. 297.

‡‡ *Detroit Rev. of Med. and Pharmac.*, xi, 1876, p. 7.

§§ *Proceedings of the Med. Soc. of the Co. of Kings*, i, 1877, p. 248.

|||| *Brit Med. Jour.*, ii, 1884, p. 711.

\*\*\* *Wien. med. Presse*, xvi, 1875, p. 297.

††† *Allg. med. Central-Zeitung*, 1877, Nos. 37, 38.

‡‡‡ *St. Thomas's Hosp. Reports*, ix, 1879, p. 21.

Hutchins,\* of Brooklyn, reported twenty-seven cases of severe serous diarrhœa in young children. He was led to use the drug from reading the article just referred to, and abundantly confirmed the statements made regarding salicylate of calcium, which he had employed. He used the single drug only, and in every case its administration was almost immediately followed by a cessation of the serous discharges. Slight catarrhal diarrhœa continued in some cases for a few days, but in none was there any recurrence of the watery stools. Segur, of Brooklyn, has used the salicylates in the treatment of the diarrhœa of phthisis, and both he and Hutchins speak in very high terms of its value here. In a recent personal communication to me, Dr. Hutchins states that subsequent experience has not changed his opinion regarding the great value of the salicylates, particularly in diarrhœas with serous discharges tending to cholera infantum. In 1881, Callejat published an article on the value of salicylate of sodium in diarrhœal diseases. In 1885 Northridge† published eight cases treated by the salicylate of calcium. This writer believes firmly that it is to its antiseptic properties that the success of the salicylic-acid treatment is due. During the present year Shank§ has written upon the value of the salicylate of sodium in the treatment of diarrhœal disease in children, but he gives us no particulars regarding the cases in which it was used. Braithwaite|| has spoken of the great value of the salicylate of iron in many diarrhœal affections, especially where the stools were offensive.

*Naphthalin* was introduced as an antiseptic in intestinal diseases by Rossbach\*\* in 1884. The advantages stated for it were that it was a powerful antiseptic, that it was not toxic, and that, as it was insoluble both in alkalies and in acids, we could be sure of its local action. He found it of great value in old intestinal catarrhs of adults, and used it in twenty-four cases in children with the most gratifying results. The same year Cognali†† published six cases in which naphthalin was used with negative results; all were chronic, and all in adults. In 1885, good results were published by Pauli‡‡ and Pribram§§ from the use of naphthalin in the diarrhœa of children. Falkenberg||| used it in numerous cases of dysentery with uniformly good results. This writer quotes from Karelin, who stated that the naphthalin treatment had "done wonders" in dysentery in the army, and also from Kusmin, whose experience in the Foundling Asylum at Moscow confirmed the good reports already given. During the present year naphthalin has been recommended by Bouchard\*\*\* in combination with iodoform and charcoal.

\* *Proceedings of the Med. Soc. of the Co. of Kings*, 1880, p. 223.

† *Rev. de med. y. Cir.*, Madrid, 1881, 97, p. 145.

‡ *New York Med. Jour.*, Aug. 29, 1885.

§ *Archives of Pædiatrics*, July, 1886.

|| *Brit. Med. Journal*, July 17, 1886.

\*\* *Berlin. klin. Wochenschrift*, Nos. 42 and 46, 1884.

†† *Gazz. Med. ital. Lombard.*, Milan, vi, 1884, p. 465.

‡‡ *Berlin. klin. Wochenschrift*, xxii, 1885, p. 153.

§§ *Wien. med. Wochenschrift*, xxxv, 1885, p. 242.

||| *London Med. Record*, Dec., 1885, from *Voенно-Sanitarnoe*, 1885, No. 45.

\*\*\* *Revue de therapie*, May 15, 1886.



*Bichloride of Mercury*.—This has in several editions of Ringer's "Therapeutics" been recommended in dysentery. Communications regarding its use, both in diarrhœa and dysentery, have been published by Ravenberg\* in 1878, Reed† in 1879, Schultz‡ in 1880, and Millard§ and Morton|| during the present year. With one exception, particulars regarding the kind and number of cases treated, and exact results, have been omitted. Schultz states that he has treated one hundred and twelve cases of severe dysentery with this drug, with only one fatal result. He thinks it deserves the title almost of a specific in severe cases of dysentery. In mild cases, opium and calomel might succeed, but in severe ones seldom.

During the past year or two several other drugs have been proposed, following out the idea of antiseptic treatment. Resorcin has been advocated by Baginsky\*\* and Faludi,†† chloride of potassium by Moncorvo, bisulphide of carbon by Dujardin-Beaumetz,‡‡ and benzoate of sodium by Guaita.§§ Each writer alleges good results with his peculiar mode of treatment.

It would seem that enough facts have been given to the profession to establish the point that a great many other drugs besides opium, bismuth, chalk, and castor-oil possess real value in the treatment of diarrhœal diseases. Yet it is marvelous to see how wedded we have become to these old methods. In looking over a dozen of the most recent text-books on diseases of children, I find the treatment of summer diarrhœa described in almost the same words as those used by Eberle, Condie, and Dewees nearly half a century ago.

In the preparation of this paper I have endeavored to ascertain what drugs were most used in public practice in this city. In response to a circular letter sent out I have received information regarding the treatment of summer diarrhœa at the following institutions: Nursery and Child's Hospital, Foundling Asylum, Infant Asylum, Infants' and Children's Hospitals on Randall's Island, St. Mary's Hospital for Children, Infirmary for Women and Children, Demilt, New York, Northern, Northwestern, Eastern Dispensaries, Polyclinic, and the Outdoor Department of Bellevue and that of Roosevelt Hospital. I wish here to thank the gentlemen who have been kind enough to furnish me with the particulars sought. The reports of these institutions show that upward of forty thousand children come under treatment annually. Roughly estimating from my own hospital and dispensary experience, I should say that at least twenty-five thousand of these come for diarrhœal diseases.

These twenty-five thousand cases are treated as follows: Bismuth

\* *Med. Record*, xiv, 1878, p. 4.

† *Philadelphia Med. Times*, 1879-'80, p. 207.

‡ *Louisville Med. Herald*, ii, 1880-'81, p. 341.

§ *Brit. Med. Journal*, July 31, 1886.

|| *Med. Record*, Sept. 18, 1886.

\*\* *Op cit.*

†† *Pest. med. chirurg. Presse*, Buda-Pesth, xviii., 1882, p. 806.

‡‡ *Therapeutic Gazette*, 1885, No. 3.

§§ *Archives of Pediatrics*, 1884, p. 380, from *Gazz. degli ospitali*, 1884, 26.

is used largely in every one of the fourteen institutions. Opium in some form is used everywhere, Dover's powder and paregoric generally. Opium is an ingredient in nearly every compound prescription given. Many physicians have testified that they relied almost entirely upon bismuth and opium. Castor-oil as a preliminary step was much used in six institutions, followed usually by bismuth and Dover's powder. Castor-oil emulsion, with opium, containing from three to ten drops of the oil and about the same quantity of paregoric to the dose, was extensively used at three places. Chalk-mixture, usually combined with paregoric and some vegetable astringent, is a standard prescription in almost every dispensary, and is largely used. Calomel, in small doses, is much used at three places. Rhubarb and soda are largely used in four places, usually in conjunction with opium. Ipecac is used at two places, aconite at one, pepsin largely at one, sulphuric acid and sulphate of magnesium mixture at one, benzoate of sodium at one, iodoform with opium and pepsin at one, coto bark at one, astringent injections, usually of nitrate of silver, in three places. One physician begins his treatment with oil to clear out the bowels. Beyond this point he has come to the conclusion "that all drugs are useless, particularly opium." His reliance after clearing the bowels is upon careful feeding. Morphine and atropine hypodermically had given good results in some bad cases of cholera infantum in one hospital, though it was admitted that in other similar cases they had been useless.

The following is my personal experience with similar modes of treatment in dispensary cases: I have collected and tabulated from my history-books three hundred cases of which I had sufficient data to enable me to draw conclusions from them.\* They are scattered through three summers, and include all the cases in which the result of the treatment was recorded. They were treated, with but few exceptions, by one of the following methods: (1) A compound prescription, consisting of chalk-mixture, paregoric, and some vegetable astringent; (2) the same, preceded by castor-oil; (3) an emulsion of castor-oil and paregoric, containing from three to eight minims of each, according to age; (4) bismuth and Dover's powder, frequently but not always preceded by castor-oil.

Inasmuch as twenty-five of the cases treated two days, and ten of those treated from three to four days, were put down as "greatly improved," the probabilities are strong that if they had been followed up a little longer they could have been transferred to the column "cured." This would raise the "cures" to 151, or 50 per cent., and reduce the improved to 82, or 27 per cent; unimproved, 18.3 per cent; died, 7.3 per cent.

The results given in the foregoing tables are certainly nothing to be proud of. And yet I venture to affirm that they are quite as good as other men under similar circumstances have obtained with the same methods of treatment, as they would find out for themselves if they

\*Dr. Holt's tables are necessarily omitted here.

took the trouble to record and then analyze their results critically. My own "impressions" regarding the value of many drugs, after using them, I have so often found erroneous when an appeal to cold facts was had that I have become very loath to accept the "impressions" merely of others. Still it must be remembered that many of the above-mentioned were bad cases, and all were seen under the worst surroundings. So I hope no one will for a moment think of comparing them with results obtained among the better class in private practice. The dietetic regulations above laid down were carried out so far as practicable, with the single exception that in the earlier cases abstinence from milk was not so strongly and so universally insisted upon. Recourse was had to cold sponging and the cold bath where the temperature was high, to alcoholic stimulants in almost all protracted cases, and to day-excursions upon the water on the Floating Hospital.

Could anything more be done for these unfortunate children than I was doing? was a question I often revolved in my mind, as many of them came back day after day and week after week, while I shifted about from bismuth and Dover's powder to calomel and chalk, and from calomel and chalk to castor-oil and opium, etc., often with improvement, but too often, alas! but temporary, until patience was exhausted, and they sought advice elsewhere, much to my relief, and I hope to theirs also. It was a year ago last summer that the monograph of Baginsky, already mentioned, came into my hands. To him I give the credit of starting me in what I believe to be the correct and rational method of treatment. He had used evacuants and antiseptics largely, and commended them. He regarded resorcin as the most valuable antiseptic in intestinal diseases, and, though my own experience has led me to differ with him here, I think his views in the main correct. Quite an extensive experience with the salicylate of sodium in various dyspeptic disorders of adults led me, without knowing to what extent it had been already used, to try it here. The cases were not selected; it was used indiscriminately in all varieties and all stages. In about two-thirds of the cases it was preceded by castor-oil. In one or two cases with great nervous irritability a grain of Dover's powder was given once or twice a day for this symptom merely. With these exceptions, no other drugs were used. Some of the most striking results seen from the drug were obtained in the cases of long standing. Thus, all three of the cases of three weeks' duration were cured, the average duration of treatment being 3.6 days. Of the ten cases which had lasted four weeks and over, six were cured, the average length of treatment being 5.6 days. One of the "improved" patients took the medicine for about four days with great benefit, and was well in ten days or two weeks without further treatment. The other had entero-colitis all summer, did not take the medicine over three days, and was greatly improved, but it was then discontinued, and I learned a week later that the case had relapsed.

The six "unimproved" cases are interesting and deservesomething

more than mere enumeration, as they illustrate quite well some of the difficulties in treating these cases. Three of the patients were brought to the dispensary but once. All of these were recent cases, and only one was severe. Prompt relief not being evident, physicians were summoned to the house in two cases, and the third patient was taken to another dispensary three days later. I have no means of knowing how much or how little of the medicine was given. A fourth patient with severe diarrhœa, of eight days' standing, the passages being watery in character, took the salicylate for two days without benefit; the drug was continued, but the case was never heard from again. A fifth patient had had a severe entero-colitis for two or three months. Salicylate of sodium was given for five days, and then opium and astringents were used for four days, but without benefit in either case, and the patient was not traced farther. The sixth patient took the drug ostensibly for four days without improvement. Subsequent events proved the mother's statements concerning the case to be utterly untrustworthy, and it is extremely doubtful if any directions were carried out as given.

The single fatal case was as follows: It was that of a wasted, wretched child in its fourth severe attack during the summer. The salicylate was given for four days with the effect of controlling the diarrhœa; vomiting, however, continued, and the child wasted steadily and died about two weeks later.

Results of forty-four naphthalin cases: Cured, 67 per cent.; improved, 15·8 per cent.; unimproved, 13·5 per cent.; died, 2·2 per cent. The "improved" cases were as follows: one patient was greatly benefited at the end of five days, but the mother stopped attending, and I heard a week later that the case had relapsed. In the second, a chronic case, the patient was greatly improved after two days; took no more medicine; ultimate recovery in two weeks. A third, also chronic, was doing nicely after two days' treatment, when measles developed which proved fatal. A fourth the notes simply state to have been "improved" after one week's treatment. A fifth, with severe gastrointestinal catarrh, had diarrhœa controlled after two days' treatment, but vomiting continued; the patient could not be found when looked for afterward to learn the final result. A sixth, also not found, with severe chronic colitis, was greatly improved when last seen, after being under treatment for five days. The remaining patient would not take the medicine in the doses directed. It was stoned after three days, only slight improvement having occurred. Thus it appears that in no case, except possibly the fourth, was there a real test as to the value of the treatment. In one of the six "unimproved" cases, a recent one, the patient took the drug for four days without any benefit, ultimately recovering at the end of two weeks without further treatment. A second patient, a boy nine years old, who had had dysenteric stools for a week, after two days' treatment was worse; opium, bismuth, and salicylate of sodium subsequently failed also, and he was then lost sight of. A third patient, with a moderate diarrhœa of two weeks' standing,

was no better after taking naphthalin, but was promptly relieved by the salicylate of sodium. In a fourth case, one of chronic diarrhœa of four weeks' standing, the patient took the medicine for two days only; I learned subsequently that he had not been relieved, and that the disease lasted a month longer. A fifth case was similar, except that the patient recovered in two weeks instead of four. The remaining case, a severe diarrhœa of a month's duration, was not improved after five days' treatment. I learned that no further treatment was employed, and the child died two weeks later. The only fatal case occurring while under treatment was a severe one, where vomiting was very persistent; there was no relief, and death took place two days after the patient was first seen.

Results in twenty-seven cases treated by resorcin: Cured, 55 per cent.; improved, 22 per cent.; unimproved, 22 per cent. The cases treated by resorcin, as regards variety, severity, and previous duration, correspond very closely with those treated by naphthalin and salicylate of sodium. Experimentation with the three drugs was carried on at the same time. Yet it soon became evident, as the tables show, that it was not nearly so effectual as either the salicylate or naphthalin. Castor-oil was used as a preliminary step in about the same proportion of cases as with the two latter drugs. The use of the same drug at the Infant Asylum among a different class of patients led to about the same conclusion, although I have not the figures at hand of the number of cases in which it was given. This experience with resorcin strengthens me much in the opinion that in the naphthalin and salicylate cases it was not to the initial dose of oil and the subsequent attention to feeding alone that the results obtained in these cases were due, since exactly the same measures were used in the resorcin cases, and yet 22 per cent. of the patients were unimproved.

Results in twenty-eight bichloride-of-mercury cases: Cured, 21.4 per cent.; improved, 50 per cent.; unimproved, 25 per cent.; died, 3.6 per cent. These bichloride cases are the only ones in all my tables given which were selected. In point of time they belong not to my later experience while studying the use of antiseptics, but to an earlier time, being contemporaneous with the castor-oil, opium, and astringent cases. Hence many of them were among the worst ones that were treated during that period, and they would have made the results given from that period appear still worse than they do had they not been separately considered. The drug was used not as an antiseptic, but more with the idea of its specific action, in cases of colitis and enterocolitis, as recommended by Ringer and others. It was rarely preceded by a purgative to clear out the bowel, or perhaps the cases would have made a better showing.

The cases are introduced for what they are worth, and, although very strikingly beneficial results were seen in some very obstinate cases, still, on the whole, naphthalin and the salicylate of sodium have been in my hands much more successful in exactly similar cases, as a study of the foregoing tables will make evident.

Table showing comparative results from different methods of treatment.

	Number.	Cured.	Improved.	Unimproved.	Died.
Opium, bismuth, castor-oil, etc.	300	50%	27%	18.3%	7.3%
Salicylate of sodium.....	81	84%	7.4%	7.4%	1.2%
Naphthalin.....	44	67%	15.8%	13.5%	2.2%
Resorcin.....	27	55%	22%	22%	.....

It is unnecessary to compare the cases treated in other particulars. The previous duration of the disease in the different classes does not show any marked variation; they average about the same, except that those treated by the salicylate of sodium were of a little longer standing than those treated by opium, astringents, etc. A comparison of the duration of treatment in the cured cases shows the great superiority of the salicylate and naphthalin, particularly in cases of long standing. It is evident from this table that theoretical considerations of the value of antiseptics in this disease are fully substantiated by the facts. I have included in these tables none but dispensary cases, since I wished to get at the comparative results in the same class of patients.

It was not my intention to introduce reports of special cases, but the following one illustrates so many points that I will give it, although the result was no more striking than was seen in dozens of others. As one man was convinced by it, others may be:

A boy seventeen months old was seen on the fifth day of his illness, with the physician who had treated the case from the beginning. The stools were first thin and yellow, afterward green, with some mucus and curds. Bismuth in four-grain doses every two hours had been used from the beginning, and on the third day m.ij of deodorized tincture of opium had been added. Although the number of stools had been reduced from ten to five a day, there had been no change in their character, and the child's condition was growing steadily worse.

When I saw him he was really in a critical condition; his temperature had risen to 103° F.; he had begun to vomit quite often, his pulse was rapid and weak, he had had five stools that morning, and was losing ground rapidly. He was dull and heavy, mostly from the opium. I suggested a dose of castor-oil to be followed by the salicylate of sodium, gr. ij, every two hours. But my friend said: "He is so weak that it seems to me it would be dangerous to do anything to give him any more stools." He consented to give the treatment a trial in view of the hopelessness of the case under the present methods.

I saw him two days later. He greeted me with the remark, "Doctor, I am a complete convert." During the afternoon and night after I saw the case the boy had seven passages. In the next twenty-four hours he had two of nearly normal character, and a slight catarrhal diarrhoea lasted four or five days more, by which time he was well. I never saw a patient gain more rapidly.

The objections raised against the oil in the case related are no doubt felt by many, so prevalent is the idea that the great object of treatment is to arrest the discharges. The opium and bismuth here had

reduced the number of stools from ten to five a day, and yet the child was getting worse all the time. What was the explanation here of the rise of temperature to  $103^{\circ}$ , the supervention of vomiting, the great prostration, and the rapid and weak pulse? To my mind these were toxic symptoms dependent on the retention in the bowel of the products of the decomposition of food and altered secretions. Is not the rational treatment, then, to clear out the intestine as promptly and thoroughly as possible, and then address our energies toward stopping further decomposition? In other words, to treat the cause and not the result?

How should the antiseptics be administered?

The salicylate of sodium I have been accustomed to prescribe in doses of from one to three grains every two hours, according to the age, from three months to three years. In these doses the aqueous solution is tasteless, and can be readily given in the food or drink. I have never seen it produce vomiting, but often have seen severe and persistent vomiting controlled by it.

Naphthalin, although possessing a strong odor, is not disagreeable to the taste. On account of its insolubility, it is best given to children rubbed up with some inert powder, like sugar of milk. It should be used in a little larger doses than the salicylate—*i. e.*, gr. j to gr. v in young children, according to the age.

Resorcin must be used in smaller doses, gr.  $\frac{1}{2}$  to gr. ij, at corresponding ages. It is bitter, and not so easily given, though freely soluble in water. The bichloride was used in doses of gr. 1-120 to 1-100, but, even in these doses, I have more than once seen it produce vomiting.

In all cases I have insisted upon the antiseptic being given at short intervals, as many small doses are much more likely to succeed than a few large ones.

From the foregoing discussion the following conclusions are drawn:

1. Summer diarrhœa is not to be regarded as a disease depending upon a single morbid agent.

2. The remote causes are many, and include heat, mode of feeding, surroundings, dentition and many other factors.

3. The immediate cause is the putrefactive changes which take place in the stomach and bowels in food not digested, which changes are often begun outside the body.

4. These products may act as systemic poisons, or the particles may cause local irritation and inflammation of the intestine.

5. The diarrhœal discharges, *at the outset* at least, are to be looked upon as salutary.

6. The routine use of opium and astringents in these cases is not only useless, but, in the beginning particularly, they may do positive harm, since, by checking peristalsis, opium stops elimination and increases decomposition.

7. I do not deny nor undervalue opium in many other forms of diarrhœa than the one under discussion.

8. Evacuants are to be considered an essential part of the antiseptic treatment.

9. Experience thus far leads me to regard naphthalin and the salts of salicylic acid as the most valuable antiseptics for the intestinal tract.

#### THE TREATMENT OF "DIFFICULT" PATIENTS.

No practitioner who has had a lengthened experience in any department of the medical profession can question the existence of a class of *difficult patients*. We do not speak of difficult cases, nor are we alluding to difficulty of the sort which arises out of the necessity of adapting drugs and methods of treatment to the idiosyncrasies of constitution and susceptibility. The perplexities caused by this particular need are often more than sufficiently embarrassing; but it is not of this we are now thinking. Changes which are made gradually, whether in the organism or in the habits of life, do not commonly challenge attention, but are not the less, on that account, effective in their consequences. We are apt to forget that a really great change has come over the spirit of the popular dream of the physician and surgeon and their respective arts during the century which is now hastening towards its close; and one of the most notable and potential features of this change has been the complete breaking down of the fence of mystery which once surrounded the practice of medicine, and which, however intangible and groundless in itself, did most certainly confer this mutual advantage on doctor and patient, that while the former gave his advice with an authority, perhaps fictitious or exaggerated, which has now disappeared, the latter rendered more or less unquestioning obedience, and reaped his reward by having both mind and body brought under the sway of the physician who essayed to relieve him. A great deal of very short-sighted nonsense is spoken and written by well-meaning but narrow-minded people on the subject of mental influence. In the realistic honesty of this enlightened age, it is too commonly held to be a measure of truthfulness that the effects of treatment shall be counted only in proportion as they are physically apparent. In a word, they must be material, either as chemical or directly realistic, in some immediately appreciable manner and degree. All else is disregarded or declared to be worthless and useless, because "imaginary." It is forgotten that the brain is not only the organ of the mind, but in a very potent way the centre of the nervous system, and consequently what may be *imaginary* in its inception may so react on the nervous system as to be fully as real as any other agent in producing material changes and effects, productive of good or evil results, as regards first, the function, and second, the structure of the organism. Physiology compels us to give weight to what may be termed dynamic, as well as to directly chemical powers and processes. Moreover, it teaches us that the one class of phenomena are as real as the other. It is a strangely perverse "materialism" that seeks to exclude the large class of mental, or, in other words, cerebral, influences from the category of forces operating within the area of the organic life. The bearing of



this general proposition on the subject immediately before us may be briefly stated thus: It is not less *unscientific* than it is practically inexpedient to treat patients as though they were simply apparatus for the carrying out of chemico-physical processes. It is not with masses of solid and fluid materials we have to deal, but with living beings like ourselves, with moods and tempers, and susceptibilities and caprices, mental as well as bodily, every one of which must count for something in the totality of disease. It is not with bodily maladies only, but also with mental states, we are required to cope in the endeavor to arrest, or limit, or remedy the effects of morbid action.

The most troublesome class of difficult patients is, we are convinced, composed of individuals who are not treated, as it were, personally. The exigencies of a professional life compel the majority of busy practitioners to form a habit of work which does not readily admit of their bestowing sufficient attention on the question of mental idiosyncrasy. The condition rather than the men are to blame for this defect, but it is a fault of clinical method, and we believe a very serious one. Thus there are difficult patients who would cease to be difficult if it were only perceived that their mental, and collaterally their nervous, conformation and habit of life, require that the processes which are to be wrought out in their organisms in the medication of disease, shall be brought directly under the domain of the consciousness. To take a familiar example of this; cases are not uncommonly met with in which a moderate dose of sedative will not produce quietness, still less induce sleep, or even exert a soothing influence on the nervous system, unless the effect which it is desired to cause by the drug is explained. It is easy to turn this into a jest, and to recall that hackneyed story of the bread pill; but such a line of remark is notable only for its stupidity and ignorance. The true explanation of the effect produced is not that "imagination" puts the patient to sleep, but that the fretful state of unrest which prevents natural sleep is quieted by the perfectly physiological process of removing a source of worry about expected wakefulness, and substituting for it an expectancy of sleep. Even if it were that much abused agent "imagination" which sent the patient to sleep, without any or with only a minimum of some stupefying poison such as bromide or chloral, it would be better to get the result by simply removing the mental or cerebral obstacles to repose, than by setting up a state of drug-induced stupor. The explanation given to the patient is as much part of the physical process of medication as the administration of an opiate. We merely mention this matter as illustrative of the principle. Precisely the same mental method applies to the relaxation of muscular spasm in the case of a dislocated joint or a troublesome case of fracture, and to the induction of vermicular movement of the intestines in a stubborn case of constipation, and in many other forms of disease. There are patients whose consciousness must be made party, so to say, to the treatment. On the other hand, there are patients who cannot possibly be thus treated, and who must be helped on the way back to health by authority and mystery. To explain

processes to patients of this last mentioned class is to jeopardize success in every respect. In short, the confidence and co-operation of the patient should be secured as aids to cure; and these can only be enlisted on the side of the practitioner by a skilful management of the patient not less than of the disease.

The point on which we are anxious to insist is that *patients* ought to be studied not less than *diseases*, and that, to ensure the largest measure of success in his work, the physician or surgeon needs to be not only versed in the lore of the schools, but to be a man of the world and a close student of men and manners. The class of difficult patients might be more correctly described as a class of persons whom it may be difficult to understand. Difficulty in managing cases generally means difficulty in dealing on the best terms with the individuals who form the subjects of disease. Practitioners too commonly form *habits* of manner and method. We venture to suggest that the medical adviser should approach each patient with an entirely open mind, and study the person as closely and promptly as he studies the disease. The treatment should be adapted equally to the patient and to the disease. Plans of treatment, even particular drugs, may be contra-indicated or rendered specially desirable by the idiosyncrasies of a patient. Difficult patients are nearly always simply misunderstood. —*Lancet*.

REMARKS ON HEPATIC PHLEBOTOMY, AND PUNCTURING THE LIVER'S CAPSULE, AS REMEDIAL MEASURES IN HEPATIC DISEASES. By GEORGE HARLEY, M.D., F.R.S.

Seeing that the study of liver diseases has not only come prominently to the front in recent years, but that, at present, when hepatic surgery is actively engaging the attention of some of the most acute and original thinkers in the profession, both in Europe and America, the members of our own Association, familiar with liver-diseases, take a deep interest in the subject, as this was manifested not alone by the animated discussion which followed upon the reading of the above-named papers at our agreeable and instructive Brighton meeting, but by the letters\* that have since appeared in the *Journal*, I crave leave to make a few more observations on the matter. This appears to be all the more desirable since it is highly probable that these newly proposed methods of treatment may open up an entirely fresh epoch in the handling of many of the liver-cases which have hitherto been regarded as among the most intractable and consequently most hopeless forms of disease. As well as from the fact that some of the gentlemen that have commented upon them in the pages of the *Journal* have unwittingly confounded the two above-named new forms of operative procedure with two old ones—namely, hepatic exploration, associated with accidental hemorrhage, on the one hand, and the Chinese system of acupuncture, upon the other—entirely distinct surgical procedures, which resemble them in nothing, except in

\* *British Medical Journal*, November 13th, p. 899; December 4th, pp. 1134-5.

so far as it is the same organ of the body that is operated upon, and the instruments employed happen to possess the same form.

There being apparently no longer any doubt as to the practical value of the newly proposed method of hepatic phlebotomy in suitable cases, from even the personal experience of accidental hepatic hemorrhage recorded by its adverse commentators, pointing strongly in favor of the operation, I can at once proceed to explain what are the differences not only as regards the nature, but the actual objects of hepatic phlebotomy and hepatic exploration, with hemorrhage, on the one hand, and Chinese acupuncture and puncturing the capsule of Glisson, on the other—four such distinctly different forms of hepatic surgery, that it is almost inconceivable to me how any well-educated man could possibly have fallen into the error of confounding them. Nevertheless, as the readers of the *Journal* must have seen, this has actually occurred, not alone in the case of Dr. Boyes Smith, but likewise in that of Surgeons Alexander, Ryan, and Quill—all army men. I think it my duty to endeavor to remove the ambiguity. And while doing so, in order to increase the value of the communication, I shall take the opportunity of throwing out one or two practical hints, which, if attended to, will, I think, greatly tend to diminish the dangers which occasionally attend the present modes of exploring the liver for purulent matter.

First, then, as regards exploring the liver for pus. This is an operation which has been had recourse to by our Indian *confrères* for nearly forty years. If I remember right, it was first done in the Bengal Presidency about the year 1848; and, to my personal knowledge, it has been practiced in London since the year 1864. At first the instruments employed in the performance of the operation were merely ordinary trocars of about the size of No. 12 English male catheters. But as dangerous, and sometimes even fatal, hemorrhages occasionally followed upon the operation, much smaller instruments began to be employed, and now it is the fashion only to use the needles of an aspirating apparatus. Even with these, however, regrettable accidents have occurred, most probably, I think, on account of the operators thrusting the exploring instruments into any and every part of the liver where pus is expected to exist, without paying any attention to the anatomy of the organ, either as regards the distribution of its vessels, or the relationship of the point at which its surface is penetrated to the interior of the abdominal walls. This opinion I arrive at from the fact that, notwithstanding the frequency with which I have had to operate upon the liver during the last twenty years, I have never on one single occasion as yet encountered any dangerous hemorrhage.

The precautions I take are the following: (*a*) always to commence the exploration either with a fine aspirating needle, or an equally fine 7 inch long French exploring trocar, attached to a small (drachm sized) glass syringe, which acts as an aspirator, and admits of my at once perceiving whether I have pus, hydatid fluid, or blood to deal with. So that, if need be, I can instantly withdraw the instrument.

When pus is the product found, as it flows but badly through a small tube, I replace the fine instrument with a larger one, attached to which is a caoutchouc exhausting ball, aspirator,\* and syphon-tube, with which I can withdraw the purulent matter.

(*b*). I never allow the point of my exploring instrument to go anywhere near those portions of the liver in which its large blood-vessels are normally situated.

(*c*) I make it a point always to penetrate the capsule at a part of the liver where the wound-orifice (after the withdrawal of the instrument) can be brought into immediate contact with the abdominal parietes, so as to admit of the opening into the liver being firmly closed by the direct pressure produced upon it from the application of a pad and tight bandage to the abdominal walls. Thus, I believe, is precluded all possibility of any hemorrhage taking place from the liver into the peritoneal cavity after the completion of the operation. The external abdominal wound I simply close with a two-inch-square piece of sticking-plaster.

If these common-sense precautions be taken, I think it is very unlikely that any such untoward accident as that which Dr. Boyes Smith tells us befell him would be likely to occur. Namely, that his patient died in a state of collapse, from hemorrhage into the abdominal cavity, within a few hours after his exploring the liver for an abscess. Nor do I believe it is at all probable that the accidental hemorrhage occasionally occurring during the operation of exploring, would ever reach an amount sufficient to endanger life. The escape of a few ounces of blood during the operation is never dangerous. We are even told by the very correspondents, who are apparently anxious to deprecate the employment of hepatic phlebotomy in acute hepatitis, that in the course of their own experience the bleeding has been followed by salutary results! Indeed, when the wording of their letters is carefully analyzed, it is difficult to see why they were ever written, unless it were solely for the purpose of depriving me of the credit of being the first who ventured to employ hepatic phlebotomy as a remedial agent. For their only cry is "hepatic phlebotomy is not a new operation; as blood has been withdrawn from the liver during the course of an exploration for abscess." Seeing, however, that the one operation is performed solely with a diagnostic intent, and the other with a direct curative one, it appears to me about as logical to say that they are identical (on account of the occasional occurrence of accidental hemorrhage), as it would be to call the accidental wounding of a

\*This mode of aspirating the liver I was led to adopt from my having, on one occasion, been present at a liver-exploration when one of our metropolitan hospital surgeons had the misfortune to withdraw a quantity of liver-tissue. And on another occasion I had a liver sent to me for examination, with a cavity in it, the size of a small orange, produced, as I imagined, by the surgeon's aspirator having acted too powerfully, and sucked out the softened liver-tissue. With the caoutchouc ball all danger of an over-suction is annulled, and it possesses the additional advantage of admitting of a graduated aspiratory pressure being employed, by slowly relaxing the ball with the fingers, which is often a point of no mean importance in certain cases. Since my first employing this caoutchouc contrivance, I have almost entirely abandoned the use of the metallic aspirator, either in exploring the liver, emptying cysts, or withdrawing acetic fluid from the abdomen.

brachial vein during the opening of an abscess in the arm, a venesection. Of course, the assertion in the latter case would be instantly condemned as preposterous. But is it one whit more preposterous than to call an accidental liver-hemorrhage hepatic phlebotomy? I think not. So I will leave the point, and now add one or two more hints that may be useful to would-be operators, in addition to those already given in my paper.\* These are: that, as all enlargements of the liver are not suitable for hepatic phlebotomy—to wit, those arising from cancerous, fatty, and amyloid degenerations—great care ought to be taken that a correct diagnosis is made before entering upon the operation. This is all the more imperative, seeing that it is sometimes difficult to differentiate different kinds of liver-enlargements. Fortunately, however, should a mistake in this respect be made, it is consoling to know that it is very unlikely much blood will come away: probably not more than a few drops. For it is only when the liver-tissues are engorged that blood flows freely from the organ when it is punctured.

Having finished with the subject of hepatic phlebotomy, I now come to the consideration of puncturing the capsule of Glisson as a remedial measure in cases of congestive hepatic hypertrophy, which some of our associates boldly assert is the same operation as the old Chinese one of acupuncture. The mere fact of acupuncture (as the word *acus*, a needle, implies) being performed with solid gold or silver needles in painful affections, and my operation being performed with trocars and cannulæ in a diseased state of the organ, which is anything but painful, one would imagine might presuppose that the two forms of operative procedure were entirely distinct, except in so far as the same organ happens to be the one operated on, and the instruments employed possess the same form. Some of our associates, however, appearing to be of a different opinion, and no doubt having good grounds for their belief, I would suggest that they furnish us with all the facts in their possession regarding acupuncture of the liver as practiced by the Chinese. I must candidly admit I know nothing whatever regarding it, except from the vague and unsatisfactory statements that have at various times appeared in our weekly medical journals, from the pens of men who, though writing as if they knew all about it, never by any chance whatever, as far as I am aware, condescend to furnish their readers with a single particular.

So soon as my critics have detailed the grounds of their criticisms on this point, I shall, to the best of my ability, duly consider and comment upon them. Meanwhile, I think I have said sufficient to prove that Messrs. Smith, Alexander, Ryan, and Quill have erred in confounding two entirely new operations with two totally distinct old ones, with which they have nothing whatever in common, either as regards nature or design.—*British Medical Journal*.

#### NASAL TREATMENT OF WHOOPING-COUGH.

A definite idea has of late gained ground as to the nature and origin of whooping-cough. The idea may or may not be pathologically

\* *British Medical Journal*, November 13, 1886, p. 899.

correct; but the treatment founded on it is decidedly of a rational description. What is more to the practitioner, this treatment is said to prove remarkably successful. Correctly speaking, the idea is compounded of at least two factors. One of these is fully as familiar as whooping-cough is common. Micro-organisms are the cause of the affection. The microbe effects an entrance into the economy from a special site, and that site of entrance is the soft tissues of the nasal fossæ. The rational therapeutics is founded on formulæ of an equally explicit character. Antiseptics or germicides will destroy the living germs. They should be used early, and their sites of action are the nasal fossæ. The number of remedies already recommended is sufficiently striking. The method at present in greatest favor appears to be insufflation. Convenient contrivances of different designs for effecting the insufflation may be met with in great variety at the surgical instrument makers. A clumsy but successful insufflator may be contrived by rolling a spill of paper, inserting a little of the powder to be employed at the end that enters the nostril, and supplying the motive force by the parent's or operator's puff of breath. But the puff-balls or regular insufflators are effective and not costly. Iodoform, salicylic acid, and boracic acid are the three antiseptics that appear to be most in vogue. They should all be very fine, almost impalpable powders. Nasal douches are very effective if they can be managed, as in older and not too nervous children. The most effectual douche of antiseptic kind appears to be the 1 in 500 corrosive sublimate. Care is to be taken that no appreciable quantity of this solution is swallowed. Some practitioners employ simple nasal douches in the earliest stages—say, a drachm of Condy's fluid or of common salt to the pint of water. And this is done as much to mechanically wash away secretions with contained contagia as to destroy the germs. Weak solutions of tincture of iodine and of alum are also used. These lotions may be syringed into the nasal passages, or the children may be induced to snuff the lotion up from the palm of the hand. Older children may be taught to take the powders as "snuff." Repeated applications of any of these methods are necessary to ensure thorough topical treatment in the early stages of the catarrh. The antiseptic agents may also be applied, as in young infants, by means of camel-hair brushes charged with ointments, lotions, or glyceroles. It is necessary to clear away all secretions and scabs first, by syringing or anointing with oil. The agent is then directly applied to the bare congested surface of the mucous membrane. An ointment of half a drachm each of iodoform and eucalyptol to an ounce of vaseline is highly commended by some. The boroglyceride may be used in similar fashion, also lotions of corrosive sublimate. Any of the antiseptic solutions may be atomized by the steam- or hand-spray, and inhalations effected through the nostrils. It is doubtful whether the theory of this fashionable method is correct; but supposing it should be, it is equally dubious whether the good that results may not be from the mere treatment of the catarrh as such, apart from its supposed cause. A pledget of cotton-wool or

a chamomile flower placed in the nostril to prevent the access of air alleviates the symptoms of an ordinary rhinitis. So it may be with the various applications, the principal of which we have mentioned.—*Lancet*.

#### FALLACIES IN THE COPPER TESTS FOR GLYCOSURIA.

Probably most physicians in testing urine to determine the presence of sugar use either Trommer's or Fehling's test, both on account of their convenience of application and of their generally supposed trustworthiness. The specific gravity test is frequently altogether omitted, although those who have had much experience in urinalysis place a very high value upon the indications derived from the urinometer. In a recent note in the *Boston Medical and Surgical Journal*, Dr. O. W. Sherwin states that on testing a specimen of urine with Fehling's solution the copper was reduced as with sugar. As the specific gravity of the urine was only 1015, he was induced to make further inquiry, and discovered that a small quantity of chloral hydrate had been added to the urine for preservation. He also found that the urine of persons to whom chloral had been given reacted to Fehling's solution in a similar manner to diabetic urine. The fact that the urine of persons taking chloral will reduce the copper from a test-solution has long been known. Certain other medicinal substances—as turpentine, chloroform, benzoic acid, salicylic acid, camphor, copaiba, and cubebs—will produce a similar result, if the test is made in the usual manner by heating the urine. From inquiries made recently we are forced to believe that many practitioners are unfamiliar with the above-named sources of error. Dr. Frank Donaldson, in a paper published in the *Baltimore Underwriter* for January 5, 1887, gives the history of a man, aged 37 years, who applied for life insurance. The personal and family history of the applicant were excellent. The urine was of a dark straw color, specific gravity 1024, acid, moderate in quantity, and free from albumen. Fehling's test showed a heavy reduction of cuprous oxide. Although there was no clinical evidence of diabetes, the application was rejected. The same fate met the gentleman when he applied to other companies. He was always turned down on the same ground by the medical examiners. A prominent medical director of an insurance company in New York told him "he had enough sugar in his urine to float a ship." These unfavorable reports induced the gentleman to place himself under Dr. Donaldson's care for treatment. For months he was "subjected to all kinds of treatment—hygienic, dietetic, and therapeutical,"—with no change in the behavior of the urine towards the copper-solution. His health continued good, and he increased in weight and girth. Professor Tyson was called in consultation, and upon examination of the urine concluded that the reducing substance was not glucose. Professor Wormley coincided in this opinion.

Dr. Brune, of Baltimore, made an elaborate study of the urine of the same person, and found that the copper tests gave reaction similar to sugar, but that the fermentation-test and the polariscope proved the absence of glucose. Most of the gentlemen who have studied this case

have come to the conclusion that the urine contains an acid heretofore unknown. The nature of this substance is now under investigation both by Dr. Brune, who is pursuing his researches at Johns Hopkins University, and by Dr. John Marshall, at the laboratory of the University of Pennsylvania, under the direction of Professor Wormley. Dr. Marshall believes the substance to be an acid not recognized heretofore. These cases serve to point out the great caution necessary in giving an opinion based upon a defective method of examination. The low specific gravity of the urine, the small quantity passed, and the absence of all clinical evidences of diabetes, should have led to an examination of the urine with the polariscope, or to the use of the fermentation-test, before hazarding a decision.—*Phila. Med. Times.*

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## RÉSUMÉ OF ORIGINAL ARTICLES.

IN OTHER JOURNALS.

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### INTRA-UTERINE MEDICATION.

In an article entitled "A Plea for Intra-Uterine Medication," published in the *N. Y. Med. Journal*, Dr. P. F. Mundé claims that there are certain cases in which intra-uterine medication is not only necessary, but indispensable to a permanent cure, and that it can be rendered as safe as any of the minor local measures. It seems to him that a mucous membrane remains the same in character wherever it is situated, and that we might as well attempt to cure chronic catarrh or hyperæmia of the mucous lining of the nares, throat, eyes, male urethra, or rectum, by general remedies alone, as to expect such a result in the endometrium. In discussing the first objection to intra-uterine medication—that is inefficient—he says: The methods which have become popular are: Applications by cotton-wrapped applicators dipped in the fluid to be introduced; gelatin bougies containing the agent; solid sticks of the medicament, left to melt in the uterus, or probes coated with the agent, if it is a salt; ointments squeezed and powders blown into the uterus; finally, injections into the uterus. Of these methods, the solid caustics and the injections are probably the most efficient, but also, especially the injections, the most dangerous. The insufflation of powders is not always feasible, as the tube easily becomes clogged, and besides is dangerous, as but few undilated uteri can bear the distension of their cavities by a sudden current of air. Ointments do not seem for catarrhal affections to be so efficient as dry or fluid applications. Thus there remain to us only the two methods first mentioned—the gelatin bougies and the cotton-wrapped applicators. The bougies are open to the same objection as the ointments; they act chiefly by absorption, not as caustics, and are therefore useful mainly in conditions calling for alterative and sorbefacient remedies, as in subinvolution and hyperplasia. Besides, if they are not particularly well prepared and become hard before use, they do not dissolve *in utero*,



and produce severe uterine colic, or worse. There remain to us, thus, only the cotton-wrapped applicators dipped in fluid, which may be said to be fairly safe, unless the fluid used is a powerful escharotic, such as nitric or chromic acid, or strong chloride-of-zinc solution. But these moist applications are, again, open to the objection that a large part of the fluid is rubbed off, and the surface of the moist cotton becomes coated with an albuminate before reaching the cavity of the uterus beyond the internal os; and undoubtedly this objection is valid. It would thus seem that all methods of application which are safe are inefficient, and those which will actually cure are dangerous. But this is only apparently the case.

As regards the second objection to intra-uterine medication—its danger—Dr. Mundé says there are too many instances of death after intra-uterine injections, too many cases of peritonitis and cellulitis after the introduction of solid caustics, not to omit a few similar cases after the use of applicators, to deny this assertion. Hence he has long since entirely discarded injections into the non-puerperal, or certainly undilated, uterine cavity. After the use of cotton-wrapped applicators, he remembers but one instance of inflammatory reaction, and that was after the use of the sharp curette and nitric acid. In the hands of some gynecologists, however, intra-uterine injections seem devoid of danger, and among these he mentions Goodell and Martin, of Berlin.

To make the introduction of fluids into the uterus more efficient, without at the same time increasing the danger, he has for a number of years employed two methods, neither of which is original with him: 1. The applicator syringe, the fine nozzle of which is wrapped with cotton which is saturated with the medicinal fluid contained in the barrel after the nozzle has been passed into the uterine cavity. If the piston is pushed forward slowly, the cotton becomes gradually saturated and no free fluid escapes into the cavity, while as thorough an effect is achieved as if the fluid had been injected. Having, however, seen several instances of shock and uterine colic after it, he has now reduced the use of the applicator syringe to cases where acquaintance with the tolerance of the uterus renders such treatment reasonably safe, and where the uterine canal is widely patulous. In the latter condition he decidedly prefers, when he wishes a very positive effect, the other method, namely—

2. To slip the thoroughly soaked cotton from the applicator and leave it in the uterine cavity for twenty-four or forty-eight hours. The cotton in this way acts as a very efficient tampon and hæmostatic, if required, and the medicinal application is most decided and prolonged. From this method he has seen but good, and no bad, results. Both the uterine and vaginal tampons can be removed by the patient herself, on the next day, by means of strings attached to each. In no case has uterine colic followed this treatment.

In a recent quite original work, entitled "Practical Elements of Gynecology," by Dr. A. Rheinstædter, of Cologne (Hirschwald, Berlin, 1886), the author, who is not a professor, but merely a general practitioner who during a twenty-five years' practice has gradually become

a specialist, states that, by the weekly application on a cotton-wrapped aluminium applicator of a fifty per cent. solution of chloride of zinc, he has never failed to cure within from two to three months every case of uterine catarrh depending on chronic endometritis, without the use of any other treatment, and that never has contraction of the canal ensued. The applications are always made at the patient's residence, and she is kept in bed until the next day, and, of course, all ordinary reasonable precautions are observed. Only once, in a dispensary patient, who took a two-hours' walk home after the treatment, has he witnessed a slight attack of cellulitis. Dr. Mundé then goes on to say that he wishes to emphasize the fact that there are various precautions which render the intra-uterine application of certain agents reasonably safe, while not destroying their efficiency. Thus, applications of iodine, carbolic acid, nitric acid, or solution of chloride of zinc, may be made without special risk if the uterine canal is well dilated, and, in the case of the stronger agents, the patient is kept in bed for one or two days. If these conditions are observed, the cotton-wrapped applicator or straight stick, the applicator syringe, or the medicated uterine tampon, may be used with equal impunity. Only he would except the use of nitric acid or chloride of zinc by the latter method, for fear of producing too deep an effect.

While thus admitting the inefficiency of some of the methods of intra-uterine medication and the danger of others, he asks whether the opponents of this treatment have compensatory substitutes to offer. Starting from the idea that a uterine catarrh or hemorrhage is but symptomatic, and depends on some pathological condition of the general system or of the pelvic organs not inherent to the mucous membrane of the uterus itself, they very properly advise the cure of that condition—the cause of the intra-uterine disease. Such conditions are: a vitiated state of the general health, displacement, subinvolution, or hyperplasia of the uterus, laceration of the cervix, fungous degeneration of the uterine mucous membrane, general pelvic hyperæmia, etc. Undoubtedly, the proper plan of treatment in such cases is to remove the cause of the endometritis, build up the general health, overcome constipation by exercise, diet, and proper laxatives, rectify the displacement, stimulate the uterus to involution and absorption of its adventitious elements, sew up the laceration, scrape off the vegetations, etc. But, granted that all this has been done, and the catarrh is cured in the cases in which it is really caused by the conditions mentioned, he maintains that there still remain numerous cases of chronic endometritis—due to cold, to exposure during menstruation, to sexual abuse, to venereal infection, to subinvolution chiefly after abortion, to the extension upward of a cervical catarrh, etc.—in which the removal of the original exciting cause fails to cure the disease; and, further, he fails to see how we can benefit or cure the numerous cases of chronic subinvolution and hyperplasia which resist every general and local remedy, unless we resort to methodical and prolonged intra-uterine medication. From his experience he would recommend intra-uterine medication in the following conditions:

1. *Chronic Endometritis in Nulliparæ.*—He has grown to believe this so much of a local disease that he does not believe it curable by other than topical applications. Of course, he excepts the existence of one of the causes already mentioned.

2. *Villous Endometritis, to effect a Permanent Cure after Removal of the Vegetations by the Curette.*—After scraping out the uterus for menorrhagia caused by villous degeneration, he invariably plugs the uterus at once with cotton soaked in pure tincture of iodine or in iodized phenol, and continues the applications of tincture of iodine, generally with the applicator, twice weekly for several months, then once a week, once in two weeks, and, finally, only once a month a few days before a period, until the menstrual flow is and remains perfectly normal in amount. He has thus cured patients who had been curetted by other gynæcologists at home and abroad, without any or sufficient after-treatment, and had consequently continued to flow until systematic prolonged intra-uterine medication was resorted to.

3. *Chronic Subinvolution and Hyperplasia of the Uterus.*—While granting that the prolonged use of ergot and hot douches will often result in restoring a subinvoluted uterus in the earlier stages of the disease to its normal condition, especially if the faradaic or the interrupted galvanic current is also used, he has never been able to convince himself that a uterus in a state of chronic subinvolution or of actual hyperplasia was much benefited by any measures, local or general, not applied directly to its interior. He certainly has seen more benefit follow frequent and prolonged intra-uterine applications of tincture of iodine and iodized phenol than any other measure; and in these cases the use of the ordinary cotton-wrapped applicator has answered as well as other methods, the mere irritation of the passage of the applicator seeming to play some part in stimulating the organ.

4. *Metrorrhagia from a Flabby or Subinvoluted Uterus.*—In many such cases, after the usual local and general hæmostatics failed, he has succeeded in checking the hemorrhage, when its persistence had become alarming, by plugging the uterine cavity with cotton saturated with compound tincture of iodine or with sol. ferri persulph. and glycerin, equal parts. Dr. Mundé concludes his paper in the following words: "In conclusion, I must again offer as an excuse for this communication, which may appear entirely uncalled for to those practitioners who believe in and habitually use intra-uterine medication, my apprehension lest by the force of distinguished teaching we go from one extreme to the other, and, from undoubtedly exaggerating the value of intra-uterine medication, abandon it entirely. I am sure it has its decided value, and, *in well-selected cases* and with reasonable precautions, will prove both efficient and safe. I trust that this paper may elicit the views of the members of the profession, both as to the value of the treatment in general and as to the respective worth and safety of the various agents, in order that we may see whether any decided changes of opinion have recently taken place."

ABSTRACTS.

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THE DIFFERENTIAL DIAGNOSIS OF CANCER IN THE MESENTERY (Dr. W. C. Van Bibber in the *Maryland Medical Journal*).—In what proportion of the cases of abdominal disease mesenteric cancer occurs, is, as yet, not numerically established. The data which I can give, or have been able to collect, on this point, can scarcely as yet be considered as even a basis for conjecture. The number of autopsies which I have made in my own private practice, together with those at which I have assisted in the private practice of others, amount to 152. Of these, three deaths have occurred from malignant disease of the mesentery. But this will give no real data for the proportional frequency of this disease, because the autopsies made in private practice are only occasional opportunities and are principally on recondit cases, of which a diagnosis during life was most difficult. Of the 152 post-mortems 68 were of abdominal diseases. In 1 the mesentery alone was affected. In 2 the mesentery was so much more affected than any other organ that it was reckoned as the cause of death. In 7 other cases the mesentery was, more or less, involved in the malignant disease. This gives for the 68 cases, 14.7 per cent. of mesentery disease. This may be considered too large a proportion for abdominal diseases generally; but it is intended to approximate to the proportional figure for malignant diseases of the mesentery when other abdominal organs are involved.

The next point to which attention will be called is, what assistance can be obtained for the diagnosis of mesenteric cancer from a study of the anatomy of the part?

It will be admitted, upon reflection, that the means to be commanded, and the physical explorations which can be used, to facilitate the diagnosis of disease of the mesentery, are necessarily limited. The exclusion of other diseases, holds a more prominent place in this, than in the diagnosis of almost any other organ. Otherwise than by exclusion, the diagnosis must be made entirely from symptoms which must be studied. A knowledge of its anatomical peculiarities as compared with those of other organs, may assist the study of its diagnosis in disease. It is important to observe, that, as a pedicle, the mesentery is attached behind, to a thick and hard base, and cannot be approached by the sense of touch from any direction. It is not possible to reach it by sight or sound, therefore the senses are excluded from our means of diagnosis.

Duration of the disease. There is but little certainty as yet upon this point, because there are not enough cases collected from which to obtain an average. It may be said, as a rule, that cancer is a disease of long duration. In my own cases, all three of them were under treatment more than a year. The nearest approximation to which I can arrive, is forty months for the three cases. This gives an average of 13.3 of a month for each case. The difficulty consists in not being able to determine the initiation of the disease. By what train of

symptoms, when grouped together, may the disease be first suspected?

A rule which may be applied to the answer of this question may be expressed somewhat in this way: Granting that an existing disease, in any individual, can be fairly located in the abdomen; then, if it be obstinate, unrelievable and progressive, malignancy may be suspected or inferred. Again, if in the progress of the disease the symptoms do not show by well known pathognomonic and individual symptoms that other organs are involved, as for example, the stomach, the liver, the pancreas, spleen or kidneys, then it may be inferred that some rarer form of disease exists. Such a train of reasoning may, by being closely followed, finally lead up to the opinion that there is cancer of the mesentery. What are, besides these, its own pathognomonic symptoms? The three cases which I have reported had one symptom in common. But the third case given, viz., that of Mr. Fondriat, is remarkable. So far as I can find out, it stands solitary and alone, in the fact that the mesentery was the only organ found involved in the malignant disease. The post-mortem was made most carefully and in the presence of many experienced physicians, hence the history and prominent symptoms of this patient may be interesting. He was sixty-eight years of age, and of a strong and healthy figure. His occupation had been formerly a distiller, and laterally a lace finisher. He had always been temperate. His symptoms from the beginning to the end were those of an aggravated and increasing indigestion, or dyspepsia. He had constant uneasiness in the abdomen, and many acute and prolonged pains. These pains were always referred to the region of the mesentery: The most painful symptom was an obstinate constipation. For the relief of this he used powerful purgatives and enemas. The action of these remedies was invariably attended with intense suffering, and generally with the expulsion of a small amount of fæcal matter. He had disturbed sleep, anorexia, and emaciation. He had beside these, many other wandering pains; but the great peculiarity of his pain, and also that of the other two cases, was that of being deep-seated, constant, sometimes acute and lancinating in character, at other times dull and wearing. These pains were always referred to the region of the mesentery. Under anodynes the pain would be ameliorated, but only to return as the anodyne effect wore off.

This is what may be said for the symptoms; concerning the pathology, the third case reported may be considered a rare opportunity and a treasure. The mesentery was the only organ involved. It is a solitary case, consequently the pathology of the disease, so far as I can give it from my own knowledge must include only this one case. All the other cases had complications. It was well put by Professor Bevan: "The small and large intestines," he said, "were normal, except in size and color they were thin and shrivelled, and of a peculiar pink hue." This might have been anticipated from the nature of the disease. All blood supply and vital activity had been cut off from the intestines. The same fact, and illustration of the same principle may

be seen in nature every day. They may teach us. A full blown flower, when the circulation of its sap is impeded by a disease, or a break in the stalk, shrivels, and changes its color as it dies.

There is another law supposed to govern the frequency of cancer in the abdominal organs which should be mentioned. It is this: that the abdominal organs are attacked with malignant disease in numerical frequency, according to the supposed activity of their physiological functions. Thus: first the stomach, then the liver, third the intestines; and of these latter the most frequent points for malignant diseases are the cæcum, the sigmoid flexure, and lastly the rectum. Judged by this law of function alone, malignant disease of the mesentery might reasonably be expected to be of rare occurrence.

Concerning the diagnosis of cancer of the mesentery, I have shown that in frequency it may be expected in 14.7 per cent. of all malignant abdominal diseases. If it is thought that this is too large a proportion, time and further observation will prove it to be so. It must be remembered that this is an approximation to the number of cases where the mesentery is involved in the malignant disease together with other organs, not where it is primarily affected, and the sole organ diseased. I have endeavored to show not only how a study of its anatomy as a pedicle, and its use as a support for the circulating vessels of the intestines, may assist in the matter of a diagnosis, but I have tried also to show how its study, together with its analogues, as a pedicle, may illustrate many practical points of interest and usefulness. Further than this I have shown what character of pain may be expected to demonstrate the disease, and how the diagnosis may be facilitated by a careful study of the character of the pains.

THE CURABILITY OF CANCER BY OPERATION.—In a paper on this subject published in *The Medical Record*, Dr. George F. Shrady arrives at the following conclusions:

1. Cancer is essentially a local disease, and can be cured by operation in spite of recurrence.
2. Operation, when it does not cure, prolongs life and diminishes the total amount of suffering.
3. Operations should be repeated as often as there is any chance of entirely removing recurrent growths.
4. The earlier and the more thoroughly the operation is performed the better.
5. The disease, when it recurs, is generally of a milder type than that of the original growth, less painful and less exhausting.
6. Antiseptic surgery makes more radical operations possible, with better ultimate results, than formerly obtained.

SCHOOL-MADE CHOREA (Dr. Octavius Sturges in the *Lancet*).—Speaking from the evidence, not only of the cases I am now quoting, but of very many others precisely similar, it is perfectly certain that for a large proportion of chorea, a proportion that would be under-estimated at one-fourth, school is responsible; and the mode of injury may be

classified pretty much as follows:—(1) Over-schooling, where the hours are too long or the lessons (especially *sums*) too hard; (2) excitement in schooling, especially at examination; (3) home lessons where there is no home to speak of or no home leisure; (4) “caning” and other modes of punishment, particularly when unmerited. Such causes will be rendered more or less efficient in individual cases from the feebleness of resistance that comes of insufficient food, natural sensitiveness, previous attacks of the same disorder, tender age or sex. So it goes on from year to year without variety or shadow of change, and but for one reason it would be worse than useless to dwell upon the subject at Christmas time. That reason is, as I have said, that, unlike most of the suffering with which poor London children are over-burdened, it is remediable. There are other sources of chorea besides these: family rows, drunken violence, home cruelty, semi-starvation, the perils of the streets; and we can but total them up at the close of each year and remark upon the wonderful sameness of statistics. But in this school-made chorea it is the friends and would be helpers of the children, teachers who are responsible for their moral and physical welfare, and anxious to promote both, who are, in fact, active agents in their suffering, and all for want of a little thought.

The evil comes, I am persuaded, from the fact that *teachers do not differentiate their material* in respect of temperament, ability, bodily health, and home circumstances. Their rule of conduct is too rigid and uniform. They might with advantage, and in a literal sense, take a leaf out of the doctor's book, setting down the family and personal history of their pupils just as we do with our patients. Were that done, children would not be put to home lessons which their circumstances make impossible; those that err from disease would not be confounded with those that err from wickedness; and the timid and sensitive would not be struck. Masters tell us that no school can be kept in order without some caning. That may be or not; but it is not the caning that is complained of (although I believe the practice is more common in school and more often injurious than is supposed), it is that they cane the wrong boys, and are not sufficiently alive to the vast difference of temperament, even with near relatives, which makes the very same punishment tolerable, and even salutary, in one case, and detrimental in another. I think it is Marryat who describes two brothers so differently affected by the same incident—parting from home—that while the one has his handkerchief saturated with tears and is of no further use, the other turns to him with, “Take mine, it's as dry as a bone.” Such contrasts are common enough, but there is ample proof that school teachers too often ignore them. What is most to be desired is that those who can speak with authority upon educational questions should concern themselves with this matter of injurious schooling and its nervous consequences.

ARTIFICIAL ALIMENTATION.—Dr. D. G. Hays in an article on this subject in the *N. Y. Med. Journal* arrives at the following conclusions:

1. Many pathological processes arise from an improper dietary, and many others may be controlled by a proper dietary. There is a celebrated proposition by M. Broussais: "He who does not know how to manage the stomach will never know how to treat disease."

2. Malassimilation is a cause of disease. Peptones in the general circulation being poisons, when from any cause metabolism is interrupted, the system is prone to take on pathological conditions.

3. In pyrexia: *A.* The digestive juices, being less in quantity and impaired in quality, should be re-enforced by the artificial digestive ferments. *B.* The stomach is feeble in a muscular sense, and incapable of dealing with large quantities. Hence concentrated or predigested foods should be furnished it. *C.* The process is one of tissue destruction (histolytic). Hence we must furnish the materials for repair (histolysis). How and when to furnish these is still a disputed question. *D.* Feeding is not the cause of pyrexia, nor starvation its cure. Though the former augments it and the latter decreases it, we gain most by keeping up nutrition. *E.* The excess of urea excreted is not proof of nitrogenous waste in the blood.

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## MICROSCOPY AND PATHOLOGY.

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### PHOSPHATIC DIABETES.

Dr. Ralfe lately introduced to the notice of the Medical Society of London a patient suffering from Phosphatic Diabetes, and read particulars of twelve others. These he arranged in groups according to the classification of Professor Teissier, who first gave a systematic account of the affection. Group 1. Excessive elimination of phosphoric acid associated with nervous derangements; three cases. Group 2. Excessive elimination of phosphoric acid associated with phthisis; three cases. Group 3. Excessive elimination of phosphoric acid alternating with saccharine diabetes; three cases. Group 4. Excessive elimination of phosphoric acid running a distinct course, like saccharine diabetes, only without the sugar; five cases. All the cases, with the exception of two, were young adult males. The symptoms common to all were great emaciation, aching rheumatic pains in loins and pelvic regions, dry, harsh skin, with tendency to boils, and ravenous appetite; in some cases cataract develops. In the majority there was polyuria; in others the urine was normal in quantity, with a high specific gravity. The urea was increased in some cases slightly, in others to a greater extent; but the great feature of all the cases was the very considerable and constant elimination of phosphoric acid, with or without increase of the other constituents of the urine—a feature which distinguishes it from insipid diabetes on the one hand and azoturia on the other, with both of which it has been improperly confounded. The pathology, Dr. Ralfe thinks, depends not so much on increased metabolism of nervous matter as on defective nutrition, so that the tissues are not able to



utilize the phosphorus brought to them, and consequently a greater amount passes through the system daily. In those cases, in which an excessive exertion of phosphoric acid replaces saccharine diabetes, it is probable that acids like oxy-butyric-glycollic, etc., formed by imperfect oxidation of the sugar, dissolve out the earthy phosphates from the tissues, which appear in excess in the urine. As regards the prognosis in these cases, it is most unfavorable in the first two groups; country air, massage, cod-liver oil, may for a time do good, but the patients rapidly fall back, and either are carried off by some acute attack proving fatal in their exhausted condition, or drift on into phthisis, or into diabetes mellitus. The prognosis of the last two groups is much more favorable: of the three cases recorded in Group 3, two got completely well; the third still suffers from saccharine diabetes, but it remains in a mild form.—Dr. Ralfe said that uranium nitrate was the agent used to precipitate the phosphates. Care must be taken that a specimen of the mixed twenty-four hours' urine is used to estimate the daily discharge of phosphates.

#### THE TYPHOID BACILLUS.

MM. Widal and Chantemesse have succeeded in carrying researches on the bacillus of typhoid rather further than Gaffky, who described it. The centre clear space is not, they say, characteristic, as Artaud supposed, for it is found in other bacilli, especially in those of old cultures; and it is, they believe, the beginning of the death of the microbe. Spores are produced between 37° and 38° C. It does not liquefy gelatine, and is easily cultivated on potato. Gaffky was unable to find the bacillus in the living subject, or to inoculate it. MM. Widal and Chantemesse have found it during life by making a capillary puncture of the spleen, and they have been able to inoculate both mice and guinea-pigs so as to find the bacillus in the abdominal viscera and lungs. In a case where a typhoid patient aborted in the fourth month the bacillus was found in the placenta.—*Lancet*.

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## BIOGRAPHY.

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RICHARD CLARKE, M.D.

The Selma (Ala.) Medical Society held a memorial meeting in honor of the late Dr. Richard Clarke, on the morning of January 31, Dr. C. J. Clarke in the chair, at which the following resolutions were adopted:

WHEREAS, The members of the Selma Medical Society are called upon to mourn the loss of a prominent and well-beloved member of this Society in the death of Dr. Richard Clarke; and

WHEREAS, It is meet and timely to give proper expression to our sense of the great loss that we have sustained in his death; therefore, be it

*Resolved*, That whilst in the death of Dr. Richard Clarke this Society recognizes and bows in submission to the will of the great Creator, still we cannot help but give expression to our grief at the sudden taking from our midst of a good and useful member of this body, a public-spirited citizen, and a tried and trusted patriot.

Second, That the members of this body wear for the usual period of thirty days the appropriate badge of mourning for his loss.

Third, That the usual custom of record be made in the minutes of this Society, and a memorial page be inscribed to his memory; and

Fourth, That the Secretary be instructed to furnish to his bereaved family a copy of the proceedings of this meeting, with our most earnest sympathy for them in their affliction.

In offering these resolutions Dr. Tipton said, in part: Mr. President and gentlemen: I wish, before we adjourn, to speak briefly of him whom we must soon consign to his last resting-place on earth; to pay a simple tribute of gratitude to one who has always been to me a staunch and constant friend. Rich in the wisdom and experience of a long and well-spent life, crowned with the honors and reverence tenderly laid upon his aged brow by loving hands and the free-will offering of a grateful and devoted people, the physician, the patriot, the stainless gentleman, has gone at length to rest. Surrounded by warm hearts and tender hands that never wearied in their labor of love, ministered to and nursed by zealous and devoted associates, he has passed quietly away amidst the prayers and blessings of an anxious people, who during his short and painful illness hung well-nigh breathless on the mournful issues of the hour and watched his every change with the eagerness and sympathy born of deep and ardent affection. In his varied relations in life, he was what all men should wish to be—tender, generous and courageous in instinct, steadfast and incorruptible to the death in principle; and in death he leaves that priceless heritage—a stainless name to give perpetual fragrance to the weeds that hang about our hearts to-day for him. No breath of suspicion for a moment tarnished his jealously-guarded good name, and no vice so strongly stirred his supreme contempt and scorn as did lying and hypocrisy.

It is not my purpose to speak in detail of his life and works; let it suffice for me to speak of the scenes behind the canvas where the man himself is shadowed forth in all the simplicity and purity of the stainless Christian gentleman and patriot. He has passed from this life to eternity, but his memory will be with us always; inspiring, encouraging and consoling in those weary labors and death-watches that he has gladly laid aside forever. God grant that he has reached a land where there is no labor, and where the sun of peace and joy lights eternally the pathway of the righteous.

Peace to thy ashes, dear friend. May the sod rest lightly above thy aged form. Drink deep of the waters of life; drink deeply, and may they bring that peace and rest to thy weary soul, and that light and gladness to thy failing eyes, that thy kind words of comfort and solace

have brought so bountifully to the hearts of the helpless, the homeless and the hopeless.

The society then adjourned to accompany the body to its last resting place in Live Oak Cemetery.

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## PROCEEDINGS OF SOCIETIES.

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### ACADEMY OF SCIENCES.

*(From the Paris correspondence of the Lancet.)*

#### CONTINUATION OF DISCUSSION ON RABIES.

The discussion on rabies was resumed on the 18th inst., the interest in the question being so great that it was difficult to obtain standing-room even in the passages. M. Peter read particulars of two new cases, communicated to him since the last meeting, in which death had taken place from the paralytic form of rabies after the intensive inoculations. A stonemason and his son were bitten on November 3 by a mad dog, and were treated in Paris from the 7th to the 21st of the same month. On December 2 the father was seized with violent pains at the seats of the inoculations in the head, the loins, and the limbs, and with general prostration. On December 7 he had complete paraplegia with anæsthesia, or rather painful analgesia, as the pains were still felt in the limbs. There was no difficulty of deglutition, delirium, or convulsion, but slight hallucinations of hearing the day before his death, which took place on the 8th. These cases of paralytic rabies continue to occur, said M. Peter, and yet the partisans of the intensive method still ignore its dangers. The cases are explained away either by the doctrine of limitation or by attributing the death to some pathological condition, such as uræmia. The child, who was said to have died from uræmia, had not even had his play interfered with by the headache that always precedes a fatal termination. He had had neither eclampsia, coma, nor delirium. He had had dispnœa and difficulty of deglutition, symptoms referable to the pneumogastric and glosso-pharyngeal nerves; and these, it must be recollected, have their origin in the parts of the nervous centres affected in rabies. The death of the man at Constantine had not been put down to uræmia, but no one knew exactly what he had died of. In the six cases brought forward the incubation had been from thirty-six to thirty-nine days, and death had occurred from paralysis, whereas ordinary rabies occurs after forty days, and is convulsive. M. Brouardel had quoted M. Von Frisch. It should be known that the Viennese Professor of Bacteriology had been sent to Paris on behalf of a committee of ladies interested in Pasteur's experiments, and that his sympathies were all in favor of the method; but when asked on his return what was his impression, he replied diplomatically, "I think that it is well to continue the investigation." The first ten con-

clusions of his report of his subsequent experiments were favorable to M. Pasteur's method, and were quoted by M. Brouardel in his last communication to the Academy; but the other six conclusions were absolutely condemnatory of it. Consequently, both clinically and experimentally, the intensive method was dangerous—unlike the first method, which, if inefficacious, was at least harmless. As long as Pasteur's experiments remained purely physiological, they deserved the greatest praise and admiration; but the line must be drawn at the point where they are applied to human medicine. The anti-rabic inoculations originated in the following conception: Was it not possible to prevent the ulterior appearance of rabies by inoculation during its incubation with an attenuated virus, similar to those which had already been obtained for other diseases? For his previous attenuated viruses M. Pasteur had made microbic cultures in bouillon, the attenuation being obtained by the action of oxygen through time. But this method was not applicable to rabies, the microbe of which was unknown. The ingenious idea occurred to him of passing the virus through a succession of living organisms, and it was found that the virulence of the monkey vaccine, so obtained, was attenuated, whereas that of the rabbit was intensified. This intensified virus was found to be attenuable by exposure to air, and M. Pasteur was able to obtain a series of decreasingly virulent viruses, the progressive inoculation of which, beginning with the weakest, prevented the appearance of rabies after infection with the most virulent. Thanks to this "Mithridatisation," a dog could be made refractory to rabies, and, what was even more extraordinary, a dog already bitten could also be rendered incapable of developing the disease. At this juncture a young man who had been badly bitten by a mad dog (J. Meister) offered to make a trial of the method. The case was delicate, but, after consultation with MM. Vulpian and Grancher, the treatment was applied, and four months later the result was made known to the scientific world, and it was proclaimed by M. Vulpian that a certain remedy had been found for hydrophobia. What had been the results of the method during the last year? In his article upon "Rabies" in the Encyclopædic Dictionary, M. Brouardel gave *thirty* as the average annual mortality for twenty-seven years in France. This was exactly the number of deaths for the last year—sixteen not inoculated, fourteen inoculated. After a fresh protest against the intensive method, M. Peter said: "I must be moved by a profound conviction to come here to discuss a treatment that has been adopted by the most eminent representatives of French medicine, and so risk my popularity and the sympathy of the Academy, which I prize above all. If I do so, it is because the new method seems to me not only dangerous, but rash, and I cannot help saying to M. Vulpian, *à propos* of his enthusiastic speech at the Academy of Sciences, 'What! you, an experienced physician, and a member of the Academy, did not understand that a single case proves nothing in therapeutics! You could not see that the patient had the same five chances out of six that we all have of escaping rabies after a bite from a mad dog! Why

proclaim with enthusiasm what should have been made the subject of sober examination? Why conclude so hastily from the laboratory to clinical application? An eminent physician like you should have dissuaded rather than encouraged M. Pasteur, and I do not hesitate to declare that the words pronounced by M. Vulpian might compromise the Academy of Sciences, M. Pasteur, and M. Vulpian himself.”

M. Vulpian, who was received with applause, said that he was proud of what he had done on the day he pronounced the words alluded to by M. Peter, and that he was prepared to repeat them to-day. Nothing could be grander from a humanitarian point of view than M. Pasteur's work, and it was a pity that M. Peter had chosen the hour when he was absent through illness to make his attack. “What can be M. Peter's object? Surely not to prove that the method had sometimes been unsuccessful. That has been admitted by M. Pasteur himself. M. Peter has accused M. Pasteur of concealing facts. This is untrue. In each of his statistics the rare failures have always been mentioned. M. Peter relies upon the statistics to show that the method is inefficacious; but all those who have examined them without bias have recognized that they afford a striking proof of the preservative value of the method. He endeavors also to show that the intensive method is dangerous. Stripping his language of all artifice, M. Peter in reality accuses M. Pasteur and all his assistants not only of a grave error, but even of involuntary homicide. His propositions may be formulated as follows: (1) M. Pasteur's anti-rabic method is dangerous, as it may communicate rabies to those who are so treated. (2) The method is inefficacious. To prove that the anti-rabic method is dangerous, M. Peter has brought forward a small number of cases where death, according to him, is attributable to what he terms the ‘collaboration’ of the two viruses forming, to use his own expression, the canino-experimental virus. As regards the cases seen in England, the certificate of death of Wilde sent to M. Pasteur is formal, indicating pulmonary disease as the cause. The cause of death in the case of Smith is more obscure, but until Mr. Horsley's report is published it should not be brought into the discussion. In the observations that have been obtained at home (in France) M. Peter has noted the occurrence of general fatigue (*courbature*) in the patient as a proof that the *materies morbi* was derived from the rabbit. But where did M. Peter recognize this fatigue in rabbits? and by what feat of imagination can he see in the fatigue of the patient the proof of rabbit-derived infection? The pains at the seat of the inoculations have no diagnostic value. All sorts of sensations may occur after inoculation, and it is possible that, with the development of rabies, any existing wound may become painful. If we knew more about this disease—if, for instance, we knew for certain that rabies never occurred in a paralytic form in a man—the paralytic symptoms adduced by M. Peter would have more importance. But this is not the case. Not only is it probable that the paralytic form of the rabies will soon become a recognized variety, but it has even been described in a Paris thesis published before the application of M. Pasteur's intensive method,

and consequently written without partiality. Van Swieten also quotes a case which occurred in 1684, and which is reported in the Philosophical Transactions by Dr. Roger Howman." M. Vulpian read several observations of the kind, and added that "we cannot, without committing a grave mistake, attribute the paralytic symptoms of rabies occurring in those who have been submitted to the intensive treatment to the effect of the rabbit virus. The rabbit-derived virus, indeed, does not always give rise to paralytic symptoms; in the dog so infected the rabies is of the furious kind. To return now to M. Peter's assertion that the method is inefficacious and irrational, having failed 'lamentably.' How can we lay down the law in such matters? This is not a question of theory, but of fact. M. Peter knows as well as anyone that the overwhelming proofs he speaks of do not exist. He bases his examination of the results upon an old statistical return of the number of deaths occurring annually in France from rabies, from which it would appear that, notwithstanding the preventive inoculations, the mortality remains the same. But these statistics are perfectly unreliable, and when quoted by M. Brouardel, the remark was added that the mortality was no doubt much greater than appeared. It has been pointed out repeatedly that fourteen cases have died after inoculation, and that sixteen deaths have occurred in individuals who have not undergone the preventive treatment. Adding the two together the mortality has been the same as the average—that is to say, thirty deaths in all, and it has been concluded by a comparison of the numbers of deaths that the chances were only as sixteen to fourteen in favor of the inoculated. But the truth is, the vast majority of those bitten have submitted to inoculation, and the *fourteen* deaths have occurred in 1726 cases, giving a mortality of less than 1 per cent., whereas the *sixteen* fatal terminations have occurred in a small minority, probably not more than a hundred cases, and give a mortality of 16 per cent., which is about the average mortality from rabies after dog-bite. Taking this figure, 16 per cent., as the basis of our calculation, of the 1726 persons treated by M. Pasteur, 276 would have died. Subtracting those who were not saved by his method, there remains 262 persons who owe their lives to M. Pasteur. And this is the lamentable failure of which M. Peter speaks! M. Peter's objections stand upon no solid foundation, and they are without value. The method of M. Pasteur is entirely free from danger, and nearly always preserves from rabies. It is successful even in an unhoped-for degree." M. Vulpian, whose speech was received with enthusiastic applause, was followed by M. Brouardel, who went over much the same ground. He read passages from the observations of Van Swieten, and quoted from the thesis of Dr. Roux to show that there was a paralytic form of rabies in man. He maintained also that there could be no question as to the value of inoculation as a criterion of rabies in obscure cases. M. Peter's attempt to discredit its certitude was useless, the results obtained by this means of investigation having been uniformly constant.

## REVIEWS.

MEDICAL AND SURGICAL MEMOIRS: CONTAINING INVESTIGATIONS ON THE GEOGRAPHICAL DISTRIBUTION, CAUSES, NATURE, RELATIONS AND TREATMENT OF VARIOUS DISEASES. 1855-1886. By Joseph Jones, M.D., Professor of Chemistry and Clinical Medicine, Medical Department Tulane University of Louisiana; Visiting Physician of Charity Hospital; President of the Board of Health of the State of Louisiana, 1880-4, etc., etc. Vol. II., Containing Researches on the Origin and Effects of Endemic, Epidemic, Infectious and Contagious Diseases; Investigations on the Nature, Causes, Relations and Treatment of Malarial (Paroxysmal) Fever; Intermittent, Remittent, Pernicious and Hemorrhagic Malarial Fevers; Comparative Pathological Anatomy of Malarial, Typhoid and Yellow Fevers; Indigenous Remedies of the Southern States; Albinism in the Negro Race; Oriental Leprosy; Elephantiasis Græcorum; Elephantiasis Arabum. New Orleans: Joseph Jones, M.D., 156 Washington Avenue. 1887. Pp. LIV—1348.

This work, while of great interest and value to all students of scientific medicine, is particularly valuable to the Southern physician; embodying, as it does, the results of the special studies, during a period of thirty years, of one of the most eminent and popular teachers and practitioners of the South. From the first of January, 1869, to the first of April, 1886, the distinguished author treated, in the wards of Charity Hospital, New Orleans, no less than 6,311 cases of disease, of which 668 (10.5 per cent.) terminated fatally; and of this number the various forms of malarial fever caused 2885 cases, of which 88 (3.05 per cent.) terminated fatally. The manner in which he has endeavored, by clinical studies, post-mortem examinations, and microscopical, chemical and pathological investigations, to utilize this vast mass of material certainly ought to stimulate many of the rising generation of aspirants for medical honors to imitate his excellent example.

The author has endeavored to make each chapter a complete monograph on the subject of which it treats, and this plan has necessitated the occasional repetition of cases and illustrations. As the chapters are all bound together in one volume, however, the wisdom of introducing these repetitions, which are met with not very infrequently, seems questionable; and, doubtless, by a more thoroughly systematic arrangement of the subject-matter, they might have been avoided, with the effect, also, of rendering the work somewhat more concise. In the first chapter is given a general summary of Dr. Jones's hospital practice and its results, followed by many valuable notes on various diseases, in connection with which are cited cases of special interest. As one would naturally expect in such a work, a large part of the volume is devoted to the consideration of malarial fevers and allied forms of disease, the investigations of the author in regard to which were commenced in 1856, in Savannah, Georgia, and have been continued in various parts

of the Southern States ever since ; and this chapter concludes with a general introduction on malarial fever, preliminary to the subsequent ones, in which the subject is taken up in minute detail. In these his original observations are presented under the following heads: 1. Physical and chemical characters of the blood in malarial fever. 2. Microscopical characters of the blood. 3. Hemorrhagic malarial fever. 4. Pathological anatomy. 5. Phenomena of fever in general. 6. Cases illustrating the symptoms, history, pathology and treatment of the various forms of malarial fever. 7. Prevention. 8. Indigenous remedies of the United States which may be employed in the treatment as substitutes for quinine. 9. Practical observations on the treatment of the various forms and the complications arising from the pathological alterations induced by the malarial poison, and from the supervention of other diseases.

The second chapter is devoted to the physical and chemical characters and changes of the blood in malarial fever and other diseases. Here will be found not only a large amount of original research, but also a summary of the labors of the most distinguished chemists, physiologists and pathologists in England, France and Germany, relating to the chemistry, comparative anatomy, physiology and pathology of the blood in man, in the various conditions of health and disease. In this chapter is taken up the consideration of micro-organisms in typhoid fever, and on page 161 we find the following interesting passage: "A careful comparison of the preceding observations upon the micro-organisms of the intestinal contents, and of the mesenteric and Peyer gland, and urine in typhoid fever, with the subsequent observations of Klebs and others, will justify the claim of the author as one of the discoverers of the micro-organisms of typhoid fever. During the Civil War, 1861-1865, he had no means of presenting his labors to the scientific world. These labors, with accurate details of cases, and elaborate drawings, were continuously forwarded to the Surgeon General's office, in Richmond, Virginia, in 1862, 1863 and 1864; and constituted three large manuscript volumes. These labors were destroyed at the time of the burning of the Confederate capital. The author retained his first and original draft of the cases and drawings, and from that were reproduced the above illustrations." Among the illustrations referred to are the following: Engravings No. 8 and 9.—Casts of *tutuli uriniferi* of typhoid fever; also micrococci and bacilli. Confederate soldier, 1863. Engraving No. 10.—Casts of *tutuli uriniferi*, crystals of uric acid, masses of hæmatine and mycelia, micrococci and bacteria in urine of typhoid fever ingrafted in malarial fever. Confederate soldier, 1863. The conclusions of the author in regard to the etiology, nature and treatment of malarial fever are referred to at length on another page.\*

Chapter III. contains a comparison of the changes of the blood in malarial fever with those in other diseases, pyrexial and phlegmasial, and gives an extended consideration to the microscopical changes of the blood and the micro-organisms found in malarial fever and other

\* See Editorials.



diseases. In Chapter IV. the important subjects of hemorrhagic malarial fever, malignant forms of malarial paroxysmal fever, and malarial hæmaturia are admirably and exhaustingly discussed, and many illustrative cases given. Jaundice is also fully considered, special attention being directed to the chemistry and physiology of the bile. Chapter V. treats of the circulation, respiration, temperature, state of the skin and tongue, and changes in the urine in intermittent, remittent, and congestive fever, together with the principles of treatment based on these observations; and Chapter VI, of the pathological anatomy of malarial fever, in its various types, and a comparison of this, with the changes met with in other diseases, and with the organs and tissues in man and the lower animals in the normal condition. The researches relating to the pathological anatomy of the brain, heart, liver, spleen, kidneys and alimentary canal in malarial, yellow and typhoid fevers, have unquestionably been the product of much severe and protracted original investigation and research, and the author has good ground for the hope which he expresses that the facts and illustrations here grouped will prove a lasting addition to our knowledge of the pathology of the fevers of tropical and temperate regions, and serve as the basis of future studies and investigations in this most difficult branch of medical knowledge.

Chapter VII. relates to the prevention and treatment of malarial fevers, and in it is embraced a full description of the botanical, chemical, and therapeutical properties of the indigenous remedies of the United States which possess febrifuge and antiperiodic properties, and which may be employed as substitutes for Peruvian bark and its preparations; so that practitioners in the malarious regions of our Southern, Western and Southwestern States will no doubt find much of practical utility in it. Chapter VIII. is taken up with observations and researches on albinism in the negro race, which are extremely interesting; and the remainder of the work, which is divided into nine short chapters, is devoted to a consideration of leprosy (elephantiasis Græcorum) in America, in connection with which is given some account of the peculiar affections known as yaws, sibbens, pian and elephantiasis Arabum. As is well known, these diseases are chiefly characteristic of tropical and subtropical climates, and as the researches of our day have traced them to the action of certain bacilli and entozoa, their consideration in connection with the various forms of malarial fever may be regarded as appropriate and instructive.

Even from this hurried outline, which gives but a faint conception of the varied richness of the work from either a practical or scientific point of view, it may be readily imagined that it is a veritable thesaurus of information. A vast number of incidental topics which could not be referred to here are discussed, and every page is replete with points of distinct value either to the student of pathology or the practitioner actively engaged in daily conflict with disease. The whole volume, indeed, constitutes an enduring monument to the industry and attainments of its gifted author.

From the absence of medical publishing houses in the South he has been compelled to act as his own publisher, assuming every responsibility, and meeting by cash payments every expense of original research, and of printing and engraving, and yet he has spared no pains to secure accurate engravings, and elaborate tabular statements of chemical, physiological, pathological, mortuary and vital statistics.

The book embraces 1368 closely printed pages, the forms of type used being nonpareil, brevier and long primer. If the entire work were printed in the latter type, it would cover over two thousand pages.

It is profusely illustrated by about 140 elaborate engravings, executed especially for its illustration; many of which occupy the size of an entire page. It is also illustrated by sixteen plates, the majority of which are colored. Among the latter are especially to be noted those representing the countenance in the first and last stages of yellow fever, and the appearance of the various organs in yellow fever and in malarial hæmaturia and other malarial conditions. It is therefore hoped that the medical profession will sustain this effort to bring to a successful termination, and place in a permanent form, the results of investigations which have extended over more than a quarter of a century. The price of the work is \$6.50, and it may be obtained directly from the author; the postage on it being fifty cents.

A TEXT-BOOK ON SURGERY, GENERAL, OPERATIVE, AND MECHANICAL. By John A. Wyeth, M. D., Professor of Surgery in the New York Polyclinic; Surgeon to Mount Sinai Hospital; Ex-President of the New York Pathological Society, etc., etc. New York: D. Appleton & Co. 1887. Pp. VIII—777. Sold by subscription. Price \$8.00, bound in sheep.

The almost simultaneous appearance of three such works as those of Drs. Bryant, Wyeth, and Stephen Smith (the latter, although a second edition, being in many respects practically a new book, on account of the changes which the recent advances in surgery have rendered necessary), speaks well for the activity and ability of the surgeons of New York; each of these gentlemen occupying a chair in a different medical school in this city. Dr. Wyeth's is an exception to the vast majority of medical works in the fact that it is without any preface whatever; but the name "text-book" sufficiently explains its scope and purpose. In order to produce such a work, and make it satisfactory to those who desire a guide thoroughly up to the times in this department of medicine, it has evidently been the author's aim to discard all that has become obsolete and that is not essential, and to present the whole science and art of surgery, as it is taught and practiced at the present day by the ablest authorities at home and abroad, in a very compact and yet thoroughly intelligible form. That he has succeeded in this design the pages of this beautiful volume seem clearly to indicate. The work throughout is stamped with his own individuality, and if at times he seems a little dogmatic in his manner,

it is because he is speaking of matters with which he is thoroughly conversant, and advocating methods the efficacy of which he has thoroughly tested in a practical way. That there are honest differences of opinion on many of the points of pathology and practice upon which he treats, of course goes without saying; but throughout the work the teaching is unquestionably sound and conscientious, and if in any given condition only one plan of treatment may be advised, it is because the author honestly believes it to be the best. Three years of unremitting toil have been given to the preparation of the book, to say nothing of the many additional years of study, teaching and practical work of which it is the fruit.

The first four chapters are devoted respectively to surgical dressings, bandaging, anæsthesia and surgical operations in general, including the methods of hæmostasis. In treating of local anæsthesia he refers with approval to Corning's cocaine method, whose efficacy, he states, has been amply demonstrated, and for general anæsthesia very properly advocates, in the strongest terms, ether in preference to chloroform, on account of the much greater danger of the latter. In his opinion, chloroform narcosis is only justified under the following conditions:

1. In children under six years of age, when it is less apt to cause an accumulation of mucus in the trachea and bronchi than ether. Its more rapid and less irritating action renders it preferable in this class of patients.
2. In women in childbirth, when the recumbent position is imperative.
3. In an emergency when ether cannot be obtained.
4. In a patient who has previously been in ether narcosis, in which dangerous symptoms were caused by the ether.
5. In an emergency when it becomes necessary to perform an operation within two or three hours after the ingestion of solid food.
6. In some exceptional cases of laryngeal or tracheal stenosis.

Dr. Wyeth, might, with good reason, perhaps, have added as a seventh condition in which chloroform is preferable the existence of nephritis.

Although he has used ether several times with artificial light, he has never seen an accident, and he does not hesitate to recommend its invariable employment for night-work.

The next three chapters are devoted to inflammation, wounds, burns, scalds, gangrene, and other similar topics. Under the subject of poisoned wounds hydrophobia is treated, though very briefly; and it is noticeable that the author makes the statement that the disease may follow the bite of an animal seemingly in perfect health. It is conceivable that a spurious hydrophobia, of the nature of septicæmia, or purely hysterical in character, might thus originate; but the weight of scientific evidence goes to show, beyond doubt, that true rabies can never be produced except through the agency of the specific virus of that affection. In chapters 8, 9, 10 and 11 are treated amputations, and the surgical diseases and surgery of the lymphatic vessels, veins and arteries, including aneurisms and ligation of arteries. Then come chapters 12 and 13, on the surgical diseases and surgery of the bones,

including fractures, dislocations, diseases of special joints and excretions of joints. In the treatment of fractures many old methods, with more or less cumbersome apparatus, are wisely left unnoticed. For instance, in fracture of the clavicle the only methods described are those of Dr. Sayre, and Dr. E. M. Moore, of Rochester; although it is stated that in incomplete fracture, and in children, especially during the summer months, Velpeau's, (which is given in the section on dislocations), is preferable. In the treatment of compound fractures of the leg there is a somewhat serious omission in the neglect to make any reference to wiring the bones together, which is now considered a perfectly legitimate operation in suitable cases and where appropriate antiseptic precautions are observed.

Chapters 14 to 19, inclusive, are taken up with regional surgery. In that on the head short sections are devoted to the surgery of the eye-lids, ear and nose, and special attention is paid to the plastic surgery of the nose, lips and cheeks. In the section on the larynx and trachea O'Dwyer's method of intubation is described, and the statement made that the results obtained with the laryngeal tube of Dr. O'Dwyer justify a faithful trial with this instrument before resorting to tracheotomy in diphtheritic croup. In the chapter on the surgery of the genito-urinary organs an excellent *résumé* of the subject of syphilis is given. The last two chapters (20 and 21) are devoted respectively to deformities and to tumors, and due consideration is given to the pathological anatomy of the latter.

It should have been mentioned that the work embraces a section on diseases of the female organs of generation demanding abdominal section, which is well up to the requirements of the times, though the subject of abdominal surgery in general has not, perhaps, received quite as much attention as its growing importance at the present day would seem to demand; and the operations of cholecystotomy and cholecystomy are not mentioned at all. But it is easy to find fault. To prepare a satisfactory text-book on surgery is a task the difficulties of which few, indeed, can thoroughly appreciate; and to have accomplished the undertaking so admirably as Dr. Wyeth has done is something of which any man, however great his attainments and experience, might well feel proud. The whole appearance of the book is handsome in the extreme, and reflects the highest credit on both the author and publishers. The illustrations, which are 771 in number, are beautifully executed, and are of the greatest possible service in elucidating the text. They are not old cuts, put in merely to make a show, but are fresh and reliable, and each has its specific purpose. About fifty of them are colored, either wholly or in part, and a striking and original feature, which adds no little to their value, is the tinting red and blue respectively of the arteries and veins in the numerous engravings illustrating the parts on amputations, ligation of arteries, and hernia. The excellent cuts representing sections of the extremities, as made by amputations at different points, while not original, have all been tested as to their accuracy by sections upon the cadaver.

UNWISE LAWS. A Consideration of the Operations of a Protective Tariff Upon Industry, Commerce, and Society. By Lewis H. Blair, Richmond, Va.

No man can afford to be ignorant of the great questions of the day, even though they have no bearing upon his immediate profession or calling. As the clergy, the lawyers and thoughtful men in every department are looking with vivid interest upon the development of the science of bacteriology, so physicians desire to know the latest result of scientific study in other fields. They can only know the results, and must leave the intricate process of reasoning, and an intimate acquaintance with the whole line of argument to those who have time to do justice to their themes. Thus, this volume which has been laid upon our table, is of immense value to all in the medical profession, because it gives practical information to all who will read it, upon the very important subject of political economy; a subject upon which all are equally interested. For it is one of the great questions of the day, and one upon which every physician must, as a man, have an opinion. Physicians are called upon for their opinions on all subjects, and when so called upon their answers must be wise; for when a patient discovers that his physician is ignorant upon one important point, he instantly imputes to him ignorance on many others. Some will remember in this connection the story of the American doctor who took up his residence in Ireland during a specially troublesome political period. He knew nothing of the state of affairs, because he had studied and thought only in the line of his profession, and, after prescribing for a patient, remarked: "By the way, Mrs. —, what is this 'Habeas Corpus' they are about to suspend in Ireland?" When he left his patient, she threw out of the window every bottle and powder which he had prescribed, and said to her husband that a man so totally ignorant on one subject, could not be trusted upon any. Wrong reasoning, but not unnatural.

Therefore it will be seen that upon the momentous questions of the day physicians should have formed their opinions. Upon the subject of the tariff and taxation they should be in possession of the most advanced views, and the book just published by Mr. Blair is in all respects an exponent of these. He writes from no half-way standpoint, but attacks the principle of protection in toto. He says in his preface: "In this volume I march to the attack of the citadel of protection. I aim my shafts at its very heart, and if I fail in my object, it is not because my position is unsound, but because my pen is feeble."

That his pen is not feeble, will be accorded by all, for his book is a master piece of concise logical reasoning, and the reader is carried along with enthusiasm, acknowledging the premises and granting the conclusions of the author in every important particular, until he finds himself an earnest advocate of the principle of universal taxation, and believing firmly that this taxation should be levied exclusively for the benefit of the government, and not at all for the benefit of industries either infant or ancient.

Mr. Blair sets forth in brief, forcible language what these unwise laws

are; how they originated; how they first stimulate and then embarrass all industries; how they engender the strikes from which we are now suffering so severely; how they ruin the mercantile business, and how they cause the extremes of wealth and poverty.

After demonstrating that protection is opposed to improvement, and that it cannot insure permanent high wages, he goes on to explain why unwise tariff laws have not sooner exerted their injurious effects, and why they must exert them in the future with increasing force. This portion of the book is of great interest, and the reader is deeply impressed by the chapter which sets forth the facts that protective laws cause poverty, stagnation, isolation and revolution under their system. We are shown in the near future not "one China, but as many Chinas as there were formerly flags."

He says in regard to this, that "if protection is good for nations, those nations that practice protection should be the most advanced and most prosperous, and those that practice free trade ought to be the most backward and the most wretched." He goes on to remind his readers that the most fruitful portions of the globe, such as Spain, Portugal, and Mexico, are the poorest, least productive, and the most ignorant, while in Great Britain, where free trade is the law, industry, intelligence and wealth are unsurpassed. In regard to France he says that while she carries protection to extremes, she is saved from feeling the full effects of the evils which protection brings in its train, on account of the extreme economy and industry of her people, but that they are poor nevertheless, and that their only chance of a prosperous future is in the establishment of free trade.

In concluding this very inadequate notice it is well to mention that business men who have read "Unwise Laws" say that it is "the book of the age" in financial circles, and that it will be largely instrumental in transforming legislative action in those of our law makers who are honest and open to conviction.

This book is a small one, and can be had from G. P. Putnam's Sons for fifty cents in paper form, \$1 in cloth.

TEXAS STATE MEDICAL ASSOCIATION. Report of the Special Committee on Surgery, Presented at the Annual Meeting at Dallas, April 27, 1886.

This report, which is quite voluminous, comprising seventy-six folio pages, has been issued separately as a supplement to the transactions of the association, and reflects great credit upon the industrious chairman of the committee, Dr. George Cupples. It is a volume of which the profession of Texas has every reason to be proud, containing, as it does, the record, as Dr. Cupples says, of "the hard, every-day work of the surgeon, not in well-appointed hospitals, supplied with every means and appliance that modern science and the marvellous ingenuity of this age have placed at his disposal, but under the most difficult circumstances, deprived even of necessary instruments, and, as has fallen to the lot of some, compelled to amputate a limb in a negro

cabin with a bowie knife and a carpenter's saw." The report covers 4,293 operations, divided into fourteen classes, and presents a summary of operations in each class, with the deaths and recoveries and ratio of each; a table of major and minor operations, with deaths and recoveries; and a third table setting forth the number of cases of secondary hemorrhage, tetanus, pyæmia, septicæmia, erysipelas and gangrene occurring after operations, with the mortality. There is also a tabular view of anæsthetics and antiseptics employed, and their effects, and further tables of the more important operations are appended. The committee expresses its confidence that the publication of what has been done in the past will incite practitioners to keep more careful records of their cases, for their own benefit and the instruction of their fellows; and this admirable work accomplished by the Texas State Association is certainly worthy of the emulation of the medical societies of other States. If its example were thus followed, there would be placed in possession of the National Medical Association, as Dr. Cupples remarked in his report in 1885, such an array of authentic statistics as could be procured in no other manner, and which would form no unworthy pendant to the magnificent work which will ever remain a lasting monument of the industry and professional ability of the officers of the Bureau of the Surgeon-General of the United States Army, in their Medical and Surgical History of the Civil War.

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## PHARMACY AND THERAPEUTICS.

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INDIAN HEMP IN CHRONIC HEADACHE (Dr. Stephen Mackenzie in the *British Med. Journal*).—The headache to which I wish to draw attention is of a dull, continuous, or subcontinuous character, attended sometimes with paroxysmal exacerbations. What is especially characteristic of it, is its constancy. The situation of the headache varies; it may be frontal, temporal, or occipital, or, more rarely, vertical. Usually, however, it is diffused. It is not as a rule attended with local soreness or tenderness. Nausea may be present, but is not constant: vomiting is usually absent. In some cases, distinct exacerbations, sometimes of great severity, occur. As these subside, they give place to the dull continuous headache that preceded their advent. As a rule, the ocular phenomena characteristic of migraine are absent, and the headaches are not usually hemicranial. Constipation is present in a certain number of cases, but removal of the constipation does not cure the headache. In some cases, it is associated with disorders of digestion, but the same remark applies to these as to constipation. Headaches of this type may last for weeks, months, or even years. They occur in persons of different ages, but are, perhaps, most common in the middle period of life, and in young adults. Several of my best marked cases have been in medical students. Patients so suffering are usually able to pursue their usual avocations, except, perhaps, during paroxysmal

exacerbations, especially when their work is of an active rather than of a sedentary and intellectual character. Thus, medical students have been able to attend to their dressing and other duties at the hospital, but when they have attempted to read they have found it impossible; the headache prevented the full engagement of their attention. As to the nature of these continuous or chronic headaches, I do not intend to offer a decided opinion, but I hope further experience will reveal it. All I can safely affirm is that they are not due to peripheral irritation or anæmia. They do not seem to be of the nature of megrin—at least in the majority of cases. I have thought they may be due to some discrasia or diathesis. In a few cases it has seemed a slight malarial taint might be present; in others, gout or rheumatism appeared a possible cause. These, however, are conjectures only, unsupported by sufficient positive evidence to warrant definite conclusions.

For the relief of headaches of the class I have described, I have found Indian hemp of the greatest service. In the majority of cases, it cures the complaint. The one element of the headache which, in my experience, indicates the probable success of the remedy, is its continuous character. The preparation of Indian hemp I always employ is the extract. I begin by giving one-third or more (usually half a grain) night and morning, or occasionally three times a day. If at the end of a week some amelioration of the headache has been procured, I advise its continued use in the same doses; but if little or no improvement has taken place, I increase the dose to one grain at night and half a grain in the morning. If this is insufficient, I increase the dose so as to make it one grain night and morning; this failing, I increase it by half grain doses, giving the maximum dose at night, until two grains at night and one and a half grains in the morning are reached. I have scarcely ever had occasion to exceed these doses. There are two points I wish to urge:—1. The gradually increasing dose. 2. Steady perseverance in its employment. The treatment must be as obstinate as the disease. Given in these doses, usually no inconvenience is experienced by those taking *cannabis indica*; but a few patients have complained of a feeling of slight confusion or giddiness, not in any way so annoying as the condition for which it was administered. The length of time over which treatment has to be continued varies in different cases; usually, it extends over several weeks, but rebellious cases may require a treatment of two or three months. As the malady recedes, the dose should be reduced, and it is advisable to continue the administration of the remedy for a week or two after the headache has disappeared.

In the majority of cases, the Indian hemp may be given alone, with compound glycerrhiza powder, powdered valerian, or extract of gentian, as excipients. My largest experience has been gained in many years out-patient practice, where, for the therapeutic testing and teaching purposes, simplicity has been studied. It by no means follows, however, that because our patient has a headache, we are not to attempt to relieve his other sufferings. Thus, when constipation is present, as it is in a fair number of cases, some aperient may conveniently be combined



with the hemp; aloes and myrrh pill, compound rhubarb pill, in small doses, may be added to the *cannabis indica*. Where flatulence troubles the patient, compound assafoetida pill, carbolic acid, or quinine, separately or combined, may be given with the Indian hemp in a pill.

A HINT ON THE TREATMENT OF RINGWORM.—(Dr. R. W. Leftwich in the *Lancet*.) Last August, a lady asked me to examine her nurse-maid's head. I did so, and found a well-marked patch of ringworm, about an inch and a half indiameter. The mistress was naturally unwilling to expose the contagion to her children, who presented no sign of the disorder, and almost equally unwilling to part with the girl for a time. After some reflection, I told her I thought the difficulty might be gotten over with only very slight risk to the children, and treated the case in the following way: Having cut the hair close to the scalp, all round the patch, I first painted it with an alcoholic solution of iodide of mercury—an old-fashioned but excellent remedy, obtained by adding calomel to tincture of iodine, and using the supernatant colorless fluid. As soon as the slight soreness it had produced had passed off, I applied an iodine plaster, obtained from a formula in Beasley's book, and attributed to Roderburg, an ounce of the plaster containing a half a drachm of solid iodine. This, spread on kid, was carefully applied to the patch, which it overlapped all round. At the end of a fortnight it was removed, and the ringworm appeared practically cured. To make sure, however, it was again painted with the above-mentioned solution, and a fresh plaster applied for another fortnight. Upon being taken off, the whole surface of the patch was found covered with short hairs. No other patch has made its appearance upon the head or elsewhere, and not one of the three children, with whom the patient was in daily and hourly contact, took the complaint. Possibly the plaster alone would have been sufficient, but I thought it safer to use the paint in addition, and I feared that if I used a more powerful plaster the irritation might tempt the patient to remove it. I might also have used a plaster containing oleate of mercury, but doubted whether it could be made sufficiently adhesive. The advantages of this mode of treatment are obvious enough, for, by its means, the risk of the disease being spread by actual contact, by means of caps, and by the common use of hairbrushes, is reduced to a minimum. I find no allusion to this method in the ordinary works on the subject, and therefore infer that, if new, it is not widely known.

RHUS POISONING.—Dr. L. D. M——, a writer in the *Medical & Surgical Reporter*, states that the following constitutes the best application for rhus poisoning:

R Borax pulv.,	- - - -	ʒij.
Acidi carbolic,	- - - -	ʒj.
Morphiæ sulph.,	- - - -	grs. x.
Pulv. acaciæ,	- - - -	ʒiv.
Aquæ,	- - - - q. s. ad.	ʒviii.

M.—Agitate till solution is formed. Use with camel's hair brush.

The carbolic acid and borax doubtless help to kill the poison, while with a few brushings the skin becomes coated with the gum, and the irritation and pruritus are allayed.

RHUS POISONING.—Much discussion has been given lately to the treatment of rhus-poisoning, but we know of no better dressing than a solution of baking-powder, followed by lard beaten up with lime-water.—*Medical Times*.

CARBOLIC ACID IN THE TREATMENT OF WHOOPING-COUGH.—Mr. W. F. Cory has recently recommended carbolic acid internally in the treatment of whooping-cough. Since then, I have used the glycerine of carbolic acid with great success among my out-patients at the Children's Hospital. I had previously prescribed alum, belladonna, the bromides, ipecacuanha, the salts of zinc, croton, chloral hydrate, hydrocyanic acid, etc., in different cases, but never with any very satisfactory results. I have notes of twenty-three cases treated with glycerine of carbolic acid. Half a minim in peppermint water is sufficient for a child a year old, the dose increasing with the age. In twenty cases, relief was quickly given; the general condition of the patients was at once improved, and the number and severity of the paroxysms of coughing diminished. None of these cases attended more than a fortnight, while the usual length of attendance is certainly twice as long. In three cases, the carbolic acid failed to give relief. There was no doubt as to the nature of the illness in these cases, for in all the characteristic cough was heard, or ulceration of the frænum present.

I have observed ulcerations of the frænum to be present in 50 per cent. of cases of whooping-cough, and that its presence is pathognomonic of the disease. I believe carbolic acid almost deserves to be called a specific for pertussis.—*Dr. C. W. Suckling in the British Med. Jour.*

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## MISCELLANEOUS.

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FEMORAL ANEURISM CURED AFTER ELEVEN HOURS' INTERMITTENT DIGITAL AND INSTRUMENTAL COMPRESSION.—Dr. J. F. Donavan, a surgeon in the British Navy, stationed at Malta, reports the following interesting case in the *Lancet*:

Lorenzo B—, a Maltese, aged thirty-eight, stoker, a well-nourished though anæmic man of abstemious habits, was the subject of syphilis (chancre and non-suppurating bubo) before marriage; secondary eruption was not noticed. On the 16th of June, 1886, whilst coaling ship at Suakim, he experienced a sharp pain in the left groin; this was followed by a swelling, and on presenting himself to the medical officer of his ship, "a pulsating tumor in the left groin was detected, with a distinct bruit." On admission to the naval Hospital at Malta, on the 19th of July, a pulsating tumor, about the size of a small lemon, was seen immediately below Poupart's ligament, and extending half an

inch below it (proximal side); no bruit could be detected. The pulsation, which was very strong, could, however, be checked on making forcible compression on the external iliac artery. The patient complained of only slight pain at the seat of the tumor. He was put on low diet, confined to bed, and ordered to take an ounce of iodide of potassium mixture (ten grains to the ounce) three times a day. On the 26th the dose of the iodide was increased to 15 grains. Digital pressure on the external iliac artery for an hour and a half was carried out, and was borne very well, the part compressed having been previously shaven and dusted over with oxide of zinc powder. On the 27th there appeared to be a slight diminution of the impulse. Pressure (digital, and a pad with a 7lb, conical-shaped weight suspended from a cross bar and resting on the pad) was kept up for two hours and a quarter, at the end of which time the patient became restless, and appeared to suffer a little from the pressure. Pulse 80; temperature normal. Iodide of potassium (one scruple to the ounce) to be continued. On the 28th, the pulsation in the tumor was markedly diminished. Temperature normal; pulse 84. A hypodermic injection of one-third of a grain of morphia having been administered, digital pressure (assisted by the weight) was applied for seven hours and a quarter unremittingly, and, at the expiration of that time no pulsation could be detected in the tumor. In the evening the patient felt very weak; pulse 90, feeble; the extremities were decidedly cold, especially the left foot and leg, although they were enveloped in cotton-wool and a flannel roller; no numbness or discomfort of any kind was complained of, though there was lividity of the toe-nails and diminution of the temperature of the limb for a few days. Pulsation in the left posterior tibial artery was not detected until August 4th (seven days after the consolidation of the aneurism). Up to the present (twenty-three days after consolidation of the sac) there has been no return of pulsation in the tumor, and the patient is now walking about, and complains only of very slight comparative weakness in the affected limb.

A SUBSTITUTE FOR CIRCUMCISION.—(Dr. Francis H. Stuart in the *New York Medical Record*.) Several years ago, when serving as adjunct surgeon at the Long Island College Hospital, I had quite a large number of cases of phimosis, which I treated in the manner described: I first introduce a probe under the foreskin to break up the adhesions which generally exist in these cases. Then, introducing a pair of dressing forceps, I allow them to expand, thus stretching the narrow opening, turning them around so as to stretch it in various directions. The forceps are then laid aside and the foreskin drawn back to the fullest extent. This is done several times in succession until it can be done with perfect facility. The mother or nurse is shown how to do it, and is directed to do it every day for a week, or until it is no longer a difficult thing to do. The smegma is to be washed away, and a little vaseline applied to lubricate the surfaces each day after washing. Since I first began to treat the cases in this way

I have had very few cases of phimosis that needed to be circumcised. It is necessary to instruct the mother not to allow the secretion to accumulate under the foreskin. If it should do so, irritation will be set up, and violent inflammation result. I do not presume to settle the question regarding the universal performance of circumcision. My own practice is not to interfere with the organ at all, except to see that the foreskin can be easily and fully retracted. My strong impression is that the number of cases treated in the way described which require circumcision is *extremely small*.

SLEEPING IN TURKISH BATHS.—It is important that suitable precautions should be observed by persons taking a Turkish bath, and the neglect of such may lead to fatal results. An instance of this occurred last week, when a man, aged 46, said to have enjoyed good health, who had been a regular attendant at the baths, having, it was stated, been up all night at a party, entered the bath expressing his intention of having a nap. The deceased lay down in one of the cooling-rooms, heated to 120°, and slept for two hours. His heavy breathing then attracted attention, and he shortly afterwards expired. The owner of the baths stated that it was a constant practice for people who used the baths as a place of rest to go to sleep in the heated rooms. Mr. Edward Sison, of the City Road, stated that death was due to syncope, from sudden failure of the heart's action, owing to the strain put upon it by the deceased's professional work, the fact of his being up all night, and the extra work caused it by the heat of the bath. At the conclusion of the medical evidence the Coroner (Dr. Danford Thomas) called the attention of the proprietor of the baths to the danger which attended the practice of allowing persons to sleep in a Turkish bath. It was a most dangerous proceeding, and he hoped that the proprietor would issue notices to his attendants that if they saw anyone asleep they should at once wake them up, for if a person felt faint, which they frequently did, they could call the attendant, who, in many cases, could save their lives by dashing cold water in their faces. This was not the first case of the kind he had known, and he considered the proprietors should be more careful.—*Brit. Med. Journal*.

DON'TS FOR THE SICK-ROOM.—Don't light a sick-room at night by means of a jet of gas burning low ; nothing impoverishes the air sooner. Use sperm candles, or tapers which burn in sperm oil.

Don't allow offensive matters to remain; in cases of emergency where these cannot be at once removed, wring a heavy cloth, for instance, like Turkish towelling, out of cold water, use it as a cover, placing over this ordinary paper. Such means prevent the escape of odor and infection.

Don't permit currents of air to blow upon the patient. An open fire-place is an excellent means of ventilation. The current may be tested by burning a piece of paper in front.

Don't give the patient a *full* glass of water to drink from unless he is allowed all he desires. If he can drain the glass he will be satisfied; so regulate the quantity before handing it to him.

Don't neglect during the day to attend to necessities for the night, that the rest of the patient and family may not be disturbed.

Don't ask a convalescent if he would like this or that to eat or drink, but prepare the delicacies and present them in a tempting way.

Don't throw coal upon the fire; place it in brown paper bags and lay them on the fire, thus avoiding the noise, which is shocking to the sick and sensitive.

Don't jar the bed by leaning or sitting upon it. This is unpleasant to the sick and nervous.

Don't let stale flowers remain in a sick chamber.

Don't be unmindful of yourself if you are in the responsible position of nurse. To do faithful work you must have proper food and stated hours of rest.

Don't appear anxious, however great your anxiety.

Don't forget that kindness and tenderness are needful to successful nursing. Human nature longs to be soothed and comforted on all occasions when it is out of tune.—*American Druggist*.

THE PROOF-READER.—The proof-reader has long shared with the "intelligent compositor" the reputation for that total depravity which has made a writer say, "See the pale martyr with shirt on fire," when he wrote "in sheet of fire;" and to ask, "Is there no barn in Guilford?" when he meant "Is there no balm in Gilead?" to speak of his love of "alum water," when he wrote "Alma mater," and to speak of "a mysterious dispensation of Providence" as a "mysterious disappearance of provisions." The silence of the proof-reader has been taken either as evidence of his guilt or that he was proof against reproofs. He has borne contumely long enough, and he rises to "hurl back" the charges and to "nail lies to the counter" and to "thrust the base falsehoods down the throat of his cowardly vituperators," as the contributors to the popular periodical, the *Congressional Record*, are in the habit of saying. He expresses his wonder that nothing has ever been said in praise of proof-readers. Of course, this might surprise a proof-reader, but any experienced writer for the press will not be astonished at it at all. The writer will know that he has time and time again written the most glowing eulogies of proof-readers and their assistants—tributes that statesmen might envy and good men crave. But the proof-reader has never allowed them to appear in print. Where the writer has said that the proof-reader was a "benefactor to his race," it has appeared "as a benighted scapegrace;" when he has called him the "salt of the earth," it comes to the surface as "scum of the earth;" when he has spoken of the "ease and comfort" a good proof-reader gives him, he is made to say an "escaped convict;" and when he has referred to the proof-reader's "saintly grace," the public first

learns of it as a "snake in the grass." That is why nothing has ever appeared in print in praise of the proof-reader. However, since the proof-reader has been graciously allowed to have his say, it is perhaps worth while, as a mild amusement, to hear how he puts the case. In the first place, he says that an author intent on his work is necessarily careless about his hand-writing. He cannot break the flow of his thought to dot his "i's" and cross his "t's." Each author has a peculiar penmanship. The proof-reader takes the manuscript and tries to catch the purport of the author's thought. He has scarcely done so, when in comes another mass of proof and manuscript of an entirely different character; and a new thread has to be picked up until another interruption. This is not for a moment, but all night all the week, all the year. After puzzling himself until he is half blind, his brain weary, and work pushing upon him incessantly, a letter may be left out, or a comma inserted in the wrong place, when slam bang goes a volley at the proof-reader!—*The Printing Press.*

A NEW SIGN OF DEATH.—M. Peyran, of Vichy, claims that Vienna paste applied to the skin of a living person will produce an eschar having a brown or reddish black color; upon the cadaver it is yellow and transparent, presenting the appearance of post-mortem excoriations.

THE SURGEON AND THE JOCKEY.—The *Pall Mall Gazette* says that Archer, having been bitten or otherwise injured by a horse on one occasion, called on Sir James Paget. The eminent surgeon having, bound up his wound, Archer requested to know how long it would take to heal. "Oh," said Sir James, "I think in three or four weeks you will be all right."

"But shall I be fit for the Derby?" asked Archer.

"Ye-es," was the reply. "Oh, yes! I think you may go to the Derby."

"No, but you don't quite understand me, Sir James," persisted the jockey. "I mean shall I be fit to ride?"

"Well, I don't know," was the answer. "Better drive; better drive!"

Archer, rather taken aback by this very innocent and unexpected rejoinder, had to explain. "I am afraid, Sir James, you scarcely realize who I am?"

"No," said the surgeon, politely, referring to the patient's visiting card. "I see I have the honor of receiving Mr. Archer, but—"

"Well," said Archer, "I suppose I may say that what you are in your profession, Sir James, that I am in mine," and proceeded to tell him what that profession was.

The famous surgeon, on learning the status of his visitor, was at once greatly interested, and asked him eagerly many questions, among others, What would be his loss supposing he should be unable to fulfil the Derby engagement? to which Archer replied:

"About \$10,000." His average annual income he stated (if I

mistake not) to be about \$40,000; upon which Sir James is said to have remarked: "You may well say that what I am in my profession, that you are in yours. I only wish that my profession were as profitable as yours."

CHARLESTON'S RESTORATION.—Five months have elapsed since Charleston was visited by one of the greatest calamities that have ever afflicted an American city. The story of the terrible disaster has been told over and over again. So, too, has been told the story of the loving, practical sympathy of the American people—a sympathy which found expression in a golden flood of charity. It was not until Charleston held up her hands and staid the flood that it ceased to flow in upon us. At that time over \$800,000 had been contributed, of which \$630,000 in round numbers was set apart for the rebuilding of the houses of those who would otherwise have been homeless, and nearly \$200,000 for the rebuilding of the churches. The Relief Committee generously set apart \$100,000 of the relief fund to aid the city in rebuilding its hospitals, almshouses, and other institutions devoted to the care of the sick and indigent poor of the city. At the end of five months much has been done to restore the city to its former condition. The damages by the earthquake were roughly estimated at \$5,000,000. The aid so lavishly and generously poured into Charleston has enabled those who could not do so with their limited means to rebuild their houses, while others who were able have also not been idle. Since the night of the 31st of August, 1886, the city has risen from its ruins. Remunerative work has been furnished to over 5,000 home mechanics, while over 1,500 mechanics from abroad have come here, many of whom will make Charleston their home.—*Charleston News*.

A "VAGINA-COLOICIST'S" EXPERIENCE.—Dr. R——, the well-known Cincinnati gynæcologist, had a lady on his examination table recently who on the introduction of the speculum uttered a low cry—"ah! ah! ah!"

Surprised, the doctor, thinking he had hurt his patient, inserted a smaller instrument, when the lady again uttered "ah! ah! ah!"

More than ever surprised, the physician demanded the cause of her complaint. She explained by stating that she had lately been under the care of a laryngologist who, when he introduced an instrument, had told her to say "ah!" so that he might see the parts better.

Dr. R—— at latest advices was recovering from his surprise.—*Cincinnati Lancet-Clinic*.

NOT A BAD CHESTNUT.—Perhaps it may not be inappropriate to designate as a *marron glacé* the story which one of our esteemed contemporaries has recently republished about the young lady who, while on a European steamer, made the following entry in her dairy: "At eight o'clock in the evening took a pill; at six o'clock in the morning passed an iceberg."

**PUG NOSE.**—People with *nez retroussé* need no longer feel despondent. At the recent meeting of the New York State Medical Society, Dr. Roe, of Rochester, read a paper on correction of the deformity of pug nose by an operation consisting of removing from the end of the nose a sufficient portion to make it symmetrical from one end to the other; and stated that he had already successfully performed it in five cases.

**CLASSIC BOSTON.**—A Boston physician, having found a Greek sentence written on his office slate, and written to the *Boston Medical and Surgical Journal* to know what it meant, Dr. Robert T. Morris, of New York, writes to the *Journal*: “The translation is: ‘My relatives wish me to go home.’ But, goodness gracious! *γμεις δε δη ωηθημεν τοις γε εν Βοστωνη καρνονοσι συν ηθεξ ενσι το τοις ιατροις ελληνησι διαλεγεσθαι.*”

To which the editor adds the following note: For the benefit of the physician who failed to understand the message on his slate, a translation of the above is appended: “We certainly supposed the sick in Boston were in the habit of speaking Greek with their physicians.”

**ONE FOR THE JERSEYMAN.**—Not long since Barnum received a letter from New Jersey, offering to sell him a “six-foot double-headed turtle.” Thinking that a turtle six feet long and with two heads would be an undoubted prize, the great showman promptly dispatched an agent to confer with the writer of the letter; when it was found that the turtle was only one foot in length. Mr. Barnum then indignantly wrote to the Jerseyman upbraiding him for his exaggeration; but the latter replied; “I never said it was six feet long, I said it was a six-foot, double-headed turtle. It has six feet and two heads, and so I only spoke the truth.”

**THE WIFE OF PROFESSOR ESMARCH, OF KIEL,** is the Princess of Schleswig-Holstein-Loudenburgh-Augustinburgh. It is to be hoped that she does not insist on being called by all her titles whenever he addresses her.

**A DARK VIEW OF THE SUBJECT.**—“Ephra'm, does de good book say dat we are made ob de dust?” “Yes, Augustus, yes, sah; and dat we must return to de dust.” “Yah! yah! yah! Is dat so? Well, den, I guess it must be coal dust.”

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## MEDICAL NEWS.

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**MEDICAL SOCIETY OF THE STATE OF NEW YORK.**—The Eighty-first Annual Meeting of this Society was held in Albany February 1, 2, and 3, with the President, Dr. W. S. Ely, of Rochester, in the chair. There was a full attendance, and a large number of papers were presented. The report of the Committee on Legislation, which



included an approval of the Purrington Bill for codifying the medical laws of the State from 1806, was adopted, and also a resolution reiterating the conviction of the Society that it is necessary for the interest of the people and the profession that a law creating a board of medical examiners be passed. The subject of the President's annual address, which was delivered in the Assembly Chamber at the Capitol, was "The Physician, in Science and Letters." Among the papers read was one sent by Dr. Sidney Ringer on "The Influence of Small Doses of the Salts of Sodium, Calcium, and Potassium on the Heart and the Skeletal Muscles of the Tortoise;" one sent by Sir Spencer Wells on "Cremation;" and one sent by Mr. Lawson Tait on "The Removal of the Uterine Appendages." The Merrit H. Cash Prize was awarded to Dr. A. N. Bell, editor of *The Sanitarian*, for an essay on "The Physiological Conditions and Sanitary Requirements of School Life and School-houses." The following officers were elected for the ensuing year: President, Alfred L. Loomis, New York; Vice-President, A. M. Phelps, Chateaugay; Secretary, W. M. Smith, Syracuse; Treasurer, C. H. Porter, Albany.

MORTALITY IN THE STATE OF NEW YORK.—The bulletin of the State Board of Health shows that the total reported mortality for the month of December was 7,603, of which 37 per cent. were under the age of five years. From zymotic diseases there were 1,516 deaths, a ratio of 200 per 1,000 total mortality. During the year 1886 for the entire State the ratio per 1,000 of deaths from all zymotic diseases to the total mortality was 217.23, against 222.17 in 1885 and 269.12 in 1884. The conjoined death rate per 1,000 from typhoid fever and diarrhœal diseases was 146.40 in 1884, 104.07 in 1885, and 94.44 in 1886, showing a continued reduction. On the other hand, diphtheria, which, as noted in the last annual Summary, is caused more by insanitary conditions of households and not so susceptible to public hygienic improvements, has prevailed more extensively, having had a death rate in 1884 of 47.65 per 1,000, of 56.06 in 1885, and of 64.48 in 1886. Whooping cough has also caused a large death rate; the other more common zymotic diseases have been materially less prevalent than in 1885. Typhus fever caused 26 deaths in the Albany Penitentiary early in the year; small-pox caused but two deaths outside of New York and Brooklyn.

NEW YORK ACADEMY OF MEDICINE.—At a meeting held February 3, Dr. John H. Girdner gave an interesting demonstration of the detection and location of metallic masses in the human body by means of the induction balance and the telephonic probe invented by Prof. A. G. Bell. The action of the former apparatus was illustrated on the person of Colonel Clayton, a gentleman who was shot in the chest at the battle of Cedar Mountain during the late war, and still retains the ball. Drs. A. Jacobi, F. A. Castle, and G. A. Peters have been appointed a committee to select a building site for the Acad-

emy. Dr. L. A. Sayre has been elected Chairman of the Section on Orthopædic Surgery.

PRESENTATION TO DR. N. S. DAVIS.—On January 20, the fiftieth anniversary of the entrance of Dr. N. S. Davis into the medical profession, he was presented by the students of the Chicago Medical College with a magnificent arm chair and a valuable and beautiful revolving set of reference shelves. The presentation was made by Prof. W. W. Jaggard, in behalf of the students, and Dr. Davis responded in a most graceful manner. It has been but a few weeks since Dr. Davis's seventieth birthday was celebrated at his house by a large number of his friends. It is peculiarly fitting, as Dr. Eggleston remarks in the *Journal of the American Medical Association*, that the students of the college of which Dr. Davis is practically the founder, the college which represents the principles of higher medical education for which he did so much before its foundation, and has done so much since, should have taken some note of his fiftieth birthday into the profession. Indeed, the American Medical Association is the outgrowth of Dr. Davis's earnest endeavor to raise the standard of medical education in this country.

THE LACAZE PRIZE of 10,000 francs, that is awarded every four years for the best work on the treatment of fevers, typhoid in particular, has recently been given to Dr. Albert Robin for his work called "Leçons de clinique et de thérapeutique médicales."

SEVENTEEN FRACTURES IN A CHILD OF FIVE.—Dr. J. J. Chisolm reported at a recent meeting of the Baltimore Academy of Medicine the case of a healthy boy who in his five years of life has sustained already seventeen fractures. He has no rickets, and apparently is well nourished. There is never any difficulty about the union of the fragments, and the boy sustains but little inconvenience, as he has grown quite accustomed to these accidents. They are not the common green-stick fracture of childhood, but resemble more the sharp, brittle break of an aged bone. When these accidents occur the solution of continuity is accompanied by a snapping sound that can readily be heard.

ST. LOUIS MEDICAL SOCIETY.—The following officers have been elected for the ensuing year: President, Dr. S. Pollak; Vice-President, Dr. F. J. Lutz; Recording Secretary, Dr. F. D. Mooney; Corresponding Secretary, Dr. Mary McLean; Treasurer, Dr. G. Hurt.

DAWSON PRIZES.—The students of the Medical College of Ohio competed Wednesday afternoon, February 2, at the Good Samaritan Hospital, for the medals which are yearly given by Prof. W. W. Dawson. The competition was spirited in all departments; the specimens of dissecting were beautifully and accurately done; the drawings, some from nature, others being copies, exhibited artistic skill of no low order. The contest in bandaging, however, furnished the excitement of the

day. The living models were stripped to the skin and brought into the amphitheatre to be covered with the bandages. It requires no little pluck for the student to do this work, with the whole class and a large number of experienced physicians and learned professors looking on, watching and criticising, in fact, every turn of the roller.—*Cincinnati Lancet-Clinic*.

A PRIZE ESSAY ON HAY-FEVER.—The U. S. Hay-Fever Association offers a prize subject to the following conditions: 1. Subject of the Essay, Hay-Fever. (a) Its Pathology. (b) The predisposing, and the aggravating causes. (c) Advice to the sufferer. 2. The Essay not to exceed *four thousand words*, and to be as practical and non-technical as possible. 3. The manuscripts to be received at the office of Samuel Lockwood, Freehold, New Jersey, not later than April 30, 1887. 4. Each manuscript to have a Motto under the Title, and to be accompanied with a sealed letter containing said Motto, also the name and address of the author. These letters not to be opened until after the award is decided. 5. The prize to be \$25. The accepted essay to be published immediately in the Association's annual report, one hundred copies to be given the author. 6. The Committee of Award: Samuel Lockwood, Chairman of Committee on Scientific Facts; Frank B. Fay, President U. S. H. F. A.; Charles C. Dawson, Secretary U. S. H. F. A.

THE THIRTEENTH ANNUAL REPORT OF THE SUPERINTENDENT OF THE CINCINNATI SANITARIUM.—Dr. Orpheus Everts says that one hundred and forty-six patients, (104 men and 42 women) were admitted to the Sanitarium for treatment within the year, making, with the fifty-seven remaining in the house at the beginning of the year, a total number of two hundred and three (135 men and 68 women) treated, for a longer or shorter period, within that time. Of this whole number ninety-three (72 men and 21 women) were discharged as recovered, leaving fifty-four patients still under treatment. It will thus be seen that fifty per cent. of the number of women admitted for treatment, or one-half only of the women, recovered; while sixty-nine per cent. of the men were discharged with a similar record.

This disparity in the ratio of recoveries will be readily understood when it is stated that nearly all persons admitted to the Sanitarium as "dipsomaniacs" are men, and nearly all recover, nominally, and really so far at least as to leave the hospital feeling well, and apparently in a physiological condition. It is true that patients of this class, like those subject to periodical mania, are liable to return, and some have been admitted and discharged more than once within the year.

Of recoveries, in general, from conditions of insanity, Dr. Everts remarks that the medical profession, as well as the people of this country, have been misled by the earlier reports of the physicians in charge of hospitals for the insane, and the assertions of enthusiastic advocates of public provision for the defective classes of society of later date, to an extent that needs correction. It should be known, indeed, by everybody, because everybody is interested in the fact, that

not to exceed forty per cent. of the whole number of insane persons admitted to and treated in the best hospitals of this country and Europe recover sufficient mental capability to return to society as self-supporting or rational members.

He holds that the first three months of the disease is the golden opportunity for successful treatment of the insane, and that nearly all insane persons who recover the use of their mental faculties, so as to resume their positions in society, do so within the first year of their disordered conditions. Still, there are rare cases of recovery among the chronic insane, that caution us against pronouncing all persons "incurable" who have not recovered within the limits of reasonable expectations; and a remarkable instance of this kind is to be found recorded in the books of this Sanitarium for the year just closed. A man who was admitted to the Sanitarium from a neighboring State, helpless and despairing, who had suffered deeply and continuously for eight years (seven of which had been spent, with occasional intermissions, in a most reputable State Hospital for the Insane), after a residence of nearly a year so fully recovered his former health and mental capabilities as to be regarded a sound and capable man. "It would be presumption, bordering on quackery," he remarks, "to pretend that this man was 'cured' by extraordinary skill in medicine; it is fair to presume, however, that had he been compelled to live in a state of aggregation in a public institution, with a large number of other insane persons of like chronicity, labeled by statutory enactment 'incurable,' he would not have thus happily disappointed the expectations of the State and the fear of friends. In the treatment of this case I know of no medicine that seemed to be half so efficient as was the constant assurance, while associated with patients, many of whom were convalescing and hopeful, that he was improving and would surely recover. This was the crutch upon which he leaned (mentally) while learning a second time to walk."

TEXAS STATE INSANE ASYLUM.—Dr. John S. Dorset has been appointed Superintendent of the Texas State Insane Asylum at Austin. Dr. Dorset's attainments and experience well qualify him for the position, and his past record gives ample assurance that it will be ably filled.

ONLY ONE OF THE THREE CONVICTED.—It seems that only one of the three negroes who were accused of murdering an aged white woman in Baltimore for the purpose of disposing of her body to the dissecting room was convicted. The other two were acquitted.

N. Y. POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.—The Trustees of the New York Post-Graduate Medical School and Hospital have elected Dr. Clarence C. Rice Professor of Diseases of the Nose and Throat, in the place of Dr. Clinton Wagner, resigned.

NEW MEDICAL JOURNALS.—The *Foreign Medical Press* is the title of a new journal recently started in this city under the editorship of

Mr. J. L. Stern. The *American Journal of Psychology* is announced to be edited by G. Stanley Hall, Ph. D., at Johns Hopkins University. The first number of *The Medical Standard*, a monthly journal to be published in Chicago, was issued in February. Drs. Shoemaker and Wile are to edit *The Medical Register*, a new weekly, in Philadelphia.

A NEW RADICAL OPERATION FOR HEMORRHOIDS.—At a recent meeting of the N. Y. Surgical Society, Dr. Lange stated that in mild cases he had obtained good results by injecting equal parts of glycerin and pure carbolic acid. In severe cases, complicated with prolapse of the mucous membrane, he had adopted a method of operation that was to be commended not only on account of its facility and the completeness of the cure, but because of the fact that it was not followed by suppuration and necrosis of the tissues. It consisted in excising the entire affected portion of the mucous membrane, and in suturing the edge of the remaining part to the integument.

THE DANGER OF THE TELEPHONE as a conveyer of infectious diseases has attracted the attention of Dr. A. P. Astvatzatüroff, of Tiflis, and he has called the attention of the Caucasian Medical Society to the risk of infection from the promiscuous use of the mouth-pieces of public telephones. To prevent this accident, he recommends that some disinfectant fluid should be kept at every telephone station, and the speaker should, first of all, dip the mouth-piece into the fluid, and then wipe it with a clean towel.

THE TALLEST MAN OF MODERN TIMES is now on exhibition in London. His height is given as eight feet, nine inches, which is about a foot higher than Chang, the well-known Chinese giant.

SMALL POX IN NEW YORK CITY.—From the first of the year up to February 25th ninety-two cases of small pox were reported in this city. Measles is much less prevalent than a month ago.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.—At the February meeting of this society Dr. J. B. Mattison read a paper entitled "Cocaine Dosage and Cocaine Addiction," after which the meeting unanimously passed a motion, offered by Dr. Skene, appointing Drs. Wallace, De la Vergne and Mattison a committee to draft a bill for presentation to the Legislature, placing cocaine on the list of poisonous drugs not to be dispensed except on physicians' prescriptions. At this meeting the society adopted the report of a committee recommending the purchase of land and buildings on Bridge Street, Brooklyn, and appointed Trustees to make this purchase and to receive subscriptions, not to exceed \$15,000. It is intended to erect a large hall for meetings, and transfer it to the society's library.

ORGANIZATION OF A KINGS COUNTY MEDICAL ASSOCIATION.—On February 7 an informal meeting of the Fellows of the New York State Medical Association residing in Brooklyn was held, at which it was

unanimously determined to organize a County Association in affiliation with the State Association; and a committee, consisting of Drs. Hutchison, Segur, E. R. and E. H. Squibb, with Dr. E. R. Squibb as chairman, was appointed, with power to add to their number, to draft a plan of organization, and to call a meeting by circular of all those in accord with the principles of the National Code of Medical Ethics.

Since the above was in print the following official report has been received from Dr. Squibb, Secretary of the Organization Committee:

On the evening of Monday, February 7, 1887, a meeting of the Fellows of the New York State Medical Association residing in Kings County was held to discuss the advisability of forming a Kings County Medical Association in Affiliation with the National and State Medical Associations. The meeting was well attended, and the subject was discussed systematically and thoroughly. The decision was unanimous to form such an Association at once, and accordingly a committee was appointed to draft a plan of organization and arrange all the necessary preliminaries for immediate action.

The committee held two prolonged and satisfactory meetings, and made a report to a second meeting of the Fellows on Friday evening, February 25, 1887. By-laws modelled on those of the New York County Medical Association were unanimously adopted. Many modifications, however, were made, and a social feature was introduced. There is to be no initiation fee and the annual dues are to be three dollars. The meetings are to be held in Remsen Hall (Remsen St., cor. Court St.) on the first Tuesday of the months of January, February, March, April, May, June, October, November and December. The first meeting will be held on the evening of the first Tuesday in April.

The following officers and Executive Committee were unanimously elected:

President.—E. R. Squibb, M.D.

Vice-President.—Avery Segur, M.D.

Recording Secretary.—R. M. Wyckoff, M.D.

Corresponding Secretary.—W. G. Russell, M.D.

Treasurer.—J. R. Vanderveer, M.D.

*Executive Committee.*

To serve for 4 years.—J. D. Rushmore, M.D.

“ “ 3 “ Wm. McCollom, M.D.

“ “ 2 “ A. R. Paine, M.D.

“ “ 1 “ Geo. Wieber, M.D.

E. H. SQUIBB,

*Secretary of the Fellows.*

AN IMPORTANT MEDICO-LEGAL DECISION.—In the Superior Civil Court at Boston, recently, a mother and her four children individually sued the landlord to recover damages for sickness contracted because

of the poor sanitary condition of the house, and in the care of the family during their sickness from diphtheria. Damages in each case were awarded, the mother receiving \$1,600, and the children \$700, \$300, \$250, and \$200 respectively. This is a unique case, and is valuable as a precedent.—*N. Y. Med. Record.*

**BIRTH-MARKS AS EVIDENCE.**—A young woman in the ninth month of pregnancy lately appeared before a Mercer County, Pa., Justice of the Peace, and swore out a warrant for the arrest of a man on charge of assault, alleging that he had choked her, and twisted her left wrist, almost dislocating it. There were no witnesses, and the man's discharge was confidently expected. At the trial, which took place some weeks after the birth of the baby, the lawyer for the defence called for acquittal on the ground of lack of evidence, but the prosecution asked that the baby be admitted in evidence. The jury was then shown the marks of four fingers and a thumb on the neck of the infant, and a left wrist twisted out of shape and swollen, as if it had been suddenly wrenched. These birth-marks corresponded exactly with the injuries which the woman swore to having received a month before the baby's birth. It is stated that the prisoner was convicted. Without doubt there are instances in which maternal impressions have influenced the physical condition of the foetus, even so far as to induce local tissue changes. Such cases are, however, extremely rare, and for one genuine there are fifty spurious examples. On general principles we should say the judge should not have admitted the baby as testimony, and certainly no man should be convicted on such trashy evidence as is afforded by ordinary birth-marks.—*Med. News.*

**A LARGE BRAIN.**—The brain of the late Prof. Edward Olney, of the Michigan University, weighed sixty-one ounces; this being among the heaviest brains on record.

**DINNER OF THE SOUTHERN SOCIETY.**—"The Old South, with its hallowed memory; the New South, with its glorious future; the Union, all comprehending and forever enduring," was the sentiment, as expressed in the telegram sent by Mr. Henry N. Grady, of Atlanta, Ga., that fired every heart in the gathering of 265 men who met February 22d at the first dinner of the New York Southern Society at the Hotel Brunswick, in this city. The Hon. Algernon S. Sullivan presided, and among the physicians present were Dr. T. Addis Emmet, Wm. A. Hammond, T. Gaillard Thomas, W. Gill Wylie, Joseph D. Bryant, and Wm. M. Polk. The President's table was on a long dais at the end of the hall, and at right angles to it were ten tables marked with the letters W. A. S. H. I. N. G. T. O. N.

**RECEPTION TO DR. S. WEIR MITCHELL.**—On the 18th of February, Dr. Thomas gave a very handsome reception to Dr. S. Weir Mitchell of Philadelphia, and among those present from Philadelphia, in addition to the guest of the evening, were Drs. Parvin, Osler, and Hays.

A NEW CHOLERA MICROBE.—The latest English Cholera Commission have discovered in their investigations in Spain a micro-organism, consisting of granular masses and a delicate mycelium, which they claim to be pathogenetic. The comma bacillus, they state, was not constantly found, and many of their observations are directly at variance with those of Koch.

THE EARTHQUAKE IN THE RIVIERA.—During the panic that followed the earthquake shock at Nice, it is stated that a French Countess gave birth to a child in the public gardens of the city. At the time of the catastrophe the Prince of Wales was staying at Cannes, at a hôtel some distance up the mountain, and he is said to have taken the matter very coolly. His attendants implored him to leave the house, but he replied, "Since the shocks are over and the hotel is not falling, I prefer to remain where I am, in bed."

A PLEASANT WAY OF COMING TO THE CONGRESS.—We understand that the owner of the steam yacht Ceylon is anxious to place his vessel at the disposal of members of the medical profession and their families who intend to visit America during the Congress: The cost (inclusive of everything) would be, we believe, £50, but at least sixty passengers would be required.—*Lancet*.

DEATH OF PROFESSOR BECLARD—This distinguished medical man died in Paris, February 9, 1887, of pneumonia. He was one of the founders of the *Gazette Hebdomadaire*, and President of the Society for the *Dictionnaire Encyclopedique des Sciences Médicales*.

THE REV. GAWN CAMPBELL, M.D., died February 20 at his residence in this city, of pneumonia. He was born in County Down, Ireland, in 1822, and educated at Queen's College, Belfast. He came to America in 1849, and for twenty-eight years labored as a successful minister of the Gospel in Gainsborough, Vt., and in this city. Always interested in the study of medicine, while still pastor of the United Presbyterian Church in 44th Street, New York, he commenced attending lectures at the Long Island College Hospital, and in 1874 was graduated from that institution, since which time he has devoted himself to medical practice. He was an esteemed member of the New York County Medical Association and other societies.

DEATH OF PROFESSOR SCHRÖDER.—Professor Schröder, the eminent gynæcologist and obstetrician, of Berlin, whose works are so well known in this country, died in the early part of February, at the age of fifty.

DEATH OF DR. GEDDINGS.—The profession will regret to learn of the death, at Charleston, S. C., on February 3d, of Dr. J. F. M. Geddings, aged fifty-eight years. He was the eldest son of Prof. Eli Geddings, who for many years was Professor of the Practice of Medicine in the Medical College of the State of South Carolina, and the most conspicuous physician in that State. He inherited much of his



father's ability, and succeeded to a good share of his business. He was educated in Charleston, and also in Berlin and Paris. He exhibited during his career a decided partiality to German methods of research and views of pathology, and was regarded as well versed in the literature of the profession, and as proficient in methods of diagnosis. His general scientific and literary attainments were also of a high order. Dr. Geddings had been almost a life-long sufferer, in his youth from hip disease, following scarlet fever, and in advanced age from paroxysms of angina pectoris. To a certain extent his usefulness was thus impaired, but he continued to the end a general practitioner, highly valued for his knowledge, his skill, and his devotion to his profession. He had a kind heart, and he was as true as steel to those who trusted him, and was never forgetful of professional responsibility or ethics. His untimely end he had foreseen, and to some extent predicted. Seized with symptoms of pulmonary congestion, or pneumonia, he still struggled on in the discharge of his professional duties up to the day preceding his death. Upon taking to his bed, from the direst necessity, it was soon discovered that a much hypertrophied heart so complicated the situation that there was but little hope of recovery. In less than twenty-four hours his noble heart had ceased to beat.—*Medical News.*

JOHN VAN VORST, JR., M. D., of Jersey City, died on the 4th of February, in the thirty-seventh year of his age. The deceased was a graduate of Bellevue Hospital Medical College, of the class of 1874, and was highly esteemed in the community in which he lived. A meeting of the physicians of Hudson County was held the day following his death, and appropriate memorial resolutions were adopted.

THE BAKER COMMON SENSE SYRINGE is a new instrument which has many practical advantages. It can be conveniently guided and worked with one hand, and there are two varieties, with probe-pointed hand rubber pipes, respectively three and seven inches in length. It may be used for the uterus, bladder, rectum, urethra, nose, throat, eye and ear, and for cleansing and medicating deep wounds, fistulas, cysts, and abscesses, and is also an efficient powder blower.

THE MALTINE MANUFACTURING COMPANY have issued a handsome pamphlet containing articles on The Methods of Testing the Diastasic Activity of Malt Extracts, by Professor R. Dorsey Cook, of the University of Maryland; Maltine as a Food-solvent, by Dr. J. Milner Fothergill, of London; Maltine in Phthisis, by Dr. William Porter, of St. Louis; reports of leading chemists on the relative diastasic activity of Maltine and Barley Malt Extracts, and other interesting matter.

LACTOPEPTINE CALENDAR.—The New York Pharmacal Association has published a second edition of its popular calendar for the year 1887. This contains, besides much valuable information, numerous extracts

from the medical journals, an abridged epitome of medicine and practice, both ancient and modern, and portraits of a number of the most distinguished physicians and scientists of the past.

THE DIETETIC ANNUAL FOR 1887 is an attractive pamphlet issued by Messrs. Wells, Richardson & Co., of Burlington, Vt., which embraces many suggestions of value in regard to appropriate diet in various conditions, notes in regard to the use of their Lactated Food, and memoranda pages with a blank space for every day in the year, which will be found useful in which to note engagements.

“THE DOCTOR” is the title of a new quarterly journal of medicine and therapeutics, published by the Peacock Chemical Company, of St. Louis, the contents of which are made up of short practical paragraphs, taken from various sources. It will be mailed regularly, free of charge, to any physician sending his address to the publishers.

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## EDITORIALS.

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PROFESSOR JOSEPH JONES ON MALARIAL FEVER.—The conclusions at which Dr. Joseph Jones, of New Orleans, has arrived in regard to the etiology, nature, and treatment of malarial fever, as set forth in the second volume of his memoirs, which has just been published, are of very great interest; and, coming, as they do, from so eminent a source, as the result of painstaking and continuous observation and original research, extending over a period of thirty years, are certainly entitled to the most careful consideration.

In the first place, he holds that the phenomena of malarial fever in the human organism are due to the introduction of a morbid ferment, and, secondly, that the micro-organism concerned in the production of the disease attacks chiefly the blood-corpuscles in man. The malarial poison, he has found, produces more rapid destruction of the red blood-corpuscles than any other known febrile agent. Moreover, the destruction of the corpuscles does not take place with equal rapidity in all parts of the organism, but appears to be most marked in the liver and spleen. One of the practical lessons which he deduces from this action of the *materies morbi* is that, as soon as the destruction of the red blood-corpuscles has been arrested, and the malarial poison removed or diminished, the salts which are deficient in the corpuscles should be administered; and he states that he has in fact derived great benefit from the use of the phosphates of iron, lime, soda and potassa in the stage of convalescence. So, when considering the relations of pneumonia to malarial fever, he remarks that in the treatment of pneumonia in malarious districts the physician should never forget the similarity, in some important respects, between the effects of the malarial poison and general blood-letting. Whatever diminishes the red blood-corpuscles acts in concert with this poison.

Among the author's other conclusions are the following:

Third.—The phenomena of malarial fever are due in part to the destruction of the colored blood-corpuscles, in part to the derangement of the normal chemical changes of the blood and organs, and in part to the toxic action of the chemical compound developed by, and resulting from, the action of the micro-organisms.

Fourth.—The chemical and physical changes excited in the blood and organs of the human body by the action of the malarial micro-organisms are in their highest and final results inimical to the development and multiplication of the essential potential elements of the malarial ferment.

Fifth.—The active febrile phenomena of malarial fever are, in their ultimate results and products, *antiseptic*; they tend to inhibit the development of, and even to destroy the morbidic ferment of malarial fever.

Sixth.—Many of the most destructive and fatal effects of the malarial ferment occur in cases in which there has been comparatively little elevation of temperature, and in which the paroxysms succeed each other in an almost imperceptible manner.

Seventh.—The recurrence of paroxysms in malarial fever is due to the partial destruction of the micro-organisms during the active and pronounced chemical changes of the fever. When not wholly destroyed during the febrile stage, the micro-organisms are reproduced, and again, at definite intervals, induce disturbances of the nervous system, alterations of the blood, and oscillations in the temperature.

Eighth.—Such agents as quinine, arsenic, and the preparations of mercury act as poisons to the micro-organisms of malarial fever, excite an antiseptic effect upon the blood, bind the oxygen more closely to the hæmoglobin and proteids, and directly promote the elimination, through the alimentary canal, the skin, and the kidneys, of the noxious products of the morbidic ferment, and of the increased and altered chemical actions.

Ninth.—The changes induced by the morbidic malarial ferment upon the blood differ chemically and microscopically from those induced by other morbidic organisms, such as those of small-pox, typhoid fever, Asiatic cholera, etc.

The micro-organisms which Dr. Jones has observed in the blood of patients suffering from malarial fever are the following: (*a*) minute globular bodies from the 10,000th to the 30,000th of an inch in diameter, having the general appearance and chemical features of the spores of bacteria; (*b*) globular bodies of larger size than the preceding, often of a dark opaque character, and found not only in the *liquor sanguinis*, but also in both the red and colorless blood-corpuscles. These bodies, most probably true spores, appear to possess the power of invading and destroying the red corpuscles, and they are often observed in the blood in groups surrounded by protoplasm, constituting zoöglæa; (*c*) ovoid cylindrical and rose-shaped bodies, not destroyed by acetic acid, and stained by aniline dyes. These bodies increase during the cold stage, and are also more numerous in pernicious malarial fever; (*d*)

colorless blood-corpuscles containing minute pigments, granules, and dark, spherical bodies resembling spores. Many of these pigment-corpuscles, or aggregations of dark, spherical bodies surrounded by protoplasm, are twice the diameter of the colorless corpuscles of normal blood; and their behaviour under the action of re-agents, and also during the process of staining, leads to the view that a portion at least of these bodies must be regarded as vegetable organisms. These large pigment cells appear to be characteristic of malarial fever; (*e*) masses of hæmatin, of various forms, which are irregular in size and shape, though most generally the sides and portions exposed in profile are angular; (*f*) marked variations in the size of the red blood-corpuscles. These variations from small corpuscles, to what might be called "giant" colored corpuscles, twice the diameter of the normal globules, appear to be characteristic of malarial fever, to a certain extent.

In speaking further of the disintegration of the red corpuscles by the malarial poison, he remarks that with the microscope one can detect the very inception of that great pathological change which constitutes one of the most distinctive features of malarial fever, and which must be carefully considered in every scientific and rational plan of treatment. This action of the morbid ferment upon the red blood-corpuscles, he states, is characteristic not more of malarial hæmaturia than of all the other various forms of malarial fever; so that the presence of jaundice and hæmaturia are not specific, and do not form a basis of classification of the various forms into distinct species. The formation of the pigment particles characteristic of malarial fever results chiefly from the blood effused into the splenic tissue, and is not the result in any sense of the action of the organic nervous system directly upon the blood-corpuscles in the circulatory system.

In regard to malarial hæmaturia, Dr. Jones says that in this, as well as all the forms of malarial fever attended with jaundice, the yellow color of the skin is due to the golden color of the serum, and such golden color has been produced by the coloring-matter of the bile. In no case, either during life or post-mortem, has he ever witnessed a single instance of the decomposition of the blood in the vessels and the liberation of the hæmatin and the transudation of the latter into the surrounding tissues. In malarial hæmaturia, he believes, there is a true hemorrhage from the renal organs, preceded by congestion, and attended with rupture of the Malpighian capillaries, and the escape of unaltered blood. Whatever alterations are observed in the blood effused from the kidneys into the bladder are due to renal causes, such as the action of urinary constituents, both fresh and stale, the solvent action of the bile, often excreted in larger quantities along with the urine, upon the red blood-corpuscles, and the escape of the coloring matters of the blood from the clots in the tubuli uriniferi, dissolved out by the urine.

THE SURGICAL TREATMENT OF HYDATIDS OF THE LIVER.—An interesting discussion on this subject recently took place at a meeting

of the Royal Medical and Chirurgical Society, at which the paper of the evening was read by Mr. Richard Barwell. He recommended that puncture with a small trocar should always be primarily resorted to, chiefly because it is sometimes curative, viz.: in cases of single, barren cyst. But, in a larger proportion of cases, there are numerous daughter, or secondary, cysts, and then the tumors frequently recur. Under these circumstances he thought the most efficacious treatment was to keep a large opening patent for some time. The way that he proposed to make this opening was to incise the abdominal parieties first, then to stitch to them the cyst or its surroundings, and finally, after a few days' interval, to cut into the tumor. This procedure he regarded not only as efficacious, but also safe. Of course, special precautions were to be taken when the cyst wall appeared so thin that a needle puncture might cause effusion of hydatid fluid into the peritoneum. The case of a young woman who had a hydatid of the liver which had been punctured eight times, and on whom the author performed the above mentioned operation, was related. After a time eighteen hydatids and the wall of a large mother cyst were passed from the wound. There was an absence of peritoneal symptoms, and the patient made an easy recovery.

Whether this skilfully-devised operation, similar in general character to that which has been so successfully applied in gastrotomy, offers a chance of better results than those obtained by the methods hitherto in vogue, a more extended trial will be necessary to decide. In the discussion on Mr. Barwell's paper Mr. Henry Morris pointed out that while the plan of attaching the cyst to the abdominal wall resembled to some extent that of gastrotomy and colotomy, the procedure in these cases was in reality altogether different; for in the two latter operations a mobile and contracting organ had to be dealt with. In hydatids of the liver it was necessary to obtain a sufficient large opening to allow of the escape of bulky contents. It was not difficult to secure coaptation of the cyst to the abdominal wall, and thus to prevent the escape of fluid into the peritoneum. Manipulations were also possible by which this coaptation could be secured at the time of operation. One of the objections raised against the Barwell method is that it divides the operation into two stages; but Mr. Morris contended that there was no necessity for this division into stages.

Mr. Howard Marsh said he had successfully practiced the operation recommended by Mr. Barwell in one case recently. The sutures had to be passed into the substance of the liver because the hepatic peritoneum was so thin. The suppurating hydatid cyst was incised four days afterwards. In a case of suppurating hydatid cysts of the liver in a little child, an abdominal section was made without attempting to secure adhesion between the liver and abdominal wall. The result was satisfactory, and the case not complicated by the extravasation of the contents of the cysts into the peritoneal cavity.

There are, in truth, many questions still unsettled in regard to the operative treatment of hydatids of the liver; and the fact seems to be

that different procedures are preferable in different cases, and that the character of the contents of the hydatid cysts ought to determine to a considerable extent the nature of the operation. In the discussion in question Sir Dyce Duckworth stated that he had seen good results after all the methods of treatment, and that it was still a point for surgeons to decide whether the cysts should be completely cleared out, and whether antiseptic injections should be practiced.

THE CLIMATOLOGICAL RELATIONS OF PHTHISIS IN PENNSYLVANIA.—The Presidential address\* delivered at the third annual meeting of the American Climatological Association, held at Philadelphia in May, 1886, and originally published in successive numbers of the *New York Medical Journal* during December last, has now been brought out in a handsome paper-bound volume by the Messrs. Appleton. It must have cost its author an immense amount of labor, and, like everything that comes from Dr. Pepper's accomplished pen, constitutes a valuable contribution to medical literature. He has pursued, in general, the method adopted by Dr. Henry I. Bowditch in his studies of consumption in Massachusetts, which extended from 1854 to 1862, when he delivered his address before the Massachusetts Medical Society on "Locality as One of the Chief Causes of Consumption in New England." The conclusion at which he arrived was the following: "Medical opinion, as deduced from the written statements of resident physicians in 183 towns, tends strongly to prove, though perhaps not affording proof of, the existence of a law in the development of consumption in Massachusetts, which law has for its central idea that the dampness of the soil of any township or locality is intimately connected with, and probably as cause of, the prevalence of consumption in that township or locality." So far as investigation has been made in other portions of this country or abroad, Dr. Pepper says the evidence has tended to confirm Dr. Bowditch's position. His own researches show that all the counties of Pennsylvania with high mortality from consumption have very little elevation, and, further, are seated in the areas of largest annual rain-fall. It will be observed at once, he says, that those portions of the State where phthisis is rarest are the most elevated, having a general altitude of 1,500 to 2,000, or, better still, 2,000 to 3,000 feet; while, in proportion, as we enter districts of lower general altitude, we find correspondingly increasing rates of mortality from the disease. Some general correspondence, he states further, will also be noted between the areas of rain-fall and the areas of varying mortality from consumption, the higher figures among the latter coinciding with areas of greater precipitation.

A large portion of the essay is taken up with a detailed study of 102 answers received from physicians in different parts of Pennsylvania in reply to a circular to the profession of the State containing twenty-eight questions, the aim of which was to secure information about the

\*A Contribution to the Climatological Study of Phthisis in Pennsylvania. By William Pepper, M.D., LL. D. New York: D. Appleton & Co., 1887.

general topographical and geological relations of consumption, and especially about the influence of different local conditions rendering or tending to render the disease peculiarly prevalent; about the relations of occupation, race, and heredity to the occurrence and cause of consumption and some other diseases as regards the above local and general causes. As bearing upon the current discussion of the contagious or infectious character of consumption, the replies to Question 24 are of considerable interest. This question was, "Have you any evidence in support of or against the contagious or infectious character of consumption?" and there were forty-five affirmative replies.

The value of the volume is greatly enhanced by the addition of a map of the distribution of the disease in Pennsylvania, showing, also, areas of standing pine and hemlock and elevations; a map of the mean annual rain-fall and mean elevations; a map of mean annual temperature; a chart showing the relation of the mortality from phthisis in Philadelphia to elevation and density of population, by wards; and some tables giving respectively, (1) an analysis of replies from 120 physicians; (2) mortality from phthisis, pneumonia, and malarial fever; general death rate and density of population in Pennsylvania, by counties, for 1880; (3) mortality from phthisis in Philadelphia by wards; decades of life, race, etc., 1860-85, statistics of 60,000 cases; (4) mortality from phthisis in Philadelphia, 1807-85; (5) comparison of death-rate, etc., in the wards of Philadelphia, 1873 and 1881; (6) mortality from phthisis in Pittsburgh; (7) relative purity of water supply in Philadelphia. Finally, there are given records of temperature, rain-fall, etc., from 28 towns in Pennsylvania.

THE WATER SUPPLY OF NEW YORK.—At a recent meeting of the Croton Aqueduct Commission, it was definitely decided to construct the great dam at Quaker Bridge, which has been so long in contemplation. On account of the magnitude of the work the commissioners have very wisely determined upon this step only after due deliberation, and as the project has received the approval of a large majority of the experts consulted in regard to the matter, it would seem to be the best available means for increasing the water supply of this city, which is now daily becoming more and more inadequate for the wants of the growing population.

The dam at Quaker Bridge will be situated several miles below the present Croton Dam, and above and near the Quaker Bridge. The dimensions will be as follows: Total height above foundation upon solid bed rock, about 277 feet; height above the bed of Croton River, 178 feet; length of dam at foundation, 500 feet; length at the top, 1,500 feet. Including the capacity of the Muscoot Reservoir, 2,500,000,000 gallons, and the Croton Reservoir, 1,500,000,000 gallons, the new dam will make a reservoir of the capacity of 38,377,935,000 gallons. The dam will raise the water 34 feet above the Croton Dam. The surface level of the water in this reservoir when filled will be about 200 feet above mean tide on the Hudson River,

while the surface level of the Croton Dam and Reservoir is about 166 feet above mean tide. The construction and use of the Quaker Bridge Dam and Reservoir will require the purchase of at least 5,000 acres of land in the Croton Valley. The Croton Aqueduct, the Croton Dam, the gate-houses, the keepers' houses and buildings, the bridge next above the Quaker Bridge, known as the Wire Bridge, and the bridge in the vicinity of Croton Dam, will be submerged to a depth of 34 feet. The bridges over the Croton River above Croton Dam and the present road, and many dwellings and farm buildings in the immediate vicinity and near the level of Croton River, as far up the stream as the level of the waters of the reservoir will extend, will also be submerged. The construction of the dam and reservoir will be the greatest undertaking of the kind ever conceived and executed.

The Muscoot Dam is to be constructed just below the entrance of the Muscoot River into the Croton River, and five miles above the Croton Dam, and it will be an auxiliary to the Quaker Bridge Dam. The enterprise will add altogether twenty-three square miles of territory to the water shed of the Croton River. The cost of the whole is estimated at \$6,741,000, of which \$1,200,000 is to be expended in the purchase of the additional land required. Of course, every extension of the Croton system will necessitate the adoption of this possible precaution against contamination of the water. The vast storage reservoir, ten miles long, must receive the surface drainage of the surrounding region, a portion of which is said to have a considerable population, and the most stringent measures will have to be enforced to protect it from all avoidable sources of pollution.

AN OPENING FOR PRACTICE.—By reference to our advertising pages, it will be seen that there is an excellent opportunity for an enterprising physician near Danville, Ky. Dr. Meyer, who offers this, has been in active practice forty-four years, and having nearly reached the age of seventy, is anxious to retire, in order to obtain the rest and leisure to which his long and laborious services in the profession so richly entitle him.

ACKNOWLEDGMENT.—The editors of *Daniels' Texas Medical Journal* and of *Practice* will please accept the sincere thanks of the editor and publisher of GAILLARD'S MEDICAL JOURNAL for their very kindly and complimentary notices in regard to the interest and value of the JOURNAL.

N. B.—SUBSCRIBERS will confer a favor upon the publisher by mentioning this JOURNAL in their correspondence with the advertisers.



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## ORIGINAL ARTICLES.

### ARTICLE I.

THE VALUE OF THE ANTISEPTIC METHOD IN OBSTETRIC PRACTICE, AND ITS APPLICATION TO THE FORCEPS OPERATION. By HENRY D. FRY, M.D. Washington, D. C.

The obstetrician of to-day can view with gratification the retrospective field of labor in his department of Medical Science.

The reduction of child-bed mortality is the best evidence of the progress which has been made.

Steps taken in many directions combine to yield this happy result.

A clearer comprehension of the pathology of puerperal diseases permits a more rational, and consequently more successful, prophylactic treatment.

Treatment is more preventive and more aggressive.

Many puerperal complications are avoided by attention to the hygienic surroundings of pregnant women, by supervision, and by the adoption of measures, it is out of place to enumerate here, which have for their object the improvement of the health of those about to give birth to child.

At the first note of warning the treatment becomes aggressive. Obstetricians now recognize that many lives have been sacrificed on account of inaction on the part of the medical attendant.

It is aggressive, because the obstetrician does not wait for the occurrence of convulsions before interfering in cases of puerperal nephritis.

It is aggressive, because he acts before his patient has well-nigh bled to death from vicious insertion of the placenta; because the forceps is applied before nature's efforts have flagged to a low ebb.

The dangers of lingering labor are appreciated, and treatment is directed to its relief.

In extra-uterine pregnancy active treatment is instituted as soon as the condition is recognized, and, owing to improved methods of treatment, better results are obtained.

The success of the Cæsarean operation depends in great part, as Dr. Harris has shown, upon early action.

These are but a few of the aggressive and, need I say? progressive steps that have been taken.

The result is a saving of maternal and of infantile life.

But, after having studied the causes which combine to effect the diminution of maternal mortality, were I asked, What single element promises to do more than any other to bring about this happy result? I should unhesitatingly say—the application of the germ theory to the pathogenesis of puerperal diseases and the employment of the antiseptic method.

The result is strikingly evident in the large maternity hospitals which, before the careful use of antiseptics, furnished such a large proportion of maternal deaths.

Listerism may be combatted by surgical sceptics, and favorable comparisons made between the results of certain operators who do not use antiseptics, and those who do. But such arguments do not hold

good in an obstetrical point of view, and no similar conclusions can be drawn from the mortality lists obtained from those maternity hospitals which ignore antiseptic precautions and those which strictly enforce antiseptic rules.

The most conclusive proof of the truth of the doctrine of the germ theory of disease is furnished by the history of the results obtained by the adoption of the antiseptic method in maternity institutions. In proportion as the rules of the method are enforced, the mortality diminishes.

In 1867, M. Tarnier was appointed surgeon-in-chief of the Paris Maternity. For the nine years immediately preceding his appointment the average mortality per year was 10 per cent. For the next nine years, from 1866 to 1876, it fell to 3.7 per cent. ; and from 1875 to 1884, it was further diminished to 1.8 per cent. Improvement followed the adoption of antiseptic precautions, and the death-rate decreased perceptibly with the addition of each rule enforced by Tarnier for the purpose of carrying out a more rigid antiseptis. It was not until during 1882 and 1883 that the method could be strictly put in force, and the mortality for those years was 1.16 per cent. and 1.1 per cent., respectively. Any approach to these figures it had never been possible to reach in the history of this institution.

M. Tarnier met with considerable opposition in his efforts to introduce this method of treatment in the Paris Maternity, and, with the object in view of strictly enforcing the principles of the antiseptic method, he had constructed, in 1876, a special pavilion, which is called after his name. Here he realized the best results.

The following is a brief account of the antiseptic precautions employed at the Tarnier Pavilion :

Each woman occupies a separate room. When a woman in labor is admitted to the Pavilion she takes a general bath, if her labor is not advanced too far ; if expulsive pains exist, they are content to wash the vulva with a carbolized solution, 1 to 80.

Before making an examination, the midwife and interne wash their hands in a solution of corrosive sublimate, 1 to 1,000. From 1878 to 1882, they employed for this purpose carbolized water 1 to 40. Since the beginning of 1883, they give, during labor, vaginal injections of a solution of bichloride of mercury.

During the period of expulsion, when the head appears at the vulva, carbolized oil, 1 to 10, is applied over the fourchette.

Atomization is not employed, but, throughout the labor, carbolized vapor is produced by boiling an aqueous solution, 1 to 20.

Each patient remains in the room she occupied during her confinement.

Three times a day, when the lying-in is normal, the vulva is washed with carbolized water, 1 to 80.

Intra-uterine injections are reserved for cases in which fetid lochia are accompanied by fever. For bathing the parts, they make use of ordinary wadding cut into pieces sufficiently large, so that when squeezed they are about the size of a common sponge. Each piece is burned as soon as it has served its purpose.

A compress soaked in carbolized water, 1 to 40, is afterwards applied to the vulva.

These dressings are repeated every three hours, day and night, when the puerperal patient is not doing well.

The rooms, furniture, etc., are systematically disinfected.

During the four years succeeding its erection, mortality in this Pavilion averaged eight-tenths of one per cent.; during the next four not a single death occurred in 785 labors.

The above information is taken from the work of Paul Bar,\* which also furnishes conclusive proof of the value of the antiseptic method by giving the excellent results obtained at the maternities of Prague, Copenhagen, Glasgow, and Vienna.

These results should banish the most stubborn scepticism.

What Jenner has accomplished to protect humanity from the ravages of small-pox, Semmelweiss has done to sweep epidemics of puerperal fever from the face of the earth. "Puerperal fever," Semmelweiss wrote, "has existed for 200 years; it is time that it should disappear."

His observations at the Vienna Obstetrical Clinic, begun in 1847, brought to light this evidence: From 1784 to 1822, the physicians connected with the Clinic did not perform post-mortem examinations, and the death-rate was 1.25 per cent. During the next ten years the custom prevailed of making the examinations, and the mortality ran up to 5.3 per cent.; and, for the six years immediately preceding the labors of Semmelweiss, to 9.92 per cent.

The introduction of antiseptic precautions caused an immediate fall of the death-rate to 1.27 per cent.

With these general remarks on the value of the antiseptic method in obstetrics, I invite your attention to the consideration of the application of antiseptics to the ordinary forceps operation. The various antiseptic precautions demanded in the different obstetrical operations

\*Paul Bar, "Des Méthodes Antiseptiques en Obstetrique." Paris, Alex. Cocoz. 1883.

differ but little in detail, and those applicable to this operation may be employed for others when modified by changes to meet the exigencies of particular cases. The forceps operation is selected to represent this class of obstetrical work because it is the one, of all others, we are most frequently called upon to perform, and which, when indicated, we willingly undertake, in the interest of either mother or child.

For obvious reasons it would be difficult to collect statistics of the mortality after forceps operations for the purpose of comparing the advantages and disadvantages of a particular line of treatment or of a particular method of operating. Death is rarely due to the operation *per se*. It is the result of the complication which led to the necessity for instrumental aid. Hemorrhage, eclampsia, shock, etc., continue to act. And so, when we come to estimate the value of the application of the antiseptic method to this operation, the same fallacies would enter into any comparison of the results obtained before and after the employment of antiseptic precautions. Antiseptics control but one factor in the cause of death, although a prominent one, viz.: puerperal infection. A study of the morbidity of selected cases would probably teach more than a study of the mortality. For instance, eliminating all cases of forceps operation except those which do not present any serious complications, and comparing the "getting up" of those treated by one method with a series of similar cases treated by another method, would give conclusive evidence of the comparative value of the two lines of treatment. Also, investigation into the number of deaths resulting from puerperal infection after forceps operations before and since the introduction of antiseptics would shed much light upon the subject.

We must, then, rest content with the knowledge we possess of the pathogenesis of puerperal septicæmia, and with the general results that have been obtained in obstetric practice by the employment of antiseptic precautions. If the latter tend to protect women from the dangers of puerperal septicæmia, and if puerperal infection is one of the dangers and one of the causes of death after forceps operations, no further argument is needed to prove that the application of the antiseptic method to this operation will reduce the maternal mortality. We have seen how great was the reduction of the death-rate in maternity hospitals after the employment of antiseptics; and as the statistics furnished by these institutions comprise the results of thousands of deliveries, it is but fair to infer that a proportionate number of instrumental cases was included in the calculation.

At a meeting of the Washington Obstetrical Society, held Novem-

ber 6, 1885, I read a paper on the "Value of the Antiseptic System in Private Obstetric Practice," etc., \* and one of the distinguished members present took occasion to express regret at the simplicity of the method recommended for the prevention of puerperal infection. An opportunity is again offered for the same objection. Antiseptic midwifery in private practice is made up of a number of little details; it is all simplicity. The antiseptic precautions demanded in maternity hospitals are otherwise.

Here the number of cases examined and the number of examiners, for each case, the impure atmosphere, the use of the same instrument or instruments for different cases, and the proximity of sick women, all tend to increase the dangers of infection and consequently demand greater efforts to overcome them. Failure to secure the desired result is caused by a neglect of some little detail. It is absolutely necessary for the physician to recognize this fact.

Paul Bar\* says: "The obstetrician, in order that he may apply thoroughly the antiseptic method \* \* \* ought to be convinced that all cases of infection that he observes are due, careful though he may have been, to some fault committed; generally, indeed, he discovers that he has neglected to practice some little procedure, trifling in appearance, but the application of which would have sufficed to protect the patient."

Recognizing the fact that puerperal fever is contagious, and that the contagium is a germ which usually gains access to the system through wounds of the genital tract, the prophylactic indication is clearly to guard the patient from the action of this poison.

This is accomplished by :

1st. Preventing the transport of germs to the genital canal of the woman.

2d. Killing those which elude our vigilance, and

3rd. Limiting the production of traumatic injuries as much as possible.

If we could possibly prevent the conveyance of germs to the genital passages of parturient women, there would be no occasion to employ an agent to destroy the micro-organisms, and if we could be sure of destroying the vitality of those that succeed in gaining access to the parts, there would be no danger to apprehend in this respect from the occurrence of lacerations of the genital canal. But, owing to the difficulty of accomplishing either of these three indications, we attempt to

\* *Am. Journ. of Obstet.*, Vol. XIX., No. IV., p. 337.

† *Ibid.* p. 41.

obtain security by striving for them all. The union of our forces is the strength of our opposition.

Every effort is sometimes fruitless, and we witness in the dreaded fever the manifestations of a successful invasion of the subtle foe.

The first object, to prevent the transport of germs, is sought to be obtained by :

*a.* Cleanliness.

*b.* Antiseptics.

The second, by the destruction of germs by antiseptics.

The third, the prevention of traumatic injuries, by conducting labor in such manner as to limit, as far as one can, the lacerations of the genital passages due to too rapid dilatation of the canal, or to too rapid passage of the fœtus through the undilated canal.

Cleanliness refers to the physician, the attendants, the patient, and to everything brought in contact with the patient. Good results are obtained by this alone, but it is not, as some would claim, all that is necessary to protect women from the ravages of childbed fever.

Cleanliness is one step in advance, the antiseptic method is two ; it is cleanliness *plus* something else, and that something is an agent that will destroy the vitality of micro-organisms. Its destructive power upon these agents is proved experimentally, and its protective influence against puerperal infection is proved by practical experience. Isolation, ventilation, and cleanliness were powerful weapons with which puerperal fever was formerly fought, but epidemics of the disease were not controlled until antiseptics were employed.

In the application of these principles to the forceps operation the following simple rules should be enforced :

The obstetrician should wash his hands and forearms, first with warm water and soap, afterwards with an antiseptic solution. The finger nails should be trimmed and all dirt removed from beneath them. A stiff nail brush should be used, and the parts scrubbed so as to remove all loose epithelial matter. Similar precautions should be taken by attendants, the nurse, or by any one who will be brought in contact with the patient's genital organs, with the physician, or with the instruments.

The forceps should be immersed in a warm antiseptic solution, and not removed until ready for introduction. The blade can be inserted, moistened only with the antiseptic fluid, or carbolyzed oil, glycerine, or vaseline may be employed.

The patient must also be prepared for the operation by bathing the vulva with an antiseptic solution, and when this shall have

been thoroughly cleansed, by administering an antiseptic vaginal douche.

For washing the hands, and for the vulvar and vaginal douches, a solution of bichloride of mercury, 1 to 2,000, is the safest antiseptic. As this agent is injurious to metallic surfaces, we can substitute antiseptic solutions of carbolic acid, boracic acid, or iodine, for the fluid in which to immerse the forceps or any instrument that may be made use of. A tablespoonful of compound tincture of iodine in a quart of hot water makes an excellent antiseptic solution. The carbolic acid solution may be from two to four per cent., and the boracic acid from three to five per cent. strength.

Every attention should be given, during delivery with forceps, to avoid, or to limit as much as possible, lacerations of the parturient canal. Ruptures of the perineum should be immediately stitched, provided the condition of the wound offers a prospect of union of the divided surfaces. Slight tears and extensive gangrenous looking lacerations are best treated by antiseptic vulvar and vaginal injections, and by powdered iodoform.

When labor is terminated and the placenta removed, the vulva and vagina must be washed again with the bichloride or carbolic acid solution, and the dressing applied to the genitalia. The ordinary napkins, which have been used to receive the menstrual flow of each succeeding month, are not fitted for such a purpose. If employed, they should have been previously washed in an antiseptic solution, and when soiled must be subjected to the same treatment before being used again. Pieces of unbleached muslin answer the purpose better than these napkins. In using either, it is well to place a piece of antiseptic absorbent cotton between the vulva and the cloth. The occlusion dressing employed by Garrigues at the New York Maternity Hospital is preferable to any other form of vulva dressing, and having once been employed by a patient she will be loth to do without it on future occasions of this nature. The dressing should be changed once in 3, 4, 6, 8 or 12 hours, as demanded by the quantity of lochial flow. At each renewal the vulva should be cleansed with an antiseptic solution. This is best done by projecting a stream of the fluid against the parts from a syringe, not forcibly, or by squeezing the antiseptic wash from a piece of absorbent cotton held above the parts.

Vaginal injections must not be employed unless required by some special indication. Lacerations of the perineum or cervix, fetid lochia, fever, etc., call for their use.

When giving an antiseptic vaginal injection, always precede it by cleansing the vulva with the same or another antiseptic agent.



## ARTICLE II.

THE FEVER EPIDEMIC AT BILOXI, MISS., DURING THE SUMMER AND AUTUMN OF 1886. By A. PARKER CHAMPLIN, M.D., Bay St. Louis, Miss.

In this enlightened age if the physician desires to have, and hold, the respect of his brother physician, he must keep a clinical record of cases, and especially during seasons when epidemics may occur. Nor must he wait until he has cases in which no symptom of typical character is wanting, but he should pay especial attention to those in any way suspicious, and, when ending in death, secure, if possible, a post-mortem examination. With these prefatory remarks, which have been particularly suggested by my experience in connection with the outbreak of fever at Biloxi during the past season, I herewith submit, in accordance with a promise made some time since to the editor of the JOURNAL, some desultory data picked up while making my investigations in Biloxi.

I visited that beautiful little city twice, by request of our State Board of Health ; the first visit being to investigate some cases of fever prevailing at Point Cadet, and its neighborhood, and to decide as to their character, whether infectious or not.

Let me here state that, although I knew the high standing of the visiting physicians, knowing them to be close investigators, and instigated in their acts alone for the public good, yet a doubt having been thrown on their diagnosis by others, equally competent and also wishing to do right, and there being a want of accord between the resident physicians, some of whom I respect highly and know to be competent, I accepted the duty assigned me solely because I believed, having practiced several years in Biloxi, and having often met with cases of fever very suspicious on casual examination, but proving innocent on close and persistent watching, I would find a mistake had been made and that I could find evidence to remove the clouds hanging over that far-famed watering place. That I was doomed to disappointment is now known.

Before proceeding I wish to correct a mistake made by some of the reporters in putting one of my calibre down as an *expert*, a title which I never assumed, or considered that I deserved. Excitement will often lead to fallacies.

My first visit was made on the 18th day of October. On reaching the "field of action" I was pleased to meet Dr. J. J. Harry, President of the Board of Health of Harrison County, Miss., and also the physi-

cian who was attending the suspicious cases. The latter extended to us every possible professional courtesy, and accompanied us to the sick.

The first case seen, at Back Bay, was doubtful in character, and I would not have pronounced the disease yellow fever on evidence derived from it alone. Yet the data secured caused suspicion, and I anxiously looked for corroborative evidence pro or con.

We next visited the Cox family at Point Cadet, in the east end of the town, in which the other suspicious cases were. On entering the sick chamber I found two children in bed, separate, Alice, aged 15 years, and Charlie, aged 13 years. Stepping between the beds, I took a good look at them, and was struck with their yellow fever countenances. We now proceeded in our examination, leaving no stone unturned to make it thorough, and the following notes were taken by me at the bedside :

Charlie Cox, white, aged 13 years, pronounced by physician as now being in reactive stage, was attacked suddenly with chill, followed by high fever, of one paroxysm, lasting about seventy-two hours. Tongue: centre coated white, pointed, red tip, red edges. Gums: congested, swollen, puffy, bleeding on gentle touch, with the mucous membrane cracked and white at the point where free hemorrhage had occurred. Pulse now seventy-two (the sight of strangers caused it to be hurried). Temperature 100° F. The pulse had been slower, having gradually decreased in quickness as the temperature rose. The latter had been as high as 105°, or even more. Face flushed, brownish red, especially cheeks. Eyes injected, bright and sparkling. Sclerotica jaundiced. Pronounced lumbar pain. Headache, and pains in the lumbar region and limbs had been very severe, but were lighter now. Urine clear; had been suppressed, and was now scanty; on testing with heat and nitric acid, it showed 20 per cent. albumen. Gastric irritability marked (the patient vomiting nourishment during examination), especially on palpation. Had had *black vomit* during 24 hours. The coffee-ground character was plainly shown, the same as I have too often seen during yellow fever epidemics. It was so marked that no chance was left to imagine that it might be wine stains. Debility great, although the patient was easily aroused when spoken to, and answered questions well. He would then relapse into hebetude.

Next case, Alice, aged fifteen years, attacked like her brother; the disease pursuing about the same course as to duration and character, etc. Pulse now 100, temperature 102° F., urine scanty and showing 50 per cent. albumen, eyes like the brother's, except that the icterus was more marked. Epistaxis took place during examination. Skin moist in both

cases. Weighing, on consultation, all the evidence secured, some from the family, physician, and nurse, as to the course of the disease up to the time of our visit, and some from our own examination of the cases, we could but pronounce the affection well-marked yellow fever. The attending physician agreed in this diagnosis, and said that he had always recognized it as such, and so treated the cases.

I regret to state that I have since learned that a lady was then dying who had black vomit, and whom we would have visited if a mistake had not occurred. This case would have assisted us much in making our report; but having seen enough to satisfy us as to the infectious character of the disease, we so reported, and our mission being fulfilled, we returned home. Quarantine then became general.

My second visit was made on November 11th, and at this time a house-to-house inspection was made by Captain Allen and myself. We endeavored to be very careful in this work, but not being infallible, we may have made mistakes.

Some families having moved away, we got data from the physician, and this was true also in some other cases when we knew the reports were reliable. As a result of our investigations, we found that there had been some 270 cases of fever—110 children and 160 adults (all over 12 being counted as adults)—and I think at least 250 cases were of the prevailing fever. There were twelve deaths from the same type of fever; giving a percentage of less than 5. I lost 9 per cent. in the '78 epidemic at the same place.

We endeavored to obtain all possible information as to the introduction, course, etc., of this epidemic; and I much regret to say that we could get at nothing positive. I made very particular inquiry as to the appearance of the corpses of those who died, and learned that, in every instance, there was marked discoloration and yellowness of the surface and eyes, and bloody oozing from the mouth, or discharges from the bowels, even if no ejection of black vomit had taken place during life. I herewith give the record of a case ending in death taken by a very intelligent lady, she getting her points at the bedside from the attending physician at each visit. The boy was her adopted son. R. C.— visited his sister, who had just recovered from the prevailing fever, on Tuesday, October 4th, 1886, remaining with her from 12 M. to 4 P.M. He was perfectly well until the morning of October 7th, at 11 o'clock A.M., when he was seized with violent headache and backache, accompanied by slight chill, followed by fever, which lasted until he died. Toward the latter part of his sickness the kidneys did not act freely. On the morning of his death he had an

inclination to vomit, and passed a quantity of *black stuff* from the bowels. He then began to get black behind the ears, under the throat, and around the back of the neck. Immediately after death the surface of his body and the whites of his eyes became as yellow as gold or a ripe orange. The following was the record of the pulse and his temperature given by the attending physician: October 7th, 11 A.M., pulse 120, temperature  $105^{\circ}$ . 2 P.M., pulse —, temperature  $104^{\circ}$ . October 8th, 9 A.M., pulse 96, temperature  $102\frac{3}{4}^{\circ}$ . October 9th, 6 P.M., pulse 90, temperature  $101\frac{3}{4}^{\circ}$ . October 10th, 2 P.M., pulse 68, temperature  $106\frac{3}{4}^{\circ}$ . October 10th, 7 P.M., pulse 68, temperature  $106\frac{3}{4}^{\circ}$ . October 11th, 8 A.M., pulse thready, temperature  $106\frac{3}{4}^{\circ}$ . October 11th, 10 A.M., pulse thready, temperature  $106\frac{3}{4}^{\circ}$ . He died at 12 M. In explanation of the irregularity shown as to visits paid this case, I will state that the wife of the attending physician was taken sick and died with the same fever, so that he was, of course, obliged to remain much with her, and owing to his own trouble, he failed to send another physician to take his place.

To sum up, the opinions advanced as to the character of this epidemic have been so various, and the clinical data kept by the physicians in attendance so meagre, that it is difficult to arrive at a positive conclusion in regard to it. With all due respect, I must say that I believe if the physicians, instead of yielding up their independence and trying to curry favor with certain parties, had quietly consulted among themselves, and when they disagreed, requested Dr. Halliday and other experts to aid them, the whole matter could have been quietly settled. It is much to be regretted that discussions pro and con became quite bitter, a thing which certainly ought not to have been allowed to occur. Ignorant or self-constituted doctors may thus err, but the educated and properly qualified physician will not thus bring reproach upon the profession. Yet this same acrimonious discussion takes place whenever we are threatened with a visitation of yellow fever. Rush, in his time, was cursed and threatened with dire vengeance because, being the learned and experienced physician that he was, he dared assert and hold to what he knew to be the truth. See how the lamented Gaines, Delery, and many others, and even I myself, were browbeaten during the epidemic of 1878. Yet time proved that we were correct. No physician should let public clamor sway him from what he knows—after hard and persistent study—to be right.

During the first days of the epidemic of 1878, I attended the son of one of the most learned of New Orleans physicians, who acted as consultant in the case. I regret to state that we differed, he holding that

the disease was of a malarial type, and I that it was yellow fever, which was then prevailing. Death ensued; but previous to the fatal termination black vomit was ejected, when he coincided with me, and afterwards made out the certificate of death to this effect.

I well remember that, in the early part of that epidemic, I would often meet with cases which might be said to be hybrid, malarial symptoms being most prominent at first, but followed at a later stage by those of well-marked yellow fever, and *vice versa*. This was especially shown in cases occurring in the Clark family, near the depot; such I believe to have been the case during this epidemic now in question.

I cannot but believe that physicians practicing in large cities, especially where mephitic emanations are pronounced, not infrequently forget or ignore what I consider to be a positive or easily proven fact, viz.: that all diseases are much modified by our pure sea atmosphere, except in a few cases; the symptoms often being thus rendered so slight that the true nature of the case can only be recognized by very close investigation. This modifying agency also accounts for our low death-rate. As has been seen, it was very low in this late epidemic; yet it was too large for dengue, even if the affection simulated it in other respects.

We found that only two had been attacked who had had the disease before, and that it was confined almost wholly to strangers. This alone ought to disabuse our minds of the idea of its being dengue, or relapsing or malarial fever, even if there was any other evidence pointing thereto; which I deny from what I saw or could learn.

I can but believe that those physicians who were conversant with yellow fever, and who are recognized as competent by all who know them, were the cause of the trouble. Their imaginary fear that injury might be done them caused them to forget what was expected of them, in justice to the public and themselves. The physician should be the skilled adviser when sanitary matters demand attention in the community, and not pander to popular favor, or that of certain leaders. Advice, when rightly given, backed by confidence, secured by true merit, will ever be listened to, and I know the good people of Biloxi too well to believe that they would intentionally force a physician to do what they knew to be wrong, or visit bodily punishment on any one because they differed in opinion.

Understanding during my last visit that there was a *new case*, I called on the physician in attendance, and requested permission to visit the patient. He acquiesced, and accompanied me to the bedside.

On leaving the house, he asked me what I thought of the case, and I told him that, from what I had seen, I thought it like the others. He then voluntarily told me that all cases which he had marked on a list given me as bilious, bilious-remittent, or remittent fevers, were actually cases of yellow fever. I asked him why he had not stated this publicly, and he replied, "because he feared the effect on his patients." Thus it was that those physicians who were conversant with yellow fever, not only from reading, but actual experience during many epidemics, would not make assertion publicly that the disease was of this nature; although, as in the instance mentioned, they would state this opinion privately.

My own belief is that, as we have cases of ephemeral yellow fever, we can also have an epidemic of like type, or prolonged ephemera modified by malaria, and in some cases having a marked yellow fever type, as was the case at Biloxi.

In closing, let me state that I practiced several years in Biloxi, and well know that no such type of fever is endemic there. We have the usual number of cases of malarial fever of mild character, and easily cured by antiperiodics; and sometimes, when persons have been exposed in the Louisiana marshes in fishing or getting oysters, they have contracted a more severe type, more resistant to treatment, owing to exposure and the inhaling of emanations from decaying shell-fish, etc.; but that there is such a disease, as described in this paper, endemic there, and prevailing every summer and fall, I emphatically deny. It is one of the healthiest places, not only on this coast, but in the world.

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### ARTICLE III.

HEADACHE: ITS VARIETIES AND TREATMENT.\* By EDWARD D. FISHER, M.D., Lecturer on Nervous Diseases in the Medical Department of the University of the City of New York.

Headache may be defined as pain in the head, usually accompanied by overexcitation of the special senses and disturbance or interference with mental action.

Perhaps at the present day there is nothing that the physician is so often called upon to consider as this condition, whether it is owing to our present manner of living or not it is difficult to say. Certain it is that men in the full strength of manhood are made incapable of

\*Read before the Neurological Section of the New York Academy of Medicine, March 11, 1887.

continuous mental work, where often their physical appearance gives every sign of vigor and endurance.

The usual and perhaps the only division that can properly be made of the different forms of headache is into organic and functional. Under the first I would include all those due to coarse lesions of the brain, such as exostoses of the cranial bones and new growths within the cranium, while under the head of functional I would place those caused by some temporary lesion due to a change in the quantity or quality of the blood circulating through the brain. I thus include in the latter that large class of headaches caused by a decrease in the number of the red blood-corpuscles as seen in chlorosis and anæmia, where a deficient amount of oxygen is carried to the cells of the grey matter, which are dependent on this supply for any special mental action, and also that class caused by poisonous elements present in the blood from some toxic agent introduced from without, as in lead poisoning, or evolved from some faulty assimilation of the constituents of the body, as in gout, rheumatism, Bright's disease, etc.

In defining the difference between a functional and an organic disease, we can perhaps follow Brown Séquard with benefit.

He describes the characters of functional nervous diseases, in contradistinction to those of organic, as follows: The principal causes of the former are an alteration in the blood and an irritation of an incident or centripetal nerve by a neuralgia, decayed teeth, wounds, etc.

In organic nervous disease one of the principal causes is a special tendency (inherited or not) to inflammation, alteration of the blood-vessels, or to the formation of morbid growths, etc.

A characteristic of the functional diseases is also great variability in the intensity of the symptoms, and regular or irregular recurrence of the attacks, with intervals of almost perfect health; a sudden or rapid cure or improvement is not rare; and, lastly, the removal of the cause is a fundamental part of the treatment; on the other hand, in organic disease there is a persistence of the principal symptoms, with slow variations in their intensity; a sudden cure is impossible and a rapid improvement rare, and to remove the cause is often impossible, and when possible of much less importance than the direct treatment of the structural alteration.

In applying the above general conclusions in regard to organic and functional diseases to our special subject, that of headache, we will be able to define the difference between that of organic and that of functional origin.

In the former the pain is constant, subject, however, to paroxysmal exacerbation.

The patient, if neurotic, and perhaps accustomed to headaches, speaks of this as something very different, causing depression and inability to carry on intellectual work. As a rule, generally distributed over the head, it may be localized (especially in tumors of the base) and even confined to one-half of the head, but it differs from hemicrania, in that the latter is relieved by sleep, and that the patient between the attacks is perfectly free from pain, and that also any excitement, as of company, has a tendency to drive it away, and in fact the sufferer may be unusually brilliant in his remarks and thoughts. This in organic trouble is the reverse; of course later on, as in tumor, if we find optic neurites and epileptiform convulsions we are no longer in doubt as to the nature of the lesion. The cause of cephalalgia lies probably in the distribution of the fifth to the dura. The brain substance itself is incapable of pain. Experimental research, while it has discovered the probable centres of perception of the special senses, has not found that for pain. Some have considered that the optic thalamus and corpora quadrigemina are capable of it, but the weight of testimony is against rather than for that theory.

The pia mater has also been thought by Ferrier, in disease at least, to be susceptible of pain, but this is not sustained experimentally. When we come to the dura, however, the slightest irritation of this in animals, where the skull has been removed in part, causes a drawing up of the limbs, and crying. The nerve-supply from the fifth would also make this probable.

Any cause, therefore, whether acting directly as an injury to the skull, or a new growth involving the dura, or indirectly as through increased intra-cranial pressure or fluctuations in the intra-cranial pressure, as might be produced by tumors lying centrally in the brain, or from hyperæmia or anæmia, or toxic states of the blood, can be readily conceived of as causing cephalalgia or headache.

Passing now to the various forms of headache under these two divisions of organic and functional, I will dismiss the former class, by simply referring to the lesions which may cause it, namely, exostosis of the cranial bones, tumors of various kinds, glioma, carcinoma, syphilitic gumma, tubercles, etc., each possessing some characteristic class of symptoms diagnostic of its nature, also softening of the brain so called, and injuries to the skull resulting in thickening of the bones, depression of the same, or thickening of the dura. In the functional class, however, with which my paper has really more to do, I shall go into a more



detailed subdivision. These, as I have said, are caused by alterations in the quantity and quality of the blood, and peripheral irritations, such as worms, neuralgia, decayed teeth, wounds, burns, etc.

I would classify them under the following forms: hyperæmic, anæmic, migraine, reflex, toxæmic, and neurasthenic.

Hyperæmia consists in an over-filling of the arteries, and, as a consequence, of the veins, thus producing, if the latter continues, finally a decrease of arterial supply, explaining in part, perhaps, the similarity of symptoms which are often present in both cerebral hyperæmia and anæmia.

We may have the passive and active forms, the latter often due to excessive cardiac action as in athletic sports, in febrile states, also as a result of alcoholic stimulants.

The subjects of such attacks are usually stout, florid, men, accustomed to perhaps excess in eating and drinking; the pulse in these cases is tense and full, the heart tumultuous, the patient subject to attacks of depression, irritability, and sudden gusts of passion; the kidneys may be somewhat involved, with hypertrophy of the left heart. The cephalalgia is here situated over the forehead, a sense of weight, which may be accompanied by ringing in the ears, flushing of face, etc.

In chronic hyperæmia we may have as a result some atrophy of the brain resulting, due to the increase of the connective tissue or neuroglia, just as in other organs subjected to over-supply of blood.

In passive hyperæmia or congestion we have some obstructing cause to the return circulation from the head, enlarged glands pressing on the jugular vein, an enlarged thyroid, some pulmonary obstacle or cardiac failure of the right side of the heart, as also slowness of the portal circulation.

Here the headache is frontal, continuous, and deep-seated; this form is often relieved by a thorough purgation, the need being indicated by the foul tongue, depression or even tendency toward morbidness; this is often present in the overworked, when the countenance is pale and pulse soft and compressible.

In anæmia of the brain, we have, as we have said, two elements to consider: first, the deficiency of blood for the general nourishment of the brain; and, secondly, the deficient supply of oxygen to the nerve cells for any special mental act or continuous use of the brain. We find, therefore, in these cases a general condition of discomfort, referred to the head, and an actual pain, usually referred to the vertex, whenever any mental labor has been done, or anxiety is present for any reason.

In these patients often the other signs of anæmia exist, the pale conjunctiva and bloodless gums, the dilated pupil, feeble pulse, at one time slow, and at another on the slightest excitement rapid, jerking, and feeble. Insomnia is present, as a rule, by night, with drowsiness during the day, a tendency to fall asleep when sitting quietly. As a cause we may have over-lactation, menorrhagia, leucorrhœa, overwork, etc. Such patients are subject to attacks of syncope, due to sudden cerebral anæmia; their mental action is slow; they become indifferent; they are apt to resort to alcohol, which gives relief for the time, but in especially such cases in women at the menopause is apt to lead to habits of intemperance, and for this reason is to be strongly condemned. I would also refer here to the opium habit acquired under like circumstances from the immediate relief given by at first small doses, the cerebral circulation being increased and the cardiac action rendered strong and regular. It is often in these cases that external local irritations have their most serious effects, and it behooves us, as Dr. Brunton, in his excellent article on the pathology and treatment of cephalalgia has so well said, to examine closely for some local cause of irritation. This writer states the causes of cephalalgia as consisting of local irritation and general condition, in the first the chief local causes being decayed teeth, abnormalities of the eyes, disease of the nose, throat, or ear, and affections of the scalp or skull occasioned by rheumatism or syphilis. He further says decayed molar teeth cause temporal or occipital headache and the incisors frontal pain. Eye-strain occasioned by work when myopic, hypermetropic, astigmatic, or rheumatic affections of the eye or its muscles exist is a prominent cause of cephalalgia. If both eyes are affected the pain is usually frontal; if but one eye, brow-ague or migraine. In cephalalgia due to a general condition he places frontal headache as occasioned by constipation and relieved by purgatives. Frontal headache just above the eyebrows indicates acids in its treatment, higher up at the roots of the hair as calling for alkalis. I mention these cases under the head of anæmic cephalalgia, as in all probability no bad results would have occurred unless the anæmia pre-existed. The majority of persons with defective vision, decayed teeth, etc., are not troubled with any functional disorder, be it headache or epilepsy. It may be necessary, however, to remove these local irritations before we can successfully treat the cerebral anæmia, and it certainly becomes us to carefully inquire into all the facts.

The third form of headache in my classification is migraine or hemicrania. I have put it in this order, as it is associated with both of the previous conditions, but differs from them in being temporary and

fleeting ; sudden in its onslaught, resembling an epileptic seizure in this respect, to which disease, in fact, it has been compared.

It is generally supposed to be due to irritation or paralysis of the vaso-motor nerves to the arteries of the brain, through the sympathetic. Liebermeister calls it an intercranial neuralgia of the dura mater through the trigeminal nerve. There may, however, be other pain-conveying nerve fibers, which at present we have not discovered. It rarely occurs before puberty, but may continue through life, or to the menopause ; coming on late in life it may be indicative of approaching general paresis.

From the well-known fact that section of the cervical sympathetic causes dilatation of the cerebral vessels on the same side, while stimulation causes contraction, if we accept the theory that in migraine we have the sympathetic involved, we must necessarily have two forms of this disease, one with tonic spasm of the arteries and the other with paralysis of their walls. In these cases we often find pain on pressure over the superior cervical ganglion and also over the cilio-spinal region. I have recently seen it stated that very often in these cases on careful examination of the muscles of the neck and shoulder it will be found that they are tender and that in this region we will find the glands enlarged. In these cases massage has completely removed the hemicrania.

In these cases, also, we may have as a cause some local irritation, as the teeth or throat.

In a case which has been under my care for some time the patient has several enlarged glands on the right side of her neck, which usually enlarge previous to her attacks and become painful. Her pain is, however, chiefly situated on the opposite side of the head, although often passing over to some extent to the same side.

The attack of pain in migraine usually comes on in the morning on rising or soon after. It has usually, however, been preceded by prodromata either of feelings of depression, drowsiness, or even of elation, which the patient has learned to recognize as the precursors of the attack.

The pain often commences at the inner canthus of the eye, passing down the side of the nose, as accurately mapped out by a patient who came recently to me ; it may not extend further, but remain located here ; most usually it involves also the forehead and passes on to the occiput. The skin may be hot and red and covered with perspiration, or may be the reverse. While the pain is usually referred to one side, it is not as a rule strictly so limited, but passes over to the opposite eye. The pain may be intense, as if the head would break. The whole region

is tender, but differs from neuralgia, in that one nerve or branch is not followed, and the localized points of tenderness are absent. Nausea or vomiting is apt to ensue (giving it, probably, its name of sick headache), which may be very violent until the bile is forced up; the patient, usually much exhausted, falls into a deep sleep, to awaken free from pain.

Such attacks may last from six hours to several days, and may recur periodically every week or month, there often being a malarial complication present.

Under reflex headache I would include the so-called sympathetic, due to gastric, hepatic, uterine, ovarian, and other causes. As Dr. Day in his work on headache has said, the pneumogastric nerve, both physiologically and pathologically, is never lost sight of in any functional or organic disorder, and least of all should it be in an affection like headache, where its communication with the stomach is so intimate. Its close connection also with the uterus and ovaries and some of the cranial nerves, especially the trigeminus, explains how that disease or irritation of these organs may cause cephalalgia. Bilious headache is more frequent among those who have indulged in some excess in eating or drinking, but in the over-worked or nervously exhausted may occur on very slight provocation.

There is usually nausea, a sense of faintness, flushing of the face, and a frontal headache, involving also the top of the head.

The form just alluded to is perhaps most common with men. In women suffering from dysmenorrhœa, ovarian or uterine irritation, we have usually the digestion interfered with, at times excessive nausea and retching; the extremities are cold, and a feeling of weight over the forehead.

Whatever the exact cause of this headache may be, as Dr. Day says, the nervous system has largely to do with it, as many persons of the most irregular habits, with defective depurative organs, never have the sensation of a headache. The nausea and vomiting in these cases is very different from that in migraine. In the latter it would seem to be caused by the cerebral disturbance taking place after that condition has established itself, while in the bilious headache it precedes and is the reflex cause of the cerebral disturbance.

Toxæmic headache includes all those due to poisons circulating in the blood, such as takes place in gout, uræmia, malaria, lead-poisoning, the specific and non-specific fevers, syphilis, etc. In gout the headache is usually frontal; the feeling is one of weight and oppression over the forehead. It occurs especially in those forms of irregular gout, where the attack has not as usual expressed itself in the foot. It is also to be

looked for in cases where the family history is gouty. In this latter class we find it in women. We often find it associated with asthma of gouty origin and gastric and intestinal troubles.

The mind is usually dull, and there is lack of power for continuous mental employment. It is relieved by an attack in the foot in the usual form. In malaria the cephalalgia is not strictly limited to any portion of the head, being perhaps more usually situated over the orbital and occipital regions. It may complicate any and all forms of headache, and reveals itself by its periodicity and tendency to cause hepatic congestion. Few fevers are present without headache, which is due without question to either the specific cause or to an altered condition of the blood induced by high temperature. We can also only mention the poison of syphilis and that due to carbonic acid gas from the effects of over-crowded lecture rooms, audience halls, etc. This latter usually expresses itself by mental hebetude and frontal oppression.

I come now to the last-named in my classification—the neurasthenic headache. I think we can here include all such usually styled hysterical and nervous. Neurasthenia is the name which covers up an immense amount of ignorance; but for want of a better term has been pretty generally accepted. The picture is a familiar one to the physician in private practice and in the hospital. The patient gives evidence of exhaustion. He or she complains of inability to carry on anything continuously, has spinal pains, fits of despondency; and if the attention is directed to any organ or part of the body a painful sensation may be induced. The physician can easily at each new visit get his patient to subscribe to a new list of symptoms. In these cases also we find the sexual system more or less involved, especially if, by injudicious reading or other cause, the attention has been drawn to it. While I would not class hysteria, spinal exhaustion—so called—and neurasthenia all together under one head, I would say that they possess many points in common.

Many of these headaches are subjective. We know that, by constant thought directed to one part of the body, we can cause increased blood to flow to that part. I believe in these cases the cerebral distress is often caused in this manner. The pain, or more often a feeling of discomfort, is widely distributed over the head, or, again, located in the occiput. We have associated with this gastric and cardiac disturbances, which are entirely dependent on the cerebral disturbances. All the treatment in the world directed to these organs individually will not permanently improve them. This condition is commonly found in those who have passed through some trying ordeal, or

who have been engrossed too closely in business or professional work to attend to needed relaxation or regularity in matters of eating and sleeping.

After the strain has been removed, and the incentive to continual work no longer exists, the reaction sets in. Such a case came to my notice in one of the recent labor strikes, in which a gentleman who had borne himself with great self-control throughout the whole contest—and had ultimately been successful—being confined to his room for some ten days by a trivial illness, completely broke down and presented an exquisite picture of the so-called neurasthenic, utterly incapable of any mental labor. There is probably in all these cases some subtle change in the nerve-cells, due to over-exertion, and resulting in exhaustion and malnutrition. The character of the pain is varied, in the hysterical being compared to a nail driven into the head, and is then often orbital or parietal. This form is not, however, confined to the hysterical, but may be present as well in the neurasthenic. There is often dread of approaching insanity; and indeed fits of the deepest depression may be present,

Such patients may be found among those in apparently robust physical health, or again in those who show the signs of considerable physical weakness.

In bringing this paper to a close, before passing on to the treatment, I know that I have brought forward little that is new, and have, indeed, only attempted to bring under perhaps more practical headings the various forms of this most common and at the same time important disease.

I consider it confusing and misleading to classify diseases according to the number of individual causes which may induce them.

In the treatment of this disease it is of the greatest importance to understand its etiology wherever that is possible.

I think under this classification all the various forms can be included.

I have not mentioned facial neuralgia in this connection, it not being an intra-cranial affection, coming more properly under the class of complaints of which sciatica is a representative both in etiology and treatment.

In organic disease due to tumor, miliary aneurism associated with atheromatous changes in the arteries, and meningeal affections, iodide of potassium is required. Ext. ergot fl. where vertigo and tinnitus aurium exists, especially in the aged. Twenty to thirty drops three times a day. In these cases also small doses of the bichloride of mer-

cury, the 1-30th of a grain, t. d., combined with iron, if patient is anæmic, seem to have a particularly favorable effect in removing the mental confusion and failure of memory so often present. Where the pain is violent we must have recourse to opium.

In functional headaches, that of hyperæmia calls for depletion, a mercurial purge once or twice a week, with some mineral water, as the Hunyadi, every morning. Here I would advise small doses of ergot, gtt. x, three times a day, or oftener. Small doses of ergot appear to have a more stimulant effect on the coats of the arteries, causing contraction. Cold, applied either as an ice-bag over the head, or as a cold douche at the nape of the neck and along the spine, relieves pain and produces sleep.

In the passive hyperæmia digitalis is indicated to strengthen the probably weak and dilated right heart.

In cerebral anæmia the tinct. of the chloride of iron, in combination with a few drops of Fowler's solution of arsenic.

Success in the treatment of this condition, which is a general and not a local one, depends on the intelligence and persistence of the physician. I have found also a pill or capsule of quinine, sulphate of iron, bicarbonate of potassium, each 1 grain, with ext. of aloes  $\frac{1}{2}$  grain, and the arseniate of soda 1-32 of a grain, of very great service, especially where the patient is easily nauseated by medicines in liquid form. It is hardly necessary in this place to recommend living in the open air as far as possible.

For the relief of the immediate symptoms, the inhalation of a few drops of amyl nitrite or bromide of potassium with aromatic spirits of ammonia.

A cold compress, as recommended by Dr. Bartholow, of a solution of potassium cyanide, gr. x-xx, aquæ lauro-cerasi, ℥iv, will usually give relief in fifteen minutes.

Migraine, if the pain is excessive, may often be best relieved by a hypodermic of morphine. If we have the tonic form with facial pallor, amyl nitrite is indicated, or a drop of the 1 per cent. solution of nitroglycerine. In the opposite variety of this affection, ergot in small doses, and bromide of potassium in large doses of 30 grains to a drachm. Here also the whole caffen group of remedies comes into play. Caffen in 2 to 5 grain doses alone, or with potass. bromide, bromo caffen in ℥i doses, guarana in grains 10 or 20, or a strong cup of coffee or tea. This group, however, by continuous use, seems to lose its power.

Cannabis indica has long been employed in migraine, many re-

garding it as almost a specific,  $\frac{1}{3}$  to  $\frac{1}{2}$  a grain three times a day in increasing doses. Certainly in many cases it seems to decrease the number of attacks.

Toxæmic cephalalgia must receive for each form its appropriate treatment. Colchicum in gout, quinine and arsenic in malaria, iodide of potassium in lead-poisoning, etc.

Reflex headache, due to gastric or intestinal disorder, requires attention to these organs. Nitro-muriatic acid with pepsin when some distress and flatulence follows eating, accompanied by frontal pain. Where we have intestinal fermentation manifesting itself usually some hours after eating, with occipital pain, salicylate of soda in 10 grain doses three times a day is often very effective.

In uterine and ovarian irritation, the amenorrhœa often present is best relieved by permanganate of potash in gr. ii doses. I usually employ a silver-coated pill, giving them at first once a day, and if the digestion is not disturbed, going on to three times a day. The binocide of manganese is preferred by many.

In the dysmenorrhœa and menorrhagia of these cases bromide of potassium is very successful. Chloride of ammonium in 30 grain doses will often give immediate relief for the time being.

The cephalalgia of neurasthenia is perhaps the most difficult of all forms to successfully manage, as there is probably nerve cell exhaustion present.

I usually give in these cases phosphorus in small doses, or syr. of the hypophosphites with phosphoric acid and strychnine.

The actual cautery along the spine, blisters especially over the cilio-spinal region, galvanism, etc., are all effective for the time being. A complete change of scene, however, is of most benefit.

Bromide of potassium again, combined with citrate of caffein, may be employed. The depressing effect of the potassium on the heart, however, must be watched.

In closing I would say again that the successful treatment of these cases will consist in our ascertaining the general conditions at the root of the disorder, and the discovery of any local irritation, if such exist.

No one method will apply to every case or class of cases. Many of these forms of cephalalgia are complicated each with the other—the reflex with the anæmic, the gouty with the hyperæmic.



## ARTICLE IV.

NOTE ON THE ENDERMATIC USE OF BIMURIATE OF QUININE. BY  
Q. C. SMITH, M. D., Austin, Texas.

When the use of the cinchona salts is indicated in the treatment of disease in infants and young children, I have found the bimuriate of quinine the most suitable preparation. I prefer to administer it endermatically, and have found the axillary regions the most eligible position for the application of the remedy.

The skin where the medicine is to be applied should be well cleansed just before each application. First wash the surface with warm, soapy water; then with warm water to which a small percentage of ether and chloroform has just been added; then dry well with a soft linen cloth. The following formula is one I often use:

R	Quiniæ bimuriat.,	-	-	gr. xxiv.
	Aquæ dest.,	-	-	f. ʒss.
	M. ft. sol., add Lanolin,	-	-	ʒj.

Mix well.

S. Half to one drachm to be applied every two to four hours, in the axillary region, and well rubbed in, as directed.

Of course, this mode of treatment does not preclude the use of such other remedies, in different ways, as may be indicated in any given case. The endermatic use of medicines is familiar to everyone, but is at present too much restricted, and by many entirely neglected.

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 ORIGINAL TRANSLATIONS.
 

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NOTE UPON THE OPERATION FOR CATARACT. Read before the  
Medical Society of Paris, July 24, 1886. By Dr. A. Dehenne.  
Translated from the *Union Médicale*, by H. MCS. GAMBLE, M.D.,  
Moorefield, W. Va.

*Gentlemen:* The operation for cataract has been, for some time past, the subject of so many memoirs, of so many discussions, that I hesitated to come to speak to you about it. A case that I have observed this week decided me, and at the risk of seeming to imitate my colleagues in ophthalmology, who in almost all the learned societies of Paris have discussed the surgical treatment of cataract, I have desired to expose before you my *modus faciendi*. And then I thought that it was not improper that the Medical Society of Paris should be kept

informed of our progress in ocular surgery. I have already had occasion to talk to you about the operative procedure in simple sclerotomy, in retro-iridian sclerotomy, in strabotomy, in muscular advancement, etc., and of the different modifications that I have thought ought to be introduced into the methods adopted up to the present day by the majority of surgeons. The kindness that you have accorded me emboldens me to discuss before you the operation for cataract. I will be, besides, very brief. I will omit the history and the enumeration of all the procedures employed by my predecessors and my contemporaries. I will offer no statistics. Statistics, in general, prove nothing; true or false, they have no other object than the glorification of their authors. Let it suffice to say to you that in taking the average of the last two years, since the employment of cocaine and the abandonment of iridectomy, I have been able to count ninety *complete successes* out of one hundred cases, seven demi-successes, and three failures. Among these failures, two are recent, and were owing, like the others, to causes absolutely independent of the operation and of the operator. In the first case, it concerned an old man eighty-one years of age, M. G——, who, by his own request, underwent an operation upon both eyes the same day. The day after the operation I removed the dressing, and, whilst I had my back turned, the physician of the patient attempted to examine the right eye. He did not use all the gentleness desirable. The anterior chamber was evacuated, and there was a hernia of the iris. An irido-choroiditis declared itself that produced atrophy of the globe. On the left side the result was perfect. M. G—— reads and writes without difficulty with the spectacles provided for him. The other case relates to an old woman, debilitated, cachetic, asthmatic and diabetic, who, in spite of all antiseptic precautions, had an attack of suppurative irido-choroiditis.

In ocular surgery, germs are not all. The ground, the bouillon of culture favorable to the development of micro-organisms, play a rôle which should not be absolutely neglected. I have operated upon persons who were in the most deplorable conditions of general health, subjects of heart disease, of diabetes, etc., and they have wonderfully recovered. It does not follow that we must conclude from that, that general debility plays no part in the success of the operation for cataract. The exclusive spirit is a bad thing in science. Likewise, it is not necessary to affirm that microbes are the cause of all evil. They play an important rôle, and since we have become very cleanly and very careful, the number of successes has considerably increased. But, to cleanliness, to antiseptics carefully carried out, must be added the

more perfect, above all the more simple operative method, and the local anæsthesia which continues to render us very great service. From the ensemble of all these elements, cleanliness, simplified operative procedure, local anæsthesia, are born the conditions of success which approach very nearly the hundred per cent. dreamed of. But the factor drawn from the general condition will always cause a slight shadow to fall upon the picture.

I have spoken of operative simplification. It is towards this end that all my efforts tend, and for this reason I cannot be a partisan of the intra-ocular washings, of the plasters stuck upon the cornea, etc. Besides, this is the way in which I proceed :

As to instrumentation, a *separator*, a *Græfe knife* very long, very thin and very narrow, which is held like a pen in writing; a *simple toothed forceps without catch* to fix the eye during the section of the cornea, a *cystotome* and a *spatula of gutta-percha*. All these instruments are plunged into a solution of corrosive sublimate, 1-2,000, immediately before the operation, and are not wiped at the moment of being used, so that they themselves introduce the antiseptic solution into the eye, without one being obliged to have recourse to a new manœuvre, which I consider as dangerous, notwithstanding the opinion of teachers and colleagues of very high authority. And if these intra-ocular washings still have as their object the removal of the last débris of cortical masses, I will demonstrate directly that one has no need to have recourse to them in order to secure a perfect cleaning out of the eye.

Strictly, one may perform the operation for cataract *alone* ; but it is preferable to have an experienced assistant. Before all, the operator and his assistant or assistants ought to dip their hands into very hot water, and at the moment of wiping them to have poured upon the fingers water boricated to the 1-20; it is understood that one ought only to make use of very clean and recently washed napkins.

The patient is placed in a bed which is brought near a window well lighted. It is in this bed that he will remain after his operation, in order to be neither moved nor shaken. We thus almost surely avoid the enclosing of the iris. A small iron bed is preferably chosen, around which one may easily circulate.

We wash the external surface and the edge of the lids with hydrophilic cotton steeped in the antiseptic solution. The conjunctival culs-de-sac and the internal surface of the lids are well irrigated with the same solution, by aid of a dropper or of a small glass syringe. It is well understood that, if the patient is attacked with a conjunctivitis or a dacriocystitis, it is necessary, first, to treat the conjunctivitis and the

lachrymal passages. Since the commencement of this year I have practiced ten extractions of cataract in the case of persons suffering with lachrymation and chronic suppuration of the sac, and I have not had to deplore a single accident. But I have also taken the precaution to open the lachrymal points to catheterize the duct, and to make through the lachrymal passages two antiseptic injections per day (boricated solution 1-20). Then, the operation performed, I have made two dressings a day with thorough antiseptic washing, in such a manner as to leave the corneal wound to the least possible degree in contact with the conjunctival and lachrymal secretions.

All measures of cleanliness having been taken, I instil five or six drops of a solution of hydrochlorate of cocaine, to the 1-20, five minutes before the operation, and five or six drops at the moment at which I apply the separator. The cornea is rendered completely insensible. It is absolutely useless to make instillations repeated every quarter of an hour for two or three hours before the operation, as I have heard of some operators doing. Under these conditions the instillations of cocaine may become injurious. The eye softens, the tension falls considerably, and the extraction becomes difficult. *The solution of cocaine ought to be very fresh.* There is no need to make use of either atropine or of eserine before the operation. The operative procedure is by no means facilitated thereby.

I use ordinarily the spring blepharostat. If the patient appears to me nervous, irritable, I prefer to have the lids separated by my assistant, who, if he is accustomed to it, makes use of his index fingers provided with small pieces of fine linen, or of separators with handles.

For the right eye I make the incision from above; for the left eye I employ the lower incision; in such a way that I always direct the edge of the knife towards myself. The flap appears to me thus much more regular. But that is a matter of habit and of personal convenience; I attach no importance to it.

The eye being fixed *very slightly*, in such a way as not to tear the conjunctiva (with cocainic anæsthesia, one might even dispense with all fixation), I make my puncture and counter-puncture at the union of the cornea and the sclerotic, in such a manner that the edge of the knife follows a horizontal line, which would be chord of an arc of which the versed sine would have four millimètres of height. I finish my flap in the cornea itself. The conjunctiva is not involved; there does not escape a drop of blood. Abandoning the fixation forceps, I open the capsule with the cystotome, and I remove the separator very gently. Raising the upper lid (I am supposing the operation to be on the right side) with the thumb of the

left hand, I cause the patient to look directly downwards and, with the index of the right hand, I exercise upon the eye, through the lower lid, very gentle pressure, which causes the escape of the crystalline lens, and of the cortical masses that surround it; I continue making gentle pressure until all the cortical masses have been expelled. The *iris returns of itself*. The patient closes the eyes as if he were sleeping, and the operation is terminated.

I am absolutely opposed to the introduction into the eye of forceps, of cures, etc., which produce frictions and contusions of the iris and of the edges of the wound. The less one has made use of instruments the more rapid is the cure. It has been proposed to open the capsule with the point of the knife, at the moment the instrument enters the anterior chamber, and before making the counter-puncture. This is evidently a still further simplification of the operation, but I have never put it in practice.

I am very well satisfied with the cystotome, and I adhere to it. With the cystotome the anterior capsule is torn from above downwards or from below upwards. There are cases, however, in which one is obliged to make an *equatorial division* of the capsule. Such a case came under my observation this week, and I ask permission to briefly give you an account of it.

Madame X—, aged fifty-two years, and living in the department of Meurthe-et-Moselle, came to Paris to undergo an operation for cataract on both eyes. For six months she has been absolutely blind. She has complete demi-soft cataracts. The luminous perception is excellent and in every direction of the visual field. As she can make but a short stay in the capital, she asks to be operated upon for both eyes at once. Nothing is opposed to the accomplishment of her desire.

The left eye is operated upon first, and without the least incident. After the expulsion of the crystalline and of the cortical masses, the pupil presents itself black and absolutely round.

As to the right eye, the cornea having been incised, I open the capsule in employing the procedure of ordinary cystotomy, then I exercise *gentle pressure* from below upward. Nothing comes. Fearing that the capsule had not been sufficiently lacerated, I repeated the manœuvre of cystotomy. Nothing still. I took advantage of this circumstance to demonstrate to my assistants that, come what will, it is never necessary to exercise sudden pressure, and above all, even in the most difficult cases, to introduce into the eye any species of curette, of which the least defect is to contuse the iris and the borders of the wound, to cause the loss of the vitreous body, and to become the point

of departure of irido-choroiditis, etc. *The curette is, in my opinion, a detestable instrument.*

Believing in a special rigidity of the iris, I exercised it and again commenced making *gentle pressure*. Still no result. I then practiced an *equatorial division* of the capsule, and the crystalline lens escaped with the greatest facility. The result was excellent. If I had become impatient, I would have exercised violent pressure; the crystalline lens, the vitreous body, everything would have escaped, and the eye would have been lost. A few days after the operation I was able to select suitable spectacles for this woman, thanks to which she easily read with both eyes the smallest characters used in printing. In the operation for cataract, as in the consecutive attention, gentleness of manipulation ought to be a rule from which one should never, under any pretext, depart. Immediately after the operation I assure myself that the pupil is entirely round. In general, the iris returns completely, and of itself. These are the most favorable cases. If the pupil presents a very slight deformity, use is made of the gutta-percha spatula to make the iris return and to restore to the pupil its primitive form.

I instil then a few drops of a collyrium of atropine (0.10 centigrammes of neutral sulphate to 20 grammes of water). This instillation prevents any consecutive adhesion of the iris to the capsular débris, guards against the slightest congestions of the iris, and if, subsequently, one is obliged to make a slight capsular discision, no dragging upon the iridian membrane is to be feared. The pupillary dilatation permits also the rapid resorption of the few cortical débris which may have escaped at the moment of cleaning out the eye.

As to dressing, a compress of fine cloth coated with boricated vaseline, a little aseptic cotton and three turns of bandage will suffice. This dressing is left on from twenty-four to forty-eight hours. Generally, both eyes are closed. When the first dressing is removed, the lids are not agglutinated, and open of themselves with the greatest facility. The conjunctiva does not present the least injection. The pupil is round, black and dilated slightly more than the average. With the help of a dropper, five or six drops of the atropine collyrium and fifteen to twenty drops of a solution of sublimate to the 1-2,000 are allowed to fall into the eye. The same dressing is reapplied and is left on three or four days. By the eighth day the patient is completely cured. By the fifteenth day his spectacles may be selected.

Generally, for the first few days, both eyes are closed. I have always remarked that the eye not operated upon was redder, more gummy, and opened less readily than the eye that had been operated upon. I

have attributed this difference, justly, I believe, to the perfect antisepsy of the eye subjected to the operation.

With the progress of the last two years, the operation for cataract gives in almost all cases wonderful results. In no operation is such a considerable per cent. of success obtained, almost the 100 per cent desired so much, and that in the midst of the most unfavorable local conditions (dacriocystitis) and general state of health (diabetes, albuminuria, cardiopathy, asthma, etc.).

I will close by saying that one should never operate upon a cataract without having assured oneself of the visual acuity and of the visual field of the subject. Every person attacked with cataract who sees clearly the light of a candle and the intermittences of the light at one *mètre* of distance, and who sees this light in every direction of the visual field, is a proper subject for an operation.

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## LECTURES.

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LIGATION OF EXTERNAL ILIAC ARTERY FOR ANEURISM OF THE FEMORAL. A Clinical Lecture Delivered February 2, 1887, at the Southern Medical College, Atlanta, Georgia, by J. McF. Gaston, M.D., Professor of Surgery.

*Gentlemen*: Having witnessed the good result of the first operation upon this patient, by ligation of the femoral artery for the cure of a large popliteal aneurism, I now have the satisfaction of presenting him with favorable prospects, three days after the second operation by ligation of the external iliac, on account of a femoral aneurism some three inches below the pubic bone. You will recollect that compression was resorted to for a considerable period before the first ligation, and it so turned out that the effects of the continued compression over the pubic bone set up inflammatory action in the adjacent tissues, so that in cutting down upon the line of the artery between the pubic bone and the aneurism, on the 30th ultimo, I encountered adhesions between the coats of the artery and vein, with attachments to the adjoining connective tissues, so that complications were encountered of such a nature as to preclude the completion of the ligation at that point. Not only was the femoral vein opened in the dissection, but it was found impracticable to pass the aneurism needle around with the ligature beneath the artery, on account of its firm agglutination to the subjacent tissues, and I abandoned this undertaking for an operation higher up where the adhesive inflammation had not extended to the vessels or other structures.

While the escape of blood was controlled by pressure upon the

femoral below the lesion, I proceeded to divide the tissues upward and ligated the external iliac beneath the border of Poupart's ligament, first with Czerny's silk, moderately tight, and a little lower down with two strands of strong catgut, drawn firmly so as to divide the inner coat of the vessel. You observed, on the occasion, that there was immediate cessation of the pulsation in the aneurism, but that the blood still escaped from the opening in the femoral vein when the pressure was removed, demonstrating the fact that the anastomosing vessels had been so well developed after the first operation two months previously as to restore the blood to the limb. It was, therefore, considered highly important to preserve continuity of the femoral vein, and by the use of sponges with persulphate of iron in the wound, the bleeding ceased. It will be noted that the ends of both ligatures were left extending from the upper extremity of the incision, as the expectation was to treat the open wound on general antiseptic principles. The carbolized water being used with the sponges in the course of the operation, I applied after the ligation a sponge with undiluted carbolic acid to the entire wound, expecting to get its styptic effect in arresting the venous hemorrhage, but the more potential persulphate of iron was requisite, with compression, to stop the flow of blood. A compress and bandage was left applied, while the watchful supervision of Dr. S. W. Stiles was exercised over the patient subsequently. In the course of three hours he observed that some blood was again escaping from the wound, and renewed the application of the styptic with a fresh sponge, making digital pressure over the tract of the femoral vein just below the aneurismal tumor until my arrival, when a compress was secured over the vessel by a strap around the thigh, drawn only moderately tight. After this there was no further hemorrhage, and the patient manifested no great prostration from the loss of blood, but took a half wineglass of whisky occasionally to relieve the nausea and vomiting following the anæsthetic influence of the A. C. E. mixture used during the somewhat protracted operation, and had a hypodermic of morphia, one-quarter grain, and atropia, 1-120 grain, applied with benefit. On the subsequent day the patient took chicken soup, and to-day his general condition presents nothing abnormal in temperature or in the pulsation of the wrist, giving evidence of the collateral circulation being established by the warmth of the limb, and natural sensibility in it, with the exception of the little toe and the one next to it, since the first ligation, being insensible to the touch.

We are assured by these phenomena of the great advantage gained by adopting a separate proceeding for each aneurism; and the indication of impaired peripheral circulation presented by the serous collections about the foot after the ligation of the femoral artery below Scarpa's triangle shows that an operation at the outset above the profunda would most certainly have been followed by deficient nourishment, and loss of vitality in the entire limb. It is evident now that a thrombus has been formed above the ligation of the iliac, as the impulse of the circulation is no longer perceived in the wound, as it was



for some hours after the operation. The dressings have been of simple dry borated cotton with antiseptic gauze, secured by a bandage, since the removal of the sponge at the close of the first twenty-four hours; and there has been no means of compression used subsequently, so that it is clear that the lesion in the wall of the femoral vein has become closed by adhesive inflammation or the deposition of plastic lymph, thus effectually preventing any return of hemorrhage from this source. The only apprehension of bleeding in the future is from the separation of the ligatures from the artery before a sufficient clot is formed to occlude the tract of the vessel, but the absence of all pulsation for at least two inches above, affords ground to expect a favorable result.

February 10, 1887.—The observations made since the clinical report bring the history of the case up to the expiration of the 12th day from the operation, and his condition to-day warrants the expectation of his recovery with complete cure of both aneurisms. The double catgut ligature was found entirely disintegrated on the seventh day, and came away in two pieces, thus corroborating the statement heretofore made that catgut ligatures cannot be relied upon for the obliteration of large arteries or for other ligations requiring securities for several days. It is evident that this catgut, which had been forwarded to me by my friend, Dr. N. Senn, from the house of Schorse & Co., was in a good state of antiseptic preservation. The Czerny's silk ligature, from the same establishment, in Milwaukee, Wis., continues sound, and is gradually becoming loose by the yielding of the tissues included in the loop, and will doubtless come away very soon. Adhesive strips have been employed to approximate the margins of the incision, since the first week, and the wound is filling up with granulations. The thoracic symptoms have not given trouble since the third day, and appear to be gradually improving at present, encouraging the hope that there may be no aneurism of the aorta.

February 15.—This completes seventeen days since the operation, and the condition of the patient is favorable in all respects. The wound has not suppurated so much as did the closed incision after the first ligation below, and the granulations are shutting in the loop of the ligature, which is not yet detached from the artery; so that slight tension is made upon the loose ends daily, with instruction to attach an elastic if the ligature does not come away in two or three days. Final success is now assured.—*Southern Med. Record.*

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## SELECTIONS.

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THE SYMPTOMS AND DIAGNOSIS OF MULTIPLE NEURITIS; WITH REPORTS OF CASES. By Charles L. Dana, M.D., Professor of Nervous Diseases New York Post-Graduate Medical School.

A very good description of multiple neuritis was given by Leyden in 1881, again by Piersson in 1883, and by Strümpell in his "Text-

book on Medicine." Dr. X. Francotti, in 1886, described it well; so also did Dr. Buzzard in the Harveian Lectures for 1885. Dr. Gowers gives a very complete account of the disease in his recently published text-book on nervous diseases. I venture to give here some notes on the history of this new development in neuro-pathology, since it has made such a change in some of the conceptions of paralytic disorders. Dumenil, in 1864, reported<sup>1</sup> a case running a course of four and one-half months, and having the type of the subacute spinal paralysis of Duchenne. The autopsy showed diffuse lesion of the nerves, the brain and cord being normal. A second case,<sup>2</sup> with post-mortem examination, ran a course of several years, and started from a contusion of the sciatic. Eichhorst's case<sup>3</sup> came next. It was like one of acute ascending paralysis, of six weeks' duration, except that there was pain and sensory disturbance. Autopsy showed acute inflammatory nerve trouble, not a simple degeneration. Then Déjerine reported a case also resembling acute ascending paralysis. He found also neuritis, including some changes in the anterior roots. Neither Eichhorst's or Déjerine's cases are very complete. Eisenlohr<sup>4</sup> reported a case of subacute paralysis and autopsy. The cord was normal, the sciatic showed parenchymatous and interstitial neuritis. Joffroy contributed a very elaborate paper to the *Arch. de Phys. Normale et Path.*, No. 2, 1879. He describes: 1. Spontaneous parenchymatous neuritis. 2. Neuritis from lead poisoning. 3. Neuritis in the course of infectious diseases. Under the first division he describes cases of multiple degenerative neuritis, with autopsy. Lancereaux reports a case of this kind occurring in phthisis, as do Desnot and Pierret. In 1880 Leyden<sup>5</sup> summed up the work of his predecessors, and reported a case of his own, with autopsy. He gave a systematic clinical history of the disease, and one which is still quite correct. Leyden was followed by Melchert.<sup>6</sup> In 1882 Scheube, and in the same year Baelz, showed that the nerve symptoms of beri-beri were due to a multiple neuritis.<sup>7</sup> Koeniger,<sup>8</sup> writing on the same subject in 1882 and 1884, alleged that the neuritis was only a complication. Ballet, in 1883,<sup>9</sup> found atrophy of the anterior cornua in beri-beri—nerves not examined. Harada<sup>10</sup> found neuritis and degenerative changes also in anterior nerves in dorsal and lumbar regions. M. P. Mendes<sup>11</sup> found lesions in the nuclei of the columns of Goll, and in the posterior columns, especially, of the cervical and lumbar cord there was atrophy

<sup>1</sup>*Gaz. Hebdomadaire*, 1864, No. 13.

<sup>2</sup>*Ibid.*, 1866, Nos. 4, 5, 6.

<sup>3</sup>*Virchow's Archiv*, Vol. 69.

<sup>4</sup>*Centralblatt für Nervenheilkunde*, 1879, and *Deut. Arch. für klin. Med.*, Bd. 20, 1880.

<sup>5</sup>*Charité-Annalen*, 1880, and in *Zeit. f. klin. Med.*, 1880.

<sup>6</sup>Inaug. Dissertation, 1881: Greifswald. "Beitrag zur Diagnose der subacuten Poliomyelitis u. Multiple-neuritis."

<sup>7</sup>*Zeits. f. klin. Med.*, 1882, Bd. iv, p. 616, and *Virchow's Archiv*, 1884, p. 146, Bd. 95, and p. 531, Bd. 99.

<sup>8</sup>*Deuts. Archiv f. klin. Med.*, Bd. 31, pp. 141, 307; Bd. 32, p. 83; Bd. 34, p. 419.

<sup>9</sup>*Proc. de la Société Anatomique*.

<sup>10</sup>*Neurol. Centralblatt*, 1885, p. 326, two cases.

<sup>11</sup>*Prog. Méd.*, No. 14, 1885.

of cells and parasites in vessels; also a neuritis as far up as the spinal ganglia. Tschowski<sup>1</sup> reported several cases, with autopsy in three. He found multiple neuritis, and also atrophic cells in the lumbar cord. After Leyden's communication there were soon published a large number of cases, by Hiller,<sup>2</sup> Granger Stewart,<sup>3</sup> Eichhorst,<sup>4</sup> Strümpell,<sup>5</sup> Müller,<sup>6</sup> Vierordt.<sup>7</sup> Pierson wrote<sup>8</sup> a systematic monograph on the subject in 1883. Roth, in 1883, reported<sup>9</sup> a case of acute general paralysis, with autopsy, showing extensive parenchymatous and interstitial neuritis. Dr. S. G. Webber, of Boston, reported some cases in the *Archives of Medicine*, Vol. xii, p. 33. See also articles by Eisenlohr,<sup>10</sup> Strümpell,<sup>11</sup> Moeli,<sup>12</sup> Hirt,<sup>13</sup> Löwenfeld,<sup>14</sup> E. Remak,<sup>15</sup> Grocco,<sup>16</sup> and Oppenheim.<sup>17</sup>

The relation of alcoholic paralysis was studied by Strümpell,<sup>18</sup> by Dr. Dreschfeld,<sup>19</sup> and by Schultz.<sup>20</sup> These writers give a full history of this special subject up to the date of this writing. The relation of arsenical paralysis to neuritis was studied by the writer, and a full account of it given in *Brain*, January, 1887. In the same article the history of the relation of lead-poisoning and of diphtheria to multiple neuritis is given. In a thesis entitled "Des Pseudo-tabes," by L. Leval-Picqueche (Paris, 1885), a very complete history of this form of multiple neuritis, from various causes, is given. Dr. Starr has also called my attention to a very complete work entitled "Paralysis Toxiques," by Broussais, of Paris.

The symptoms of multiple neuritis develop in two forms: 1st, those of atrophic motor paralysis with subsidiary sensory changes; 2d, those of ataxia and other sensory disturbances with only moderate motor paralysis. The motor form is the more common. The sensory or ataxic form occurs chiefly as the result of poisons or the infection of diphtheria.

*The Atrophic Motor Form.*—The symptoms generally come on rather suddenly, and are sometimes accompanied with fever, which may reach 103° to 104° F. The patient suffers from feelings of numbness, prickling or burning in the feet and ends of the fingers. These sensa-

<sup>1</sup>*Neurol. Centralbl.*, 1886, p. 484.

<sup>2</sup>*Berlin. klin. Wochenschr.*, 1881, No. 41.

<sup>3</sup>*Edinburgh Med. Journal*, 1881.

<sup>4</sup>*Archiv f. Psych. u. Nervenk.*, Bd. xiv, p. 695.

<sup>5</sup>*Ibid.*, p. 339.

<sup>6</sup>*Ibid.*, p. 668.

<sup>7</sup>*Ibid.*, p. 678.

<sup>8</sup>"Ueber Polyneuritis acuta," Volkmann's Samml. klin. Vort., No. 227, 1883.

<sup>9</sup>*Correspondenzbl. f. Schweiz. Aerzte*, 1883, No. 13.

<sup>10</sup>*Neur. Centralbl.*, 1884, Nos. 7, 8.

<sup>11</sup>*Ibid.*, 1884, No. 11.

<sup>12</sup>*Charité-Annalen*, Vol. ix, 1884.

<sup>13</sup>*Neurolog. Centralbl.*, 1884, No. 21.

<sup>14</sup>*Ibid.*, 1885, No. 7.

<sup>15</sup>*Ibid.*, No. 14.

<sup>16</sup>*Contrib. alla stud. clin. ed anat. path. delle Nerv. mult. prim.*, 1885.

<sup>17</sup>*Deutsches Archiv f. klin. Med.*, 1885, Bd. 36, p. 561.

<sup>18</sup>"Krankheiten des Nervensystems," p. 121, and *Berlin. klin. Woch.*, 1885, No. 32.

<sup>19</sup>*Brain*, 1884, July et seq.

<sup>20</sup>*Neurolog. Centralbl.*, Nov., 1885.

tions gradually extend up the extremities, but rarely reach the knee or elbow. They are accompanied by sharp pains and feelings of weakness, and the paralysis steadily increases until the patient is unable to walk or use his hands. The lower extremities are oftenest and most seriously affected, the upper extremities next, and the muscles of the face and trunk least often of all. The flexors of the foot and the extensors of the hands are particularly attacked. The paralyzed muscles speedily become atrophied. The bladder and rectum are not affected. The sexual power is lessened. The pulse is generally quite rapid, owing, perhaps, to involvement of the vagus.

On making a physical examination the skin is generally found hyperæsthetic, and yet there may be some tactile, thermal, and pathic anæsthesia. Later this generally develops. Pressure along the course of the nerves and over the muscles causes much pain, as do muscular movements. Electrical examination of the muscles shows generally a partial degenerative reaction, the muscles being less irritable than normal to both galvanic and faradic currents. The contractions are sluggish, but it is not common to get polar changes. The nerves show also diminished electrical sensibility, but furnish no positive indications of neuritis as against polio-myelitis, though perhaps their irritability is less. There are not usually any marked vaso-motor phenomena except œdema. Sometimes the secretion of sweat is profuse, and in arsenical cases I have seen the feet and hands shed the epidermis as if it had been raised by a blister.

The disease reaches its height in two or three weeks, or even less. The symptoms then gradually ameliorate, and the rule is a progressive improvement ending in cure in four to six months. In some cases the spinal cord apparently becomes involved, and the sphincters are paralyzed; diabetes and various other central symptoms appear. Some cases of multiple neuritis run a very acute course, and present the symptoms of acute ascending spinal paralysis (Landry's paralysis). Other rare cases present a slowly progressive course lasting three or four years, *e. g.*, Dumenil's case. These types are different clinically and etiologically from the disease ordinarily known as subacute multiple neuritis.

*The Sensory or Ataxic Form* is spoken of by Gowers as rare, but I have seen quite a number of illustrations of it. Here the symptoms begin with burning, tingling sensations in the feet and hands, especially the former. The patient notices that his gait is uncertain. The tendon reflexes disappear, the limbs are partially anæsthetic, or areas of anæsthesia are found. There is a moderate degree of motor weakness and atrophy. In a few days the patients may develop nearly all the symptoms of locomotor ataxia. These cases are generally of toxic origin. They run a subacute course, about as does the motor form. The symptoms may be summarized as follows: Prodromic period in some cases of several weeks characterized by some numbness and lumbar pains. Rather brusque onset, sometimes with pain.

*Motor Symptoms:* Progressive symmetrical paralysis, ascending,

and affecting lower limbs most and oftenest. Paralysis flaccid, atrophic, and painful. Partial degeneration-reaction. Abolition of knee-jerk as a rule, and of skin reflexes in paralyzed limbs.

*Trophic Symptoms:* Muscular atrophy; œdema; rarely erythema, eczema, herpes, changes in nails and skin, local asphyxia, and gangrene.

*Sensory:* Paræsthesia; especial characteristics are burning sensations, pains of both darting and dull character, worse on movement; tenderness in limbs, and especially over course of nerves. Later some anæsthesia, general or over distribution of nerves.

*Cranial Nerves:* In rare cases only affected, but optic neuritis is not very rare. Rapid pulse from involvement of the vagus sometimes occurs. Sphincters not involved as a rule. The termination is usually favorable, but death may come on unexpectedly.

Further details in the history will be brought out in the report of the following cases. These I will give here only in synopsis.

*Case I.—Alcoholic Multiple Neuritis. Sensory Form.*—The patient, a bartender, had always been healthy, and gave no history of syphilis. In the past year he had indulged excessively in sexual intercourse, but still more excessively in alcohol, and after having been on several sprees he was taken to the hospital suffering from delirium tremens. This developed into mania, and he was confined in the asylum for several weeks. During this time he became partially paralyzed, but improved and was discharged. When seen by me soon after, he presented the symptoms of a man in the early stage of locomotor ataxia, except that he had no eye symptoms, girdle pains, bladder or marked sexual trouble. There was marked ataxia, paræsthesia, areas of anæsthêsia, loss of tendon reflex, some motor weakness. I learned that he later did develop some central symptoms, which lead me to think that the cord became also involved.

*Case II.—Alcoholic Multiple Neuritis. Motor and Atrophic Form.*—This patient I saw at Bellevue Hospital, while visiting for Dr. Tuttle, and have shown him several times to my class. The patient was a young man aged 23 years, who for over a year had indulged nightly in sexual intercourse and very excessively in whiskey-drinking. While playing ball one day he noticed a weakness in his legs. This increased in a few days, and he was now obliged to take to his bed. When seen by me he presented the usual symptoms of alcoholic paralysis. His lower limbs were alone affected, while here the flexors of the foot were especially attacked. The feet dropped, and at one time could scarcely be moved at all. There was partial degeneration-reaction. The legs were much atrophied and there was some anæsthesia, but not much pain. There was no ataxia. The knee-jerk was abolished. The sphincters were normal. The patient got worse for several weeks, then began slowly to recover. At the end of six months he could barely walk with help. His mind remained clear.

*Case III.—Multiple Neuritis from Arsenical Poisoning. Sensory or Ataxia Form.*—I have shown the class two patients who suffered from multiple neuritis of this type (published in full in *Brain*, January, 1887).

In one the patient, a young man of 25, took a poisonous dose of Paris green. Within a week he had developed very characteristic symptoms of pseudo-tabes, or arsenical ataxia. The symptoms were burning in the feet and hands, extreme ataxia, some tactile anæsthesia of limbs, combined with extreme hyperæsthesia and tenderness, especially over the course of the nerves; peeling of the skin of feet and hands; pains in the legs, especially on movement; optic neuritis; partial degeneration-reaction; moderate paresis and atrophy; no girdle pains, no sphincter paralysis, no involvement of face or eye muscles. Mind clear, but patient nervous and hysterical. There was gradual improvement up to a certain point, then the symptoms remained stationary for many months.

*Case IV.*—In the second case the patient, a man of 45, was taking Fowler's solution in daily doses of ʒiiss, and gradually developed a pseudo-tabes similar to that above recorded, but milder in type. His symptoms, too, improved, and he was finally left with simply an annoying numbness of the feet and finger tips. Two other cases have since come under my notice.

*Case V.*—*Multiple Neuritis from an Infection of Beri-beri.*—This case occurred in the service of Dr. Roosevelt at Bellevue Hospital, and through his kindness I was able to show it to my class. The case has been reported in full by Dr. Roosevelt, and will soon be published; so I will not give the details here. The patient, a sailor, after suffering several weeks from the anæmia and anasarca characteristic of the "wet form" of beri-beri, gradually developed a paralysis of the lower extremities. The flexors of the foot were most affected. The paralysis gradually involved the muscles of both legs, but to a much less degree those of the thigh. There was some pain and paræsthesia, but little other disturbance of sensibility. The muscles atrophied and showed in one leg partial, in the other complete, typical degeneration-reaction. The paralysis progressed very slowly for a few weeks, then slowly improved. Judging from some of the recorded histories, beri-beri may also produce a sensory or pseudo-tabetic form of the disease, but it appears to me that the multiple neuritis is not the disease, but is only one of the symptoms, or in some cases one of the sequelæ.

*Case VI.*—*Multiple Neuritis from Rheumatic Cause.*—There is no doubt that multiple neuritis may be caused by what is known as rheumatic influences; and the following case seems to illustrate it, although I confess that the diagnosis can not be made positively: M. D. G., a Jewish ex-Rabbi, aged 29, married, of Russian birth, had always been healthy, but had greatly overtaxed himself a few years ago by study. His present occupation is that of a peddler. About two months before he was seen by me he had been much exposed to cold and wet. He felt one day a great weakness coming on in the lower extremities, and to a less extent in the arms. He felt also numbness, prickling, and dead, heavy sensations in the extremities. All this increased until in a day or two he could hardly walk, and could not go up stairs. About this time he had severe pains in one knee, which

lasted only a night. His symptoms did not improve, and he finally came to me. There was then the same condition of paresis of the extremities with paræsthesia; the knee-jerk was abolished; there were areas of anæsthesia over the external surface of the legs; there was considerable static and locomotor ataxia. The eye (he had but one) was normal, and he had no girdle pains or sphincter troubles. No degeneration-reaction. Urine 1026, acid, rather dark, no albumin or sugar. Under treatment he gradually improved. Nine months later I saw him again; *the knee-jerk had returned*, and all his symptoms had disappeared.

*Case VII.—Neuritis Complicating Locomotor Ataxia.*—I have shown to the class on several occasions a patient who had had for a year some slight ataxic symptoms, but had been able to do his work, that of a brakeman, every day, and who believed himself to be suffering only from a paralysis of the left third nerve, which was of several years duration. One day, not feeling very well, he took a Turkish bath, and next day was in bed with an intensely painful paralysis of the lower extremities. There was exquisite tenderness along the course of the nerves, burning feet, pronounced ataxia, and abolition of knee-jerk. The symptoms seemed to point to the development of a neuritis complicating the original posterior sclerôsis, and this is an accident which I believe may sometimes occur in true locomotor ataxia.

*The diagnosis of subacute multiple neuritis* cannot always be made with certainty. It must be based, 1st, upon the etiology; 2d, on the symptoms; and 3d, upon the course of the disease.

*Diagnosis from the Etiology.*—Painful symmetrical progressive paralysis, with atrophy coming on after an attack of rheumatism, is probably neuritic. The same may be said regarding attacks coming on in alcoholic patients. The post-mortem evidence collected by Dreschfeld, Shultz, Francotte, and Bernhardt shows that almost all cases of alcoholic paralysis are of peripheral origin. Some are, however, I believe, myelo-neuritic. The paralysis from arsenical poisoning, bisulphide and oxide of carbon, and in some cases after the use of lead, are peripheral. The pseudo-tabes after diphtheria and in diabetes is neuritic, but glycosuria may occur in true tabes. The paralysis and pseudo-ataxia after infective diseases, diphtheria, variola, pneumonia (*Virchow's Archiv*, Vol. 68), measles, typhoid, and occurring in the course of acrodynia and beri-beri, are neuritic. It is not yet demonstrated that multiple neuritis occurs in children except from beri-beri, although Webber and Chapin have reported cases which appear to belong to this category.

*Diagnosis from the Symptoms.*—Rather sudden onset with marked pains in legs and arms, and sometimes fever, followed by rapid symmetrical atrophic paralysis, are the main characteristics of subacute multiple neuritis. Hyperæsthesia is present at first, with great tenderness of muscles and along the course of the nerves. Later tactile and thermic anæsthesia of moderate type develops. The specially characteristic symptoms in detail are: Symmetrical ascending paralysis

affecting the lower extremities most, and especially the flexors of feet and extensors of arms.

*Diagnostic Electrical Reactions.*—E. Remak reports a case of generalized neuritis with marked electrical alterations of non-paralyzed nerves and muscles. It was in a woman of 30 years, and followed acute rheumatism. This was followed by burning pains and numbness of the legs and arms, with intention-tremor and some atrophy of hand muscles.

*Clonic movements, intention-tremor or athetosis.* Muscles of face and extremities, though not paralyzed, only react to severest electrical currents and give polar changes. Erb noted the degeneration-reaction (milder form) in non-paralyzed muscles—head paralysis (*Arch. f. Psych.*, 1885, v, p. 445). Also Bernhardt (*Berlin. klin. Wochenschr.*, 1878, Nos. 18 and 19), and Buzzard (*Brain*, 1878, vol. 1, p. 121). Kahler and Pick found the severe form of degeneration in lead paralysis, "Beiträge zur Path. u. Path. Anat. des Central Nervensystems;" Leipzig: 1879; p. 131. So did Kast (*Centralb. f. Nervenheilk.*, No. 8, p. 137). Kahler and Pick (op. cit.) also found these changes in a case diagnosed at the time as polio-myelitis anterior subacuta, but which gives much such a history as that of Remak's case. Bernhardt has also described such a case (*Virchow's Archiv*, 1879, Bd. 78, p. 274). In Schultz's case of alcoholic neuritis marked diminution of E. I., but no qualitative changes. Rapidly developing atrophy of muscles. Partial degeneration-reaction. The usual formula being: Faradic current over muscles—E, sensibility lessened; E, irritability lessened or absent. Galvanic current over muscles—E, sensibility lessened or absent; E, irritability lessened, contractions sluggish. Generally in reversal of poles, but KaCC > AnCC.

Œdema is often marked, without albuminuria. The pulse-rate is high. Sphincters not involved; no decubitus. The face and eye muscles are rarely involved, but occasionally there is optic neuritis. Optic neuritis has been noted by Eichhorst (*Virch. Archiv.*, 1876, Bd. 69, p. 69); Strümpell (*Archiv f. Psych.*, Bd. 14, p. 339); Löwenfeld (*Ueber Multiple Neuritis*, 1885, p. 15); E. Remak (*Neurol. Centralbl.*, No. 14, 1885); Dana (*Brain*, June, 1887). The burning hands and feet, the peeling of the skin of the extremities, the sometimes sharp demarcation of the paræsthesia of the extremities, are diagnostic points to be noted.

Favorable termination favors the diagnosis of multiple neuritis. The presence of degeneration-reaction with retention of voluntary movement favors polio-myelitis. Localization of paralysis in physiological groups of muscles favors polio-myelitis, symmetrical ascending paralysis, or poly-neuritis. The diagnostic points in a case of Schulz's seen by Strümpell were: The multiplicity of the processes attacking the extremity nerves; high-grade atrophic paralysis, with highest grade diminution of electrical irritability, without quantitative changes; the slight paræsthesia without anæsthesia; the joint affection; the absence of the tendon-reflex with presence of skin reflexes; tenderness



over the great nerve trunks; pains on starting to walk; the eventual return of the tendon-reflexes and normal electrical irritability. The bladder and rectum were, however, somewhat affected. Diagnostic signs given by L. Löwenfeld in a case of rheumatic multiple neuritis with athetosis were: Motor weakness with fever and sensory disturbance limited to certain nerves; girdle sensations and great sensitiveness of the back muscles; absence of pupillary, bladder, rectal, and sexual symptoms; girdle sensations about the extremities; electrical reactions were those of partial degeneration-reaction; there was striking diminution of electrical irritability to both currents, with slight polar changes. This has been found by Brenner and Bernhardt also.

The ordinary course of an acute poly-neuritis is, according to Roger:<sup>1</sup> Sharp attack, with severe pains in extremities, oftenest in lower; often a fever; then paralysis, without contractures, with rapid atrophy. Hyperæsthesia is followed by anæsthesia; tenderness; electrical degeneration-reaction. Initial pains, early, marked sensory disturbances, combined with degenerative muscular atrophy and paresis of extremities, *following acute articular rheumatism*, point to subacute multiple neuritis.<sup>2</sup>

Some particulars may be given regarding the diagnosis of the different forms of multiple neuritis:

*Alcoholic neuritis* runs a less acute course, is less progressive, and the paralysis is more confined to the extensor groups. The legs alone are often affected. There is a characteristic hyperæsthesia and hyperalgesia. Cerebral symptoms are frequent. The gait in the pseudo-tabetic cases is modified from that of the true tabes by the fact that, the extensors of the feet being paretic, the foot is brought down flat. The diagnostic signs of *alcoholic neuritis*, as given by Oetlinger (loc. cit.), are: The symmetrical paralysis, almost always beginning in the lower extremities, and affecting especially the common extensors of the foot and the extensor hallucis. Bladder, rectal, facial, and eye paralyse are not present. Ataxia is not constant, nor are contractures. In chronic forms there is hyperæsthesia; in acute forms analgesia. Generally there is œdema and trophic disturbances of the skin. Tendon reflex always absent. There are three forms: mild, chronic, and acute. The prevalence in women was not observed by Oetlinger. The ataxia was static only in a case described by Lilienfeld. Besides the points given, the alcoholic patient may suffer from central scotoma; tabetics have a more general narrowing of the visual field (Bernhardt). Optic neuritis is seen in acute myelitis, multiple sclerosis, multiple neuritis, and alcoholic neuritis, but never in true tabes. There are mental disturbances in alcoholic cases, and women are often affected. The degeneration-reactions are temporary, and only noted at the height of the disease. The ataxia is static only in some cases. There may be rapid pulse and hyperidrosis.

<sup>1</sup>*L'Encéphale*, 1885, No. 2.

<sup>2</sup>*Kast, Archiv. f. Psych.*, 1881, Bd. xii, p. 266; and F. C. Müller, *Ibid.*, Bd. xiv, p. 669.

In *arsenical neuritis* a characteristic trophic disturbance is the entire shedding of the epidermis of the feet and hands. A hysterical mental condition is sometimes present. The paralysis may be motor and atrophic, or may take a pseudo-tabetic form, the last being rare.

A multiple neuritis of the sensory or ataxic form is differentiated easily from locomotor ataxia usually, by the changed electrical reactions (high grade diminution of E. irritability, with or without qualitative changes). In tabes, at the beginning, there may be an increased E. I., which later decreases without any degeneration-reaction. There is an ataxic-neuritis seen in early atrophic paralysis. The pupillary symptoms, girdle-pains, bladder and rectal disturbances are, as a rule, absent in neuritis. There may be slight pelvic symptoms in ataxic neuritis.

The tendon-reflex, though apparently absent, may be brought out sometimes by Jendressik's method in neuritis; never in tabes (Moeli).

In *post-diphtheritic multiple neuritis* there are generally paralyses of the soft palate first, then general muscular feebleness, ataxia, and loss of tendon-reflex. In a few cases the external eye muscles are affected, causing exophthalmoplegia externa.<sup>1</sup>

*Subacute multiple degeneration neuritis* is to be distinguished clinically from *acute ascending spinal paralysis* (Landry's). In the latter disease there is, it is true, a multiple neuritis, in some cases at least, but its cause and course, as well as the anatomical changes in the nerves, are different.

*Myelo neuritis*.—Multiple neuritis may be combined with a poliomyelitis, and then symptoms of both diseases may be present. Leyden, Rosenthal, and Déjerine have found cases running a course like that of multiple neuritis, with, on autopsy, evidences of both neuritis and myelitis. Eisenlohr has reported<sup>2</sup> a case that is particularly striking. J. J. Putnam reports two cases of painful myelo-neuritis. Central spinal lesions predispose to neuritis. Déjerine reports<sup>3</sup> two cases of tabes with extensive degenerative neuritis. Illustrations of symmetrical ascending neuritis and myelitis are given by Grainger Stewart,<sup>4</sup> who reports three cases. The patients showed the signs of multiple neuritis with ascending paralysis, beginning in all four extremities. Post-mortem examination showed secondary degeneration of the columns of Goll and of the direct cerebellar tract.—*Journal of the American Medical Association*.

#### EPIDEMIC PNEUMONIA.

There are many interesting points in the pathology of pneumonia, but they are all comprehended in the fundamental question, What is pneumonia? There could hardly be a better illustration of the revolution of ideas wrought by the progress of scientific investigation than

<sup>1</sup>For bibliography see P. Meyer, *Virchow's Archiv*, Bd. 85, p. 214. Also Mendre, *Neurol. Centralbl.*, 1885, No. 6.

<sup>2</sup>*Neur. Centralbl.*, 1884.

<sup>3</sup>*Brain*, 1884, p. 558.

<sup>4</sup>*Journ. of Nerv. and Ment. Disease*, 1882, p. 212.

that what was once the type of a sthenic or croupous inflammation should, in these latter days, be deemed by many to be a specific fever. Yet now that this change of opinion has matured, it is easy enough to see how and why it has come about; for pneumonia, although of old explained and apparently disposed of as a croupous inflammation, has nevertheless remained a puzzle, for its behavior is, in many respects, peculiar. It is, perhaps, less easy to follow, and it is still the best of wisdom to criticize the somewhat extreme limit which is the present range of the pendulum in this matter; the question what, in an etiological sense, is pneumonia, still awaits solution.

Pneumonia has not yet "linked all perplexed meanings." On its very face we see that, although it appears to be an inflammatory disease, yet unlike typical inflammations, in which pyrexia should wait upon the local changes, here we have an inflammation in which the fever is altogether in advance of these, and they may even progress for an appreciable time after the pyrexical energy has altogether abated. In this, and in its suddenness of onset and definiteness of course, pneumonia bears a close resemblance to a specific fever; but such an argument might well be met by one who maintained, for instance, that the pulmonary changes are due to some sudden nerve-storm, and comparisons of much point could be drawn between it and gout or rheumatism in this its method of eruption. Perhaps it would have been more pertinent to have limited the parallel to gout, for the reason that there are those who contend, and with much force, for the malarial nature of rheumatism, and in this respect it is instructive to remember that pneumonia, as Dr. Sturges has insisted, bears much resemblance to quinsy, a disease which of late has been asserted to be, and which there is gradually accumulating evidence to prove to be, one of the several modes of manifestation of the rheumatic *x*. The well-known tendency to recurrence in the individual (Andral and Grisolle record examples of as many as fifteen, and even twenty-two, attacks in one person) is another double-faced phenomenon, for though it would indeed be directly opposed to specificity as manifested by some sorts of virus, and is perhaps equally well accounted for by some inherited susceptibility—some unaccommodating want of adaptability on the part of the organ to the changing conditions of its environment—nevertheless, it must also be said that a hypothetical poison of a malarial nature would perfectly account for this peculiarity.

Thus it happens that anyone, even the most conservative in his opinions, may find himself discussing the microbic origin of pneumonia, and even prepared to accept it from the bare consideration of facts which have long been matters of common knowledge, and altogether abreast of our latter-day acquisitions, which have given this aspect of the disease so forcible an impetus. Now, what are these later advances in knowledge? It is always a satisfaction, and a laudable one, to the so-called clinician, to be able to aid in building the science of medicine. Sir James Paget made a distinct point in his address at the Pathological Society, the other day, when he insisted

that the practitioner is as well able to aid science as the worker in the laboratory. Practice, as it is called, is far too humble in this respect; and too often it allows itself to be dragged at the heels of commerce, when its proper position is the commanding one of the most fruitful and deserving scientific labor.

Now, from the result of practice, in other words of experience, it has long been known (1) that pneumonia is liable to occur in series, and to prevail at certain seasons; (2) that it is sometimes so prevalent in localized areas as to justify the term epidemic; (3) that it appears to be occasionally contagious. As regards the last head, Dr. Daly, to go no further back than 1881, published a remarkable series of cases in one house where a mother and five children all had pneumonia, and only such of those in the house escaped as had, for some reason or other, remained apart from those affected. Other cases, hardly less striking, followed from other sources when this series was reported. All went to show that pneumonia is, under some circumstances, an infectious disease. Closely connected with the question of contagion from individual to individual, comes that of the occurrence of epidemics. We are accustomed, as has already been said, to find pneumonia prevalent at certain seasons, but the two or three cases usually met with may be well explained, drawn as they are in hospital practice from somewhat scattered habitations, by the prevalence of some particular wind, or some sudden atmospheric changes. There are, however, not a few epidemics on record which cannot be thus accounted for. One or two have occurred in Germany—others are those published some time ago in our columns by Dr. Bruce, of Dingwall; and those in this day's *Journal*, by Dr. Adam (which complete Dr. Bruce's tale) and Dr. Foulis. Observations of this kind unquestionably favor the possibility of a microbic origin of the disease, and it seems not unlikely that the earlier records of cases such as these, together with the general mist of uncertainty which enveloped the subject, may have indirectly given birth to the work of Friedländer and others which has led to the discovery of the pneumococcus.

To some it might appear that the existence of a definite germ and the production of pneumonic changes in some of the lower animals by the introduction of this germ have settled the question and added one more to the daily lengthening tale of parasitic diseases. Such a conclusion is, however, by no means justified. Dr. Sturges does well to remind us that epidemic influence is not the same thing as contagion. What it may mean is still a matter of doubt. It seems possible that its meaning is not constant—sometimes, for example, it might denote nothing more than the accident of a certain number of unstrung and susceptible persons being exposed to the chilling influence of a cold wind, or of some other telluric disturbance; while at others it might quite possibly indicate the presence of direct miasmatic influences. It is conceivable, therefore, that the disease might at one time be microbic and at another not. The difficulty of

this hypothesis, however, lies in the momentous fact that no matter what the cause may be, the characteristic micro-organism is always present. Nevertheless, seeing that pneumonia seems so often to arise quite suddenly as the result of exposure, in people apparently in the best of health, we should, from the clinical point of view, be inclined to conclude that if a particular organism is always an element in the morbid product in the lung it must be because it is of epiphytic nature. The very constancy of its presence may be quite as strong an argument against as for its potency. Epidemic influence is a very difficult thing to analyze, as it embraces so many intangible possibilities. Contagion is far less so, because, as Dr. Sturges very properly reminds us, there is no gainsaying the great clinical fact that, as a general rule, to which the exceptions are so rare that they fall within the knowledge of very few even of those whose range of experience is most extensive, pneumonia is certainly not contagious. There is no fact in medicine more sure; and when one comes to think the matter over, and to remember that pneumonia is by no means an uncommon associate of diseases such as typhus, typhoid, measles, whooping-cough, diphtheria, and so on, and that all these may become so modified in individual cases as to expend their chief energy on organs other than those that more habitually suffer, it would not be surprising if now and then some contagious germ should find for once a congenial soil in a pneumonic compost of its own stirring. However this may be, a contagious pneumonia is assuredly so exceptional an occurrence that its explanation must be of like nature, and as such is hardly likely to have much bearing on the pathology of non-contagious pneumonia. There is far more to be said in favor of a miasmatic pneumonia.

We cannot pretend to have discussed the question adequately; it is one that possesses great breadth of interest, but it appears to us that the position held by Dr. Sturges, that pneumonia may arise from a plurality of causes, is that which, with our present light, most commends itself to a sober judgment. This may seem but a tame and commonplace conclusion to the speculative impetuosity of the present day; but the more cautious, on the other hand, will find comfort in the thought that sobriety postpones senility.—*British Med. Journal.*

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## ABSTRACTS.

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PAROXYSMAL CARDIAC DYSPŒA. (Dr. Alfred L. Loomis in the *Medical News*.)—It seems to me reasonable to believe that the primary or predisposing cause in all cases of paroxysmal cardiac dyspnoea is a gradual failure in the organic power of the heart, that the exciting cause of the paroxysm is anything which will lead the heart failure to an entire suspension of the cardiac circulation. Thus, when any form of degeneration of the cardiac walls exists, mental shock, excessive physical exertion, violent passion, or sudden fear, may act as an excit-

ant of the paroxysm. These excitants may differ widely from each other, for a feeble heart may be stopped as readily by a call for stronger action which it is not prepared to meet, as by suddenly cutting off its blood supply by obstructing its nutritive vessels. During the relaxation of the physical forces which comes in the early hours of the morning, after profound sleep, when the heart, in the perfectly healthy state, has its minimum propelling power, is the period in the twenty-four hours when one with degenerated heart-walls is most easily affected. Often such persons will awake about four in the morning in the midst of a paroxysm of dyspnoea. In the two instances which I have related, death occurred almost instantaneously about that time of the day. A distended stomach from flatulency or any other cause produces little inconvenience in a healthy person beyond a sense of fulness or slight pain, but in one with a degenerated heart, when a distended stomach presses on the diaphragm, the inspiratory movements become impeded, the pulmonary circulation embarrassed, and the enfeebled heart enters on a struggle for which it has no reserve power, and a more or less severe paroxysm of cardiac dyspnoea is the result.

A fully developed paroxysm usually comes on with a sense of constriction across the chest, which is immediately followed by a struggle for breath, accompanied by spasmodic contractions of the respiratory muscles, the surface of the body becomes pale and cold, the countenance extremely anxious, and the patient, if the paroxysm is not too severe, is constantly changing his position, with the hope of obtaining relief. Painful muscular spasms occur in the voluntary muscles in different parts of the body. The mind remains clear. The pulse is feeble, irregular, and intermittent, and frequently there will be a prolonged absence of the radial impulse. This, as well as other forms of cardiac dyspnoea, presents a peculiarity in the relation of pulse and respiration as distinguished from all other forms of difficult breathing, in that the return of the pulse precedes instead of follows the subsidence of the dyspnoea. In some cases the patient will complain of pain at the lower portion of the sternum, which shoots through the chest to the back. If death takes place during the paroxysm, the final act is one of persistent muscular contraction, the heart-failure being followed by a tonic spasm of the muscles of the chest, and a rigidity of all the voluntary muscles.

The symptoms which precede an attack, or what may be called its preliminary symptoms, are few, but they are diagnostic. One of the earliest and most constant, and one which may exist for months and perhaps for years before the occurrence of a well-marked paroxysm, is a sinking or exhausted sensation in the præcordial region; this sensation will come on from very slight causes, such as sudden physical exertion, or strong mental emotions. At first a diffusible stimulant, a few swallows of hot water, or a recumbent posture, will relieve it. In some instances the patient will complain of a choking sensation, commencing in the cardiac region, and passing rapidly to the pharynx, which usually comes on immediately after taking food, or at the moment of falling

asleep; it is often very oppressive, and to nervous subjects alarming. So-called dyspeptic symptoms will often accompany it. Sooner or later there will be established an irregularity in the cerebral circulation, indicated by attacks of vertigo, headache, hissing sounds in the ear, and occasional dimness of sight. For a long time these symptoms may cause the patient no serious inconvenience, but eventually a series of obscure nervous phenomena will develop, he will become irritable, melancholy, and perhaps hypochondriacal, and he will very likely be treated for neurasthenia, or perhaps congestion at the base of the brain. At length attacks of faintness with pallor will occur, and the patient will be troubled with insomnia, his mental faculties will be disturbed, and slight physical exertion, as going up stairs, will cause breathlessness. In one who presents these symptoms an attack of paroxysmal cardiac dyspnoea is liable to occur at any moment. The physical signs, if the general symptoms are well marked, are usually distinctive; the cardiac impulse is feeble and difficult to locate, there is usually an epigastric tremor, the heart's action is irregular in force and rhythm, although the patient may not be conscious of its irregularity. The first sound of the heart is short and valvular in character, and during periods of great cardiac irregularity it is difficult to distinguish the first from the second sound. In the majority of cases there are no cardiac murmurs, and no evidence of valvular insufficiency. There will be an entire absence of any pulmonary disease adequate to produce the general symptoms, and an examination of the urine will usually give negative results. These patients will become exceedingly anxious about themselves, and will consult one physician after another, without obtaining anything more than temporary relief.

When a well-defined paroxysm has once occurred, little can be done to avert a fatal issue, but much may be done to delay the occurrence of the first paroxysm, or rather to arrest the degenerative changes in the heart-wall, and prevent the sudden dilatation of its cavities which so often leads to the first paroxysm. This must be accomplished mainly by a restricted diet, and by a carefully regulated life. There is perhaps nothing which so certainly induces the degenerative changes in the cardiac muscles, that allows of sudden dilatation of its cavities, as the daily intemperate use of alcohol; it is evident in such cases that its intemperate use must be stopped, but never suddenly or entirely, for a moderate amount of alcohol is essential to the nutritive processes in a chronic alcoholic subject. In all cases the diet should be restricted to milk, meat, and a small amount of bread; sugars and starches should be avoided, and the quantity of food taken at any one time should be limited. Flannel should be worn next the skin, and the surface of the body should never become chilled. Each day should be divided into eight hours for sleep, eight hours for labor, and eight hours for rest and refreshment, and this division should be strictly adhered to. In other words, the entire life of the individual should be carefully regulated. Next to diet, the most important thing is systematic daily exercise in the open air; the exercise should never be violent or

carried to fatigue; commencing in a moderate way, it should be daily increased until the individual is able to take long walks without fatigue, avoiding elevation and going up stairs. The medical treatment resolves itself into alkalies as eliminatives; the different preparations of iron as tonics, in combination with which small doses of digitalis should be given, five or ten drops of the tincture twice a day. In alcoholic subjects strychnine should be combined with the iron. All of these drugs should be given in such small doses that their use may be continued for a long time. The first thing in the management of a paroxysm is to give the patient plenty of fresh air, the second is to keep him in a semi-recumbent posture, the third to apply artificial heat to the surface of the body. The only two medicinal agents which I have found to have any positive control over a paroxysm are the nitrite of amyl and nitroglycerine. After one paroxysm has occurred nitroglycerine should be given whenever the premonitory symptoms of an attack are present. During a paroxysm nitrite of amyl carefully administered will give at least temporary relief. I have patients who carry pearls of the nitrite of amyl constantly with them, which they use to ward off impending attacks.

THE THERAPEUTIC VALUE OF MOUNTAIN CLIMBING. Dr. L. Barkan, of Brooklyn, publishes in the *N. Y. Medical Journal* an interesting communication on this subject, in which, referring to the unquestioned benefits of pure air, he states that it is of especial efficacy in elevated regions, and its good effects are the more evident the higher the climber ascends, and the more muscular effort he puts forth in the ascent. The best inhalation apparatus, baths, and medicaments, he says, are of but temporary value if no compensation is made for the loss of vitality and of muscular tone, especially that of the heart and vessels; if the blood-stasis in the glands and other organs does not yield to an increased flow of blood in the arteries and veins; if the thinned blood does not become thicker and more rich in albumen; if the accumulating carbonic acid is not expelled by a more plentiful supply of oxygen; if the fat deposited in the body is not more rapidly oxidized; and if the kidneys are not made to act more efficiently. But all these effects are produced more certainly and more generally by mountain-climbing than in any other way. Those who have had any opportunities for observation must know that after several weeks spent in mountain excursions the condition of the patient is changed, and radically, for the better—mentally and physically. The cases reported by Dr. Barkan may be briefly given as follows: Man of 40 years, weight 230 pounds, circumference of waist 120 ctm., of chest 116 ctm. The first walk caused him to pant for breath so that he was almost obliged to stop every three minutes. On the second day the breathing was easier, and he had to stop every five minutes. The secretions were increased in amount, and the torpid condition of the bowels was corrected. The walk was lengthened each day. At the end of a month climbing caused but slight acceleration of respiration, which was inaudible; he could walk for a quarter of an hour with-



out stopping, and he could climb for four hours a day. The cardiac contractions were full and strong, and he had lost the feeling of oppression and dyspnœa. At the end his weight was 208, circumference of waist 107 ctm, and of chest 121 ctm. The second was an old case of neuralgia of the left facial nerve, resulting in numbness of the affected cheek. After a three weeks' excursion the numbness entirely disappeared, and has not returned. The third patient had suffered for thirteen years with rheumatism. At the end of two weeks of treatment he could climb hills, and after doing this for a week and a half his rheumatism had permanently disappeared. The fourth patient was plethoric and hypochondriacal, and had hemorrhoids. Improvement was noticeable at the end of two weeks; after four weeks the hemorrhoids had entirely disappeared. His weight was reduced from 211 to 185 pounds; his waist measure from 108 to 98 ctm; and his chest measure increased from 104 to 109 ctm. The fifth patient had chronic gastric catarrh. There was noticeable improvement after one week, and after three weeks the stomach was in good condition. A bronchial catarrh, which had given trouble, was much improved the first day, and disappeared on the third day. He gained fifteen pounds during his trip. In a sixth case psoriasis disappeared permanently in twenty-four days. In another case a chlorotic girl of 19, who had amenorrhœa, improved markedly in two weeks. In still another case a weak, hysterical woman, who had not menstruated for two years, was much stronger, not hysterical, and menstruated after eight weeks of this exercise.

#### TREATMENT OF THE PERINEUM IN THE PARTURIENT STATE.

Dr. J. H. Parkinson arrives at the following conclusions (*Sacramento Medical Times*):

1. That direct support of the perineum is injudicious and inadvisable, as tending to produce the injury which it seeks to avoid.
2. That pressure applied to the head directly, with a view of altering the axis, or retarding its descent, is proper under suitable conditions.
3. That interference with the perineum by artificial dilatation, retraction, or similar manipulative procedure should be avoided, save under exceptional circumstances.
4. That every case where the perineal body has been involved demands surgical attention.
5. That the proper time for operation is as soon as possible after the completion of the third stage.

#### THE TREATMENT OF URETHRAL STRICTURE BY ELECTROLYSIS.

(Dr. Robert Newman in the *Phil. Med. Times*.)

The exploring instrument transmits to the fingers certain sensations, which experience soon classifies, and which culminate in a high tactile expertness. I use for the purpose a whalebone *bougie à boule* which has a small olive-shaped head and slender neck; this adds to its flexibility. Such an exploring instrument gives, from its peculiar shape, a

delicacy of touch not to be obtained by any other known bougie. It defines, with scientific exactness, the nature of the stricture; the progress of altered tissue can be ascertained and defined by it with a comparatively small experience and with great certainty. For ocular inspection of the urethra I have always used the endoscope, when necessary. The patient's susceptibility to the galvanic current is to be learned by applying it to his hand or some other part of his body. Anæsthetics are not used, because no pain should be caused, and because the patient ought to be conscious, so that he can express his sensations. For ordinary strictures, the size bougie selected should be three numbers (French) larger than the stricture. The electrode is well greased with glycerine, which is a good conductor. Having ascertained by actual measurement the locality of the stricture or strictures (if there be more than one), I push a small India-rubber ring over the bougie for each of them. This little manœuvre has many advantages: not the least important is that I am made aware as soon as the India-rubber ring arrives at the meatus that the extremity of the bulb must be in contact with the stricture. Having the plan of the urethra from actual measurement before me, I operate with additional certainty, and beyond a peradventure as to the part which is acted upon. This bougie electrode is then introduced into the urethra until the bulb is arrested by the stricture. A sponge electrode, wet with warm water and connected with the positive pole of the battery, is then held firmly against the patient's skin (best in the palm of the hand or pressed against the abdomen, the thigh, or some other part), to complete the circuit. While both poles are held in this manner, the current is to be increased very slowly and gradually, one cell at a time, until the patient feels a warm and slightly pricking sensation. The operator should keep the bougie steadily against the stricture, and he will soon find absorption taking place, the stricture yielding, dilating, and the instrument slowly advancing and passing the obstruction; at times it fairly jumps through the stricture. If there are more strictures than one, the bougie should be guided in the same way until it enters the bladder. Then the electrode is to be withdrawn slowly, and each stricture well worked out until the first stricture is passed, when the current is again to be reduced slowly, cell by cell, to zero; and not until then is the electrode to be removed. During the whole operation the electrode must be held loosely and gently in its place against the obstruction, all pressure or force being avoided. The bougie will take care of itself, doing its work by the electrolytic action of the current. A *séance* might last from five to twenty minutes. The observance of the following rules would conduce to success:

1. Begin the use of electrolysis carefully, not cauterizing, but only causing absorption, six cells being enough in many cases, or a current-strength of two and a-half to five milliampères.
2. Regulate the current according to the susceptibility of the patient.
3. Repeat the *séances* at intervals of three or even four weeks, the shorter intervals being exceptional.

4. Do not lubricate the electrode with a non-conducting substance.
5. Wet the sponge electrode with hot water.
6. Keep the plates in the battery-fluid only during the operation.
7. Never use force with the bougie ; never cause hemorrhage.
8. Do not operate while the urethra is in a state of acute or sub-acute inflammation, or when the application causes pain.
9. Do not use the battery-fluid too strong.
10. Never use two bougie electrodes in succession at one *séance*, or follow the bougie with any other instrument.
11. Do not push the bougie to and fro in the urethra ; it must be passed only once down and back again, and that with care.

“IS THE DANGER FROM POST-PARTUM HEMORRHAGE INCREASED BY THE USE OF ANÆSTHETICS DURING PARTURITION?”—In an able paper read at the last meeting of the Medical Society of the State of New York Dr. Fordyce Barker answers this question in the negative, and states that while we are constantly meeting in obstetrical literature with the statement that the danger of post-partum hemorrhage is increased by the use of anæsthetics, he has never been able to find any statistical evidence in proof of the assertion. What is termed uterine inertia is often but another name for uterine exhaustion, and this must certainly be much less likely to occur when the nerve force and vital powers have been saved by the use of an anæsthetic. He has long regarded chloroform as the safest and best anæsthetic in obstetrics, and since 1850 has used no other. The reasons he gives for this preference are these :

*First.* Its odor is to most persons much more agreeable, and it is much less persistent. When sulphuric ether is used, it frequently at first produces more or less irritation of the fauces and bronchi, and an annoying cough or choking is excited. The effect of this is bad, both on the patient and on the surrounding friends. It excites apprehension, which more or less tends to counteract the influence of the agent.

*Second.* The influence of chloroform is much more rapid, and a much less quantity of this agent is required than of the ether. We are thus saved, in a great majority of cases, the preliminary stage of excitement which the ether produces, and we are able to use the chloroform for each recurring pain, the patient in the interval being comparatively free from the influence of the anæsthetic. Thus, in the aggregate, not only is a much less quantity of the agent required, but the patient is exposed to the danger from the anæsthetic, if any danger there be, for a much shorter period of time.

*Third.* By chloroform we are able to regulate the degree to which we may desire to carry anæsthesia with a certainty and security that are not possible with the ether.

*Fourth.* The danger from anæsthesia by ether, where disease of the kidney exists, first pointed out by Dr. Thomas Addis Emmet, and now confirmed by several observers, has not been noted by any one as resulting from the use of chloroform.

During the past thirty-seven years he has rarely attended a woman in confinement without the use of chloroform, never where she has suffered considerable pain. Having thus used it in several thousand cases he unhesitatingly asserts that not in a single case has he ever found cause to regret its use. In addition to his own experience, he has carefully watched for all that has been published on this subject, and he is fully in accord with Dr. J. C. Reeve, of Dayton, Ohio, in his assertion that "the most rigid scrutiny, inspired by hostility, has failed to show that, when judiciously used, it exerts any injurious influence on the mother or child." In his private practice he has never had but one case of post-partum hemorrhage, and in this no anæsthetic had been used, as the child was born within five minutes after he entered the room, before he had time to make any examination, and a terrific flooding followed.

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## HOSPITAL NOTES.

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### TREATMENT OF PNEUMONIA IN NEW YORK HOSPITALS.

#### BELLEVUE HOSPITAL.

Immediately upon admission every patient under the charge of Professor Alfred L. Loomis undergoes an examination for the determination of the following points:

1. The extent and location of pulmonary consolidation and amount of complicating pleurisy.
2. The temperature and condition of the heart as indicated by its rhythm, force, and amount of muscular element in the first sound.
3. The condition of the kidneys.

When the patient is admitted during the initial shock, full doses of morphia are administered hypodermatically, and repeated with sufficient frequency to relieve pain, during the first three or four days, or until the consolidation is complete. Every patient is placed in bed, clothed in an oil-silk, flannel-lined jacket, which is made to come close up around the neck and to extend well down on to the trunk, and is put upon a diet of milk, vichy, chicken soup, and beef-tea, the selection of food being somewhat affected by the limits of hospital dietary. This much is routine. When consolidation is confined to a lower lobe, the cough, expectoration, and pain moderate, the temperature below 104° F., while the pulse is regular with a strong first sound of the heart, and the urine is normal, nothing further is done beyond keeping the bowels freely open by some mild cathartic, as pulv. glyc. co. The general treatment is then purely expectant. The temperature and pulse, however, are taken every four hours and the urine examined daily.

When the temperature reaches 104° F., or more, fifteen to twenty grains of quinine are given at a single dose. If at the end of six hours no reduction of temperature is produced, twenty grains are given in

divided doses within an hour. As the drug used is "hospital quinine," these doses are possibly slightly larger than would be required in general practice. When they fail to reduce temperature equal parts of quinine and antipyrin are employed, but always in combination with some form of cardiac stimulant, as alcohol or caffeine. If the temperature is not affected by the second dose its use is not continued.

Indications for stimulants are found principally in the cardiac condition. Patients with consolidation at the apex, however, and alcoholic subjects are put upon stimulants from the first. The cardiac stimulants used are alcohol, caffeine, digitalis, and ammonia, the first two being given with about equal frequency and for prolonged effect, while the others are used more for emergencies in the later stages. An irregular, uneven, intermittent pulse, or weak or absent first sound, are indications for stimulants to be given p.r.n.

It is seldom found necessary to employ measures directed especially to the cough. When this is distressing, with little expectoration in the earlier stages, opium is employed to mitigate its severity but not to check it entirely; later in the stage of resolution opium is avoided and carbonate of ammonia given in connection with infusion of serpentaria or wild cherry. Pain is controlled early by opium and *large hot* poultices, later by poultices alone, if possible. The earliest indications of renal complications are met by the ethers, infusion of digitalis, and nitroglycerine. Sleeplessness is relieved by bromide and chloral (alone in robust patients), and with the addition of cardiac stimulants in alcoholic subjects. Œdema is treated by dry cups freely applied over the entire chest, atropia hypodermatically, whiskey and digitalis internally, and the free inhalation of oxygen.

#### ST. LUKE'S HOSPITAL.

The treatment of pneumonia in Dr. Kinnicutt's wards in St. Luke's Hospital, during the past five years, has been wholly an expectant one. Absolute rest in bed in a *strictly* horizontal position, not only until defervescence occurs, but for several subsequent days, is a rule which is carefully observed in his service. The patients are rarely permitted to assume a sitting posture, even for the purpose of an examination. Several instances of sudden death from heart failure, in the period immediately following defervescence, on the patient attempting to rise, have convinced him of the wisdom of a routine rule of this kind. Light flaxseed poultices or a layer of cotton-wool covered with oiled silk, applied over the affected area, have been found serviceable in promoting the comfort of the patient. During the developing stage of the pneumonic process (the first three or four days), opium in small doses (morphine one-sixteenth to one-eighth grain given by the mouth or hypodermatically, two or three times in twenty-four hours) has proved of great service in controlling the symptoms of nervous shock which so frequently obtain at this stage of the disease, and in affording relief to the suffering of the patient. It has also seemed to combat, in a measure, the tendency to heart failure.

The employment of alcohol has been governed by the symptoms in individual cases. With the first indication of cardiac weakness, it has been the rule to institute its use in small doses and to watch carefully its effect. The pulse, the tongue, and the mental condition are accepted as guides for its continued use and for the amount to be given. Many cases have convalesced satisfactorily without its employment at any stage of the disease; again, twelve or more ounces of brandy have been given in the twenty-four hours, with marked benefit and recovery. Its use in diminished doses during the first days of convalescence has often been found advisable. Caffeine and digitalis have been used very uniformly as heart tonics, and Dr. Kinnicutt believes with benefit. During the past several months, strophanthus, in the form of the tincture (five drops, three or four times in the twenty-four hours), has been employed with excellent results. He now prefers it to all other cardiac tonics in this disease. Antipyretics have seldom been employed.

On the temperature reaching  $105^{\circ}$ , a single small dose of antipyrine, eight to twelve grains by the rectum, has been given and repeated if necessary. Aside from his disbelief in the necessity of the general use of antipyretics in pneumonia, Dr. Kinnicutt is convinced of the intolerance of large doses of the group of carbon compounds in this disease.

Finally, the alimentation of the patient has received very careful attention; the food has consisted of milk, in its raw state, or peptonized. The hospital records show the following satisfactory results under the above method of treatment: Forty cases of acute lobar pneumonia were treated in the wards from December 1, 1884, to December 1, 1886. There were six deaths, 15 per cent. (excluding one which fairly should be disregarded, death occurring twelve hours after admission to hospital on the fifth day of the disease), all in complicated cases; the complications being: (1) amyloid spleen, liver, and acute nephritis; (2) chronic nephritis; (3) endocardial aneurism, mitral stenosis, chronic nephritis; (4) alcoholism; (5) urethral stricture with retention of urine; (6) uræmia and chronic nephritis. Serious complications existed in ten of the cases which recovered. Double pneumonia was present in three of these.—*Med. News.*

ANTISEPTICS AT THE NEW YORK HOSPITAL.—In presenting a sketch of four months' operative work at the New York Hospital at a recent meeting of the New York Surgical Society, Dr. Weir remarked that, in spite of the many advantages of corrosive sublimate as an antiseptic, more mishaps had occurred to him in using it than were met with in the days of carbolic acid, and that with iodoform, since he has learned to use it discreetly, no harm has come at all beyond an occasional local irritation.

All fresh wounds are irrigated freely with 1:5000 or 1:10,000 sublimate solution. Catgut, either sublimated or Kocher's, is used. Iodoform when used is either dusted on the line of union of a wound,

or on the sublimate gauze or peat bag, which is placed first over the wound. No iodoform gauze (*i. e.*, made by rubbing in iodoform in a sticky gauze of any kind) is employed, except to stuff cavities. Where primary union is sought, it will, if used, often shut up the secretion and provoke trouble. Where special promptness of union is desired, he much likes to place over the wound a layer of sublimated felted spun glass, a wrinkle of Kümmel's. Over the antiseptic gauze is laid a heavy layer of absorbent cotton, and all secured with sublimated gauze and canton-flannel bandages. Drainage tubes are of rubber; they are kept in a sublimate solution, but they are dipped in iodoform dissolved in ether just before being inserted in a wound. They are removed as early as possible, from the second to the fifth day.

As to the surgeon himself and his assistants; thorough scouring of hands with soft-soap, and subsequent immersion in 1 : 1000 sublimate solution, or 1 : 20 carbolic acid solution, is resorted to. The instruments are scrubbed and boiled, and then put in carbolic solution. Sponges are washed in soft-soap, and kept in strong sublimate solutions, 1 : 2000; all soiled with bad pus of discharges are at once destroyed.

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## PROCEEDINGS OF SOCIETIES.

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### CLINICAL SOCIETY OF LONDON.

#### DISCUSSION ON NEPHRO-LITHOTOMY, FEBRUARY 11, 1887.

Dr. George Johnson said nothing could be more satisfactory than the case read at the last meeting by Mr. H. Morris. The patient had suffered for nineteen years, had had to take enormous quantities of alcohol and morphia, and yet was relieved in a short time by a simple and safe surgical procedure. He had altogether given over to surgery five cases of renal calculus, and with complete success in all the cases. Three were operated on by Mr. Knowsley Thornton, one by Mr. T. Smith, and one by Mr. Morris. One of the cases was thought by a medical man to be chronic Bright's disease, but for this opinion there was not the slightest ground; yet even after the removal of a calculus the medical practitioner remained incredulous, and hinted that the stone shown him by the patient was of fraudulent origin. The case of a little girl, eleven years of age, who suffered from pyuria and hæmaturia with renal colic in the left side was narrated. Mr. Thornton operated by the combined abdominal and lumbar method, and, strange to say, removed five stones, not from the left but from the right kidney. Had the lumbar operation been performed this case would have been set down as a failure of renal surgery. Dr. Johnson remarked that now the physician could have recourse to other measures than lithotripsy, passage of stones *per vias naturales*, and encystment before or after suppuration, with destruction of kidney, and, looking to the serious

effects and dubious prospects of success of such methods, he thought the profession and the public were to be congratulated on the new aid that was afforded by surgical interference.

Mr. Knowsley Thornton gave the history of his own practice in renal nephro-lithotomy. In 1879 or 1880 he made his first attempt at lumbar nephro-lithotomy. After making the lumbar incision a large tubercular kidney was discovered. This was drained in the loin; some relief of the symptoms was obtained by the patient for a time, but suppression of urine supervened, and the patient died. The necropsy showed that both kidneys were diseased. This operation suggested the necessity for a thoroughly exact diagnosis. In future Mr. Thornton resolved to secure greater accuracy of diagnosis by an exploratory abdominal section, and if a stone were found to make a separate clean incision in the loin for its extraction. By employing Langenbeck's incision for abdominal section, he thought it would be possible to explore the kidneys and the ureters, and thus make certain of the state of both organs, as well as of the position of the stone, should one be present. It was not until the year 1883 that Mr. Thornton had the opportunity of putting these principles into practice. In December, 1883, the combined method was successfully employed upon a woman aged twenty-three, with right renal calculus. She was in a bad state of health. Her father had died of renal calculus. The combined method was practiced; the abdominal incision allowed of the examination of the other kidney. The left hand was used to fix the stone in the pelvis of the kidney, whilst the right hand made a clean incision in the loin straight down on to the stone. The patient did remarkably well. Mr. Thornton said that surgery should be exact. The more exact it was, the more successful would be the results. The lumbar nephro-lithotomy never will or can be exact. Surgeons have even failed by it to reach the kidney. For example, both he himself and Mr. Morris had missed the stone by this method. Though the kidney tolerated the knife, still we should all agree that it should not be needlessly incised. It was doubtful what the effect of puncturing the kidney was; punctures and incisions might lead to deleterious changes in the organ; the ultimate history of cases that had been submitted to the punctures would prove of value and interest. The more common the operation of nephro-lithotomy became, the more kidneys would be unsuccessfully explored, the greater would be the mortality, and renal surgery would lose in reputation. Mr. Thornton referred to his previous position with regard to the two operations as expressed at the Royal Medical and Chirurgical Society last session, and said he now felt disposed to go further, and to assert that the combined operation was the correct one, for we should never fail to find the kidney, never cut into a healthy one, and leave the one with the stone; never damage the peritoneum, as by puncture without knowing it, and we could examine the other kidney and both ureters. The stone would be removed through a small clean cut in the loin, which was far preferable to the method of dissection, since this latter allowed of infiltration of tissues and favored the chances



of severe inflammation and septicity; and, finally, the combined method allowed of a thorough examination of the kidney, so that a decision could be come to which was the best operation—nephrotomy or nephrectomy—for the individual case. He said that Mr. Morris had objected to the abdominal exploration as being inefficient for perfect palpation, but his own experience did not bear out this belief. The whole investigation could be carried out with much less doubt and with greater safety for the patient, for a fairly accurate knowledge of the state of the other kidney would be ascertained. The only possible objection to the combined method was that it made two wounds; but counter openings were made everywhere in surgery, and why not in renal surgery also? The real objection was doubtless a dread of the peritoneum, but this was unfounded, and his own experience was that with strict asepticity the peritoneum tolerated operations as well as, if not better than, any other tissue of the body. Finally, Mr. Thornton made some remarks on the subject of referred pain, and said that in some of his cases the pain was referred to the other kidney, and might have led to the wrong kidney being operated on, with possible disastrous results. Ovarian pain was sometimes referred to the side opposite to that of the diseased ovary.

Mr. Bernard Pitts briefly referred to three cases of exploration of kidney by the lumbar incision that had recently been under his care, and said he would like to ask those who had had experience in these cases whether one might assume that a kidney was no longer active if, after incision into its suppurating pelvis, no urine escaped at any time with the discharges. He regretted that in the second case he had not removed the organ, and so possibly saved the patient, and stated that in the last case he had felt it right to advise the man to have the kidney excised, since he believed it to be useless, and likely to continue to suppurate. Owing to the enlargement of the kidney, and to the narrowness of the interval in this case between the ribs and the crest of the ilium, it would be difficult to remove the kidney from the loin; and if the abdominal cavity was opened, it would be difficult, with the suppurating sinus present, to ensure perfect antisepsis.

Mr. Marrant Baker referred to a case, which he showed as a living specimen, of a young man aged twenty-three who had suffered from hydro-nephrosis for some years before 1881, when the large cyst was opened and drained. The patient was subsequently shown at the International Medical Congress, at which time he was wearing, slung to his side, a leathern bottle, into which several ounces of urine were discharged daily. Subsequently his health began to fail, and in December, 1882, the kidney was removed; the large cyst, the boundaries of which were beyond the reach, not only of the finger, but of a long metal sound, was left, Mr. Marrant Baker thinking that any attempt at its removal in its suppurating and probably adherent condition might involve wide exposure of the peritoneal cavity, and be very perilous. He thought, also, that the removal of the secreting organ might lead in time to withering of what would become a useless receptacle. The

patient recovered well from the operation of nephrectomy, and the ultimate result justified the plan adopted, for in about two years after the nephrectomy the cyst had contracted to about the size of an orange, and was found filled by a quantity of offensive putty-like material, the removal of which with free drainage was followed by complete recovery.

After remarks by Mr. Godlee and Mr. Bruce Clarke, Dr. Burney Yeo asked the surgeons to answer the question, what were the precise indications for physicians to give up their own "unprecise" method and take to precise method of surgery. He was not so fond of precision as to be enamoured of it. At Contrexéville patients were known to pass large numbers of calculi under the treatment pursued there. This treatment consisted largely of free drinking of the waters, some patients taking as much as six quarts of water a day.

Mr. Pearce Gould mentioned the case of a woman, forty years of age, from whom he removed a renal calculus last November. The history was that fifteen years before she had struck the right loin, the blow being followed by hæmaturia lasting a week. Ever since that she had had recurring attacks of renal pain, and for five years had been conscious of a swelling in the loin. When admitted to Middlesex Hospital she presented a fluctuating renal tumor in the right loin, with pyuria. The kidney was opened by the lumbar incision, and in the distended pelvis of the kidney an oval uric acid stone was found and removed. After three days urine ceased to flow through the loin, and within a month the wound was all firmly healed. The patient was shown before the meeting. Mr. Gould referred to the statistics given by Dr. Brodeur in his work on the Surgery of the Kidney. He had found 25 cases of nephro-lithotomy for simple renal calculus, with 2 deaths—the cases of Durham and of Bennett May; 66 cases of calculus pyelitis had been submitted to operation; in 44 of these nephrectomy had been performed, 34 by the lumbar incision, with 19 recoveries, 10 by the abdominal incision, with 5 recoveries; 16 had been treated by nephro-lithotomy, 13 by the lumbar incision, with 6 recoveries, 3 by the abdominal incision, all fatal; 6 had been treated by nephrectomy, only 4 of which had recovered. These statistics, like others, were not complete, as many cases had not been recorded; but they were the most recent and the most important that had been compiled. He referred to the fact that many cases had occurred where the diagnosis of renal calculus had been made by competent observers, and on exploring the kidney no stone was detected, but the operation was followed by complete relief of the symptoms. Two such cases had occurred in his own practice. On the other hand, all must have met with cases of renal calculus which had not given rise to any symptoms during life. In reference to the abdominal operation, he thought Mr. Thornton was disposed to regard too lightly the importance of opening the peritoneal cavity, and his assertion of the tolerance of the peritoneum to operation, provided the wound was kept aseptic, applied equally to all other tissues.

Dr. S. Coupland thought that the method of treatment known as

lithontripsy might have to be practiced for months and years before any appreciable effect would be made on the size of the stones, and during all this period the patient might have to suffer from severe symptoms, whilst the kidney would be injured by the presence of the foreign body or bodies. Post-mortem experience showed how injurious the effect of stones in the kidney could be. He considered that the remarkable success of surgery of the kidney ought to encourage physicians and patients alike to resort to the simple surgical method of removal as infinitely preferable to the slow, uncertain, and possibly perilous methods of medicine.

Mr. T. Smith thought it was easy to generalize too positively, and to regard certain methods of operation as infallible in ascertaining whether there was a stone. If it were Mr. Thornton's contention that by the combined method it would be impossible to overlook a stone, he could not concur; for he knew of cases in which most careful palpation of the kidney, and even pressing it against a solid table, was unable to diagnose the presence of a stone in the removed organ. It was possible, also, that the peritoneum would not behave with equal benignity to all surgeons as it did to Mr. Thornton. He thought that Dr. Coupland took too gloomy a view of the patient's condition in cases of renal calculus. At Contrexéville, as Dr. Yeo had related, patients passed stones and led comfortable lives—nay, even lived to form other stones. A kidney that once formed a stone was very likely to form another, thus requiring repeated operation. A three weeks' course at Contrexéville might effect wonders for the patient. He had no objection to perform the operation of nephro-lithotomy; in fact, was yearning to do it. But having three near relatives suffering from renal calculi, and knowing that they had passed several stones and yet lived a fairly happy life—one relative was so little injured in general health as to be able to ride forty miles on a tricycle—he should hesitate to resort to surgery when such simple means as abundant drinking of water would effect so much relief. One of his relatives drank six pints of warm water every day, and described the effect of drinking it as refreshing and exhilarating. This patient had had plugging of the common iliac vein, and an abscess had burst into the intestine. Yet he now led a comfortable existence. As to the water, the only precaution to observe with regard to it was that it should be drunk whilst it was very hot, and on an empty stomach.

Mr. K. Thornton believed that it would be easier to detect a stone in a living kidney than in one that was removed from the body, and in which the circulation had ceased.

Mr. Henry Morris said that he should confine his remarks to the question of the relative merits of the lumbar and abdominal methods and to the point raised by Dr. Burney Yeo. As to Mr. Thornton's objections to the lumbar nephrotomy, he admitted that some of the objections might hold good, but contended that even by the combined method the stone could not be located with certainty, and that, indeed, there was nothing very advantageous that could be claimed for the

abdominal incision. The lumbar wound might heal as rapidly as possible, so that he could not concur in Mr. Thornton's remarks about the necessarily slow healing of this wound. He illustrated the rapid healing of the lumbar wound by reference to cases that had been under his care. The freedom from fatality and misfortune, the absence of any difficulty in finding the kidney, and the ease with which the various surfaces of the kidney could be palpated, were some of the advantages of the lumbar operation. What was wanted was greater precision in diagnosis, and he suspected that some cases of failure to find the stone might be attributed to this want. When the kidney was thought to be the seat of mischief, in cases of pain resembling renal colic, he thought that the directing of the attention to the prostate in the male, and to the ovary and Fallopian tubes in the female, would lessen the chances of making an erroneous diagnosis. The more accurate the diagnosis, the fewer would be the failures to find the stone. In answer to Dr. Yeo, he would say that when the Contrexéville and water drinking treatment had been tried and the patient still possessed the symptoms of stone, then the physician might reasonably, and without fear or trembling, call in the surgeon, who would in a short space of time effect far more for the benefit of the patient than would any amount of water.

Mr. Bennett remarked that the direct sounding of the kidney by freely puncturing the organ was a frequent practice at St. George's Hospital, and the results of this practice were most encouraging.—*Lancet*.

#### NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED MEETING, FEBRUARY 21, 1887.

ADDRESS OF THE RETIRING PRESIDENT, CHARLES A. LEALE, M. D.

*Gentlemen:* Again permit me to most sincerely thank you for the honor conferred on me in electing me your President for a second term, and also those who nominated me and seconded the nomination for a third term of office, in declining which I simply fulfilled a duty which I believe is absolute to one honored by being called to occupy the presidential chair. Many years of membership and observation of the workings of several organizations in this city have convinced me that a rotation in office is a *sine qua non* to maintain the general interest and develop the greatest powers of an association, and to keep in the advance the active, willing, and competent workers in the progressive field of mutual labor. This Association, now numbering its hundreds, contains among its members many brilliant intellects, gentlemen competent to adorn the chair of any medical organization; and from its roll was chosen the one not only to deliver the address in medicine at the last meeting of the British Medical Association, but also to be the President of the next International Congress, selected by the unanimous voice of his fellows. We miss his genial face to night, but

the name of Dr. Austin Flint will ever remain upon our records as the representative man, and his memory be honored, as he stood to the last, upright and powerful as the grand live oak tree of our Southern States, which only grows stronger after each hurricane, as the roots permeate more deeply the soil above which it towers in silent grandeur. Gentlemen, we have with us this evening Dr. Isaac E. Taylor, the honored President of the New York State Medical Association, and other eminent members whose duty to the Association in the near future will be to occupy this chair, and upon none would the honor be more gracefully bestowed than upon the ever-vigilant father of our State Association, Dr. J. W. S. Gouley. He has been ever with us, never has he faltered, never for a moment has he lost courage, and in him we all recognize a gentleman worthy of the highest gift. The New York County Medical Association has now completed its third year, and we who have been constantly with it since its birth have great reason to rejoice at the vast amount of excellent work its members have accomplished and at its continually increasing power. Who can ever forget the calm, dignified, yet firm and decided manner of the little group seated around that festive board, when about fifty New York physicians met for a most noble purpose, viz., to keep intact the American profession? That was a gathering never to be repeated, and it included those whose firm convictions caused them to most heartily echo the sentiments then expressed. Yes, gentlemen, around that table sat those whose responses in unison plainly demonstrated that the profession could rely on many to maintain its honored position.

Those of us who have visited the great nations of both continents, and have had opportunities to freely mix with, and converse with, the practitioners of our art, can safely assert that the American physician holds a much more important position than that held by the members of the profession in most other countries. It is true that we have no government subsidies to aid us in our scientific researches. Pensions are not allowed to those in civil life who have rendered the nation and mankind in general a service, but each man may develop as he has the opportunity and the power so to do, and live his useful life with the hope that his declining years may be spent like the Patriarch of old. It is a strange fact to contemplate, yet it is nevertheless only too true, that the first to abuse the great privileges America grants to the members of the medical profession are frequently those who refused to obey the laws and fretted the most under the despotic oppressions of their native countries, or those who left their own country at an age before abiding impressions were produced, and returned with desires to be foreign in their methods. But we find that after years of prosperity this class strongly desires to return to the portion of the profession most universally respected, and are then willing to abide by the national code. We in New York County, who have always held open the hand of fellowship to the duly qualified practitioners of all and every land, have suffered the most. Look over the list of names of those most active in attempting to ruin our National Association and

pervert its code. Who are they? Where did they receive their ethical training, and what did they do after they had caused so much confusion and sorrow? At a time when these turbulent spirits were doing their utmost the New York County Medical Association had its birth, under the guidance of those who have clung so tenaciously together, and I need mention only a few of our dead members to illustrate that our cause was just and proper.

Dr. Austin Flint had been a teacher in different colleges from Massachusetts to Kentucky, from Buffalo to New Orleans. He had mixed with the general profession probably more than any other American, and had seen the troubles and known of the causes of both failure and prosperity to many thousands of practitioners, while at the time of his death he was the leader of the medical profession in the world. Dr. Frank H. Hamilton had taught surgery in a number of American colleges for over fifty years, and had been ethical guide to vast numbers of our profession. He had restored the treatment of fractures and dislocations to legitimate surgery, and at the time of his death was the President of the New York Society of Medical Jurisprudence and State Medicine. Dr. A. S. Church, our first treasurer, was for over a quarter of a century a general practitioner in New York City, and at the time of his death the most beloved and respected physician in his neighborhood. These members of our Association were the acknowledged representatives of the highest types of professional excellence anywhere to be found, and whose memories remain as stars in the medical firmament for us to emulate. Could such men, with their broad experience and extensive professional and general culture, have unanimously done wrong, when they so firmly decided to "guard the faith," to protect and keep in unity the American profession? Did they up to the time of death continue steadfast for naught? No, gentlemen, we have abundant evidence that our cause is just, and therefore must continue to succeed. We have clung tenaciously to the right, and have kept unbroken New York's representation in the American Medical Association. The New York County Medical Association at this most critical period sprang into existence, and has ever continued to exert a powerful influence. We have not been agitated by any political influence within our ranks. We have never been required to enforce the Code of the American Medical Association, now so triumphant. The seceders have never found a satisfactory resting ground. Too many of them wanted to stamp their own personal individuality upon any standard, until many said, "We will have none of it, let each man be guided according to the dictates of his own conscience;" which might be a good plan if all men were perfect. Others have said that the code was old, and its obsolete notions could not apply to the civilization and culture of the highly educated physician in our larger American cities. Does a good law injure the just, or those who strive to do their best? Can the decalogue written by Moses thousands of years ago be improved in this enlightened period of the nineteenth century? Has the Code of Ethics of the

American Medical Association ever been equalled by any new code, or been surpassed in general excellency by any foreign code governing the medical profession?

When we compare other great nations with our own we find: Great Britain with 88,719 square miles, and in 1881 a population of 29,702,727, or 335 to the square mile; France with 202,579 square miles of territory, and in 1876 a population of 36,905,788, or 182 to the square mile; and Germany with an extent of territory of 208,434 square miles, and a population in 1880 of 45,194,177, or 217 per square mile. The United States of America, with territory extending over 3,580,242 square miles, has a population, according to the census of 1880, of 50,155,783, or 14 people to the square mile; and yet it is less than four hundred years since the first white man saw America, which has now grown to a harmonious and mighty nation, and is still governed by the original constitution, with slight modifications to conform with the changing times. There are at the present time more than a million and a half of people living within the boundaries of the jurisdiction of the New York County Medical Association. But you may ask, Why make all these comparisons? My answer is that with such a varied country as ours, extending from Alaska to the Gulf of Mexico, and from the Atlantic to the Pacific, with members of the medical profession educated wherever medicine is taught, coming from all nationalities, and treating the most ignorant as well as the most cultured, there must be some general guide, and nothing yet has ever been found to surpass that acknowledged by the American Medical Association and by our own State and County Associations. We claim that, although some may abide involuntarily by this written code, yet its principles are necessary and its rules of great value to a large number of our scattered professional men, and that it has done much to elevate the standard of the American physician. Nor are the members of the profession alone benefited, for among those who receive the best results are those who place their confidence in them.

From the time of its organization the New York County Medical Association has never failed to hold its regular stated meetings, and on each occasion to present its members one or more papers of great professional interest. All our proceedings have been of that scientific and practical character to most benefit our associates, and we may recall with pride the fact that every one of our papers has been printed *in extenso*, while the discussions upon them have been fully reported. Your president has endeavored to present the varied talent of the members, and at all times has invited and desired the most general discussions and criticisms. Different minds often see the same conditions in different lights, and therefore arrive at different conclusions. One means of surgical procedure may, in the hands of one surgeon, be far more successful than when employed by another equally as skilful. One therapeutical chart may be the absolute guide of one physician, yet prove less efficacious in the hands of another. The medical and surgical arts are not fixed sciences, and the longer we

live and the more fully we realize the fact that man is finite and mortal, the more should we seek after the unvarnished and absolute truth. Then we become more charitable, and judge less harshly the motives and actions of other professional workers. The more we mix with our fellow men, and the more we learn of their shortcomings, their weaknesses, their trials, and their triumphs, the more do we look with mercy upon the weak and erring. The physician calls to his aid resources from every sphere and condition. The minerals beneath the earth's surface, the entire range of the vegetable kingdom growing upon the soil, the gases extracted from the atmosphere, and the mysterious, imponderable, but mighty forces of heat, light, electricity, and magnetism. To all these the physician may lay claim and make pay tribute to forward the healing art. We are restricted to no one, to no law compelling us to use a larger or a smaller dose than we know to be just and proper. Each may be guided by the results of his own experience. While a little boy I became a close observer of nature, and one of my first experiments in vegetable chemistry was to observe the effects of certain chemical and coloring substances upon growing plants. I can never forget my childish delight at seeing the wonderfully rapid growth of a geranium plant after I had placed a small piece of carbonate of ammonia in the flower-pot, beneath its roots, or my abject sorrow and distress when, after a few days of excessive growth and verdure, I saw the same plant wither, fade, and die. In later professional life many opportunities have occurred enabling me to observe the action of the same principle upon human life. Therefore I would say to our associates, Do not be too urgent for an unhealthfully rapid growth, but in seeking new members choose the material and endeavor to build the structure for lasting usefulness.

In conclusion, I may be permitted to say that ever since you honored me as your president it has been my aim to do my utmost to advance the interests of the Association by securing the best material for our members, and to do all within my power to draw out the experienced, the ardent, and the modest workers. No partiality has been shown, and all have been equally welcome. But the position, especially during the second year of our existence, was not an easy one to fill, and I freely confess that the task was severe. I never awoke in the morning without a thought for the Association. I never attended a meeting without great anxiety, and even when the meeting had most successfully terminated, I seldom lay down at night without some cause of solicitude. With all this care, some one may feel as though he had been neglected. Some word may inadvertently have slipped at the wrong time, but the motive has always been for your good, and for my imperfections and errors I must ask your kind consideration. Our thanks are due to the managers of the Carnegie Laboratory, who have placed at our disposal this excellent hall, together with the scientific apparatus necessary to illustrate our proceedings, and also to the officers of the New York State Medical Association for the use of their rapidly growing and valuable library. The monthly collations given



during the past year have been a pleasing feature of our re-unions. It is not well even for medical men to abstain from the social meetings of their fellow-workers. The tendencies in large communities, in the intense struggle for existence and advancement, is for medical men to keep aloof from the friendly gatherings of their profession, and for each to walk in his own allotted solitary path. There are many instances where the co-worker has daily passed unrecognized his near neighbor, until perhaps, after many years, by just such assemblies, the two are brought into direct contact, when each discovers how much has been lost by the years of enforced estrangement. It can safely be said that the practice of the profession of medicine tends to make men more charitable to the faults of mankind, and also makes them more inclined to hold in admiration the noble traits of the truly deserving. But to become familiar with these qualities the social meeting is necessary. To the editors of the *New York Medical Journal*, the *Philadelphia Medical News*, and GAILLARD'S MEDICAL JOURNAL we tender our sincere thanks for so kindly reporting our proceedings, and for the publication in full of all the papers read before the Association. I think I may safely state that they have gained much by our endeavors to reciprocate. No one can help another in a just cause without in return, in some measure, being materially benefited. To all those who have honored us by their scientific contributions, to those who have participated in our discussions or presented pathological specimens, we offer our grateful acknowledgments. Many thanks are due our esteemed treasurer, Dr. Edmund S. F. Arnold, and we can all bear testimony to his self-sacrificing, continuous, and efficient work. By his ability our finances have always been kept in excellent condition, and now we have a balance of several hundred dollars in the treasury. To Dr. P. Brynberg Porter, our excellent recording secretary, and to Dr. Glover C. Arnold, the systematic, punctual, and ever-willing corresponding secretary and secretary of the Executive Committee, we also owe a debt of gratitude. Gentlemen, I feel it a duty on this anniversary occasion to keep verdant the name and memory of our former president, Dr. William Detmold, whose scientific attainments, general culture, and dignified manner did so much to advance the interests of our Association. At the time Dr. Detmold was elected president he had been in active professional work for over fifty-five years, and the fruits of his vast experience were freely given to benefit our associates. To each and every member of our Executive Committee we offer our cordial thanks. Their attendance and advice at the Council Meeting have been highly appreciated. And, finally, I refer to the name of Dr. John Shrady, our vice-president, the ripe scholar, the excellent practitioner, who has made himself familiar with the hardships and the pleasures, the sorrows and the joys, of a good physician. Personally, I have known of Dr. Shrady for nearly twenty years, and can congratulate the Association on their choice, as he brings to the office I now vacate that experience in general professional work so necessary to one who is to act as our guide. Gentle-

men of the New York County Medical Association, in retiring to your ranks it gives me great pleasure to introduce to his new position your president, Dr. John Shrady.

ADDRESS OF THE PRESIDENT-ELECT, JOHN SHRADY, M.D.

*Fellows of the New York County Medical Association*: In assuming the position of the presidency of this Association, to which your preferences have assigned me, I cannot but be flattered by the favor. Still, my fears are that disappointment may result, for many are the responsibilities entailed, and much the work required. With most of us time is the master of the situation, and the many inroads made by exacting duties prevent the attainment of an ideal. Not much can be done without your aid and your self-sacrifices for the common good. As an association you cannot be charged with remissness in the past, and let it be your pride to maintain the honors won, and by your zeal to strive for the greater which may be in store. Let all of you be evolutionists in the best sense of the term. You have heard predictions of impending dissolution made, but they have inspired courage, rather than begotten terror; to use a current phrase, they have merely put you upon your mettle. As an organization with provisions ensuring justice to all and an equal privilege of representation, why should not every member do his utmost of work? Why should not the voice of the most modest be heard in debate? Why should not the youngest wield his maiden-pen? There is not a Fellow present who may not present the most hackneyed subject in some new light, and stimulate a discussion which can hardly fail to add something to our common stock of knowledge. Let us all, then, do what we can, and not copy after the over-prim mother who secludes her infant because of the want of the conventional long, white, embroidered robe. Above all, let us remember with Carlyle that "a life of ease is not for man, nor yet for any god." Do not, then, allow procrastination to rob us of our endeavors, and "let not I dare not wait upon I would." Too much deliberation and too much painstaking care regarding the presentation of subjects—nay, more, too much compilation, will serve only to interrupt the functions of this organization. Each member is, of course, supposed to have his ideal somewhere in the mid-ether, but what avails the misty vision if no other is attracted to it? Such a tendency to over-refinement but blocks the way to all truly progressive work, and should have no place in a practical association like our own. As an organization in accord with the National Association—which is presumed to reflect the general policy of the profession in America—our growth has been rapid and healthful. We profess to be servitors of no sinister motives or unseemly ambitions. We desire mutual improvement, and expect every Fellow to contribute his part. We must have an individuality in our membership, untrammelled opinions, and an arena for debate, with a strife for the truth, and not for mere victory. Medical politics—banish the term—we have ignored; our intent being to main-

tain a name for honest scientific work, believing that life is too short for aught else. Some of us, in the past, may have been subjects of newspaper lampoons and unjust representations, to which we have patiently submitted, but our spirit has been unbroken and our faith in the future unshaken. Happily, our persecutions belong now to the retrospect, and they have only stimulated us into activity. We have instituted many reforms in methods which, for the sake of the profession at large, we are glad to see copied. We have cultivated the largest charity, with the belief that the ground which we now occupy needed to be held just for the purpose that it is; in other words, that the general practitioner required a means for the satisfying of his needs. Yet, what is theory without practice? yearnings without strife? desires without effort? Our life is one of movement; its aggressiveness may be remorseless, but it is nevertheless effective. Not all, but something, is won. I do not desire to preach a homily upon the value of the present, when sermons and proverbs on this subject have come down to us in every tongue from the very dawn of civilization. We need not the wisdom of the sage so much as the perseverance of the workman. To us, as to all others, the present has been given wherewith to shape the future, and let us take care that we do not become mere driftwood upon the stream of time. Let us not defer our effort until everything is ready, expecting perfect work and unchallenged reputations. It is related of a general now deceased, whose name has shed lustre upon our arms, that when he called a council of war on the assumption of his command, he requested the opinion of his highest officers regarding the propriety of prompt hostilities. One said that owing to the condition of his quartermaster's department it would be impossible to move for a fortnight; another that he was short of ammunition; another, that his cavalry was in a pitiable plight; another, that his commissariat needed re-organization; and another, that recruits were needed to bring his division up to the proper fighting standard. The only reply to all these objections was, "We move to-morrow by daybreak." And when the morrow came the army moved on to victory. The lesson is obvious.

Of the many important topics which might be taken up in an inaugural address like this, I select one or two for brief discussion, more by way of suggestion than with any expectation of prompt redress of grievances, if such they may be. In the first place, I beg to call your attention to the coming International Congress, to which every Fellow, in common with the profession at large, is expected to give his moral support. Happily, the difficulties which beset the preliminary committees, and which were exaggerated with a purpose, have been overcome. Individual and sectional jealousies have been allayed, and the unduly ambitious have been rebuked by the prompt acceptance of resignations. The embarrassments which were supposed to forebode defeat (and I regret to say many were unpatriotic enough to desire it) have only ended in the attainment of harmony of action. Some needed the lesson that there was to be no background for the

display of incandescence, and that sometimes even the electric light may cast grim and annoying shadows. Our medical republic is now at peace, and amply able to receive visitors from abroad, and to render their stay at least agreeable, if not profitable. This Association takes to itself no small honor that an active member of its body should have been chosen to preside over the deliberations of the coming Congress. The great destroyer has stricken down our own Flint, who would well have graced the position and won the respect of any peer in the medical realm; but he departed, not without imbuing with his own conciliatory spirit the deliberations destined to shape the policy of the great Convention. Happily his advice of self-abnegation was heeded, and his legion of friends, most of whom had "borne the burden and heat of the day," were kept loyal to the duty assigned them by the profession on this side of the Atlantic. At the present, it may be said that the Congress will, in every sense, be international, and that it will not only be under the patronage of the Government, but sustained by the representative physicians of the republic, who have striven for the honor of their chosen calling. Our friends from abroad may be assured of a hearty welcome, and the renewal of many friendships. As for ourselves, we may unhesitatingly commit the honor of our profession to those chosen to maintain it, being well satisfied with the policy of the organization committee, of equal rights to all. Here, certainly, there should be no rule or ruin policy, and naught that should bear the remotest resemblance to a *coup d'état*, which, even in the political world, is relied upon only for a temporary success.

Much of late has been written in the journals regarding the overcrowding of the profession, and perhaps we physicians are, for the present, somewhat in excess of the demand. Many have been the remedies proposed, the most of them visionary. Perhaps each one thinks that his neighbor, rather than himself, should be placed upon the retired list, or seek a new field for the exercise of the talent so sadly misused; but the fact remains, and we must needs accept the situation with the best grace possible. It has become a foregone conclusion that no legislation can control the matter without an infringement of the rights of the individual, and it may be, indeed, that the integrity of the profession itself is not at all jeopardized, as there is presented a larger field from which to cull. With that love of natural ease which lies at the root of even national decay, there is scarcely a man who would not gladly dispense with competition, and consent to wear the laurels of victory without the hardships of a battle. Hence there may be a prating about a higher education, without a satisfactory definition of what it really is, or the consciousness on the part of the constituency of its advocate that he is the happy possessor of the prize, any more than the lusty shouter of "Stop thief!" may be the most honest man in the crowd. It has occurred, however, to more than one that our enemies are rather within than without, and that not so much is to be feared from the ignorant as from the unscrupulous. That the law operates through

penalties is conceded, but it cannot make morals—at least so long as mere punishment is to be avoided. Charlatanry is no alien to our own ranks; it comes to us in its protean liveries, and against its devices no legislation is proof. Why, therefore, need we expend our virtuous indignation upon the poor idiot, with his dupe or two, while his more dangerous rival stalks in our midst? As well might the merchant unceasingly watch his shop windows, and neglect his part in the business world, which is to bring him a competency. Thus, then, if there be any redress, it is to come from the higher law which must emanate from ourselves—we are to be the exemplars. Our good brother “who was sent for too late,” or who is “surprised that so few are abreast of the times,” or who orders some unattainable alkaloid, may be much more of a foe than the “lean apothecary” who tells his patron that syrup of ipecac is a good emetic, sometimes used for croup. Were I to pursue this line of thought a little further, I might refer to the multiplication of medical charities, and might inveigh in set terms upon the specious appeals to the public, that medical aid is much too frequently denied the poor by ourselves as a class. I have never known the sought-for succor to be refused by any of our guild—nay, more, I can recall (and my experience is by no means unique) many a service rendered under great personal hardship without even the cheap compensation of a “God bless you.” The great, growling, many-headed public knows this, and but seldom hesitates to peremptorily pull any door-bell, at any time from midnight to dawn, for it has little expectation of a rebuff. The Night Medical Service, which opened its career by flaunting this aspersion upon our fair fame, has already been relegated to oblivion—its statistics did not require to be written. Were the allegations capable of being sustained, there would have been wide columns of figures and a heavy chorus of benedictions. But the public did not require the charity, and, therefore, it was suffered to die of inanition. It received its aid, as has ever been the case in the past, from the quiet, patient, unassuming practitioner who, even when physically ill, is never guilty of throwing his responsibilities upon his neighbors. His fees, precariously gained, though honestly earned, may not enrich, but they certainly do not fret his conscience. It is he who deserves the kindest consideration of all; he is the hero, at least, whom God knows and has marked for more than a mortal crown.

Let me lift the finger of caution against the tendency towards centralization which many of us seek to strengthen in the State by too many appeals for the redress of fancied grievances. Let us not forget that the functions of the common law lead farther and farther away from individualism, and that if we are jealous of our privileges we should not be too ready to offer them for barter. It may not appear upon the face, but it is certainly a fact that, were law-making to cease at this very instant, there would be principles enough remaining upon which to carry on the business of the world. Special legislation at the best violates some inherent right of the mass, and is at the least a pass

at liberty ; the individual gains at the expense of the community, or it may be the reverse. I am conservative enough to maintain that our statute book of fifty years ago would have been adequate for the redress of any and all our grievances ; but, of course, I am not to be understood as referring to enactments having in view the maintenance of the public health. Then, again, let me mention our methods of selecting our rulers more on account of their flamboyant oratory than for their solid attainments ; it being too often the case that if talent were prominent, it must have been simply an accidental disqualification. The popular clamor regarding corruption is too earnest and deep-voiced not to be without suspicion. Indeed, the suspicions of the community have prevailed to such an extent that many have begun to look askance even at an alderman ! Can the river rise higher than its source ? Is not our fealty given to justice rather than to law ? Why should we have the singular spectacle of a promulgated ordinance, and a license for its violation ? For these reasons this Association has eschewed politics in every shape and form—believing that the Government itself is run by the momentum of the people, and that science is quite safe enough, so far as privileges are concerned, in the hands of its own disciples ; that the tendency even of despotism is to non-interference with peaceful pursuits. The State is supposed to yield nothing without a compensation, so that for every granted privilege the petitioner in some way parts with his individual liberty. The recipients, too, may be most generously amplified under the guise of extending the largest liberty and meting out the most exact justice. Hence, too, a precedent is established and a legal principle embodied which is destined to remain forever as a menace upon the Statute-book. Besides all this, as earnest students of our art, we are expected to have no time to waste upon political machinations to gain any object, however worthy. The pool is too dirty to be often disturbed. Not all of us can be discoverers of great principles or revolutionary facts, but we may honestly improve the legacies bequeathed by others, we may add thereto, we may improve, we may sift and winnow out, and thus become true benefactors of humanity. How few will there be to survive a generation more than as a tradition. Therefore, let us be practical, content with Emerson “ to do that which lieth nearest at hand,” and let us do our whole duty in the spirit of the broadest charity, glad to add to our brother’s stock of knowledge, “ as giving and yet receiving.” Let us not enviously belittle another’s glory, and, all our work honest and square, let us strive for character rather than for reputation.

## ORIGINAL CORRESPONDENCE.

## INTERNATIONAL MEDICAL CONGRESS.

WASHINGTON, 1887.

SECTION ON MEDICAL CLIMATOLOGY AND DEMOGRAPHY.

291 P. O., VALLEJO, CAL., MARCH 16, 1887.

P. BRYNBERG PORTER, ESQ., A.M., M.D.

*Editor-in-Chief* GAILLARD'S MEDICAL JOURNAL.*Dear Doctor :*

I beg to enclose, herewith, scheme of subjects for papers, etc., proposed for this Section at the approaching session of the International Congress, to which, on the part of the Section, I most cordially invite you. In the absence of any Section especially concerned in medical journalism, this may almost claim to be the appropriate rendezvous of medical editors, four of whom from Europe it boasts as officers, viz.: Victor And'houi, *Thérapeutique Contemporaine*; Jno. Wm. Moore, of the *Dublin Journal of the Medical Sciences*; Prosper de Piëtra Santa, of the *Paris Journal d'Hygiène*; and Berthérand, of the *Journal de Médecine et de Pharmacie*, who is also founder and secretary of the *Société Climatologique d'Algèrs*.

I have every reason to anticipate a successful meeting. The American Climatological Association has given me the most generous support, no less than twelve of its members having accepted office in the Section, and I am very highly gratified at the long list of distinguished foreign Vice-Presidents.

Will you kindly call attention in the JOURNAL to the contemplated work of the Section? I have purposely made the topics indicated comprehensive to permit the widest latitude of authorship.

With assurances of personal esteem, believe me

Very truly yours,

ALBERT L. GIHON,  
*President Section.*

## NINTH INTERNATIONAL MEDICAL CONGRESS.

WASHINGTON, SEPTEMBER 5, 1887.

SECTION ON MEDICAL CLIMATOLOGY AND DEMOGRAPHY.

*Scheme of Subjects for Papers and Discussions.*

I. Importance of the study of Climatology and Demography in connection with the Science of Medicine.

II. What constitute determinate climatic characteristics.

III. The effects of climate on the human race as manifested in local demographic conditions; and of the several elements of climate as

shown by coincident meteorological, morbidity, and mortality statistics.

IV. The question of Acclimation.

V. Relative advantages of mountain and seaside resorts for recuperative purposes, and as palliative or curative in certain diseased states of the system—segregation *versus* aggregation of invalids at health stations.

VI. The therapeutic value of natural mineral waters.

VII. Accurate records of prevailing sickness in any community a necessary factor in any comprehensive system of *vital statistics*. The responsibility of Governments to amply supply their people with the climatic and vital statistics of their respective countries.

VIII. *Collective Investigation*, apart from aiding the study of the Natural History of Disease, as contributive of numerical data having a demographic bearing, 1, as to the kinds and proportions of prevailing diseases; 2, as to the absolute amount of daily sickness and consequent loss of time, occupation, etc.

IX. *Medical Nomenclature* considered in its practical relations to Vital Statistics.

X. The melioration of demographic conditions effected by *Preventive Medicine*. Influence of the physical well-being of a population upon its economy. Offences against moral and civil law in their medical relations to demographic circumstances.

Those who wish to present papers before the Section must advise the Secretaries before the first of May, 1887, and furnish them with brief abstracts of their papers before the first of June.

Attention is called to the following Rule of the Congress: “*In the meetings of the Sections, no member shall be allowed to speak for more than ten minutes, with the exception of readers of papers and those who introduce subjects for discussion, who may each occupy twenty minutes.*”

Those who intend to be present at the sessions of the Section, and especially those who desire to take part in the discussions, will confer a favor by communicating with the President and Secretaries, who will be further gratified at receiving suggestions as to the work of the Section.

ALBERT L. GIHON, M.D., *President*,

P. O. Box 291, Vallejo, California.

CHARLES DENISON, MD.,  
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au Sécrot. d. l. Soc. Climatol. à Algèrs, Algeria.

BR. A. WERNICH.  
Regier u. Mediz-Rath, Coslin, Germany.

} *Secretaries.*



## A CRITICISM.

*To the Editor of GAILLARD'S JOURNAL.*

*Dear Sir:* The medical profession cannot afford to be in error, nor should the press perpetuate an error. I see every author, every editor, affixing the title of A. M., (if he is entitled to it), first, and M.D., LL.D., etc., afterwards, to his name. Is this right? I say emphatically no. Chronologically, and in point of attainments, no! We first receive a literary training and obtain the distinction of A.B. Then we study medicine and receive M.D., and because of these two distinctions we are entitled to A.M. Hence it is wrong to place A.M. before M.D.

J. M. MEYER, A.B., M.D., A.M.

*Danville, Ky.*

[The practice which our correspondent condemns certainly has the sanction of custom, which in things of this kind carries with it considerable weight; and it would seem to be largely a matter of personal taste which degree one affixes immediately after his name. While it is perhaps true that the majority of physicians of collegiate education receive their M.D. before their A.M., quite a large number receive both of them at or about the same time, and it is a fact that many really get their Master's degree first.—ED.]

## REVIEWS.

A MANUAL OF PRACTICAL THERAPEUTICS, CONSIDERED WITH REFERENCE TO ARTICLES OF THE MATERIA MEDICA. By Edward John Waring, C. I. E., M.D.; Fellow of the Royal College of Physicians, London; Surgeon Major (Retired) in Her Majesty's Indian Army. Edited by Dudley W. Buxton, M.D., B.S., London, Member of the Royal College of Physicians, etc. Fourth Edition. Philadelphia: P. Blakiston, Son & Co. 1886. Price \$3.00 in cloth; \$3.50 in sheep.

Waring's Therapeutics needs no introduction to the medical profession. For over thirty-two years it has been considered a standard manual, and in each succeeding edition the effort has been made to present the latest advances in this department; while, by judicious condensations and omissions, the size of the volume has been kept well within the limits which a work of this kind ought not to exceed. In the present edition the work of revision was commenced single-handed by its venerable and distinguished author, whom the infirmities of advancing years, notably decreasing powers of vision, from cataract, obliged him to desist, and by the advice of the eminent therapist, Dr. Murrell, he secured the services of Dr. Buxton, as-

sistant to the Professor of Medicine at the University College, London. To the latter, consequently, was entrusted the completion of the work, with general instructions to bring the contents up to date, and at the same time to reduce the bulk of the volume ; and it may be said that Dr. Buxton has proved himself to be well fitted for the task assigned him, which required no little tact and judgment. In addition to appropriate notices of all the numerous new remedies which have seemed entitled to consideration, he has contributed more extended articles on Mineral Waters, Malt, Pepsin and Peptonized Foods, Oleic Acid, and the Salicylates, Nitroglycerine, the Nitrites and Sulphites, etc.

The introductory chapter is a masterpiece in its way, comprising, as it does, within a very brief compass a general study of therapeutics which is admirably written and of the highest practical value. A single passage will illustrate its character : " Medicines soon obtain the credit of being a specific against diseases, but it is dangerous to allow oneself to be influenced by the so-called specific characters of a remedy. Although it is assumed, upon popular theory, that with every bane there is an antidote, yet so complex are the manifestations of disease that no remedy exists which will infallibly cure any given disease. For instance, the salts of iron will unquestionably benefit and even cure anæmia in most cases ; still no skilled therapist would resort to iron until he had assured himself of the healthy condition of his patient's alimentary tract. And, again, the salicylates are justly termed specifics in the pyrexia of acute rheumatism, and yet in a certain number of cases they utterly fail. It may safely, then, be said that each case of disease must be studied by itself, and a drug or drugs be selected which will not react upon this or that diseased organ, but which will promote the return to the normal of the entire organism."

In concluding a review of this latest edition of the manual the *Lancet* very judiciously says : The influence of Dr. Waring's long Indian experience and extensive reading is everywhere noticeable, the work being as scholarly as it is practical. We can only repeat that in its present form it is essentially a book for students, and that its production reflects the greatest credit both on the author and the editor. The veteran therapist who gave us the " *Bibliotheca Therapeutica* " has added another leaf to his laurels, and we trust that his excellent " *Manual of Therapeutics* " will pass through many more editions under his care, and long maintain the high reputation in which it is deservedly held.

No notice of this work would be complete without a reference to the very copious and satisfactory Index of Diseases, occupying over sixty pages, which precedes the Index of Drugs at the end of the volume.

#### A TEXT BOOK OF MEDICINE FOR STUDENTS AND PRACTITIONERS.

By Dr. Adolf Strümpell, formerly Professor and Director of the Medical Polyclinic at the University of Leipsic, Translated by Permission from the Second and Third German Editions by Herman F. Vickery, A. B., M. D., Physician, to Out-Patients, Massa-

chusetts General Hospital, etc., and Philip Coombs Knapp, A.M., M. D., Physician to Out-Patients with Diseases of the Nervous System, Boston City Hospital, etc.; With Editorial Notes by Frederick C. Shattuck, A. M., M. D., Visiting Physician to the Massachusetts General Hospital; Instructor in the Theory and Practice of Physic, Harvard Medical School, etc.. With One Hundred and Eleven Illustrations. New York: D. Appleton and Company. 1887 Pp. xx—981.

The remarkable success which the Practice of Dr. Strümpell has had in Germany has led to its presentation in a suitable form to American readers, and the work constitutes a very valuable addition to our professional literature. This translation was made from the second German edition; but after it had been sent to the press in May last it was learned that a third edition of the second volume, on nervous diseases, had appeared in Germany, and consequently the manuscript was recalled by the translators, who incorporated into it all the changes and additions that had been made in that edition. Among these, it may be noted, was a chapter on general paralysis of the insane.

In two respects this work is of special value, viz., for the attention paid to the subject of bacteriology in connection with the various diseases treated of (the results of all the latest researches in this department up to the time the text was written being incorporated in it); and for the exhaustive and high scientific character of the section on diseases of the nervous system, which occupies in all some three hundred pages. Throughout the work it has been the author's endeavor not only to enumerate the facts of clinical experience with sufficient accuracy, in doing which he not unfrequently presents the results of his own observation; but also, and especially, to make the reader comprehend the development and the internal connection of the different morbid phenomena by constantly referring to the data of general pathological and anatomical research. Its weak point, no doubt, is its therapeutics; but still, as a whole, the work, as has been intimated, is one of high value, and it is a significant fact that it has already been adopted as a text-book in the Harvard Medical School.

The translators deserve great credit for the admirable manner in which they have performed their work, since, while preserving the exact meaning of the original, they have avoided the too literal presentation of involved and uncouth German idioms which not unfrequently mars translations from that language, and given us a clear and elegant English. In regard to the nomenclature of physical signs of diseases of the lungs they have departed somewhat from the original, in order to have the nomenclature conform to that proposed at the meeting of the American Medical Association in May, 1885, by the late Dr. Austin Flint, who was chairman of a committee appointed to prepare such a nomenclature at the International Medical Congress in 1881. The metric system not being in active use, they have substituted for it approximate equivalents in the old system; but in every instance retaining the author's figures in parenthesis.

The notes of the editor, Dr. Shattuck, are made with judgment and good taste, and add no little to the practical value of the work as a text-book for American readers. With the latter's sanction the translators have also added a few notes to the section on nervous diseases, embodying the results of investigations made subsequently to the appearance of the original. The author makes no mention of sunstroke, yellow fever, and dengue, which are almost or quite unknown in Germany, and in order to make the work more complete the editor has supplied short notices of these affections. The illustrations, the greater number of which are to be found in the section on nervous diseases, are of material service in elucidating the text.

REPORT OF THE SURGEON-GENERAL OF THE NAVY FOR THE YEAR 1886. Washington: Government Printing Office.

In this report Surgeon-General Gunnell invites special attention to the condition of the Medical Corps of the Navy. Its vacancies, he says, have not been filled for several years; resignations, deaths and retirements having depleted it more rapidly than candidates have been attained. The Bureau has not been willing to lower the standard of requirements; and it is impossible, with the present inducements offered, to find young medical men possessing the necessary qualifications who are disposed to become medical officers of the Navy. The Army Medical Department has qualified applicants far in excess of its needs, attracted by better pay, well-defined rank, and more satisfactory professional position. Since 1870 more than thirty young medical officers have resigned, (three of them to enter the Army Corps), and Dr. Gunnell very properly urges that prompt measures be taken to increase the advantages and improve the conditions of the department.\*

During the year the deaths per thousand of mean strength has been 5 +, and this is an increase on the average mortality, which has been 4.40 per thousand for the past fifteen years. Of the epidemic influences affecting the mortality of the force afloat, the appearance of cholera upon the *Ossipee* and *Enterprise*, both vessels on duty on the Asiatic station where the disease prevailed extensively, is to be noted. Of the total cases, 9 in number, 3 recovered, and 6 died. Yellow fever appeared upon 6 vessels, and of the total cases, 16 in number, 9 recovered and 7 died. Among other matters of interest contained in the volume are reports on the various vessels, stations, and naval hospitals, the report upon the Museum of Hygiene at Washington, by Medical Director T. J. Turner, and contributions on kola as a therapeutic agent, by Medical Director Alfred L. Gihon, and Medical Inspector A. Hudson; on typhlitis with partial constriction of the bowels, followed by peritonitis, perforation, and death, by D. O. Diehl; on the use of paraldehyde in insomnia, by Dr. J. R. Tryon; and the use of opium in fevers, by Medical Director F. M.

\*As confirmatory of the Surgeon-General's fears for the the future efficiency of the Navy Medical Corps it may be stated that as an examination is now in progress before the Medical Board of Examiners in Philadelphia of applicants for appointment as assistant surgeons in the navy, although there are ten vacancies, only four physicians have appeared for examination.

Gunnell. Dr. Abel F. Price gives a detailed report of the outbreak of cholera on board the *Ossipee*, in which he states that there seems to be no doubt that the contagion came on board the ship while at Nagasaki, Japan, from the disease existing at that place. The means of contagion, however, was not ascertained, and it could not be considered that the men who were first attacked, and who died, contracted the disease on shore, for no one of them was on shore for at least six days preceding the outbreak.

A COMPEND OF SURGERY FOR STUDENTS AND PHYSICIANS. By Orville Horwitz, B.S., M.D., Demonstrator of Anatomy in Jefferson Medical College, etc. Third Edition. Thoroughly Revised, Enlarged, and Improved. With Ninety-one Illustrations. Philadelphia: P. Blakiston, Son & Co. 1887.

This little work belongs to the series of Quiz-Compendis, issued by the Blakistons, which are based on the most popular text-books and lectures of prominent professors, and revised from time to time, so that they may embrace the latest additions to medical science. Dr. Horwitz has done his work very well, and has gone over nearly the whole field of surgery in a very concise manner; though the matter is necessarily condensed to such an extent that the book can only be of value in the way of suggestion, and as an aid to the memory, and not, of course, as a substitute for the ordinary treatises. The compend is, in short, a good outline synopsis of modern surgery, and the illustrations, which are taken, by permission, from various standard works, are well executed.

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## MISCELLANEOUS.

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IS IODOFORM ANTISEPTIC?—The widespread employment of iodoform as an antiseptic dressing may receive a check should the conclusions arrived at by MM. Heyn and Rovsing of Copenhagen be confirmed. These observers have (*Fortschritte der Medicin*, 1887, No. 2) been making experiments with iodoform to test its value as an antiseptic, which they point out is so generally accepted that the surgeon does not hesitate to employ a non-sterilized spatula or to insufflate ordinary air with the powder, procedures which he would shrink from employing were it not for the belief that the iodoform can destroy the germs adhering to the one or suspended in the other. Yet as iodoform is rarely used to the exclusion of other antiseptics (as carbolic acid or mercuric chloride), there is never much opportunity, clinically, of testing its germicidal properties. Mikulicz, in 1881, tested the action of iodoform upon putrefaction, but with no definite result; and Rummo's experiments in 1883 were complicated by his use of oil of turpentine as a solvent for the iodoform. Meyer found in one case of abscess that iodoform had no effect in reducing the virulence of the pus, and in another that it had a slight action. The results of the research pursued by MM. Heyn and Rovsing sur-

prised themselves. Acting on the theory that it is through liberation of free iodine that iodoform enjoys its germicidal reputation, they prepared solutions of iodoform in olive oil and in serum, and, having sterilized them, mixed them with culture media, and studied the effect of cultures of various bacterial organisms in these mixtures, as well as under iodoform powder alone. They also experimented on rabbits by mixing inoculation fluids with iodoform. The details of the experiments need not be reproduced here; suffice it to say that in no case did the presence of the substance interfere with the development of micro-organisms. So that they conclude that as an antiseptic its employment in surgery is valueless. But, more than this, its use is dangerous, for, as two of their experiments proved, iodoform itself may contain pathogenic micro-organisms; and even if all care be taken to purify it, yet it may become the medium of the conveyance of pathogenic germs introduced into it through the spray or spatula. We trust that these experiments, which have received such prominence, will be repeated, for, if confirmed, we can imagine that the use of iodoform (apart from any other antiseptic) would in certain circumstances be serious. It would be deplorable if in any such case the material upon which the surgeon relies to protect his patient from bacterial invasion should prove to be the means whereby such invasion occurred. The writers of the article themselves advise that before using iodoform (which is valuable as a dressing on other grounds than as an antiseptic only) it should be disinfected in sublimate solution.—*Lancet*.

THE "INCUBATOR" OR "ARTIFICIAL MOTHER."—The chances of natural death in all newly-born children are, it is well known, greatly increased in proportion to their immaturity, and though a few cases have been recorded in which children born at the sixth month have survived, they are so rare that they scarcely affect the generally received rule that children under seven months will probably not live. Of late years efforts have been made to apply to these premature children those methods which have proved so successful in this country and elsewhere in the artificial rearing of chickens. At maternity hospitals, in large towns such as Paris, Dublin, and Edinburgh, specially constructed machines have been for some time in use for this purpose. The apparatus so employed is known as an "incubator;" that term, however, is a misleading one, for an incubator is used for hatching, a process entirely distinct from the rearing of the brood so produced. A more suitable name would be that by which it is designated in poultry phraseology, namely, "the artificial mother." Not long since, a patient in the out-door department of the Glasgow Maternity Hospital was delivered of triplets, and, as the children were premature—probably about six and a half months—they were immediately removed to the hospital, where they were placed in an incubator, which had recently been received from Paris. This apparatus, which was invented by Dr. Auvar, of that city, is of simple construction, consisting of a wooden box, divided into two compartments, an upper and a lower, which freely communicate with one another. In the upper one

the premature children are placed, while the lower is occupied by hot bottles, which serve to raise the temperature to the requisite degree. The inlet for fresh air communicates with the lower compartment, and the cold air passes over the hot bottles, and is thus warmed before reaching the children; the outlet for vitiated air is connected with the upper compartment. The air in the incubator is kept moist by means of a wet sponge, which is placed in the lower compartment, and a thermometer is placed inside for the regulation of the temperature of the air contained in the upper compartment. Of the three children treated in this incubator, one died at the end of the first day, and a second one at the end of the sixth day. The third survived, and left the hospital with the mother at the end of ten days. Since then, it has been ascertained that it continues to thrive. With children so young, and with the inherent delicacy that belongs to all cases of plural births, this, the first attempt made at the Glasgow Maternity Hospital to rear immature children, cannot be regarded as a test case, but the experience gained in the matter has, we understand, been of great importance, as it has revealed several defects in Dr. Auvard's apparatus. It requires constant attention to keep up the temperature, while its size is quite inadequate to furnish the necessary amount of air required for the healthy rearing of the child placed in it, and the necessary removal of the infant from the warm atmosphere of the incubator into the ordinary temperature of the room at feeding times and on other necessary occasions is a very serious drawback. There is probably a good deal to be learnt as to the proper construction of these incubators before they become a real help, just as was the case in the early attempts at poultry rearing. A very heavy mortality followed the first efforts in that direction, and it was shown that erroneous ideas as to the temperature required, and faulty construction of the apparatus, which did not provide for free escape of all heated and foul air from the interior, were the causes of failure. Attention to these points led to that success which it is to be hoped may yet be attained in the "artificial mothers" constructed to aid tender humanity.—*British Med. Journal.*

THE SACRED HAIRY FAMILY OF BURMAH.—A number of physicians of this city were recently invited to a private inspection of Barnum's Hairy Family. When they were on exhibition in London a short time since the *British Medical Journal* published the following interesting particulars regarding them: "Amongst the many sights from distant countries to be seen in London at present there is one of eccentric interest, especially to the ethnologist and the medical man; we refer to the hairy family from Burmah which is now exhibited at the Egyptian Hall. It is alleged that Mr. Barnum had endeavoured to induce the family to leave Burmah for exhibition some time since without success. This has been accomplished by the course of recent events in the kingdom of King Theebaw. In Mr. Crawford's "Embassy to the court of Ava" he mentions that he saw at the Burmese Court a man thirty years old with his whole body, except the hands and feet, covered with straight silky hair, which on

the spine was five inches in length ; at birth the ears alone were covered. It is stated that at birth hair several inches in length was found to be growing from the tympanum of each ear of this man's daughter. There are two individuals, the mother, Mahphoon, daughter of Shway-Moung, the *homo hirsutus* described and depicted in Crawford's narrative, which Colonel Yule quoted in his work on the "Court of Ava," and Mahphoon's son, Moung Phoset ; the latter is accompanied by his wife, a Burmese woman of good-humored appearance, who appears, as the exhibitor states, to take a pride in her extraordinary husband. The mother of the latter is in charge of a young Burmese attendant. Notwithstanding the strange appearance of both mother and son, there is nothing savage or wild in their manners. Each member of the family, it seems, had peculiar privileges at that Court for three generations. The absence of molar teeth in Moung Phoset engages attention, as well as the extraordinary development of hair, especially on the face, including the nose, forehead, and ears ; adding another example of the observation of Darwin on the occurrence of abnormal dermal covering being connected with an abnormal development of the teeth. There appears to be no record of any supposed first influence having been an agent in the appearance of this remarkable family's peculiarity.

**SUBSTITUTION BY DRUGGISTS.**—Such substitution is not simply dishonest, it is felonious, and displays the same reckless disregard for life that marks the burglar or highwayman who is prepared to take a life if it stands in the way of his plunder. The man who does it does not simply filch a few cents from the pocket of his customer (frequently poor and needy), nor does he merely jeopardize the reputation of a physician, but he puts in peril the life of the customer who trusts him. The honest members of an honorable profession, and fortunately they are largely in the majority—the reputable pharmacists—owe it to themselves to expose these vultures and drive them from the trade. In doing so they should have the aid and countenance of every physician. In the meantime, let every physician not content himself with shunning the shops of those whom he detects in the nefarious habit of substitution, but boldly denounce them, and warn his patients against carrying prescriptions to them. Concerted action of this sort will soon purge the trade of the offending members.—*St. Louis Medical and Surgical Journal*.

**LET US PREPARE FOR THE CONGRESS.**—The time has come for actual work in preparing papers to be read at the approaching International Medical Congress to be held at Washington, D. C., September 5, 1887. American physicians, and especially those who practice in the great Mississippi Valley, owe it to themselves and to the profession to prepare at once some suitable contribution of research or observation, or both, to read at the Congress in the meetings of the sections. It has been publicly charged that no important intellectual activity exists in the Mississippi Valley, and it has been charged also that we depend upon the great intelligence of those gentlemen who had the vulgar presumption to claim authority to organize the preliminary arrangements



for this Congress without consultation with the profession at large for all the respect entertained abroad for American medicine. Let us be up and at work. Let us welcome the intelligent and learned men of the profession in Europe to an intellectual treat, by providing for their discussion such practical questions as will prove us to be men of energy of mind as well as body. Dr. John B. Hamilton, Secretary-General of the Congress, Washington, D. C., is the proper person to address.—*Progress.*

WOMAN'S DRESS REFORM.—The *Annals of Hygiene* publishes an interesting letter on this subject from Olive Logan to the Philadelphia *Press*, from which the following extracts are taken: The rising star of the feminine firmament is Mrs. Jenness Miller, the beautiful young advocate of hygienic clothing. Mrs. Miller has just left Washington for New York, where she gives her lecture under distinguished auspices, thence proceeding to Chicago and other points West. The title of her discourse is in itself striking: "Some Reasons why Women of To-day Are Less Beautiful than Mother Eve." I spent an hour or two the other day with this new light, and was greatly impressed with her in every way. Mrs. Jenness Miller is fortunate in having a husband who admires her reform in dress to such an extent that he thinks all women look "perfectly hideous" beside her. And he is right; they do. Her form is exactly like that of Power's Greek Slave. In features she resembles Mary Anderson, for whom she has often been mistaken. She has the deep sonorous voice of Mary Anderson, too, and this and all her other good points she attributes to her obedience to the laws of hygiene. \* \* \* In writing for so large an audience as the *Press* addresses it is difficult to describe minutely the various innovations on established female attire which Mrs. Miller has made, and which she insists are necessary to health. But let me frankly say she discards that time-honored garment which has the French name; and also, that she wears the breeches. So do all women, really; only theirs are trumpery little things not worth speaking of. Mrs. Miller's trousers are sensible, serviceable garments, but they are very retiring. They do not descend below the ankle. She wears no petticoat, that other time-honored garment which has become synonymous for its wearer, so thoroughly is it identified with woman. Mrs. Miller's gown is all in one piece, the skirt attached to the body; its weight depends from the shoulders; therefore, the tender organs of lungs, heart and stomach are subjected to no pressure. What a boon to suffering womankind it would be could this change in female attire become thoroughly engrafted in the habits of the sex. \* \* \* Mrs. Miller differs from all previous female dress reformers in that she advocates the richest apparel that money can buy, if one possess the wherewithal to obtain it. Her husband, being in the drygoods business, would naturally forbid her taking the sackcloth and ashes view of the wardrobe question. But she wages a bitter war against corsets! And, oh, how it makes a steel-stayed, tied-backed woman sigh with envy to see this agile young

creature perform severe gymnastic exercises in a splendid gown made for wearing to a ball. We talk about the absurdity of the little feet of the Chinese women ; but, after all, deformed feet do not ruin any vital organ. Deformed lungs kill in time. "You have a beautiful figure," said I to Mrs. Miller. "That is only because I am a natural woman," she replied. "You are slender now," I insisted ; "wait till you get a hundred pounds more flesh." "I shall then have a hundred pounds more sense," she answered, quickly. "I wouldn't wear stays if I weighed a ton."

CHINESE CHEAP LABOR.—The *Philadelphia Medical Register* states that Chinese doctors receive five cents per visit. Five cents, however, may, perhaps, go as far in China as five dollars in New York, and it is certain that, with this rate of payment, the profession would soon become extinct in that country if rents were anything like what they are in this city.

A CHANCE FOR ENTERPRISING SURGEONS.—The *New York Times* publishes this touching communication :

CAN ANYBODY HELP THIS POOR MAN ?

*To the Editor of the New York Times :*

Could you tell a reader of your paper is it possible to have the size of his nose diminished or made smaller ? I have an extra large nose, and hope you will tell me where it can be operated upon. J. B.

BROOKLYN, N. Y., Wednesday, March 12, 1887.

A DAY OF JUDGMENT FOR BEAUTIES.—I should say to beauties who depend greatly upon art to please : "Never let yourself be caught in an earthquake before getting up time in the morning." I saw, on their arrival here from Nice and Cannes, some scores of such who had fled from these resorts of seekers after pleasure and sunshine. They reminded me of what I used to be told in childhood about the aspect sinners, divested of all hypocritical mufflings-up, would present at the last day. Such a Day of Judgment lot I never in my life beheld ; and to think that they had been, in all the pride of rank and fashion, pelting bouquets at the Battle of Flowers less than a week previously ! I take in a situation quickly, and saw at a glance that the most friendly thing I could do to poor, battered, scared butterflies whom I knew was to pretend I did not recognize them. Don't ask me to name them. If there's one thing I hate more than another it's to skin eels alive. Dr. Evans will know of what English lady I am speaking when I say that she forgot the *ratelier* he made for her, with teeth carefully chosen from the mouths of 20 Breton girls. She arrived here with sunken-in lips and the tip of her chin aspiring to meet the top of her nose. She was by no means the only one in this toothless state. Girlhood is always beautiful, if there be only the merest *beauté de diable*, but lovely woman is appallingly dependent in this time of violent ups and downs and earth-

quakes—political and geological—on her dentist, her maid, her hair-dresser, and her mantuamaker.—*Paris dispatch to the London Truth.*

CHOLERA IN CALCUTTA.—During the last six years 24,000 persons have died of cholera in the city of Calcutta and its suburbs. Any attempt to improve the sanitary condition of this “home of cholera” deserves attention even in America, for Calcutta has been a standing menace to the health of the world. From it cholera has been carried in all directions. The Calcutta Health Society, founded three years ago, appears to be doing good work. It recently reported that the great mortality from cholera was “directly traceable to the filthy condition of certain plague spots, to defects in the drainage system, to the want of proper control of the milk supply, and to the deficiency of the water supply.” These are causes that can be removed. That the water supply is not what it ought to be is shown by the statement that of 200 samples of tank and well waters analyzed some time ago “44 per cent. were true sewages, 22 per cent. dilute sewages, 20 per cent. contaminated with considerable quantities of sewage, 9 per cent. were dirty, and only 4 or 5 per cent. moderately safe.—*N. Y. Times.*

INTELLECT AND BALD PATES.—Miss Annie Openheim, answering my question concerning the sort of hair that denotes intellectual power, says: “There is not any kind of hair that denotes intellect, the former being an animal matter.” But Miss Openheim “firmly believes that bald-headed men are the most that way inclined, they having through the exertion of their brains exhausted all that is animal in their nature.” The explanation is ingenious, but it is not convincing. I know some bald-headed men who are fools.—*London Figaro.*

STRANGE GROUND FOR SEPARATION.—A young woman at Burslem, who has been married for only five months, has applied for a judicial separation because her husband will not cut his toenails, which are of abnormal length, and she complains that “she is scarred from head to foot” by them. This is certainly as strange a ground for separation as ever I heard of.—*London Truth.*

BE CAREFUL ABOUT THE CONSTRUCTION OF YOUR SENTENCES.—One of our esteemed exchanges recently published the following item:—“A clergyman who conducted the funeral service of children who died from diphtheria, contrary to the regulations of the Board of health of Des Moines, Iowa, has been arrested and quarantined.” It is probable that the New York Board of Health would promptly pass an ordinance prohibiting people from dying of diphtheria, if there was any probability of their being able to enforce it.

In an article on criminal abortion in another exchange the following sentence occurs; “A considerable number of this class, when positively assured that they are pregnant by the physician, and faithfully warned of the dangers, physical and moral, liable to result from any

and all methods of producing an abortion, at once abandon all further efforts in that direction."

It is charitable, however, to assume that this is not intended as an assault upon the uprightness of our honorable profession.

SOMEWHAT AMBIGUOUS.—The expression "Pastorian Necrology," which is the title of an article in a recent issue of one of our contemporaries, does not refer, as might at first sight appear, to the demise of the illustrious Antonio Pastor, who happily still remains a shining light in the musical and dramatic firmament of New York, but to certain patients who have died after undergoing the Pasteur inoculations.

SONG FOR THE SEASON :—

I clasped her in my loving arms,  
 My gentle darling, Kate ;  
 " Let go," she cried, " you nasty brute,  
 You hurt my vaccinate."

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## MEDICAL NEWS.

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AMERICAN MEDICAL ASSOCIATION.—The Thirty-eighth Annual Session will be held in Chicago, Ill., on Tuesday, Wednesday, Thursday and Friday, June 7, 8, 9 and 10, commencing on Tuesday, at 11 A.M.

Secretaries of medical societies are earnestly requested to forward *at once* lists of their delegates. Also, that the Permanent Secretary may be enabled to erase from the roll the names of those who have forfeited their membership, the Secretaries *are, by special resolution*, requested to send to him annually a corrected list of the membership of their respective societies.

### SECTIONS.

*Practice of Medicine, Materia Medica and Physiology*.—Dr. J. S. Lynch, Baltimore, Md., Chairman ; Dr. J. B. Marvin, Louisville, Ky., Secretary.

*Obstetrics and Diseases of Women and Children*.—Dr. F. M. Johnson, Kansas City, Mo., Chairman ; Dr. W. W. Jaggard, Chicago, Ill., Secretary.

*Surgery and Anatomy*.—Dr. H. H. Mudd, St. Louis, Mo., Chairman ; Dr. A. M. Pollock, Pittsburg, Pa., Secretary.

*State Medicine*.—Dr. George H. Rohe, Baltimore, Md., Chairman ; Dr. Walter Wyman, U. S. M. Hospital, New York, Secretary.

*Ophthalmology, Otology and Laryngology.*—Dr. X. C. Scott, Cleveland, O., Chairman; Dr. J. H. Thompson, Kansas City, Mo., Secretary.

*Diseases of Children.*—Dr. DeLaskie Miller, Chicago, Ill., Chairman; Dr. W. B. Lawrence, Batesville, Ark., Secretary.

*Oral and Dental Surgery.*—Dr. John S. Marshall, Chicago, Ill., Chairman; Dr. A. E. Baldwin, Chicago, Ill., Secretary.

*Medical Jurisprudence.*—Dr. I. N. Quimby, Jersey City, N. J., Chairman; Dr. H. H. Kimball, Minneapolis, Minn., Secretary.

A member desiring to read a paper before a Section should forward the paper, and *length* (not exceeding twenty minutes in reading), to the Chairman of the Committee of Arrangements at least one month before the meeting,—*By-Laws*.

*Committee of Arrangements.*—Dr. Charles Gilman Smith, Chicago, Ill., Chairman.

*Amendment to By-Laws.*—Create a new Section, to be known as the Section on Dermatology and Venereal Diseases.

WM. B. ATKINSON, M.D.,

*Permanent Secretary.*

Philadelphia, 1400 Pine St., S. W. cor. Broad.

NINTH INTERNATIONAL MEDICAL CONGRESS.—In reference to demands from various quarters for information as to hotel rates here in Washington, and what arrangements have been made for a reduction of the same by our committee, in favor of those who will attend the International Medical Congress, I beg to announce the following scale of prices:

The Arlington Hotel, from	-	-	\$3 to \$3.50 per day.
Riggs House, from	-	-	\$3 to \$3.50 per day.
Willard's Hotel, from	-	-	\$3 to \$3.50 per day.
Metropolitan Hotel,	-	-	\$3.00 per day.
National Hotel,	-	-	\$3.00 per day.

Other hotels, conducted on European style, will furnish rooms at from \$1 to \$2 a day. First-class lodging houses will also furnish rooms from \$1 to \$1.50 a day.

A. Y. P. GARNETT, M.D.,

*Ch'n Com. of Arr. Int. Med. Congress.*

1319 New York Ave., Washington, D. C., March 14, 1887.

NEW YORK HEALTH DEPARTMENT.—The Governor having at length confirmed the action of Mayor Grace in removing General Shaler from the presidency of the Board of Health of this city, Mayor Hewitt has appointed Mr. James C. Bayles to the position. Mr.

Bayles, besides being an expert in sanitary matters, is a gentleman of character and public spirit, and the appointment meets with general approval, except from the politicians, who hoped to have one of their own number get the place.

**MORTALITY IN THE STATE OF NEW YORK.**—The official bulletin of the New York State Board of Health announces that the total reported mortality for the month of January was 7,671, of which 36.8 per cent. were under the age of five years. From zymotic diseases there were 1,248 deaths, a ratio of 162.91 per 1,000 total mortality. From diarrhœal diseases, the ratio per 1,000 deaths is 10.16; from typhoid fever, 9.38; from croup and diphtheria, 52.93. From consumption the ratio of mortality is 137.81 per 1,000 deaths, and 217.93 per 1,000 above the age of five years. The combined death-ratio per 1,000 from zymotic diseases, consumption and puerperal diseases is 310.00. From acute respiratory diseases there were 189.56 deaths per 1,000 total mortality. The relative mortality from zymotic diseases has not been so low since the spring months of 1886.

**THE HOSPITAL SATURDAY AND SUNDAY COLLECTION** amounted this season to the handsome sum of \$53,000, which amount, less necessary expenditures, was distributed among the various hospitals belonging to the association in the early part of March.

**NOBLE BEQUEST OF THE LATE DR. WAKLEY.**—The report of the Council of University College, London, presented February 23, announces that the late Dr. Wakley, who was an old student of the college, has bequeathed to the college, for and on behalf of the hospital, his freehold residence, Heathlands, Longcross, Chertsey, and eight acres of land, for the purposes of a convalescent home for patients from this hospital, as a memorial of his late father, Thomas Wakley, Esq., M. P., the founder of the *Lancet*, the home to be called the "Wakley Convalescent Home." He also bequeathed £1,000 to be expended in the maintenance of the convalescent home, at the rate of £200 per annum.

**THE ORTHOPÆDIC HOSPITAL AND INFIRMARY FOR NERVOUS DISEASES, OF PHILADELPHIA,** held the opening ceremonies of the new hospital building on Saturday afternoon, March 19th.

**THE MOXON MEMORIAL.**—A meeting of the subcommittee appointed to determine the form of memorial best adapted to perpetuate the memory of the late Dr. Moxon was held at the Royal College of Physicians, in February, when Sir Joseph Lister proposed, and Sir Andrew Clark seconded, the following resolution, which was carried unanimously: "That the fund raised by subscription be devoted to the foundation of a scholarship or medal to be awarded by the Royal College of Physicians, and to the erection of a memorial of him at Guy's Hospital."

PROF. HUNTER MCGUIRE, of Richmond, Virginia, this year delivers the annual oration—subject: "The Progress and Development of Medical Science"—before the Alumni Association of the Jefferson Medical College on Monday evening, April 4, 1887. A reception will be held after the lecture.

THE HEALTH OF ATLANTA.—The eighth annual report of the Board of Health of Atlanta, Georgia, for the year 1886, shows that the total annual death-rate was 14.86 per thousand, estimating the population at 60,000—white 39,000, colored, 21,000. Of the total number of deaths there were 394 white and 498 colored. The annual rate of mortality per thousand among the whites was 10.10; among the colored population, 23.71.

FOUR BILLS FOR REGULATING THE PRACTICE OF MEDICINE are now before the State Legislature of Kentucky.

MEDICAL COMMENCEMENTS.—Among the commencements of medical schools which have recently occurred are the following:

Long Island College Hospital, Brooklyn, March 2—30 graduates.

Medical Department of the University of the City of New York, March 9—15 graduates.

Bellevue Hospital Medical College, New York, March 14—134 graduates.

Baltimore Medical College, March 15—8 graduates.

College of Physicians and Surgeons, Baltimore, March 15—88 graduates.

Medical Departments of the University of Nashville and Vanderbilt University, February 23.

College of Physicians and Surgeons, Chicago, February 1—53 graduates.

Central College of Physicians and Surgeons, Indianapolis, February 26—4 graduates.

Minnesota Hospital College, March 11—20 graduates.

Louisville Medical College, February 25—63 graduates.

Memphis Hospital Medical College, March 1—41 graduates.

Medical College of Ohio, March 8—84 graduates.

Miami Medical College, March 9—29 graduates.

University of Louisville, March 1—87 graduates.

DR. WILLIAM YOUNG, of this city, recently got a verdict of \$3,538.88 in the Superior Court, which is the amount of his bill and interest thereon claimed against the estate of the late Frederick P. James, the banker, for his professional attendance on him from December, 1881, until May, 1884, when Mr. James died.

DR. H. C. WOOD, of Philadelphia, has been offered the Chair of Medicine at the Johns Hopkins University.

THE OLD COURT HOUSE AT KINGSTON, N. Y., where the first

Constitution of the State of New York was drawn up, to which reference was made in the interesting medico-historical sketch of Kingston, by Dr. Van Hoesenberg, published in the *JOURNAL* for August, 1886, has just been purchased by the State for the sum of \$12,000.

THE INDUCTION BALANCE, which was recently demonstrated before the New York Academy of Medicine by Dr. Girdner, was successfully used last month in locating the bullet in the brain of the unfortunate girl, Mary Anderson, of Mount Holly, N. J., the autopsy showing that position of the ball was exactly indicated by it.

THE BRIDE OF A JAPANESE STUDENT.—On March 26th, Miss Mary M. Gallagher, of East Saginaw, was married to J. K. Kimura, of Achi Ken, Japan, a senior medical student in the University of Michigan, at Ann Arbor. The latter is the son of a former royal physician, and will have a position in the Army on his return to Japan.

MEDICO-LEGAL ASPECT OF SKIN-GRAFTING.—On August 30, 1886, in the presence of Drs. Hardon, Westmoreland and Howell, Dr. Henry Wile, of this city, proposed to a boy of thirteen years to submit to the removal of some small skin-grafts from his arm to be placed upon an extensive ulcerated surface on the head of his cousin, a little girl somewhat younger, whom he had accompanied to the office. The boy readily consented, and minute grafts were excised without causing him any inconvenience. In the afternoon of the same day, the father of the boy went to the office and charged Dr. Wile with having cut "his son's arm to pieces." He subsequently swore out a warrant charging him with assault and battery; whereupon Dr. Wile waived examination and gave bond in the sum of two hundred dollars for his appearance at the City Court. The trial was before Judge Van Epps, without a jury, and after reviewing the facts as above given, the Judge stated that the boy had more than ordinary intelligence and discretion, and that a child of his age, under such circumstances of intellectual development, could commit crime and be punished according to law. He considered, therefore, that he had a right to give his consent, so that no crime was committed, and the case was dismissed. It is evident that no advantage was taken of the youth, since he acquiesced in the measure and allowed a number of small cuttings to be made without complaint. He was not disfigured in the least, nor was it even alleged that he suffered in any way from the effects of this slight operation. The calm deliberation of Judge Van Epps in weighing all the evidence and law should commend his decision to the judgment of every medical man and every good citizen as a rebuke to all such malicious prosecutions in future, and we congratulate Dr. Wild upon the result in this case.—*Atlanta Med. and Surg. Journal*.

GUY'S HOSPITAL.—Mr. J. S. Morgan, the well-known American banker in London, has promised the munificent sum of £10,000 in



aid of the funds of Guy's Hospital, on condition that the £100,000 required to put the institution into a state of thorough efficiency be secured by May 1.

A MEDICAL PALACE—A JOY FOREVER.—Under these titles the local paper at Cleveland, O., refers to the new college building of the Medical Department of Western Reserve University. This has recently been erected through the liberality of one of Cleveland's business men, Mr. John L. Woods, at a cost of \$175,000. The building is certainly a beautiful one architecturally, and thoroughly equipped in every way. The college is fortunate in having received the gift of the land from Senator Payne, and a fund of \$10,000 from Mr. H. B. Hurlbut for establishing a dispensary.—*N. Y. Med. Record.*

NEW YORK POLYCLINIC.—The annual reception tendered by the Faculty of the New York Polyclinic to the pupils of the school was held March 2d, and proved a most enjoyable occasion. The hero of the hour was the thousandth matriculant of the Polyclinic.

BERGEON'S METHOD IN PHILADELPHIA.—Many of the newspapers having published reports of the cure by the method of gaseous enemata recently made known to the profession by Bergeon, of Lyons, of a number of patients suffering from phthisis at the Philadelphia Hospital, the *Medical News* says: "Very many of the statements which have been spread broadcast over the country are absolutely false. So far as we know there have been no "cases cured," certainly not at the Philadelphia Hospital, and even those of Bergeon's patients who were most benefited continued to have slight expectoration containing bacilli. The results at the Philadelphia Hospital, in the limited series of cases which have been under treatment, have been in the reduction of the fever and the sweats, the lessening of the expectoration, and in the increase of weight. These are gains to be thankful for, and encourage us to hope that we may have here a remedial measure of some value, but further than this nothing can be said. Phthisis, as we usually meet it, is not an acute disease, and an experience of seven weeks is far too short a time in which to form a judgment of the permanent beneficent effects of the treatment. It will take a year or two at least to thoroughly test its value, and meanwhile it is sad to think that so many poor victims of this direful disease will suffer also the delirium of false hope aroused by the premature and unreliable statements which, unfortunately, have been given wide currency."

CHOLERA AT THE ISTHMUS.—EL PASO, TEXAS, *March 31.* Quarantine was instituted here to-day against cholera. The State has been under paper quarantine since Feb. 7, but the proclamation has not heretofore been enforced at this point. The cholera has travelled northward in South America until it has reached the Isthmus of Panama, and it is feared the Mexican Central trains may bring it into the United States. Except by order from State Health Officer Rutherford, all

persons, baggage, and freight from cholera-infected ports will be denied admittance to the State. Passengers going east from this city will be furnished certificates from the local health officer. All mails from cholera-infected ports will be disinfected before being received in the State.—*Later*: This report of cholera on the Isthmus has not been confirmed, and is now believed to be without foundation. It should serve, however, as a warning to the sanitary authorities throughout the land to be on their guard.—ED.

SUCCESSFUL CÆSARIAN SECTION.—On March 23, Prof. Wm. T. Lusk performed a most successful Cæsarian section at Bellevue Hospital, and both the mother and child are now in excellent condition.

KINGS COUNTY MEDICAL ASSOCIATION.—The first stated meeting of this new society will be held at Remsen Hall, Brooklyn, April 5, when the subject of discussion will be "Oil of Wintergreen as a Therapeutic Agent," to be opened by a paper by Dr. E. R. Squibb. At 10 o'clock the association adjourns by limitation to partake of a simple refectation. At the next stated meeting, to be held on the first Tuesday evening in May, the subject will be, "Hypnotics," beginning with a paper by Dr. Avery Segur; and at the third meeting, in June, the subject will be the "Therapeutics of *Veratrum Viride*," with a paper by Dr. J. D. Rushmore.

THE SACRAMENTO MEDICAL TIMES.—The first number of an able and well printed monthly journal with this designation, edited by James H. Parkinson, L. R. C. S., and published at Sacramento, California, appeared in March. It will doubtless prove of great service to the profession of the Pacific slope, and the editor, who is determined to do everything in his power to make it instructive and attractive, and to maintain a high standard of professional feeling in its pages, says in his opening address to his readers: The *Times* neither seeks to supplant its contemporaries, nor comes to supply a demand, but rather to create one; and in proportion as the effort succeeds, its purpose will be accomplished. It will provide a means of communication in professional matters, a source through which to interchange practical medical experience, for the great body of the profession of the interior of the State. Circulating largely in Nevada, Oregon, and Washington Territory, it hopes to fulfil the same purpose in those fields where no local publication exists. Beyond this, that it is first Californian and Pacific Coast, the *Times* disclaims identity with any particular locality. Its columns are always open to correspondents, and as far as a monthly journal can accomplish, it will give prominence to this department, and special attention to matters of local interest. \* \* \* The *Times* is published in the interests of the regular profession, and we desire at the outset to express our allegiance to the laws, written and unwritten, which govern that body. Its policy will ever be in sympathy with the National Association and all affiliated societies.

ADDIS EMMET CARR, a grandson of the late Dr. J. Marion Sims, and a promising young civil engineer, died in Baltimore, March 2d, from a dose of sulphuric acid, taken by mistake. Much interested in chemical and electrical studies, he had fitted up a laboratory at his residence, and the acid taken was some which he used for his batteries. Much sympathy is everywhere felt for his devoted mother and sister.

DR. LEWIS FISHER, a prominent and highly esteemed practitioner of this city, who was born in Mobile, Ala., in 1839, died February 28th, at Jacksonville, Fla., whither he had gone in December on account of failing health.

DEATH OF MR. TULANE.—Paul Tulane, the wealthiest citizen of Princeton, N. J., died March 27th at his residence in that town at the age of 86 years. Mr. Tulane's wealth is estimated at from \$5,000,000 to \$7,000,000. He was a Frenchman by birth and went to school, though not to college, in Princeton. He went South early in life and made his home at New Orleans. He went into the cotton trade and made a fortune. He founded Tulane University in that city, and gave over a million for educational purposes. He gave liberally to all the churches in that city also. He lost about \$1,200,000 by the war, but saved the bulk of his wealth. He possessed large quantities of real estate in the West and South and in New York. Mr. Tulane never married and lived a solitary life in Princeton, his household consisting of a housekeeper and a few servants. The President and several members of the Faculty of Tulane University attended his funeral on April 1st.

MEMORIAL TO THE LATE DR. FLINT.—There has just been unveiled at Bellevue Hospital a tablet in memory of the late Dr. Austin Flint, erected by the Commissioners of Charities and Correction. It consists of a large and massive plate of brass, set in a panel of antique oak, and was made by the Gorham Manufacturing Company. The inscription, which is in Roman letters of black enamel, with initials in red enamel, and surrounded by a band of conventional palm-leaves, relieved, at intervals, with neat scroll-work, reads as follows:

IN MEMORY OF AUSTIN FLINT, M.D., LL.D.

Entering the profession with broad culture and thorough education, he remained an active physician to the last day of his life. As a medical writer he added to the knowledge of the American profession and to medical science. As a teacher he was loved and respected by thousands of his pupils in all parts of the country. As physician to Bellevue Hospital for twenty-five years, he contributed largely to its reputation by his character, acquirements, labors, and wise counsels.

Erected by the Commissioners of Public Charities and Correction: H. H. Porter, President; Thomas S. Brennen, Charles S. Simmons.

MEMORIAL TO DR. AMBLER.—The bronze tablet recently executed

from funds provided for the purpose by the medical corps of the United States Navy has been hung in the Corcoran Art Gallery, Washington, on exhibition. Eventually the tablet will be placed in the Surgeon-General's office at Washington. The memorial is in honor of Dr. James Markham Ambler, the surgeon of the Jeannette Exploring Expedition to the Arctic regions. The inscription reads as follows: "James Markham Ambler, M.D., U. S. N., Lena Delta, October 9, 1881. Duty stronger than love of life."

OLD "MAMMY" WILSON DEAD.—NEW ORLEANS, March 2—For many years old "Mammy" Wilson was virtually a landmark of New Orleans. Two generations have remembered the old lady, sitting night after night in front of the Academy of Music, on St. Charles Street, with a shawl over her head, by a little fruit stand, peddling apples and peanuts. During seasons of epidemic she disappeared; when health came she was back at her post once more. She was a marvellously successful yellow fever nurse, and had labored in every epidemic here since 1847, and had many medals and diplomas to bear witness to her skill. When the theatrical season opened this winter old Mammy Wilson was missed from her accustomed place on the sidewalk. Inquiries set on foot showed that she was too ill to come out, and was being cared for by her widowed daughter. She died to-day, aged 77 years. She will be buried to-morrow. The Howard Association, the Pikes, the Lady Excelsiors, and Jackson Fire Company No. 18 will take part in the funeral.

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## EDITORIALS.

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THE ICE SUPPLY OF NEW YORK AND ITS POSSIBLE DANGERS.—While the investigation of the purity of potable waters has necessarily attracted considerable attention, very few researches have as yet been made as regards that of ice, the consumption of which, for drinking purposes, has of late years increased to enormous proportions, and thus rendered the subject one of very great importance. That ice is liable to be a direct source of disease was perhaps first indisputably shown in the well-known case recorded in the Ninth Annual Report of the Massachusetts State Board of Health. In the summer of 1875 there occurred among the guests of one of the large hotels at Rye Beach, New Hampshire, an outbreak of disease characterized by nausea, vomiting, diarrhœa, and severe abdominal pain, which was traced, beyond a question, to the contamination of drinking water by means of ice. It seems that the only ice used at this house was taken from a certain pond in the vicinity; and that this was actually the cause of the disease is distinctly shown by the following facts: 1. The affection was entirely confined to the inmates of this particular hotel. 2. The ice from the pond in question was not used at any of the other houses.

3. As soon as the use of ice from this pond was discontinued, the epidemic began to decline, no fresh cases whatever being developed after this date. 4. The analysis of the water of the pond by Prof. W. R. Nicholls indicated the presence of decaying organic matter which was fully capable of producing the diarrhœal trouble.

At a meeting of the New York Academy of Medicine, held March 17, Dr. T. Mitchell Prudden, Director of the Laboratory of the Alumni Association of the College of Physicians and Surgeons of this city, read a paper entitled, "Bacteria in Ice and Their Relations to Disease, with Special Reference to the Ice Supply of New York: An Experimental Study," which reflects the greatest credit on its accomplished author, and constitutes one of the most admirable records of original research which has ever been produced in this country. Until quite recently, indeed, the prosecution of such a series of minute investigations has been practically impossible here, owing to the lack of facilities for successfully carrying them on; but, thanks to the liberality which has founded and endowed such institutions as that over which Dr. Prudden presides, America, it is hoped, will ere long be able to hold a position second to none in this department of scientific study.

Few probably can at all appreciate the immense amount of time, thought and care which these researches of Dr Prudden have involved, and for this he certainly deserves the gratitude of the medical profession and all interested in sanitary matters, not only in this country but abroad; for by his patient and painstaking labors he has established certain definite results which will be of the greatest possible value in all subsequent studies upon the subject in question. It would be interesting to follow him, step by step, through his most instructive paper; but the space at command will permit of but a summary glance at some of its more important points.

Having dwelt at length upon the advantages, limitations, and technique of the biological analysis of water, he remarks that it is always a matter of surprise to one unaccustomed to such a delicate mode of water-testing to find what large and varying numbers of these living organisms ordinary water may contain. "We usually congratulate ourselves in New York," he says, "that we have an especially good water supply, and this is in a certain sense true. But a series of 32 analyses of the Croton water, as it was delivered through one of the faucets at the College of Physicians and Surgeons on different days during the past five months, shows the lowest number of living bacteria to one cubic centimetre to be 57, and the highest 1950, while the average of the 32 analyses is 243. In a general way, it may be stated that water containing more than from 50 to 100 living bacteria to the cubic centimetre should not be used for drinking purposes without filtration or other mode of purification; and it should always be remembered that absolutely pure water contains no bacteria at all. In any case in which sewage contamination can be positively excluded, judging from the source and surroundings of the water supply, the

limit of safety mentioned might, perhaps, be placed considerably higher."

Then, stating that all of the data concerning bacterial water contaminations and water analysis apply equally to the problems which ice impurities present, he goes on to say that the biological analysis of ice is conducted in precisely the same way as that of water, except that the ice must be thoroughly cleansed and then melted. While the popular belief that water in freezing purifies itself has some foundation in fact, it is to be remembered that the bacteria are so minute that they may exist in water in enormous numbers without in the slightest degree impairing its clearness and transparency. The consideration of bacteria in ice is, in the light of modern methods of research, an almost untrodden field, and he has thought it well, therefore, to get some positive data about the action of low temperatures under conditions which we could control in the laboratory, to guide us in our interpretation of nature's processes carried on on a large scale and under varied conditions. With this purpose in view he has conducted a series of experiments on the effects of cold on pure cultures of six different species of bacteria when these were suspended in water. The results of these experiments he summarizes in six tables. One of the species experimented upon was the bacillus of typhoid fever, and the result showed that, while many of the individuals were destroyed, many still remained alive, even after prolonged freezing. The experiments in general show that a large reduction in the number of viable individuals occurs at the first freezing, while more gradual destruction goes on as the low temperature is maintained. Subsequent experiments were made with results which are embodied in three additional tables, and from these it is seen that the typhoid bacilli, as well as other microbes experimented on, are soon exterminated after alternate freezings and thawings.

The examination of the water from a given pond or river, and the ice formed from it in the natural way, does not, even if the water is taken in winter, when the ice is forming, give a very accurate distinctive percentage, because the water beneath is always more or less in motion, and in both water and ice there is a very unequal distribution of the bacteria. Approximate accuracy may, however, be obtained by collecting water from various sources in winter, and, after determining from each sample the average number of bacteria in one cubic centimetre, comparing the results. This was done with water taken from Van Cortland Pond and from the Hudson and Croton Rivers, and Dr. Prudden summarizes the results in a general way by saying that natural waters containing bacteria, on being frozen and remaining so for a few days, may purify themselves by the destruction of as much as ninety per cent. of the bacteria. Furthermore, the number of bacteria is gradually reduced in the ice as time passes; but this reduction does not go on to the complete extinction of all species. He then proceeds to a consideration of the problems which our ice supply presents.

The ice used in New York is derived to some extent from certain

lakes and ponds the natural condition, of which are most favorable to purity, but by far the most important source of supply is the Hudson River, to the characteristics of which he devotes much attention. On the Hudson the main ice harvesting fields lie between Poughkeepsie and Troy, and at the upper part of this section is the city of Troy, emptying its eight million gallons of sewerage daily into the river, already charged with contributions from Cohoes and Lansingburgh, to say nothing of the impurities brought by the Mohawk from the west. A few miles below Troy lies Albany, with over 90,000 inhabitants, and an efficient sewage system pouring directly into the river. Having spoken of other sources of pollution, he states that the Hudson just below Albany has been shown to consist of about 1100 parts of dirty river water from Troy and 1 part of Albany sewage. "But," he says, "if one should require more proof of the filthy condition of the Hudson just below Albany, he has only to stand on some summer or autumn day, when the tide is at the ebb, on the shores of the so-called Albany basin, a walled inclosure of some thirty acres made for the purpose of increasing the city dockage, and into which fifteen sewers empty, carrying the waste of over thirty thousand people. Under these circumstances the observer will certainly be rewarded with both ocular and olfactory evidence of a most convincing nature. Yet within sight of the walls of the Albany basin, down the stream, stands one of the houses, with its sewage-laden ice-fields, in which this delectable harvest is stored for the comfort of a considerable number of New Yorkers. It was from this region that the ice actually being distributed in an outlying district of this city was found to contain from 20,000 to 50,000 living bacteria to the cubic centimetre—that is, to about one-third of a tea-spoonful." Taking the Hudson River ice altogether, it is found that about two-thirds are cut within thirty miles of Albany, and nearly one-fourth within twelve miles. Having referred to certain other unfavorable conditions of the upper Hudson, he says that, on the other hand, it should not be forgotten that in the comparatively still water behind the islands and dykes there is given tolerable facility for sedimentation of the bacteria, by which means, as experiments show, a considerable proportion of them may settle down from the upper strata of the water. It is this latter consideration which warns us against an unqualified condemnation of the Hudson River water for ice purposes, since only careful series of experiments can show at what distance below a source of pollution the water may have so far deposited its bacteria (if it does so to any considerable degree) as to render it fit for ice-harvesting purposes. In the meantime we must look at the ice itself, and see to what extent bacterial contaminations actually exist in the product from various parts of the river.

Dr. Prudden has made nearly three hundred complete analyses of ice taken at different times from the Hudson, and from the ponds and lakes, and taking the results of all these analyses, he finds that the average number of living bacteria for one cubic centimetre is 2033. He also found that different parts of the same block of ice may contain

vastly different quantities of bacteria. In his series of ice analyses the ice was carefully grouped into two classes: first, clear ice, or that which contained but few scattered bubbles, and, second, snow ice and that with very bubbly streaks; and he found that on the average the snow ice contained about seventeen times as many bacteria as the clear ice. The very bubbly streaks contained, as a rule, many more bacteria than the adjacent clear ice, but still not as many as the snow ice. From these analyses it is evident that by natural agencies the water of the river is freed to a certain degree from bacteria after running for some distance. But the ice did not, as one might expect, get freer and freer from bacteria as the distance from Albany increased, but from six to fifty miles below Albany, with unimportant local fluctuations, remained very nearly the same. A very much more extended series of experiments, he thinks, will be necessary before we can determine with any very great degree of accuracy how far the river has to run below a source of sewage pollution in order that the water may, by freezing and other natural agencies, free itself to a proper degree from its bacterial contaminations, or if it does so at all. The average number of bacteria in ice from all the sources taken together, he shows to be far beyond the general standard which even a moderate degree of purity would allow.

As regards the lake and pond ice Dr. Prudden concludes that, although the product from some of these contains a larger number of living bacteria than is consistent with the highest hygienic standard, the conditions can be readily changed, so as to render them quite unimpeachable; while in some instances the ice, so far as his analyses show, is well within the ordinary standards of excellence. The Hudson River, on the other hand, stands on an entirely different basis. Now, given the Hudson River ice as we find it, and knowing what we do of the character of the stream, what actual danger have we to fear, he asks, from the use of the ice for drinking purposes? A considerable number of the bacteria which it contains are undoubtedly the relatively or absolutely harmless species which may exist in any natural river or spring water; but a large number may with equal certainty be assumed to originate from animal excreta. Here again it is scarcely to be doubted, although not yet demonstrated, that a considerable proportion of the bacteria existing in sewage, and coming from human and other animal excreta, and the varied putrefying fluids which form a prominent ingredient in the waste of populous towns, may not be positively dangerous if taken into the body in moderate quantities in drinking water. On the other hand, in every large town like Albany, and in smaller towns in lesser degree, there are a considerable number of bacteria which are regarded as the cause of serious disease more or less constantly passing into the sewers, and here the use to which this diluted sewage shall be put involves the interests of the public health.

Whether the so-called typhoid bacillus is the actual cause of typhoid fever or not, the vast majority of the profession are thoroughly convinced of the specific origin of this affection, and Dr. Prudden very properly devotes considerable attention to the possible danger of the



conveyance of typhoid poison by means of Hudson River ice. He has been informed that in Albany, as in most American towns, in hospital as well as private practice, there is no systematic disinfection of the typhoid discharges. The bacteria of typhoid fever have been repeatedly shown to be capable of living for a considerable time in water, and, according to Frankland and other authorities, they might even proliferate in water. Furthermore, as has been stated, Dr. Prudden found that when frozen up in ice a certain proportion of these bacilli may live on for long periods, ready, when thawed out and placed under favorable conditions, to go on growing or proliferating just as before their hibernation. Here, then, as it seems to him, is the positive source of danger in the use of the Hudson River ice directly for drinking purposes, without some form of filtration, at least until it can be ascertained at what distance, if at all, below Albany and other towns whose sewage drains into the river near the ice fields, a safe degree of bacterial purification of the water by natural means may have occurred. The typhoid bacillus, it is true, has not been detected in the Hudson River ice; but to find it, even though present in considerable numbers, in its mixture with other species and in the large dilution which exists, presents very great practical difficulties. It has, as is well known, been detected in several instances in water suspected to be the cause of outbreaks of typhoid fever, but the conditions for its discovery were much more favorable than in the present case. That it is not, however, so important a factor in the transmission of the disease as to render the typhoid fever statistics of New York worse than those of other towns whose residents use clearer ice, is certain. But there are a considerable number of cases of typhoid fever in which the most painstaking examination of the sanitary surroundings of the victims, and their personal contacts, fail entirely to account for the origin of the disease; and some of these, he thinks, may well be cases of ice poisoning from the typhoid bacillus. So, then, he goes on to say, if we sum up what we really know about the relation of Hudson River ice to typhoid fever, we can only say that it is certain that the ice from some parts of the river must contain the bacteria of typhoid fever, and that these may be taken into the system in a living condition with ice water. Whether the necessary relationship between the number of bacteria thus taken and the condition of predisposition of the individual occur frequently or infrequently, or even occur at all, we can not positively say; but the grave character of the disease should warn us against indifference and impress upon us the urgent necessity of the adoption of such measures as will secure the consumer against even the possibility of such infection.

Finally, Dr Prudden considers what practical measures should be adopted in order to guard against a not only possible, but very probable, source of danger in the Hudson River ice. He would not leave out of sight the great and important private and corporate interests which are involved in the supply and consumption of ice; nor would he wish in any measure to suggest by these studies a curtailment in the

consumption of ice, even for drinking purposes. The measures which might be adopted in view of the present condition of affairs are of two kinds: *first*, such as would come under the supervision of health officers, and *second*, those which belong in the province of the individual consumers. In the first place, then, it would seem necessary that the State Board of Health, or some other authorized body, should be placed in charge of the ice harvesting fields, and, by a system of inspection not less strict than that which should exist in the case of the ordinary water supply, determine which, if any, of the sources of ice supply are so situated as to imperil the health of consumers of ice. In view of Dr. Prudden's investigations, this would appear to be comparatively simple in all cases except that of the Hudson River. Here it would be necessary to establish by a most thorough scientific examination the distances from all sources of sewage pollution at which it might be safely assumed that the water freed itself from bacterial and other impurities sufficiently to form safe ice. It might in this way be possible to remove any chance of danger by permitting the questionable or bad ice to be sold only for cooling purposes, if such a classification were practicable, and thus not materially interfere with the interests of the ice companies. A compulsory system of disinfection of excreta in infectious diseases might be instituted, as it has been in other countries in which the purity of the water supply is under constant supervision.

As regards the precautions which the individual consumer might adopt, he thinks it evident, from the facts now brought forward, that if he could be certain that his supply came only from the lakes or ponds, he would secure for himself a fair degree of immunity from danger. Remembering that the larger and more responsible ice companies do not, so far as ascertained, cut ice in the immediate vicinity of Albany, but at a considerable, and in most cases at a great distance below, the householder may eliminate to a large extent his hazard by finding out as accurately as possible just what part of the river his ice comes from. Whatever the source of supply, however, the large excess of bacteria which in almost all cases the snow layer harbors, over transparent or sparsely bubbly ice, would render imperative the avoidance of snow ice for any but cooling purposes. Still, it is not to be forgotten that perfectly clear ice may contain very large numbers of living bacteria. A variety of devices could be adopted in the use of ice for cooling drinking water, so as to avoid placing it in the water itself; or, recourse might be had to artificial ice, made from pure water, which, as abundant experience has shown, can be furnished at a cost not greatly exceeding that at which the natural ice is furnished. This artificial freezing of pure water is already done in some of the continental cities in which the natural ice contains large bacterial impurities.

From these studies Dr. Prudden claims that we now know with tolerable certainty just what series of questions are to be answered, and what investigations made, in order to decide upon the safety of any given source of ice supply; but these detailed investigations can only be made under the sanction and direction of the public authorities.

He expressly deprecates any sensational agitation of this subject; and altogether it will be seen that his paper, characterized as it is throughout by a spirit of impartial fairness and honest inquiry after the truth, deserves to take high rank among monographs embodying the results of original research.

HERNIA OF THE CÆCUM.—In an interesting paper on Hernia of the Cæcum in the *British Medical Journal* of February 19, 1887, Mr. Treves, having discussed various points concerning the subject, such as the question of the presence of a sac, the age at which the hernia is met with, and its reducibility, in a subsequent issue of the *Journal* Mr. G. A. Wright, Surgeon to the Children's Hospital, Manchester, gives a brief report of seven cases, all but one of them occurring in that institution, which seem to him to be of interest in view of the fact that some misapprehension appears to exist as to the points referred to, and also as to the frequency of cæcal hernia. As five of the seven cases were verified by operation, out of a total of twenty-four cases operated upon in children, he argues that either cæcal hernia must be quite common in children, or, when it occurs, it must present some features which make operation necessary in a larger proportion of cases than the ordinary hernia. He is inclined to think that both alternatives are, to some extent, true. Mr. Treves, he states, mentions four instances as the only ones recorded, and says the condition is practically limited to adults. His own experience disproves this, and he is inclined to think that cæcal hernia not uncommonly exists in children, but its exact nature is overlooked. In several of his cases the appendix was readily felt before operation, and there was no doubt about the portion of bowel that was down, but a casual manipulation of the hernia might easily have reduced it without noticing the appendix. As to unusual features in these herniæ, in two of his cases there was strangulation, a third was irreducible, but this was the result of enlarged glands (so far as he is aware, a hitherto undescribed cause of irreducibility), a fourth was also irreducible from adhesion between the appendix and the testis, and the fifth was of very unusual size.

A well-defined sac, just as in an ordinary hernia, was present in all his cases that were operated upon. In one there was adhesion of the vermiform appendix to the testis by a sort of mesentery, which, at the time of operation, he attributed to the same cause as Sandifort, mentioned by Mr. Treves. In all his cases the hernia had existed since early infancy, at or before three months old. In one child an umbilical hernia had existed before the scrotal; possibly the cæcum, pushed out of its umbilical sac, had protruded through the next weakest spot, namely, at the inguinal ring; but whether the umbilical hernia was cæcal or not, he has no evidence. He would, then, suggest that the following statements are more correct in this matter than those mentioned by Mr. Treves as being commonly accepted:

1. Cæcal hernia is not very rare in male children, and may be funicular or into the tunica vaginalis.

2. A cæcal hernia in children is provided with a perfect sac, just as in other herniæ, as shown by Mr. Treves; and, if this sac is removed, may acquire a new one—a point of much interest in this question.

3. Cæcal hernia may be irreducible as a result of adhesions of the appendix to the testis, may be strangulated, and may attain a great size.

4. Such herniæ are recognizable with certainty in some cases at all events, by feeling the rounded cord-like appendix, without operation.

THE CAUSATION OF DIABETIC COMA.—The theory having recently been suggested in certain quarters that diabetic coma is directly induced by the restriction of patients suffering from glycosuria to an anti-diabetic diet, Dr. Austin Flint took occasion, at the last meeting of the New York County Medical Association, to make a vigorous protest against any such idea being received with favor by the profession. Professor Flint, as is well known, has of late years been making a special study of the subject of diabetes, and the more that he has seen of the disease the more thoroughly has he become convinced of the fact that the main reliance in its successful treatment, or in retarding its progress in the more unfavorable cases, is to be placed on a strict adherence to an anti-diabetic course.

The particular occasion for the expression of his opinion at the meeting referred to was the narration of a case of diabetes (complicated with other troubles, which it is unnecessary to refer to here) by Dr. Gouley, in which the patient, who was a lady, seventy-two years of age, died from exhaustion during an attack of acute bronchitis. Dr. Flint was the consultant, and at no time did she exhibit the slightest tendency to coma, but retained consciousness perfectly up to the last. In connection with this case he referred to one which he had recently seen in consultation with Dr. Frederic S. Dennis. The patient was a lady of seventy, who had had persistent diabetes for seven or eight years, which was attended with nearly all the typical symptoms of the disease. Dr. Dennis was asked to attend the case on account of the occurrence of gangrene of the foot; and by the advice of Dr. Flint, who considers this a very dangerous article of food, the use of large quantities of milk, which she had been taking every day, was stopped. She was also placed on a strict anti-diabetic diet in other particulars, and, in addition, was given three drop doses of Clemens' solution of arsenite of bromine. Under this *régime* the improvement in her condition was very marked, the quantity of urine passed *per diem* being reduced from 110 to 50 ounces, and the sugar being entirely eliminated from it. The condition of the foot also improved for a time, but afterwards the gangrene extended, and the patient finally died of exhaustion. In this case, likewise, the mind remained entirely clear up to the last, and there was not the slightest approach to anything like diabetic coma.

Dr. Flint then went on to say that during the last two or three years he had accumulated records of about ninety cases of diabetes,

and that he had taken unusual care in following them up. Some of the patients had died under his observation, but he had never yet met with a single instance of diabetic coma. He had, however, records of cases, seen by him at one time or another, in which the patients had died under the care of other physicians, and were reported by them to have been the subjects of this condition. His experience was entirely opposed to the idea that anti-diabetic diet tended to produce diabetic coma, and so far from this being the fact, he was convinced that it is extremely rare for patients to die of diabetic coma while they are living on a strict anti-diabetic diet, and fully believed that this actually prevented, or tended to prevent, its occurrence. In substantiation of his views he related the case of a wealthy lady to whom the restraint of the anti-diabetic diet eventually became intolerable, and who, on leaving for the country, announced her intention to try the effect of a general diet for a time. Afterwards he heard that she had died in a state of coma. He also knew of another case in which the patient died of diabetic coma after indulging in a prolonged "sugar debauch." In still another instance the patient had died in the same way after going to Carlsbad. During the journey to that resort she had lived upon an unrestricted diet, and he had been informed by her physician that when she arrived there she was in a practically hopeless condition.

In conclusion, he made some pertinent remarks in regard to the neglect of patients to faithfully carry out the antidiabetic regimen. It is this, he thinks, which has brought the method into bad repute in the minds of some, and medical practitioners are no doubt responsible to a considerable extent for this unfortunate result, for the reason that they do not, as a rule, pay sufficient personal attention to the food of diabetics. It is not enough for the physician to tell his patient not to eat articles containing sugar or starch, but he ought to specify just what can be taken, and it should be his constant effort to tempt the appetite with some novel dish of allowable character. Diabetic coma, Dr. Flint believes, is probably due to the presence in the blood of some obscure poison which the kidneys are unable to eliminate, and it is a noteworthy fact that when the coma comes on the sugar disappears from the urine. He is at present engaged in a series of investigations in regard to this important subject, and hopes to be able at no distant date to establish certain facts which he thinks may perhaps be of considerable service in elucidating it.

**NIGGARDLY APPROPRIATIONS.**—It has been learned with no little mortification by the profession that the suitable appropriations which were asked towards defraying the expenses of the International Medical Congress and for investigation of yellow fever inoculation, were cut down by Congress to the paltry sum of \$10,000 in each instance. Surely the feeling of national pride, if nothing else, should have impelled our legislators to make adequate provisions for both these worthy objects; for this country ought no longer to allow itself to be outstripped

by foreign governments in encouraging enterprises the benefits of which are directly felt by humanity at large.

THE PRIZE ESSAY OF THE TEXAS STATE MEDICAL ASSOCIATION. —The editor has received a communication sent for publication by Dr. J. R. Briggs, of Dallas, Texas, in which he takes exception to certain remarks in regard to his prize essay in a review of the transactions of the Texas State Medical Association published in the February number of the JOURNAL, and impugns the motives of the writer of the review in question in making these remarks. On account of the personalities in which the communication abounds it is quite out of the question that it should be given a place in these pages, and the JOURNAL is, besides, altogether unwilling to be drawn into any controversy in regard to the matter. It is only fair to state, however, that the writer of the review was entirely uninfluenced by certain articles in Daniels' *Texas Medical Journal* which, it is alleged by Dr. Briggs, prejudiced him against the essay, and that in other journals besides the one mentioned unfavorable comment has also been made upon the award of the prize. The criticism in the review was made simply and solely because, in the opinion of the writer, the essay was not by its literary and scientific merits entitled to the award, and if the Committee did not find that any of the other papers offered in competition were of greater merit than this, they ought to have refused to make any award at all, as is frequently done in other scientific bodies when no one of the essays presented is deemed of sufficient merit to entitle it to receive a prize. If, however, the Committee were bound by a resolution of the Association, as stated by Dr. Briggs in the communication mentioned, to award the prize to the best of the essays offered in competition, without any option of withholding the prize, they might have stated in their report that they awarded the prize under protest, as none of the papers presented were in their opinion possessed of sufficient merit to entitle them to the award; but, as they had found Dr. Briggs' of more merit than the others, they decided that the prize should be given to that. If this course had been pursued there certainly would have been no just cause for dissatisfaction with the action of the Committee.

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## ORIGINAL ARTICLES.

### ARTICLE I.

THE ANEURISMAL DIATHESIS.\* By JOHN SHRADY, M. D., President of the New York County Medical Association.

The very popular idea that certain forms or configurations of the human frame are indicative of certain tendencies is not without foundation in fact. That an Apollo Belvidere or Venus de Medici can be

\* Read before the New York County Medical Association, March 21, 1887.

found stalking the earth is much to be doubted; it is much more probable, indeed, that the sculptor, as intimated by the poets, should have snatched a grace here and there from the many to create his symmetrical ideal. There are in every individual certain tendencies which are likely to eventually compass his death, and, as taught by a veteran pathologist of our time, there can be no extinction of life without a lesion. That this last may not always be demonstrable is readily conceded; but every day we see revealed new causes and pretexts for "shuffling off this mortal coil."

"The heart and lungs," says Tyndal, "are the two legs upon which life stands;" and it will not be too much to add that through these great agencies also is the wreck of our physical being most generally accomplished. Both these organs, one as the force-pump and the other as the compensating regulator, are in reality not so anxious to preserve the individual as to get through their own work and rest forever. Indirectly they fulfil the other purpose of contributing to the maintenance of life, but they are essentially only a portion of the necessary mechanism. They normally do their work without embarrassment to the individual, and, when crippled in their movements, generally originate no pain. These two, constituting as they do the circulatory apparatus (and it is not necessary here to refer to their connections, or detail their modes of working), impart to the figure certain types of form, and, as resulting predominance of functions, certain temperaments.

For convenience let us, in pursuing the subject at present under investigation, adopt the term the sanguine temperament as sufficiently expressive of a characteristic combination and harmony of function in the production and passage of the blood. Here the heart acts with celerity and, under emotion or over-exertion, tumultuously; there is, so to speak, occasionally a straining at the oar, more spurting than good, honest work, and the stroke carries the craft onward more rapidly than is best for it. These are mere hints, and not definite enunciations. Certain individuals are much more prone to aneurismal difficulties than others. In some probably by no combination of circumstances could the liability to a sudden death from this cause be produced, while in others such a dénouement could hardly be avoided.

We are told that aneurism occurs but rarely in early life, that men rather than women are the victims, and that occupations calling for violent muscular exertion constitute an important factor in its causation. These are accepted statements which



it is not necessary to deny; but they are general in character and somewhat too sweeping. They indicate rather than edify. Still, we can hardly expect the same early warnings (forecasting the doom of the patient) in the aneurismal diathesis as in phthisis or carcinoma, for here there is no sepsis; on the contrary, there are only anatomical changes followed by pathological results. Nor in the discussion of the matter are we expected to encroach upon the debatable ground of syphilis as the progenitor of the diathesis, or to advance yet a little further to claim rheumatism as the *origo mali*, dating back even to the pre-adult age. These two diseases are known to be disturbers of nutrition, the former markedly such, the latter only remotely; but we can no more claim them as creators of a tendency than we can claim dropsy as a disease pure and simple. This morbid predisposition, having its beginning in exaggerated function, must have its marks, its outward betrayals, the same as any other condition. Certain types of structure should exhibit it, should make it so patent to the eye that he who runs may read. We are not led to seek for the signs in the brilliant white complexion of cancer, or the œdema of albuminuria, and hardly in the dyspnoea of asthma, for these are resultants from a train of evil influences long laid.

Probably it would be well to concede the term vascular tension as expressing the true, far back moulder of this diathesis, and, to borrow a phrase from the arts, the high-pressure engine that rocks and sways the structure which encloses it. Let us at once go back to the heart, for here, after all, is the dominant organ which imparts the power. Surely here we ought to find a sign, surely here there should be an individuality that should make itself manifest, surely here there should be a physiognomy, not requiring a Lavater to read. We should expect to find a heart with a stroke heavy and quick, one somewhat hypertrophied in muscularity from its active and continuous work, we should expect a square-built form not unlike that of the ancient Roman—a frame gaining its height from the body rather than from the thighs, and a bulky and short neck supporting a heavy, massive face. We might, in addition, likewise find traces or present evidences of local stases in the face and hypertrophic plasmas in a bulbous nose. We should also expect, on account of the aversion to sedentary pursuits, that the body would be kept in trim by ample exercise for the purpose of avoiding obesity. All these conditions are actually present in the subjects of aneurism. They are not present in early life because the glandular system is then in process of evolution and the constitution

has not yet assumed the livery of its class. Also because then vocation has not yet intensified and kept up the conditions of continuance, and because the heart and lungs have acted in harmony; or, should we not rather say, because the pressure has not as yet found the point of least resistance? At the outset, it cannot but be allowed, the exercise of power was just as violent—indeed, more so than later on in the individual career—but the resiliency of the organs involved was then much greater, and the recovery from the undue taxation much more prompt. The porter, the artillery man, the athlete, the oarsman or the sailor had each performed his task many times before with ease.

Some may claim a flaw in our conclusions, and that the violent exercise produces the type of structure, and, as a corollary, the diathesis. As we pursue the investigation in concert let us admit, indeed, that the square form may have been produced by the dwarfing of the osseous and the over-nutrition of the muscular system. But let us remember that the muscular heart is more likely to strike the keynote of the future constitution, just as the brain moulds the form of the skull in accordance with what seems to be a mechanico-physiological law that the soft parts modify the hard. It is not so much form as force that we should study—not so much the engine as the motor agent. The active heart is apt to be fretful, impatient of obstructions, and, as I have said before, anxious to be through with its work. It is in a measure automatic in its behavior, and blindly obeys an unknown authority.

The subject of aneurism itself, presenting, as it does, in its varied relations to mechanics, etiology and pathology many points of interest, it is not within the scope of the present paper to discuss. It is sufficient to call attention to forms of the human physique which are likely to indicate aneurismal tendencies, in the hope of starting an impetus to further investigations.

It is indeed only right for me to state that I am not yet settled enough in my own convictions to expound any law sufficiently comprehensive to embrace all the cases observed or reported; but I think that I may be warranted in the statement that a tendency to aneurism may be recognized to exist in the following instances:

1. In those individuals who possess a large, though not necessarily hypertrophied, heart, the pulsations of which are quick—say over 85—and forcible, this condition generally being present in the long bodied and short limbed. These individuals are necessarily muscular, to compensate for a relatively poorly developed osseous system.

2. There are certain racial configurations in which fatty degenerations are prominent, as, for example, among the Teutons (exceptionally

among the Celts), in which the aneurismal tendency is a marked feature.

3. There may be an induced or cultivated diathesis, as among those addicted to athletic sports, who primarily overtax the heart, and secondarily the circulation.

4. Obesity is favorable to it, as presenting an enfeebled resistance to forces which have been adjusted to a different condition of things.

5. The diathesis may be latent from lack of circumstances awakening it into active existence, as in the case of those leading lives of luxury and ease.

In conclusion, I would suggest that the absence or suppression of the emotional temperament may, retard or altogether avert the final catastrophe.

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## ARTICLE II.

HISTORY OF AN EPIDEMIC OF DYSENTERY AT THE ALMS HOUSE, BLACKWELL'S ISLAND, N. Y.\*—By HERMANN M. BIGGS, M. D., Instructor in the Carnegie Laboratory, Demonstrator of Anatomy in the Bellevue Hospital Medical College, New York.

During the summer and early autumn months of 1884 and 1885 dysentery prevailed to a considerable extent among the inmates of the Alms House on Blackwell's Island. The disease, however, did not assume an epidemic character, and was supposed to be due to the general conditions obtaining among the inmates, such as the extreme age and debility of the majority, their close quarters, the comparatively coarse and poor food, and especially the hot weather. The sanitary condition of the buildings was inspected at this time by one of the inspectors of the New York Board of Health, who is also visiting physician at the institution, and was found to be good. The buildings are so situated that there are the best possible conditions for good drainage, and nothing was found to which much importance could be attached. The closets referred to later on in this paper, which were undoubtedly the cause of the disease at that time, and are somewhat separated from the other buildings, did not attract attention and were not examined.

Early in June of the year 1886 dysentery again appeared, especially among the inmates of the female Alms House in a very severe form. The number of cases was much larger than in previous years, and the disease assumed a decidedly epidemic character. However, the large

\* Read before the New York County Medical Association, January 17th, 1887.

number of cases occurring, and their severity, was not brought distinctly to the notice of the attending physician then in charge, and it was supposed by the house staff that the outbreak was the reappearance of the dysentery that had occurred annually during the summer months for several years, and was only what was to be expected. The cases increased in number and severity until about the 18th of July. The writer went on service at this time and it was then found that there was an average weekly death rate from dysentery in the female Alms House of five or six, and that at least from twelve to fifteen new cases appeared. This latter estimate does not include the milder forms of diarrhœa and dysentery, which were very numerous, but only applies to the severer forms of dysentery.

Believing that dysentery in the vast majority of cases is an infectious disease due to some definite determinable cause, the writer immediately made a careful inspection of all of the buildings in the institution, of the plumbing, drainage, water closets, character and preparation of the food, the water and all the conditions possibly bearing upon the development of the disease. The wards were found to be very much crowded because of the insufficient accommodations for the large number of inmates. Many persons were obliged to sleep on the floor, in the aisles, and between the beds, and the ventilation of the wards was far from good. But, aside from this element of overcrowding, there was nothing about the buildings or the inmates to which much exception could be taken, as the drainage was good, and the wards were very clean and in excellent general condition. The water used is croton water, and the food, although coarse, and not of the best kind, was perfectly wholesome and was thoroughly cooked. In the inspection of the wards of the institution careful inquiries were made as to the number of cases of dysentery that had occurred during the preceding six weeks in each ward. From what information could be obtained in this way it was found that the majority of both the severe cases and deaths had occurred in a few wards, but that yet the cases were pretty thoroughly distributed through the building with the exception of a few wards on the first floor, known as the blind wards, and a few on the top floor occupied by the strongest and most healthy inmates. Nothing could be found to which much importance could be attached as regards the causation of the epidemic with the exception of one water closet, shortly to be referred to. In the eastern end of the female Alms House is a small water closet designed for the exclusive use of the inmates of the blind wards. This closet is provided with school sinks, and was in excellent condition.

The closet in general use by the female inmates is separated from the main building by a roadway. This closet has a large cemented brick vault, with a sewer about twelve inches in diameter leading from it to the river below, and was found to be in an exceedingly bad state. On entering the door the stench from it was so strong as to be almost intolerable. The vault is flushed by the water from the bath-house, which is in the same inclosure, and by the rain water from the roof of the main building. At the time of the examination the vault contained two or three feet of semisolid fæcal matter. During the early part of the summer the weather was very dry, so that there was little rain water to wash out the vault, and the pressure in the Croton pipes was low, so that there was sometimes difficulty in getting enough water for the baths, and consequently there was little water from this source. So far as could be learned the closet had not been cleaned since the autumn of the preceding year. More than this, it was found that the bottom of the vault was round and the sewer leading from it was eighteen inches from the lowest portion, so that the vault could not be completely emptied under the best conditions, and at this time it was found that the sewer was partly stopped up. When we remember in connection with this fact that the closet is in constant use by nearly 800 persons, some conception can be gained of the conditions obtaining at the time. At the writer's request the closet was immediately washed out and disinfected. At the same time orders were given for the careful disinfection of all beds, used by patients in the wards who had suffered from dysentery and who had been removed to the hospital, and as each person in the wards is provided with a separate vessel, a solution of bichloride of mercury was ordered to be placed in the vessels of all who were affected with diarrhœa in any form. The table appended giving the number of deaths from dysentery in the female Alms House during each of the summer months and September, in 1884, '85, and '86 will show better than any statements could the effect of the measures adopted for checking the extension of the epidemic,

*Deaths from Dysentery.*

	1884.	1885.	1886.
June, - - - - -	None	1	13
July, - - - - -	4	8	17
August, - - - - -	9	5	4
September, - - - - -	10	4	None to Sept. 25

Of the seventeen deaths occurring in July, 1886, and the four in August, with the exception of one case all were of persons who developed

the disease on or before the 18th of July. In other words only one death occurred among the persons who were taken sick with dysentery after the closet was cleaned, and in this case the immediate cause of death was an incidental complication (cerebral hemorrhage) and not dysentery. Careful records were kept of the cases which occurred after July 18th, and of the wards from which they came. From this date to August 10th, in all twenty-five new cases developed, which were well distributed through the building, with the exception of the wards previously referred to. These cases, however, were of much less severe form and, as has been stated, only one death occurred among them, the immediate cause of which was cerebral hemorrhage. From August 10 to September 25, no new cases appeared. During the interval between July 18 and September 15, the closet was cleaned a number of times. For about ten days preceding September 25 the closet was not cleaned, and at this time several new cases appeared and one or two deaths occurred.

More conclusive proof could scarcely be desired of the causative relation existing between the condition of this closet and the appearance of the epidemic than is afforded by the above observations. But there are still other facts that point strongly in this direction. As has been before stated, the inmates of the blind wards for the most part use the closet in the main building, which is provided with school sinks and which was in excellent condition. In these wards very few cases of dysentery occurred at any time during the summer, and among these few it was ascertained on inquiry that in every instance those affected had used the general closet at least a portion of the time, and not a single case appeared among those persons who used exclusively the closet in the main building.

As will be seen by referring to the table, no cases of dysentery occurred during a period of nearly seven weeks from Aug. 10th to Sept. 25th, at a time when naturally, with the same conditions obtaining, there would be a larger proportion of cases than during June or July. Thus in Sept., 1884, a larger number of cases occurred than in any one of the summer months. The rapid decrease in the number of the cases after July 18th I believe is to be for the most part ascribed to the improved condition of the water closet, but the milder course pursued by these cases may have been in part due to the great care observed by Dr. Rushmore, a member of the resident staff, and the early treatment which these cases received.

The statistics that have been given refer only to the female Alms-House. Among the male inmates there were also a number of cases in

1884 and 1885. In June, 1886, a number of deaths also occurred here from this disease, but after June there was only an occasional case during the remainder of the summer. The closet in general use by the male inmates was in much better condition throughout the summer. An occasional case appeared during the summer among the inmates of the Workhouse, but these cases were only few in number.

Most of the cases of sickness with marked gastro-intestinal symptoms which occurred in the female Alms House during the summer months were included under the head of dysentery without reference to the known presence of mucus or blood in the stools or to symptoms characteristic of this disease.

The reasons for including these under this head are, first, because in many cases the histories were necessarily imperfect as to these points, either from the low condition of the patient when admitted to the hospital, or because of their mental condition (many were of unsound mind); and, second, because in some of the severest cases of dysentery as shown by the post mortem lesions the characteristic symptoms of the disease were absent or only slightly marked; and, finally, because in every case of death with the symptoms of marked gastro-intestinal disease, where an autopsy was made, the lesions of an acute or chronic dysentery were found.

A comparatively large number of autopsies were performed, and there were always present practically the same lesions, i. e., those of a very severe follicular and diphtheritic dysentery.

The lower part of the descending colon, the sigmoid flexure, and the rectum were, in the majority of cases, the parts most seriously affected, but the ulceration always involved to a certain extent the other parts of the mucous membrane of the large intestines, and in a number of instances had extended for about 18 inches up into the ilium.

In a few instances the cæcum and ascending colon were more seriously affected than the lower portion of the large intestines. In some of the more severe forms of the disease the largest part of the mucous membrane was entirely destroyed by the enlargement and coalescence of follicular ulcers, combined with the ulceration from the diphtheritic inflammation.

In the cases where the disease pursued a more chronic course the walls of the large intestines were greatly thickened and infiltrated with inflammatory products and the mesenteric glands were enlarged. The mucous membrane of the small intestines was never affected in the slightest degree, with the exception of the eighteen inches or two feet immediately about the ileo-cæcal, as before referred to, and

here the process was for the most part of a diphtheritic character.

A marked feature in the clinical history of many cases was the absence or slightly marked character of the local symptoms. Pain, straining, and tenesmus were often wanting or present in but slight degree, and in a few of the fatal cases there was absence of any considerable quantity of blood or mucus in the stools.

The history in the most severe cases was about as follows: Either following a pneumonatory diarrhœa, or without any previous warning, there occurred a sudden and severe chill, followed by high temperature and increased rapidity of the pulse. The temperature rose to 102° or 103° F., and in a few cases reached 105° F. In a few hours profuse diarrhœa set in, with from 18 to 25 stools in 24 hours. These evacuations were generally accompanied by more or less tenesmus. The stools, at first large and watery, became scanty and were composed largely of mucus tinged with blood or blood and mucus, and were often very offensive. In some cases the quantity of blood passed was very large, but in others bloody stools seemed to be entirely wanting throughout the course of the disease. After a day or two the temperature fell but the pulse became more rapid and feeble, the surface of the body cold and covered by clammy perspiration, and death often followed at the end of the third or fourth day.

In the fatal cases when death did not occur within a week or ten days, the dysenteric discharges became less numerous, the number of stools diminishing to 6 or 8 in the 24 hours, and the patient lingered for a long time and then died of exhaustion.

When recovery took place it was only after a long and tedious convalescence. A few deaths occurred from some intercurrent disease. The treatment which was found most successful in all excepting the later stages of the disease, when it became chronic, consisted in a combination of castor oil and opium with a strictly milk diet. In the later stages of the disease subnitrate of bismuth or nitrate of silver and opium were administered. Aside from these measures of treatment enemata of starch and opium were used in some cases, cocaine was also added to the enemata in a few instances, and subnitrate of bismuth in large doses was employed. Enemata would have been used on a larger scale had it not been for the fact that they could not be given satisfactorily by the nurses in charge.

It is impossible to give more than an approximate estimate of the total number of cases occurring during the summer, as no record was kept of the cases of recovery before the 18th of July when the writer went on service.



The total number of deaths up to the 25th of September was 34. Thirty-three of these occurred in patients who were taken sick before July 18th. Twenty-five cases occurred after this date, but only one of them proved fatal.

It certainly would not be an unreasonable estimate to suppose that there were two recoveries for every death before this time, but as the deaths were 33 this would give a total number of cases, including the 25 which occurred after July 18th, of 124.

The total number of female inmates is between 700 and 800, thus making the percentage of cases to inmates at from 15 to 18.

This epidemic of dysentery is interesting, from the almost conclusive evidence presented of the causal relation existing between the exposure to the emanations from decomposing human excreta and the appearance of the disease. There can be no doubt that epidemic dysentery is an infectious disease, due to the action of some definite micro-organism. This organism, as is clearly shown by the history of many epidemics, is often found in decomposing animal and vegetable matter, and possibly may be only some one of the forms of the organisms of putrefaction. There is much evidence to show that dysentery under certain conditions is contagious, but apparently, like typhoid fever, it is generally a miasmatic contagious disease, propagated by the stools of dysenteric patients. Helideus said that he "had often seen it communicated by the use of clyster-pipes previously used in the treatment of those suffering from the disease, and not properly cleaned." It seems sometimes to have been produced by the suction into the rectum during stool of the emanations from dysenteric excreta. Thus cases of dysentery have resulted from the use of vessels previously used by dysenteric patients, and not afterwards cleaned. Ziemssen believed that the disease is only contagious when the element of crowd-poisoning is superadded. Heubner states that trustworthy army surgeons in the Franco-Prussian War frequently saw infection occur when many severe cases were heaped together in a small space. Under these circumstances, thorough disinfection of the privies checked the spread of the disease. A number of epidemics are on record where the disease has been spread by the use of infected bed-pans and privies, as at Metz in 1870, and among the French in Poland in 1807. To this class this epidemic undoubtedly belongs.

According to Eichhorst the poison of dysentery possesses great tenacity of life, and he refers to observations recorded, where dysenteric stools were thrown into privies, and individuals employed to clean them ten years later became infected with the disease.

The occurrence of dysentery at the Alms House in successive years may thus be explained upon the supposition that originally in some manner the specific organism of the disease gained entrance to this privy, and their favorable conditions for development were constantly found (as the entire contents of the vault were never removed, owing to the position of the sewer pipe); and thus the disease has appeared whenever the conditions, such as quantity of excrement, temperature, etc., were especially favorable.

The difficulty of isolating from the stools the specific organism which causes any disease of the alimentary canal is very great, owing to the almost innumerable germs constantly present there in normal conditions; and I regret to say that in this epidemic I was not able to make any satisfactory investigations on this point.

I wish to express my obligations to Dr. Rushmore, of the resident staff of the Alms House, for the careful notes of the history of the epidemic which he prepared for me.

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### ARTICLE III.

CASE OF SUCCESSFUL ENUCLEATION, AFTER LAPAROTOMY, OF A FIBROID ATTACHED TO THE FUNDUS UTERI. By JOHN S. DICKSON, M. D., Pittsburgh, Pa.

Mrs. R——, Pa., æt. 24, married, had given birth to two still-born children, one at full term and the other at an earlier period of pregnancy. She was sent to me from near Cornellsville (by Dr. Phillips of that place) September 1, 1886, and was taken to Mercy Hospital after being examined by Dr. James McCann and myself at my office.

*History.*—For three years patient had been suffering from an abdominal tumor, which, during the last few months previous to her reporting to me, had increased rapidly in size.

The diagnostic features indicated a fibroid growth attached to the fundus of the womb on the right side. The os uteri was pulled up on the left side to an extent which made it impossible to use a sound or make a digital examination.

The patient rested quietly at the hospital until Tuesday, September 7, when laparotomy was performed. The incision made was about 13 inches in length, extending nearly from the symphysis pubis to the ensiform cartilage. The tumor was found to be a fibroid of a firm, elastic consistency, and intimately adherent to the fundus uteri on the right side. At first it seemed impossible to remove the tumor without the uterus

but eventually it was decided to enucleate the growth from its attachments. The peritoneal sac, from which the tumor was enucleated, was very large, and the womb itself was about four times its normal size. This, at first, gave the impression that the growth was intra-uterine. The enlargement was found to be symmetrical and regular in form, however, and was then attributed to inflammation. It was considered probable that, after removal of the tumor, the womb would atrophy to its natural dimensions, and hysterectomy was therefore rejected. During the operation a great many ligatures (over forty) were required to control hemorrhage.

After the growth had been removed, the edges of the rent in the peritoneal covering or sac were approximated by sutures, and the whole let fall back into the abdomen. The abdominal wound was brought together by interrupted sutures of silver wire, eleven in number. A rubber drainage-tube was inserted between the two last sutures, dipping down into the sac. The wound was then dressed with lint, moistened in bi-chloride solution, and linen gauze placed over that. Scarcely any blood was lost during the operation, and the patient evinced no evidence of shock at any time. The tumor was weighed, and found to be eleven pounds, two ounces in weight. At the operation Drs. James McCann, Richardson, and Davis and the hospital staff assisted.

Patient showed but little disturbance from the anæsthetic, but complained of pain some two or three hours after the operation. She was relieved by morphia. She had considerable pain, and was restless during first night.

*2nd day.*—Some uneasiness and pain. Relieved by small doses of morphia. She was catheterized every eight or ten hours; and this was kept up until she was able to be out of bed.

*3rd day.*—Symptoms gradually subsiding. Less pain and restlessness. Wound dressed and found doing well.

*4th day.*—Some restlessness the most observable symptom. No undue pain or other trouble. Two or three upper and superficial sutures removed. Also drainage-tube. No discharge.

*5th day.*—More sutures removed.

*6th day.*—Patient complains of some pain in right side of abdomen. All sutures removed. Adhesive straps and moistened lint applied. Bowels opened by laxative and enema.

*7th day.*—Patient continues to improve, but is restless. Craves food. Sleeps quite well at night. Is cheerful.

*8th and 9th days.*—Progressing favorably.

*10th day.*—From that part of the incision whence the drainage-

tube had been withdrawn, a black, offensive discharge, resembling tar, was provoked by retching caused by a dose of oil. The offensiveness of the discharge continued for several days. Previous to this discharge patient showed slight constitutional disturbance.

12th day.—Patient taken out of bed, and put in a large chair for an hour. On each subsequent day she sat up for a little longer period. She is becoming less restless, and eats and sleeps well. Bowels move naturally.

During the period of eleven days intervening between the operation and the day on which she left her bed for the first time, the patient's diet consisted entirely of the J. P. Bush Manufacturing Company's bovine with a little milk, and of stimulants. Other foods were tried, but she could not retain them.

On the 19th day the patient was discharged from the hospital.

RECORD OF PULSE, TEMPERATURE, AND RESPIRATION.

DATE.		PULSE.	TEMPERATURE.	RESPIRATION.
Sept. 8.	Morning	—	—	—
	Evening	84	100	22
Sept. 9.	M.	84	100	20
	E.	88	100.5	21
Sept. 10.	M.	88	100	18
	E.	90	101	21
Sept. 11.	M.	84	99	18
	E.	96	100.5	20
Sept. 12.	M.	84	99	18
	E.	90	99	18
Sept. 13.	M.	88	98	—
	E.	84	98.5	—
Sept. 14.	M.	90	99	—
	E.	88	100	—
Sept. 15.	M.	84	98.3	—
	E.	82	99	—

October 20, 1886, patient had a miscarriage, at her parents' home, in Mt. Pleasant, Pa., and the fœtus was supposed to have been of four months' development at the time of the abortion. The peculiarities in the size and shape of the uterus, which were considered at the time of the operation to be due to inflammation, were thus explained.

November 11, 1886, patient came to my office to show how well she was. She still had, occasionally, a little discharge from the sinus, where the drainage-tube had been inserted. Extending down towards the right inguinal region, from the sinus, was a noticeably thickened and indurated condition of the parts. This was considered the source

of the discharge, and tenderness was noticeable here when the flow was interrupted for any length of time. The induration, however, according to the patient's statement, was gradually decreasing. Patient was otherwise stout and in good health.

It will be conceded that the above record of the case is a remarkable one as to results. The operation occupied 51 minutes, and necessarily subjected the patient to a severe strain. It certainly is remarkable that at no time the patient's pulse was higher than 96 nor her temperature higher than 101°. Many of the good results I attribute to the use of bovine, which was practically the patient's only nutriment, during the first eleven days, and the careful employment, during the entire case, of antiseptic precautions.

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## SELECTIONS.

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ON THE PRACTICABILITY OF ESTABLISHING AN ARTIFICIAL FISTULOUS OPENING IN THE HUMAN SUBJECT BETWEEN THE GALL-BLADDER AND THE DUODENUM.\* By J. McF. Gaston, M. D., Professor of the Principles and Practice of Surgery, Southern Medical College, Atlanta, Georgia.

*Duodeno-Cholecystostomy.*—This term is applicable to the operation of uniting the gall-bladder and the duodenum with an opening for the passage of the bile. The process which I have proposed for effecting this consists in connecting their walls by a single loop of suture, which shall attach their surfaces by adhesive inflammation, and cut an opening between their cavities, passing away in the intestinal canal. If there exists any disintegration of the tissues of the sac, extirpation would be proper. Should such degeneration not be present while the systic and common ducts can be freed from obstruction, cholecystotomy would be warranted. But if there is permanent occlusion of the common duct without obstruction of the cystic duct, then duodeno-cholecystostomy is the appropriate operation.

This proceeding is simplified by the dilated condition of the sac, which brings it into close proximity to the duodenum, and facilitates the passing of a needle with a silk thread to unite their walls by moderate constriction.

In my autopsic lecture, reported in the *Southern Medical Record* for March 20, 1885, will be found a description of the demonstration of this process on the human subject. This attachment is illustrated in the accompanying modification of Henke's plate, Fig. 1.

In my first series of experiments on dogs, a circular row of catgut-sutures was applied around the elastic ligature, connecting the walls of

\*Read in the Section of Surgery at the Annual Meeting of the British Medical Association at Brighton.

the gall-bladder and the duodenum. But it was observed afterwards that sufficient inflammation ensued from a single stitch of silk thread to unite the walls, while it cut an opening between their cavities.

In case of an incision into the sac for the removal of its solid contents, this may be closed by Lembert's suture, separate from the loop

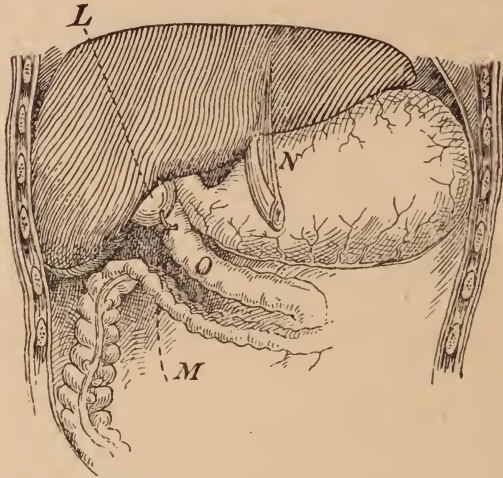


Fig. 1.—L. The gall-bladder. O. Duodenum with attachment. M. The colon partly removed. N. Severed suspensory ligament, with liver and stomach.

for attachment, or may be secured to a corresponding incision in the duodenum, dispensing thus with the loop for effecting a communication. Other modifications will be noted in referring to my second series of experiments on dogs at the close.

Inflammation of the tissues of the gall-bladder seeks relief in the direction of the duodenum; and my observation of the ulcerative opening of the gall-bladder into this canal directed my investigations originally to effecting a direct communication between them. This result is well shown in the accompanying copy of Jeançon's cut, Fig. 2.

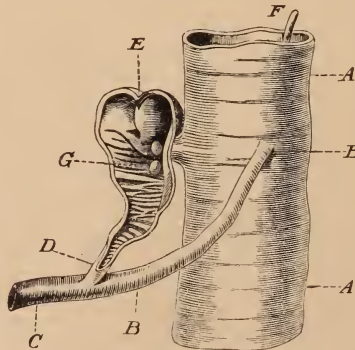


Fig. 2.—Copy of plate from Jeançon. A A. Section of duodenum. B B. Common bile-duct. C. Hepatic duct. D. Cystic duct. E. Excised wall of gall-bladder. F. Probe in ulcerated opening. G. Two small gall-stones.

The operation of Winniwarter, uniting the gall-bladder to the colon, and afterwards to the small intestine, by suture, opening the gut on the fifth day, and puncturing the opposed surfaces through the incision, failed to realize the advantages expected from this cholecystoduodenal outlet. Yet his procedure demonstrates the great tolerance of the structures for similar operative procedures, and there were no complications from the coils of intestine, the constriction of its lumen, or regurgitation of contents into the gall-bladder; hence these are not likely to occur in attaching the sac to the duodenum.

Dr. George Harley says that "the triumph of operative surgery would be to establish an artificial fistula between the gall-bladder and the duodenum. For then, not only would the pent up bile be removed, but the disturbances arising from the non-admittance of bile into the intestines likewise be, at the same time, overcome. I am not quite sure," he remarks, "if in these days of antiseptic surgery, the operation is not practicable; for I can see no reason why the adjacent surfaces of the gall-bladder and duodenum should not be eroded by potassa fusa, and speedily stitched together ("Diseases of the Liver," p. 1110.)

This process presents difficulties which do not hold against the plan of uniting the walls by a loop of suture, which shall unite their surfaces by adhesive inflammation, while it cuts through the tissues, and gives a passage for the bile. Some other process may, however, be found preferable to either, and it rests with surgeons to adopt that which proves best.

As Harley's book on "Diseases of the Liver," containing this suggestion, appeared prior to the publication of my proposition in GAILLARD'S JOURNAL, he is justly entitled to priority of publication. But it is due to the facts of the case to state that his work had not been read, nor was I even aware of his suggestion when my paper was published.

It is proper, also, to state that I did not then know of the operation of Winniwarter, though it was recorded in 1882 in a foreign journal, and published in October, 1884, in the *American Journal of Medical Sciences*. His procedure, however, is entirely different from the measure suggested by Harley, and from that process which I have proposed for carrying the bile into the duodenum.

My experiments on dogs were undertaken to verify a predetermined method of making an opening from the gall-bladder into the duodenum, and it only remains to test its applicability to man for this operation to be adopted.

In the *Centralblatt für Chirurgie* of June 12, 1886, we find an abstract of the practical investigations of Golzi, touching the operative surgery of the gall-bladder and the establishment of a cholecysto-intestinal fistula. He considers the possibility of uniting the gall-bladder and duodenum by suture; the probability of such connection leading to derangement of the contents of the gall-bladder from the entrance of any alimentary substances; the prospect of disorder to the alimentary canal from the continuous entrance of bile; the feasibility of keeping open a fistulous communication without disturbance of the digestion.

Experiment proved the practicability of attaching the gall-bladder and duodenum by suturing an orifice in each, so as to secure separately the mucous and the serous membranes in apposition. The operation led to no trouble, either in the gall-bladder or duodenum; but slight disturbance resulted from the constant entrance of bile at first, and eventually the ductus choledochus became dilated so as to afford a new reservoir for the bile.

I reported a series of experiments on dogs, intended to show the aim and end of this process for connecting the gall-bladder with the duodenum, in the *Atlanta Medical and Surgical Journal* for September and October, 1884. All these have an important bearing on the proposed operation in the human being, but, as space does not admit of full details, I will only give some account of the sixth of the series, on August 20, 1884. In the first experiment upon this animal an incision was made below the right costal arch into the abdominal cavity, and a loop of silk thread was passed through the approximated walls of the gall-bladder and duodenum. The second laparotomy on the same subject, eight days afterwards, verified their firm union by adhesive inflammation. A third was undertaken after the complete restoration of the animal, on February 4, 1885, with a view to reopen the communication, if it had been obliterated by the lapse of so long a time; and also with the intention of ligaturing the common bile-duct, so as to prevent the escape of bile by the natural channel. But, unfortunately, the dog died from imprudent administration of the sulphuric ether as an anæsthetic, though it had borne it well on the previous occasion.

The two stages of this operation, the passing a single stitch of silk through the respective walls (Fig. 3), and their intimate union from the adhesive inflammation of their serous surfaces (Fig. 4), are represented in the accompanying drawings.

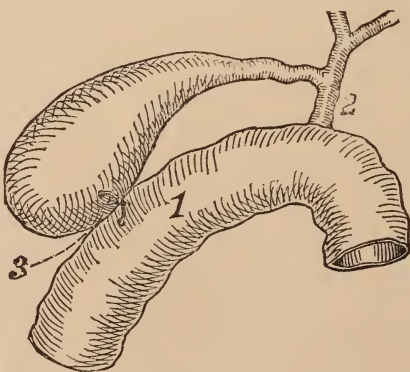


Fig. 3.—View of relations in the dog. 1. Duodenum with pyloric curve. 3. Attachment by stitch to gall-bladder. 2. Common, cystic, and hepatic ducts.

The necropsy presented a firm septum between the gall-bladder and duodenum, with a well-marked depression, indicating that an



opening had been made by the thread in cutting its way through into the intestine, which would doubtless have continued to give a passage to the bile had the common duct been ligatured. There was no obstruction to the passage of bile in either duct, as, prior to incising the sac, the duodenum was opened, and, upon pressure on the gall-bladder,

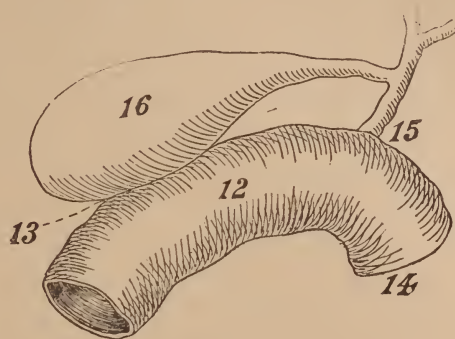


Fig. 4.—Union by adhesive inflammation. 12, 14. Duodenum and pyloric extremity. 16, 15. Gall-bladder and ducts. 13. Agglutination of walls of gall-bladder and duodenum.

the bile was seen to pour out at the orifice of the common duct. It is therefore clear that the various ducts escaped the inflammation propagated from the suture to the serous investments of the attached walls. An important phase of this necropsy was the absence of any evidence of extensive peritonitis. The contained viscera had not contracted adhesions to each other or to the parietes of the abdomen; and there was no attachment at the line of hare-lip sutures that closed the external wound with the needles penetrating through the skin, the subcutaneous tissue, and the peritoneum.

It will be observed that this animal survived the first operation and the second exploratory laparotomy, being entirely restored within one month, and continued in a healthy condition, completing five and a-half months, when its death occurred from an overdose of the anæsthetic.

I have preserved some specimens from the necropsies of other animals that died at varying periods after the use of the elastic ligature for attaching the gall-bladder and duodenum in this first series of experiments. One of these specimens was taken from a dog, whose death occurred on the fourteenth day following the operation, and shows the fistulous communication between the gall-bladder and duodenum from the cutting out of the elastic ligature which united their walls, and the firm adhesion of their surfaces surrounding this opening, induced by the inflammatory action set up in their serous investments from the traumatic irritation of the ligature in doing its work. This result is illustrated by the cut, in which the gall-bladder is laid open, so as to display the opening in the septum formed by the agglutination of the two adjacent walls.

In this case the well-knotted elastic ligature was found lying loose within the sac, having been liberated by cutting its way through the tissues. This observation led subsequently to securing the knot of

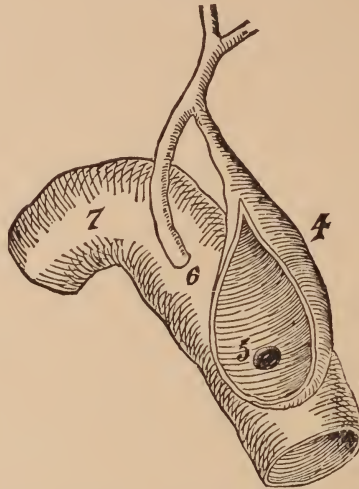


Fig. 5.—Posterior view of attachment. 4. Excised gall-bladder. 7. Curvature of duodenum. 6. Entrance of common duct. 5. Artificial opening through their walls.

the loop, whether elastic or simple silk, in close contact with the wall of the duodenum, which promoted the detachment and passage of it into that canal.

Another specimen, from a dog that died on the eleventh day after attaching the gall-bladder and duodenum with the elastic ligature, presents an opening between their cavities. Fig. 6 represents the wall

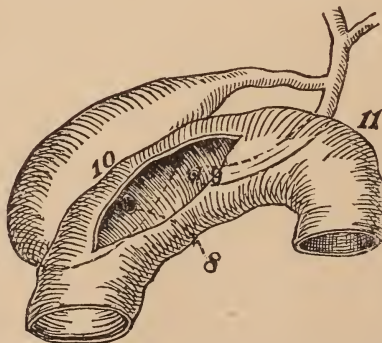


Fig. 6.—Incision in duodenal wall. 8. Fistulous communication of cavities. 9. Entrance of common duct. 10. Adhesion of surfaces forming septum. 11. Pyloric curvature of duodenum.

of the duodenum laid open, and shows the natural orifice of the duct as well as the artificial opening in the septum.

A report of my second series of experiments on fifteen dogs ap-

peared in the *Atlanta Medical and Surgical Journal* for September and November, 1885. It will be observed that the results of attachment of the gall-bladder to the duodenum by a single stitch of white silk suture thread are the intimate and firm union between their serous surfaces by adhesive inflammation of the tissues, and the formation of a fistulous opening through this septum, which affords a communication between their cavities, thus affording an outlet for the bile artificially when the discharge is prevented by the natural channel.

In repeating this measure of attaching the gall-bladder to the duodenum by a single loop of suture silk, that was applied in Case 6 of

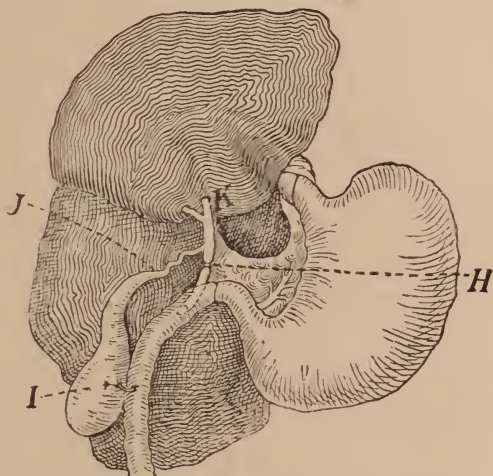


Fig. 7.—Modification of plate from Cloquet. The duodenum is drawn up with the liver. I. Knotted loop, attaching it to gall-bladder. J. The cystic duct. K. Hepatic ducts. H. Ligation of common bile-duct.

the first series of experiments, five deaths occurred respectively in 18, 20, 24, and 48 hours, and in twenty days after operation. I resorted, in some instances, to ligation of the common bile duct, on the same occasion, as illustrated in Fig. 7. But death ensued early in all these subjects, with extravasation of bile into the hepatic structure, and, in one case, there was exudation through the diaphragm into the thoracic cavity.

In four cases of attachment of the gall-bladder and the duodenum by a single loop, the common bile-duct was also ligatured at the same time with catgut, and fatal results ensued respectively in thirty-six, forty, and fifty-six hours, and in three and a-half days afterwards. In one case of securing the gall-bladder and the duodenum together by suture of the circular margin of an opening, made in the walls of each with a shoemaker's punch, while the common bile-duct was left free, death occurred in thirty-six hours.

In two similar operations, with ligation of the common bile-duct, death resulted in twenty and twenty-two hours respectively. The fatality attending the ligation of the common duct before another out-

let for the accumulation of bile was secured induced me to undertake these experiments for effecting an immediate communication between the gall-bladder and duodenum, which process is well illustrated in Fig. 8.

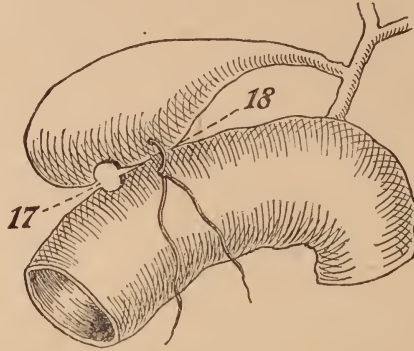


Fig. 8.—Immediate communication of cavities. 18. Temporary attachment of walls. 17. Circular excision from each by punch.

The gall-bladder was secured temporarily in contact with the duodenum by a ligature passed through their walls, and a fold of each was excised with the punch, thus leaving a round aperture into their cavities. The margins of these openings were united in two cases with a continuous catgut suture (Fig. 9), and in one with interrupted suture

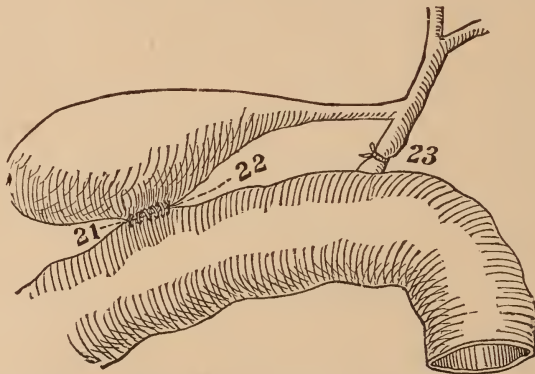


Fig. 9.—Exterior view of operation by punch. 21, 22. Stitches in margin of aperture through walls of gall-bladder and duodenum. 23. Ligation of common duct.

of Snowden's iron-dyed silk, as exhibited in Fig. 10. In the two cases in which the common duct was ligatured, the necropsies showed some yielding of the suture around the circular openings in the walls, and hence escape of bile into the peritoneal cavity. It was inferred that the contractile tissue of the duodenal canal led to the closure of the orifice made by the punch, as is sometimes observed in the perforations of small balls in gunshot wounds of the intestines, which prevented the passage of the bile directly from the gall-bladder into the duodenum,

so that it was forced out between the stitches. With proper precautions, in the removal of a larger portion of tissue from the duodenal wall, so as to make allowance for its contractility, and the union of the margins by Gely's suture, instead of the ordinary continued or interrupted suture, success is likely to follow this operation, and it may be used to separate a circular disc of their walls in cases not demanding immediate communication.

Only three dogs of the fifteen in this series of experiments survived

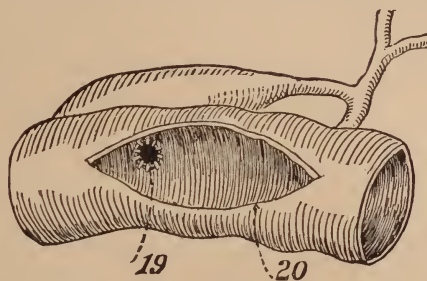


Fig. 10.—Result of direct opening in walls. 19. Orifice with sutured margin. 20. Incision into duodenum.

the primary operations, and I sought, by secondary experimentation on these, to test the practicability of turning the bile entirely into the artificial channel, which there was sufficient grounds to conclude had been made by the silk loop cutting an opening through the attached walls. The object of re-opening the abdominal cavity was to ligature the common duct, which remained open in each of these cases; but the adhesions of the duodenum with the lower surface of the liver completely shut out any view of the ducts, so that only the touch could be used in attempting to pass the ligature. As a consequence of this uncertain guide in the proceeding, failure resulted in my own efforts, and in those undertaken, at my request, by a colleague, to secure the common duct.

In a second laparotomy, one month and three days after the primary operation upon one of these subjects, death took place within forty-eight hours.

Another animal that underwent a second laparotomy one month after the attachment of the gall-bladder and duodenum survived this, and at the expiration of a like period was subjected to a third opening of the abdomen. The wall of the duodenum was incised, and there was a cicatricial depression in the septum, indicating that an opening had recently existed, into which a trocar passed with slight resistance, re-establishing the communication with the cavity of the gall-bladder. This dog died four days subsequently, two months and four days having elapsed from the primary operation.

The third, that resisted the attachment of the gall-bladder and duodenum, was, at the expiration of twenty-five days, submitted by my colleague, Dr. W. D. Bizzell, to a second operation, and he verified the firm union of the walls of the gall-bladder and duodenum around

the point of suture. He felt assured that an opening existed through this septum for the flow of bile, and attempted, without effect, to ligature the common duct.

The abdominal cavity of this animal was opened for the third time, two months subsequently, when it was corroborated by a number of medical men present that a strong attachment existed between the gall-bladder and duodenum, while it was inferred that the sac was drained by an artificial outlet into the duodenal canal. After tearing loose some of the adhesions, with a view to expose the common duct, another fruitless attempt was made to pass a ligature around it. This dog died ten days after the third laparotomy, and the necropsy showed a free communication between the gall-bladder and duodenum, from the action of the single loop of silk thread passed through their walls more than three months previously. There was also found to exist a solid compact union of their walls around this aperture, resulting from the adhesive inflammation set up between their serous surfaces, which had been brought in contact by the loop of suture. It was ascertained, by exploration, that the ductus choledochus communis was pervious, but that one of the branches of the hepatic duct had been ligatured by mistake, and that there was partial disintegration of the parenchymatous structure of the corresponding lobe of the liver, which most probably led to the fatal result.

It is evident that the preservation of this artificial communication between the gall-bladder and the duodenum for three months and five days, while the natural outlet was open, affords strong ground for belief in the maintenance of such an outlet for the bile, when obstruction of the common bile duct exists, as in cases requiring surgical interference in the human subject.—*British Medical Journal*.

THE DIAGNOSIS OF YELLOW FEVER. By Augustin M. Fernandez, M. D., Corresponding Member of the Medico-Chirurgical Academy of Madrid, Spain.

It seems at first sight incredible that after three hundred years of study of yellow fever a dozen physicians can not be found in any city holding the same opinion in regard to its true nature and treatment. Even in places where this disease is endemic, and has been known for over a hundred years in uninterrupted succession, there also exists a variety of opinion among practitioners. Probably there is no medical society that has paid more attention to the subject than the Academy of Medical, Physical, and Natural Sciences of Havana, Cuba—an unpretentious scientific body, full of good faith and disinterested love of science—yet I believe it would be difficult to find among its members half a dozen sustaining exactly the same opinion in regard to all the phases of yellow fever. The maxim of Dutroulau—that in this disease it is necessary to see a great deal in order to see correctly, ought to be supplemented by adding that it is necessary at the same time to take very minute clinical notes in order to see intelligently, for all epidemics do not bear the same characteristics, and even all the cases of the same

epidemic do not present the same symptoms; there are epidemics so malignant that for a person to fall sick is equivalent to die, in spite of all kinds of treatment, while there are others so benign that even expert diagnosticians confound many cases with other diseases possessing very analogous symptoms. In fact, a typical case of yellow fever, as it is described in the text-books, is very rare; hence the difficulty of the diagnosis.

It suffices to see but a few yellow fever patients to become convinced that this formidable malady constantly presents two distinct stages. The first is a short one, lasting no more than three days, generally called "the stage of reaction;" the second is that of defervescence and decomposition of the blood, known as "the stage of calm," and lasting from a few hours to two weeks, according to the form and character of the epidemic. When the case terminates happily during the first stage, the second is marked only by the beginning of its evolution in convalescence. The more rapidly the two stages succeed one another the more dangerous the case, and *vice versa*. In places where yellow fever is endemic, the character of each summer's appearance depends on the telluric, climatological, and hygienic conditions of those places, especially the velocity and direction of the prevailing winds at that time. It is worthy of attention in this regard, the explanation given by Hippocrates of "medical constellations," or atmospheric conflicts, as the pathogeny of epidemic diseases—a *quid occultum* developed in the atmosphere of certain foci of infection as the sum total of a series of coefficients.

The epidemic forms of uncomplicated yellow fever may with advantage be divided into *ephemeral*, *adynamic*, and *ataxic*. In the ephemeral form, the patients suffer the general prodromata of the disease—fever, headache, pain in the back and lower limbs, nausea, epigastric discomfort and tenderness on pressure, etc.—but the fever does not exceed  $103^{\circ}$ , and lasts only two or three days; vomiting is rare, and if it occurs it is of a bilious character; the mind is perfectly clear, with no other disturbance of the nervous system than the anxious expression of the face. In this form we have the nearest approach to bilious remittent fever, and in places where yellow fever is endemic it constitutes the so-called "acclimatization fever." The patients usually get well in about seven days. In the adynamic form predominate all the symptoms of decomposition of the blood. It always breaks in suddenly with a chill from the hours of six o'clock in the evening to six in the morning, followed by high fever (over  $103^{\circ}$ ), a sense of weight in the head, besides the cephalalgia; the pain in the lumbar region extends around the waist as if having a tied belt, gurgling in the right iliac fossa distinctly perceptible; there is a mahogany coloration of the face and chest; tongue slightly coated, red at the tip and edges; bowels constipated; lessened quantity of urine, highly colored and albuminous; the sclerotic has an icteric tint under the inferior eyelid after the first day of the attack; without much retching, altered blood or "black vomit" is ejected, although this symptom has not, in this form of the disease, the

great pathognomonic importance generally attributed to it. The febrile signs increase towards evening and lessen toward morning, but do not distinctly remit until the third day. This form is always grave, and when death occurs in the second stage it generally takes place from the seventh to the fourteenth day. In the ataxic form predominates the nervous depression. It is always very grave and rapid in its course, the second stage almost immediately following the first, giving rise to those fulminant cases lasting only forty-eight hours, so common in Vera Cruz, and known to the French physicians as "*coup de barre*," or stroke of the bar, on account of the suddenness and intensity of the pain across the loins. In this form the "black vomit" is always present, and sometimes also hemorrhage from other situations; there are disquietude, delirium, hiccough, photophobia, and once in a while amaurosis, ischuria, and finally collapse or convulsions. Death generally takes place on the fourth or fifth day. It is of good omen if the patient outlive the seventh day.

Yellow fever, however, does not at every appearance and in all localities present exactly the same group of symptoms; for not only the constitution and the peculiar variations in the state of the individual exert a modifying influence, but also the meteorological conditions and the diseases prevailing at the time. The recognition of this dreadful disease, nevertheless, speaking in general terms, is easy. Whenever, during the summer, we are called to see a patient suddenly taken sick with one paroxysm of cold, which occurred when the sun had disappeared from the horizon, followed by rapidly rising fever ( $102^{\circ}$ ,  $103^{\circ}$ ,  $104^{\circ}$ ), and accompanied by headache, pain in the back and lower limbs; the face flushed with an anxious expression, and the eyes brilliantly injected and watery; hurried breathing; the stomach very irritable, with great epigastric discomfort and tenderness on pressure, nausea, and anorexia; the tongue moist, slightly coated, sometimes red at the tip and edges, yet otherwise natural; bowels constipated, gurgling in the right iliac fossa; lessened quantity of urine, darker in color and albuminous; general muscular debility; pulse rapid, strong, tense, sometimes dicrotic, with from 90 to 120 pulsations to the minute; skin hot, dry and harsh, and all this without a previous history of yellow fever; then we may unhesitatingly pronounce the disease yellow fever in its incipency.

PECULIARITIES OF THE GENERAL SYMPTOMS.—*Appearance of the Face and Eyes.*—Besides the hyperæmia of the face and conjunctiva, and the anxious expression of the countenance, there is always a mahogany coloration of the skin on the forehead, temples, *alæ nasi*, cheeks, and sometimes also at the sides of the neck and front part of the chest—this is called by some authors the "mask" of yellow fever. In an elaborate monograph of Dr. Juan Santos Fernandez, of Havana, Cuba, on the loss of sight in yellow fever, translated by me from the Spanish original,\* this distinguished oculist calls attention to the hyperæmia of the eyes and the dilatation of the

\* Knapp's *Archives of Ophthalmology*, vol. x. No. 4, Dec. 1881.



pupil, which in some cases is so marked that it gives to the face a vague and indefinite expression, very similar to that assumed by a drunken man. In the second stage the redness and brilliancy of the eyes diminish, and the rosy color of their tegumentary covering gives place to an icteric tint several hours before the discoloration of the skin is noticeable. Some practitioners pretend to find a direct relation between the intensity of the coloration of the conjunctiva and the severity of the attack, and others, more correctly in my opinion, base the differential diagnosis between yellow fever and malarial fevers on the absence of hyperæmia of this mucous membrane in the latter.

*Pulse and Temperature.*—The action of the heart and the state of the blood and arteries, as revealed by the pulse in the first stage of yellow fever, are symptomatic of pulmonary engorgement, and this sudden afflux of blood is due, in my opinion, to the damping out of the portal circulation by the deranged liver. During the first two days the pulse is accelerated, with 90 to 110 pulsations to the minute, full and resisting, but at the commencement of the fourth day it changes completely—if the patient really enters in convalescence, the pulse is soft, rhythmical, and natural, but if this deceptive remission of the febrile symptoms is only the transition of the first to the second stage, the pulse shows a marked tendency to disappear, beating threadlike, so slowly as forty-five times, or even less, a minute in unfavorable cases. Respecting the temperature in yellow fever, we possess the valuable observations of Dr. Joseph Jones, of New Orleans,\* stating, as the result of many investigations, that the maximum elevation of temperature is attained upon the first, second, and third days of the disease, ranging from 102° to 110°; from the third to the fifth it steadily falls, and sinks to the normal standard or below it, to rise again in some fatal cases in the stage of collapse, though it never attains the high temperature characteristic of the first stage.

*Headache.*—The cephalalgia of yellow fever is aggravating and astringent, but, as a general rule, never pulsatile. Its prime characteristic is its seat, which is over the eyes, and seems to affect all the muscles of the ocular apparatus supplied by the third pair of nerves, principally the internal rectus muscle. Any movement of the eyeball, or a little pressure on the closed eyelids, causes great discomfort.

*Pain in the Back and Legs.*—The seat of the pain in the back is the lumbar region, and it seems as though it irradiates from the renal plexus. The pain in the legs is located in the upper part of the calf near the popliteal space, and in severe cases it follows the course of the great sciatic nerve, the patient feeling the pain in the pubestwenty-four hours before death takes place.

*The Black Vomit.*—The hemorrhages of yellow fever appear in the second stage, except in the *coup de barre* cases of the ataxic form, in which the two stages are almost blended into one. The blood is viscous, more fluid than natural, and little or not coagulable at all,

\* *American Practitioner*. Sept. 1873, and cited in "Nouveau Dictionnaire de Médecine et de Chirurgie."

owing to the loss of fibrin; it exudes from the mucous membrane of the mouth, the nose, the anus, the vagina, and sometimes it comes out also through the ears and eyes. There are some cases in epidemics of the ephemeral and adynamic forms in which the black vomit is absent, and this so-called "unmistakable pathognomonic symptom" is therefore misleading. Vomiting certainly occurs either spontaneously or provoked by anything taken into the stomach, but the matter ejected has a bitter taste to the patient and all the aspect of bilious and mucous matter combined, but by no means the characteristic coffee-ground appearance of true black vomit. In the ataxic form the black vomit is always present, not very frequent or very abundant either, generally one or two a day only. It sometimes happens that just at the moment of dying the patient has one paroxysmal vomit of altered black blood and then dies.

*The Urine.*—The great peculiarity of this secretion is its constantly acid reaction. Another diagnostic characteristic, as we all know, is the presence of albumen, which, according to Dr. Vidaillet,\* can be detected twenty-four hours after the onset of the attack by holding a few grammes of the urine in a test-tube, and letting five drops of nitric acid run along the interior of the tube, when almost immediately appears a whitish zone dividing the column of urine in two parts, the upper one retaining the same appearance it had before, while the lower assumes a reddish tint. This opaline zone is called by Dr. Vidaillet "the premonitory ring," which he claims is infallibly present in all cases of yellow fever during the second and third days, disappearing entirely during the second stage, when the column of urine divides into two distinct portions on the addition of nitric acid, no matter how carefully poured in. The premonitory ring is soluble, in an excess of acid. In severe cases, when the quantity of albumen has been constantly increasing, epithelial cells and bile are found in the urine, but during the first and second days of the disease neither tube-casts nor pavimentary epithelium can be detected.—*Medical News.*

#### M. PASTEUR'S TREATMENT OF HYDROPHOBIA.

In publishing the communication† of Dr. Lutaud, the able editor of the *Journal de Médecine* of Paris, we follow our usual custom of giving space in these columns to all well-argued opinions. Dr. Lutaud's facts and inferences must, however, be received with some reserve. It is now certain that M. Pasteur was too confident in declaring last year that his method was absolutely efficacious, and that M. Grancher was much nearer the truth when he maintained, at the recent discussion on rabies at the Académie de Médecine, that M. Pasteur's preventive had not always proved, and would not always prove, successful. But it would surely be rash to claim more for any prophylactic, more especially in the early and tentative days of the study of its mode of action, its dose, its methods of preparation and of application. M.

\*"Archives Générales de Médecine," Extracted from the *Archives de Médecine Navale*.  
 †*British Med. Journal*, April 2, 1887.

Pasteur's prophylactic is certainly not an infallible preventive of rabies. M. Pasteur himself has published the statistics of his failures, which include 31 deaths from bites inflicted by dogs, and 7 from bites inflicted by wolves. On the other hand, Dr. Lutaud puts the number of deaths among Frenchmen, for the same period of time as that covered by M. Pasteur's statistics at 21, while M. Pasteur acknowledges only 18. The difference is so slight that the three cases might be set down against M. Pasteur without sensibly modifying the result. Moreover, it will be observed that Christin, Daresset, and Rouyer, who are classed in M. Lutaud's statistics as Nos. 9, 12, and 21, are stated by M. Pasteur, on the strength of medical certificates, to have succumbed to maladies other than rabies. When this circumstance is taken into account, both sets of statistics are in perfect harmony. Before pronouncing in a definitive manner for or against M. Pasteur's method, it will be prudent to give it a much longer trial. That the treatment has a certain value, however, seems to be borne out by the following facts:—M. Leblanc, who several years ago made an extensive research into the deaths resulting from bites by mad dogs, found the mortality to be 16 per cent. Now, if we examine M. Pasteur's statistics of the persons bitten by dogs which were proved to have been suffering from rabies by the results of experimental inoculations of their medullæ, by the development of the disease in other persons or animals bitten at the same time, or by *post-mortem* examination made by a veterinary surgeon, we find that the total number of cases is 2,164, with a mortality of 29, or only 1.34 per cent, which is a much lower percentage than that given by M. Leblanc. For greater security, we have not taken into account the persons bitten by animals only suspected of being mad, although in M. Pasteur's statistics two cases of this kind proved fatal. The whole question of prophylaxis against rabies—a malady of which scarcely anything is known clinically—is in a stage at which it would be dangerous to pronounce definitively one way or the other, although the results so far seem rather to favor M. Pasteur than his critics.

In conclusion, we may cite a very interesting fact connected with the cases treated by M. Pasteur. When divided into groups of cauterized and non-cauterized patients, it is found that among the latter there were 0.81 per cent. of deaths, while among the former the deaths amounted to 1.56 per cent. At first sight this would seem to indicate that cauterization immediately after being bitten increased the intensity of the disease, but this cannot be the case. The greater mortality among cauterized patients is easily explained by the fact that those who have recourse to cauterisation are generally those who have been deeply bitten; on the other hand, cauterization is not always performed immediately.—*British Med. Journal.*

TRANSPLANTATION BY EXCHANGE. By C. B. Keetley, F. R. C. S.

The title of this paper is the name I would apply to an operation by which two portions of living tissue are made to exchange places. The following case will illustrate the procedure and the kind of circum-

stance in which it may be advantageously employed. In March, 1886, a female infant, aged two or three weeks, was brought by a neighbor of its mother's to the West London Hospital with a request that a hairy mole covering nearly the whole of the left cheek might be removed. I explained that the result would be a contracting scar worse than the mole, and sent the child away. Next week the neighbor returned, and said that the mother could not endure the sight of the large mole, and would prefer a scar. I placed the infant's arm against its face, and was rather dismayed to see that all the skin of the outer side of the upper arm, from the shoulder down to the elbow, would be required to replace the mole should I cut away the latter and then fill in the flap by transplantation. Upon reflection, I resolved to *exchange* the hairy mole of the face and the smooth white skin of the arm. The advantages of this plan are obvious, and especially the consideration that the mole would give useful skin for the upper arm; but it will be better to defer enumeration of them till the operation and its results have been described.

On April 2d, the little patient being anæsthetised, I first thoroughly cleansed and disinfected the cheek and arm with liquid potash soap (Duncan's) and solution of perchloride of mercury, successively. Next I marked out the flaps in the following manner. A straight ink-line was drawn from A to B. (The article is accompanied by an illustration in which the boundaries of the flap on the face are marked by the letters A B F E, and those of the flap on the arm by the letters C D H G). The arm was then placed in comfortable position, arching upwards over the face and head. The wet ink on the line A B printed a second line on the arm at C D. A paper pattern of the flap to be removed from the face was cut, and with its aid an exactly similar flap was marked out on the arm, so that C D H G on the arm corresponded to B A E F on the face, each letter to each respectively. Though this is a very simple matter, some care is required in practice to avoid confusion. The knives, scissors, sutures, needles, forceps, etc., to be used lay in a tray of carbolic lotion, but were dipped in boiled (not boiling) water immediatly before use and replaced in the carbolic tray when not actually in use. The object of this was to take care that no erysipelas or other specific infection should be carried by the instruments, and yet to prevent the flap and raw surfaces from being irritated by the carbolic. The sponges had all been thoroughly disinfected, although they were now placed in water only. The face flap was reflected first. It included the subcutaneous fat proper, which had to be carefully separated from the cushion of fat which swells out into the middle of the cheek from beneath the ramus of the jaw; and it was necessary also to cut very carefully and *see* everything which was divided near the parotid and some of the branches of the facial nerve. The structures in an infant's face are, of course, comparatively small and near to each other, and the amount of fat is, comparatively, very considerable. Almost all the cutting throughout the operation was done with scissors, and not very sharp ones either. The main object of this was that bleeding

might stop rapidly, and thus dry surfaces be obtained speedily—a very important matter in a plastic operation. This object was entirely attained in the case I am describing. The arm flap also included the fat down to the deep fascia. As I thought it would be somewhat difficult to put in the sutures when the arm was up against the face, I applied entirely distinct, but corresponding, sutures to the arm-flaps and edges of the arm-wound on the one hand, and to the face-flap and edges of the facial wound on the other, and afterwards lifted the arm to the head, placed the arm-flap in the facial wound and the face-flap (containing the mole) in the arm-wound, finally using the ready-placed sutures as “tags,” which, twisted together each to each, fixed everything with absolute security and accuracy. But this plan, though excellent in suitable cases, was scarcely necessary in this, and was, indeed, a little too elaborate. The angles between the arm and face, near the flaps, were now packed with iodoform gauze, and the whole arm was most carefully fixed to the head and neck with good strapping. Finally, over sufficient flannel and wadding, the head and thorax and *both* arms were rigidly secured in plaster-of-Paris. The whole had somewhat the appearance of a large egg with an infant’s face peering out of a hole near one end and its hips projecting and legs kicking freely out of the other end. The child’s conduct showed that it was free not only from pain but even from discomfort.

The following notes of the after-treatment were made by the house-surgeon, Mr. Harold Des Vœux:—April 9th (seven days after operation): Part of case removed; dressings found to be very offensive. Both flaps looking well, though the face flap is red and the stitches along its anterior border have given way. Dressed as before.—13th: Whole case removed and bases of flaps cut and sutured respectively to face and arm. This, of course, liberated the arm from the head and severed each of the two transplanted flaps from its original connections, completing the exchange of places. At the lower and outer border the flap upon the face was found to be not adherent and partially redundant, owing to cicatricial contraction of the face wound; it was therefore pared to fit and re-sutured to the face. Wounds dusted with iodoform; both arms strapped to body to prevent child from scratching the wounds.—20th: The face-flap not fitting perfectly in one or two places, it was there refreshed, adjusted, and fixed with fine horse-hair sutures.

The result bids fair to be excellent, though not perfect, owing to the fact that a certain amount of cicatricial contraction had taken place in each wound. I feared this would pull the mouth to one side eventually; but it appears now, nine months afterwards, that this has not occurred. The following account of the present state of the case is written by Mr. C. H. Taylor, house-physician to the West London Hospital, who has just visited the little patient to report on it:—“The child is much fatter and healthier in appearance; the transplanted skin on the face is of the same color and appearance of the rest of the face; all that is noticed is an incomplete irregular ring of depressions or dimples and linear

scars, these being slightly paler in color than the surrounding skin. At the outer and lower edge nearest the ear are two small patches of mole, one about the size of a pea and the other smaller; \* they are pale brown in color, and have a few silky hairs growing from them. The arm is much fatter, and the mole upon it is more raised and movable than it was upon the face, but it remains the same in size. There can therefore be no doubt about the satisfactory results attained by this mode of operating, which is, to the best of my belief, new. It is obviously a very great advantage to be able to anchor, so to speak, the arm to the head by the strong sutures which unite the former to the transplanted mole. It is thus rendered needless to put any except fine sutures into the face. Secondly, the bases or necks of the two flaps, lying with their raw surfaces in mutual contact, help to keep up each other's warmth and nutrition. Thirdly, not only is the risk of sloughing diminished, but should the part removed from the arm slough the mole saved from the face is there covering the arm wound with healthy and supple, though discolored and abnormal, skin. I cannot help thinking that this plan of preserving what might be termed "healthy disfigurements" of the face, such as hairy moles, and *exchanging* them for skin taken from parts usually hidden by the clothes, to be a great improvement on the practice of excising such moles and wasting them.—*Lancet*.

MEDICO-LEGAL ASPECTS OF THE CASE OF FANNY LILLIAN MADISON. By L. B. Anderson, M. D., Norfolk, Va.

The widespread interest which this case has excited, the impenetrable mystery which envelops many of its phases, and the difficulties which environed the learned coroner in arriving at a satisfactory solution of the cause of the death of Miss Madison, induce me to make a brief review of the medico-legal facts elicited at the *post-mortem* examination.

The facts herein presented are derived from the official record of the court before whom the case was tried: "L. W. Rose: Am keeper of the old or Marshall reservoir, which is in the city limits. There is an outside fence and a mound or embankment of the reservoir itself, containing the water. Outside sloping and turfed, inside bricked and sloping at angle of about 45°. Morning of 14th of March, 1885, went up on embankment and walked along southern walkway towards west—walkway about six feet wide—about 7 o'clock in the morning. Next to the water, on the embankment, is a picket fence, with sharp pointed edges (palings L. B. A.), 3 feet 4 inches high, surrounding the reservoir. I had gotten about half way along the southern side, where I noticed the walkway furrowed up, and saw a red glove and piece of shoestring. Furrowed condition of the walkway, with a good many of what I thought broken tracks. Close to the fence a woman's footprints, and back of hers a man's. Looked over in the water and saw floating near the top a flounce or something of a woman's dress and

\* These small patches lay near the border of the large mole when it was transplanted, and were left behind.

one leg jutting up. I called Mr. Lucas, and he touched the body with a pole 14 feet long, and I was then certain it was a body. The body was straight out in the water from the furrowed tracks. Face not perceptible in the water; body covered by about two feet of water."

"R. G. Lucas: Mr. Rose called me to come up to the top of the reservoir. Saw a glove and piece of shoestring lying on the embankment, where it looked to me there had been a desperate struggle. Right opposite, in the water, something like a dress. Raised it with a pole, saw a leg, and knew it was a body. Mr. Rose went in for the coroner. When the coroner came, Mr. Higgins went in and tied a rope around the body. The water had been running off, and was then not more than 12 or 15 inches over the body. The body was resting on the mud on the slope, and was pulled along on the mud in the water opposite the gate, 30 or 40 feet, and taken out."

"Dr. W. A. Taylor: Am coroner of the city of Richmond. About 9 o'clock of morning of 14th of March, Mr. Rose notified me of finding a body in the reservoir. We reached there about 10. About half way along the embankment there were a number of footprints, covering a space six or eight feet in length, and quite filling breadth of pathway. Tracks seemed to be those of a small-shoed person, running into each other in a confused fashion, except two heel tracks made by a very different shoe from those that made the other impressions. The heel tracks were made by a large, broad-heeled shoe, and seemed to be in such a position as a person would occupy who was looking into the reservoir. The body was taken out by the men while I was examining the tracks. It was covered with mud; the arms were bent up in front of the body, with the hands tightly clinched and lumps of mud grasped in the hands; fingers tightly clinched and the body very stiff. There was a slight snag in the left jersey sleeve near the elbow, and some trivial tears or holes at the bottom of her dress. Her garments were covered with mud. A silk handkerchief around her neck, fastened with a pin in front, which was in place and undisturbed. The hair was neatly done up behind and still securely fastened with hair-pins. In front the bangs had been washed out in strings by the water. I washed the mud from her face; had a placid look; noticed some trifling abrasions on her face and a slight bruising of the lower lip. The next day I made a *post-mortem* examination. There was a sort of knot on her forehead, on the upper and outer side of the right eye, counting the entire effusion about  $1\frac{1}{2}$  inches in diameter; there was no abrasion of the skin, no discoloration; was slightly raised above the surface of the skin, rounded and smooth, with no indication of how it was done; cutting into it, found blood had poured out under the skin from two little vessels broken inside it. There were two trivial little scrapings on the right eyelid scarcely worth noticing; just above the nose another of those little scrapes or scratches; just above the eye another, and above that another; the left half of the lower lip slightly bruised. There was no injury to the skull. There was a slight effusion of blood or deep red staining on the surface of the brain, all to-

gether about two square inches irregularly, about an inch from the middle line to the left and about half way between the top of the head and the eyebrows. In the lungs found a very little frothy water. I cannot say there was any water in the stomach; about a handful of partly digested food. In the womb a male child that I conceived had arrived at about its eighth month. Found the heart containing blood, and blood generally fluid. She was 4 feet 11 inches high, 19 inches higher than fence, and I supposed weighed about 120 lbs.

Before I obtained a printed copy of the evidence in the case, and indeed before I knew such a paper could be had, I wrote to Dr. Taylor for a description of the *post-mortem* revelations, and he very kindly furnished me with the desired information, which corresponded very accurately with the above. He also gave me a full and satisfactory explanation of certain very obscure expressions found in the text of his testimony, viz.: as to "the effusion on the brain." This, he says, may more properly be termed "a suffusion"—"that is, a mere blush or staining of blood over a space of about two square inches on the surface of the brain. It was entirely superficial, not at all in the substance all together could not have been in quantity more than a few drops. It was quite bright red in color, and did not present any clots. There was no detachment of the membranes. There was no evidence of *contre coup* anywhere, unless, as I believe, the suffusion is to be so accounted for. The suffusion was a little to the left of the median line and about half way between the root of the nose and the vertex." The abrasion he calls "scrapings" he explains as "very minute cuts." Dr. Taylor sums up his opinions in the following very significant phrase: "The marks of violence on Lillian Madison's body do not justify me in asserting that she was murdered, and on the other hand it is no less true that they do not justify me in saying she was not murdered."

The body of Fanny Lillian Madison was found in the reservoir, several inches under the water, and lying on the mud. The first question which suggests itself is, Was she drowned? That she was alive after entering the water is demonstrated by the rigid contraction of the muscles and tendons of the hands and fingers, and the tenacity with which she grasped and held the mud on the sloping bank of the reservoir. That death resulted from drowning is almost absolutely certain, from the accumulation of fluid blood in the heart, the general fluid condition of the blood throughout the system, even many hours after dissolution, and the presence in the lungs of watery vesicles, resulting from the act of respiration. Corroborative of these conclusions, we quote the following authorities: 1st. *Taylor's Medical Jurisprudence*, page 537: "If the substance locked within the fingers be of the same character as that existing at the bottom of the river or pond, it is difficult to conceive of any stronger evidence to establish the fact that death occurred subsequently to submersion. So, if a dead body be found still holding to a rope, cable or oar, no further evidence is required to show that the deceased must have died by drowning."



2d. While the medical evidence, as to the fluidity of the blood in the drowned affords numerous exceptions, "we must admit," says Beck (Vol. 2, page 182), "that it is most commonly found fluid in the drowned. And though in some cases, says Ogston, coagulated blood was found in the heart, the great mass of it was fluid." 3d. As to the presence of air vesicles and frothy mucus in the lungs, "while it has been absent in subjects which have never risen to the surface after submersion, Louis, Marc, Roselin, Mayer, Williams, Devergies, and many others have observed it almost universally."—*Beck*, Vol. 2, p. 183, etc. 4th. The absence of water in the stomach of Lillian Madison can be of no value either way, as "under many conditions it is absent, while in others, when the body is placed in a horizontal or the head in a dependent position, the water readily escapes from that organ." In this case the body was dragged, by a rope *tied around it*, 30 or 40 feet on the mud; she was laid horizontally on the pathway; she was hauled two miles, more or less; she was pregnant—all of which would surely have ejected any superfluous fluid from the stomach. While no one of the above indications, in the absence of the others, would be demonstrative of the drowning of Miss Madison, when all are present they become so corroborative and synergetical as to amount, at least, to a virtual demonstration.

Having reached the conclusion that Fanny Lillian Madison came to her death by drowning, the question now arises, Was it accidental, homicidal, or suicidal? The nature of the ground, the character and height of the fence surrounding the reservoir, preclude the entertainment of "accident" as a possible factor in the cause of her death. With the theory of homicidal drowning, however, the case is very different, as there were several "insignificant scratches on her eyelids and face, and a small tumefaction charged with blood over the outer angle of the right eye," as well as "a spot of bloodstain or suffusion on the surface of the brain, beneath the membranes, and situated on the left side of the median line, midway between the root of the nose and the vertex (or top) of the skull." (This point would ordinarily be about the juncture of the hairy scalp and the smooth forehead. Dr. Taylor surmises that this "suffusion might have resulted from counterstroke, from a blow propagated through the brain, breaking of a blood vessel from the shock in drowning, or from a blow on the head at a point leaving no external mark." Had he rested his opinion here, we would have no issue to make with him, but, unfortunately, he added, "counterstroke more frequent and most probable to attribute to counterstroke from the blow in this case, and which produced insensibility." We say "unfortunately," because the surmises of the expert are generally received by the jury as facts, and there was no rational ground to surmise that "the blow in this case" had either "produced insensibility" or by "counterstroke caused the suffusion on the surface of the brain." The learned coroner had stated that "the knot or swelling on her forehead, on the upper and outer side of her right eye, was made by a straight blow and not a glancing blow. Though I am

not absolutely certain about that, a glancing blow is more apt to break the skin than a direct one ; there was in this case no abrasion of the skin, no discoloration ; was very slightly raised above the skin, rounded and smooth, with no indication of how it had been done." It will be observed that a counterstroke always comes from the opposite side of the brain to that on which the direct stroke was given, and in a direct line with it. Liston says: "The brain is separated from its cranial attachments, both at the point struck and at the point directly opposite. Its diameter in the direction of the impulse is diminished, and a separation between the brain and cranium is formed at each extremity"—of that diameter (*Surgery*, p. 220). The blow on the forehead, to produce counterstroke so as to cause the suffusion described in this case, would have fallen on the plane of the forehead at an angle so nearly approaching a parallel with that plane as must necessarily have been such a glancing blow as to break the skin, had it been of sufficient force to materially disturb the cerebral mass, while the angle of incidence would, in such a blow, according to every principle of philosophy, have directed its force much more in the direction of the occipital than the frontal bone. I cannot, therefore, see any possible reason for attributing "the suffusion on the brain," in the locality described, to the force which produced "the knot or swelling on the forehead."

Dr. Taylor is quoted in the official report of this case as saying "that the blow in the case produced insensibility." He may have intended to qualify this language by the phrase, "most probable." In either case I can but think it was very unfortunate, because at most only conjectural. If the blow, as is implied in the testimony if not definitely stated, were inflicted, and the insensibility were produced before Miss Madison entered the water, then many of the *post-mortem* appearances are totally inexplicable. Any blow on the flesh of a young lady, overlying a superficial bony structure, sufficiently strong to rupture two blood vessels, would have instantly produced a large, deeply-colored knot or swelling, which would have been the most prominent morbid appearance on her face when removed from the water. "In all severe bruises, besides the inflammation which the violence necessarily occasions, there is an *instantaneous extravasation*, in consequence of the rupture of many of the small vessels of the part. In no other way can we account for those very considerable tumors which often rise immediately after injuries of this nature. The black and blue appearance, instantly following many bruises, can only be explained by there being an actual effusion of blood from the small vessels which had been ruptured (*Cooper's Dictionary of Practical Surgery*, vol. I, p. 215). Whereas, the knot or swelling in this case was so insignificant in size and appearance as not to attract the attention of the doctor till the next day. The indications of struggle in the water, as evinced by the air vesicles in the lungs and the contractions of the hands and fingers, besides other facts hereinafter mentioned, are not at all compatible with the theory of insensibility. If insensible, she must have been thrown into the water by some one. To effect this, her insensible and relaxed per-

son, weighing 120 lbs., enrobed in a dress of usual fulness, must have been thrown with such force over the sharp-pointed palings, nearly three and a half feet high, and clear of the bricks, some twelve or fourteen inches inside of the palings, whose sharp and angular projection protruded above the embankment, as to pass the one without hanging or tearing her clothing, and to clear the other without frightfully lacerating and bruising her tender flesh. Nor did her placid countenance, unruffled dress, smooth hair, absence of rents in her flowing skirts, and cuts and contusions on her person, less clearly indicate that she was not projected into the reservoir, in defiance of her protests and struggles. To have accomplished either would have required an agent above the average height and far above the average physical power. *A priori*, we conclude that the drowning of Fanny Lillian Madison could not have been homicidal.

In contravention of this conclusion, I am confronted with the fact that certain witnesses deposed as follows: "Mr. Rose: I noticed the walkway furrowed up with a good many of what I thought broken tracks. Close to the fence a woman's footprints, and back of hers a man's—broken tracks, all huddled up together and run into one another."

"Mr. Lucas: I saw on the embankment several tracks of a man and several of a woman."

"Mr. Trainham: Saw ground on walkway ruffled up; saw tracks; judged them to be tracks of a lady and gentleman. Man's track, medium-sized track; lady's track, very small."

"Mr. Hutcheson: Tracks seemed to be of a male and female; one seemed to be a broad-bottomed shoe, with a broad heel on it; it looked like a kind of a coarse shoe."

"Mr. Bolton: Saw the tracks of a man only along the embankment. The man's tracks up the embankment led to where the ground had been broken up. It was a flat broad shoe, with a flat broad heel, like a brogan."

"Dr. Taylor: Tracks seemed to be those of a small-shoed person, running into each other in a confused fashion, except two heel tracks made by a broad-heeled shoe, and seemed to be in such a position as a person would occupy who was looking into the reservoir." Dr. Taylor had given these footprints special, careful, and minute examination, had compared them with the shoe of the drowned girl, and found them all to correspond with it, except two broad heels near the fence. Hence, he saw no tracks but hers, while Mr. Rose saw close to the fence a woman's footprints, and back of hers a man's. Mr. Lucas saw several tracks of a man and several of a woman, indicating a desperate struggle. Mr. Trainham saw tracks of what seemed to be a man and a woman. I shall not undertake to explain or reconcile this discrepancy. Whosoever the male was with a broad flat shoe, with a large flat heel, like a brogan; whatever produced the appearance of a desperate conflict, seen by one; however the male tracks reported by several, "so like a thrice told tale," were totally obliterated before Dr.

Taylor viewed the premises, there was nothing in the history of the case, as shown above, to indicate that that mysterious and unknown visitor participated in any way in consummating the act which culminated in the death of the unfortunate girl.

The absence of tumefaction and discoloration in the knot or swelling on the forehead above and to the right of the right eye, resulting from a blow of sufficient force to rupture two blood-vessels, points almost with the certainty of demonstration that the injury was inflicted in the water, the very low temperature of which so contracted the superficial capillaries as to prevent the effusion, discoloration, and swelling which would otherwise have occurred. And while "the effusion on the surface of the brain" might have resulted from the effect of a blow directly over its locality, it is almost certain that any force producing such an effect under so thick a section of the skull as is usually found in this locality would have caused serious rupture of important vessels and extensive effusion in the base of the brain by *contre coup*. We are, therefore, almost irresistibly drawn to the conclusion that the "scrapings," or "scratches," or "minute cuts," on "the eyelids and forehead," as well as "the tumefaction of the left half of the lower lip," and the "knot or swelling on the forehead," were produced by a fall, headlong and face foremost, from the "picket fence" upon the mud-covered brick lining of the reservoir, while "the effusion on the surface of the brain" resulted, in all probability, from the combined effect of the fall, the shock resulting from plunging into the icy cold water, and the speedy asphyxia following. The usual objection urged against this conclusion, viz., that one in Miss Madison's condition could not have climbed upon or over the palings, can have no weight with one who has carefully inspected the premises and seen how, with a moderate effort, with the hands grasping the top of the palings, she could have raised herself so as to throw one foot over and upon the top railing, and thus mount the "picket fence." Most easily could this have been accomplished by one used to mounting and riding a horse. From all of which we conclude that Fanny Lillian Madison came to her death by suicidal drowning.

SUMMARY.—The salient points in this case, which we believe have been established by the *post-mortem* examination, are:

- 1st. That F. L. Madison was conscious when she entered the water.
- 2d. That she breathed after entering the water.
- 3d. That she struggled in the water.
- 4th. That no one or all the marks of violence found on her person could have, directly or indirectly, caused her death.
- 5th. The state of her countenance, dress, hair, and the delicate silk handkerchief about her neck, clearly evince the entire absence of any rude or violent assault upon her person.

COROLLARY.—1st. That she was drowned.

2d. That her death was voluntary.

3d. That the marks on her person were received in the water.—

*Southern Clinic.*

## THE MOVEMENT TOWARDS PHYSICAL CULTURE.

We cannot allow the opportunity to pass, which is presented by the lecture of Professor Hartwell,\* without again calling the attention of our readers to the importance of the subject of physical training, especially as a constituent part of every properly designed educational system. Professor Hartwell's lecture brings out with especial emphasis one most important point, namely, the relation between muscular exercise and central nervous activity. It has been much the custom to speak of physical exercise as a useful addendum or supplement to mental training, but it is time educators were shown, what they can best learn through the medical profession, namely, that muscle-training *is* brain-culture. The phenomena accompanying a given muscular act are not confined to the renewal of tissue in the muscle contracted, but include, as well, the original motor impulse of the central nervous organ, the action of the co-ordinating centre, and the transmission of the impulse through the nervous trunks to the motorial end-plates, as well as the afferent impulse to the centre of the muscular sense, conveying information of the work that has been done. A training merely by books, a training simply through eye and ear, must leave such parts of the brain undeveloped as are connected with the motor and sensory centres of the great muscular systems of the body. The manual training schools which have come into vogue of late years are thus seen to be something more than mere utilitarian schemes. They give an actual mental *education*. The old-fashioned apprenticeships, with their seven years of precise manual training, were, perhaps, after all, not so immeasurably inferior as educational methods, in the broad sense of the term, to the common school system of the present day. The present methods of teaching chemistry and physics recognize the hand as a most important channel through which to reach the brain, for the best teachers are aware that it is not through seeing certain experiments performed, least of all through reading of them in a text-book, that the pupil gets the most good. The personal use of instruments of precision involving, primarily, the tactile sense, is worth more as an educational agency than a fluent repetition of all the laws of physics. Handcraft is a good path to rede-craft. Indeed, the very history of the words *craft* and *cunning*, before they acquired their modern sinister meaning, shows that muscular skill and strength led to mental power. As some one, we believe Carlyle, has said, the cunning man is the *canning* man—the man that *can*, the true *könig*, or king of men.

Though we have not the pleasure of noting, as yet, any serious and general attempt to incorporate physical training into our public school system, there are not wanting tokens that the public mind is awaking to the importance of the subject, and that a sentiment is forming which will, sooner or later, make itself felt on boards of public education. A movement begun in Boston, this spring, towards the formation of an

\* "On the Physiology of Exercise," by E. M. Hartwell, M.D., Associate in Physical Training in the Johns Hopkins University, Baltimore: *Boston Medical and Surgical Journal*, Vol. CXVI., Nos. 13 and 14.

athletic club, has met with a most enthusiastic reception. Before a situation has been even decided upon for a building, the limit of membership is already full, a thousand names having been enrolled. The alumni of Amherst College recently held a meeting in New York, at which it was decided to establish a professorship of physical culture in that college, in memory of Henry Ward Beecher. The endowment of \$50,000 is now, we understand, in process of being raised for that purpose. During the past winter a gymnasium for women has been opened in Boston, which is probably superior to anything of the kind in the United States. The gymnasium has existed here for nine years, but has been hitherto cramped by insufficient facilities, until its friends erected the present commodious structure, where about 350 women and children are now regularly instructed in the best methods of physical culture. A hall 96 x 63 feet, and 34 feet high, well lighted and ventilated, is furnished with all the requirements for light, and many for heavier gymnastics; while fifty-two dressing-rooms, each with a bowl set above an asphalt floor, give the opportunity so important for sponging and rubbing after the exercise. To see a class of fifty women, in easy-fitting gymnastic habit, going through the dumb-bell and chest-weight drill, to musical accompaniment, and ending, perchance, with a few laps on the patent running track, is a sight that once would have been a surprise. But this work is going on steadily and quietly, and with results which are already apparent to the friends and physicians of some of the pupils, and whose good effects are to be confidently looked for in the coming generation of children.

A particularly interesting feature of this work is the establishment of a normal class for the training of teachers of gymnastics for women and children. That there is to be a call for such teachers seems very evident, and the work opens a new field for female labor, which, in the present overcrowded state of many other callings for self-supporting women, will probably attract those whose tastes lie in this direction. The importance of skilled supervision of all persons, male, and perhaps we may add, especially female, who undertake to work in regularly-equipped gymnasia, is sufficiently obvious. But it is also desirable that such instruction may be given to women, especially those who are already teachers of other branches in the schools, so that they may be able to teach *con amore* "hall gymnastics" so soon as the time is ripe for the introduction of such exercises into the public schools. In Germany a normal course in physical culture is required of school-teachers, as a prerequisite to receiving their commissions, and it is only as taught by the regular teachers that a system of physical exercise can ever be successful in the schools.—*Boston Medical and Surgical Journal*.

THE INFLUENCE OF ALTITUDE ON PHTHISIS. By Nathaniel Alcock, L.R.C.S.I., Surgeon-Major, Medical Staff.

In the third volume of Professor Hirsch's great work, "Handbook of Geographical and Historical Pathology," it is shown that while the influence of latitude upon phthisis is scarcely appreciable, that of alti-

tude is most striking. The explanations hitherto offered of the action of altitude upon phthisis amount to three: greater expansion of the chest from aerial rarefaction; absence of bacterial organisms from the air; and general tonic effect.\* Were the first of these effective, some improvement would be expected to follow the use of gymnastics at lower levels; of the second it may be said that every consumptive carries his own microbes with him; and the third is too vague to need discussion. It may therefore be assumed that no satisfactory explanation has as yet been suggested. The specific organism of tubercle has an established identity; consequently the disease must be ranked among the special infections, and its aggravation or arrest must depend upon the fertility or sterility of the microbe to which it is due. Pasteur, in his splendid researches on the poison of splenic fever, has shown that "splenic fever can never be taken by fowls; in vain are they inoculated with a considerable quantity of splenic blood." "Now, the temperature of birds being between  $106^{\circ}$  and  $108^{\circ}$ , may it not be," said Pasteur, "that the fowls are protected from the disease because their blood is too warm? A hen was taken, and, after inoculating it with splenic fever blood, it was cooled down to  $100^{\circ}$ . At the end of twenty-four hours the hen was dead. Again, a hen was inoculated, subjected like the first to cooling, and when the fever was at its height it was wrapped in cotton-wool and placed in an oven at  $95^{\circ}$ . In a few hours it was fully restored to health. Hens killed after having been thus saved no longer showed the slightest trace of splenic organisms." Thus it is proved that the microbe of one of the most virulent diseases reaches its condition of highest life and greatest reproduction in blood at a temperature of about  $100^{\circ}$ , but that in the same blood at  $107^{\circ}$  it ceases to exist. Presumably, then, if the subjects of some forms of bacterial infection could survive a proportionate elevation of temperature, they too would overcome the poison.

The question here arises, Are there any conditions in which the blood of a living man can be made to assume the molecular action equivalent to a temperature of  $105^{\circ}$  while the animal heat remains at  $98^{\circ}$ ? Clearly such is quite possible by diminishing atmospheric pressure while the temperature remains fixed. We know that it would be quite impossible to boil water at the sea level with  $199^{\circ}$  of heat, but that if the water be removed to St. Gothard, 6,808 feet high, boiling will at once take place. Professor Thomson, in his opening address at the British Association, said: "It is scarcely possible to help anticipating in idea the arrival at a complete theory of matter, in which all its properties will be seen to be merely attributes of motion." It is already accepted that the only difference between the liquid and gaseous states is that of molecular motion. Consequently, if  $199^{\circ}$  of heat can make water boil at St. Gothard, it is apparent that this temperature can there produce an amount of molecular motion which not less than  $212^{\circ}$

\* *The Lancet*, Jan. 8th, 1887.

could excite at the sea level. Further, as  $199^{\circ}$  is to  $211^{\circ}$  so is  $98.4^{\circ}$  to  $104.8^{\circ}$ ; therefore the rate of molecular motion to which a temperature of  $98.4^{\circ}$  would give rise at St. Gothard could only be attained at the sea level as the result of a temperature of  $104.8^{\circ}$ . Professor Clifford has shown that "the energy of the single particles is always proportional to the temperature of the gas," provided the pressure remains unaltered. Consequently, since the condition of every organism is but the aggregate of its ultimate atoms, if a man whose temperature at the sea level is  $98.4^{\circ}$  be removed to St. Gothard, it is evident that both the gaseous and liquid molecules in his blood must attain a rate of motion corresponding to what would have been produced at sea level by a temperature of  $104.8^{\circ}$ . But the experiment of Pasteur has demonstrated that the optimum temperature of certain infecting organisms is about  $100^{\circ}$ , and that when the vibration-rates equivalent to  $106^{\circ}$  or  $107^{\circ}$  are communicated to their constituent molecules, disorganization follows. Hence it is intelligible that, if a consumptive patient whose temperature at sea level is  $98.4^{\circ}$  be raised to an elevation of 6,000 feet, such alteration of molecular motion will take place in the blood as to be incompatible with the healthy existence and effective reproduction of the tubercular microbe; in fact, the patient will be placed in the position of the bird to the splenic fever poison. If this reasoning be sound, wide is the vista with regard to the epidemic levels of yellow fever, malaria, cholera, etc., which it must open up, and strange the possibilities which might result from the artificial production of the required conditions.—*Lancet*.

#### RECENT RESEARCH ON SNAKE POISON.

The nature and mode of action of the poisons of venomous serpents have always attracted considerable attention. The effects of snake-bite are so striking in their rapidity and severity as to stand in great measure apart from other animal poisons. Much was learnt of their constitution by the researches conducted by Drs. Fayrer and Brunton in 1872-75, and still more has been added to our knowledge in a monograph by Dr. Weir Mitchell and Dr. Reichert, recently published by the Smithsonian Institute. These researches, although limited to a comparatively few species of snakes, including, however, the most venomous, bear out the view long since advanced by the first named, that snake venom is not simple, but that it contains one or more poisonous substances. In the first place, it must be acknowledged that the poisons are of chemical nature, and not vital or the product of vital action. They do not fall, then, into the class of ptomaines or other alkaloids which are the result of organized vital activity; for although micrococci are described in the fresh venom capable of multiplication, no support is gained to the idea that they have anything at all to do with the toxic action. The venom is, however, found to yield proteid matters which are held in solution, and can be separated by dialysis into coagulable proteids or globulins, and non-coagulable proteids or peptones. In some venoms the globulins, are further capable of subdivision according



to their reaction, but in cobra venom there is only one globulin, and a peptone which differs from others in being coagulated by prolonged boiling and not being precipitated by mercuric chloride and absolute alcohol. Drs. Weir Mitchell and Reichert have submitted to a most careful physiological analysis these different products of snake-poison, and their interesting conclusions deserve to be widely known. The venoms resemble closely the salivary secretions of other vertebrates; and their active principle, which can be maintained in the dried state, or in such preserving fluids as glycerine and alcohol, is contained in the fluid part of the venom only. This active principle is divisible, probably in all cases, into two classes of proteids—globulins and peptones—of which the former may consist of several distinct principles. If taken into the stomach during the intervals of digestion the poisons may prove fatal, provided that they contain a sufficient quantity of dialysable peptone, whereas during digestion they are rendered harmless. The chief local antidotes are permanganate of potash, ferric chloride, and tincture of iodine. The venom has a powerful local effect upon the living tissues, inducing more rapid necrotic changes than any other known organic substance. It renders the blood incapable of coagulation, and exerts a local effect on the capillaries, so that extravasation occurs from the vessel walls being unable to resist the normal blood-pressure, those capillaries yielding most which are nearest to the larger blood-vessels, and ligature of vessels lessening the amount of extravasation. The altered condition of the corpuscles, which become soft and spherical and tend to fuse together, is a further aid to the escape of blood into the tissues. Sometimes this extravasation occurs into the substance of organs—as the brain, kidneys, or heart. The effect of the venoms was also carefully noted upon the respiratory and nervous systems, and on blood-pressure. They show that changes in the pulse rate following administration of the venom depend upon two antagonistic factors: the one, which excites the accelerator centre, tending to increase the rate; the other, which acts directly upon the heart, tending to diminish it. The variations noted in the arterial pressure were attributable in the main to three causes—viz., depression of the vasomotor centre, depression of the heart, and capillary obstruction. The respirations are primarily increased, and secondarily diminished in frequency; these being again due to the operation of two antagonistic factors—the one an irritation of the periphery of the vagus, the other a depression of the respiratory centre. Death may occur through the paralysis of the respiratory centres, or cardiac paralysis, or hemorrhages in the medulla, or from the widespread destruction of the red corpuscles. The research clearly proves that the antagonistic and varying physiological effects depend upon the admixture of the separate principles—the globulins and peptones; and comparative study shows that the globulins are the chief agents in the blood-destruction, and in producing changes in the capillary walls; whilst they also act more upon the accelerator centres of the heart, and are therefore responsible for the increase in pulse rate; and, further, they are the chief cardiac depressants and paralyzers of

the respiratory centres. In some respects, then, the globulins must be considered as more toxic than the peptones, which, although active in producing œdema and necrosis of tissue, have little power in preventing coagulation or in altering the corpuscles and capillaries; moreover, these constituents act on the blood-pressure, and are the chief factors in increasing the respiration rate by acting on the periphery of the vagi nerves.

The great merit of this research is the demonstration of these distinctions in the constituent poisonous principles, pointing to the differences in the action of different kinds of snake-bite, being explained by the relative predominance of one or other of the constituents. Thus in crotalus venom there is a much greater proportion of globulins than in the cobra venom, which may explain the marked local destructive effects of the former as compared with that of the latter; but the peptone of cobra venom would seem to be more active in proportion than that of the crotalus. The conclusion that, owing to their proteid nature and close relation in composition to the blood, it is almost futile to seek for a chemical antidote—for what would destroy the poison would have a similar action on the blood itself—is, in spite of its hopelessness, unfortunately in accord with experience. What is required, and what should be sought for, is a physiological antagonist rather than a chemical antidote, and in this direction we may look for research to tend in the future.—*Lancet*.

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### ABSTRACTS.

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THE PHYSICAL TRAINING OF GIRLS (Dr. Rayner W. Batten, in the *British Medical Journal*).—Let us consider what physical training is really necessary; and I would here point out that such training needs to be scientifically considered and intelligently carried out, so that all groups of muscles and all parts of the frame may equally in turn be exercised; no one amusement or exercise will do everything; look at the contracted chest and the stoop of a mere cyclist, or notice even the build of a boating man or cricketer, and it will at once be seen that more than one form of exercise is needed for full and perfect development. Moreover, it must be understood that girls must be treated as individuals; there are exercises suitable to some which others cannot safely indulge in; whilst amongst the elder girls there will be times when all violent exercise is undesirable; these are matters easily arranged.

First, then, there must be drill and a gymnasium, with a lady-instructor, thoroughly trained in some scientific system, such as the Swedish; and this gymnasium-work must be compulsory for every girl in the college. But, secondly, drill and callisthenic exercises are not enough; for—they are not practised in the fresh air or sunlight—they are mere exercise, not recreation, doing much to develop muscles and stimulate internal organs, but not influencing the mental faculties or

rousing the animal spirits; and they can do nothing towards the creation of a feeling of pride in the school itself or towards the breaking down of cliquism and social narrowness. For physical health there must be recreation as well as exercise; and at present, in our ladies' colleges, the exercise, with the exception of tennis, has little of the recreative element in it. I need not specify what athletic sports or games are to be indulged in: swimming, fencing, cricket, football, fives, tennis, games of speed and endurance, such as prisoners' base, cross-touch, and many others; but it would be well, and this could easily be arranged, that some of these games should be played under "Ladies' Association rules." But first there must be college playgrounds—not dreary places "closed in by narrowing nunnery walls"—but large spaces, open to the fresh air and sunlight, and surrounded only by a suitable iron railing; so that, under and together with their teachers, the girls may play perfectly freely, and girls and passers-by alike become accustomed to the playing-dress.

Secondly, all girls must be made to play in suitable "flannels," for there can be no proper play or full physical development in the ordinary dress; whilst the wearing of such "flannels" will ensure the necessary thorough change on the return home; the extra handkerchief round the neck, and, in the case of the elder girls, a longer skirt will be all that is needed for the walk home. I yield the latter in deference to public opinion; I attach no high moral value to it myself, for I have known some latitude of conduct even with the fullest length of petticoat.

Thirdly, subject to health conditions, every girl must be made to play; and two half-holidays a week at least should be given for that purpose.

Fourthly, the games must be varied; no one continues for long to do that which they are conscious of not doing well; every girl will soon find out her strong and weak points in play as well as in work; and if the game is to be a recreation, she must be allowed to choose her own form, the only obligation being that she is to play, and that no books or work are to be brought on the playground. \* \* \*

Wisely regulated recreation will involve no real loss of time; far from it, there will be a real gain; for the quick bright spirit of the healthier child will carry her through her work with a thoroughness and an ease which will more than compensate. Let two half-holidays a week be the rule of the college; and, if necessary, let some of the educational subjects give way to allow of this. If one-half of the time now given by many girls to piano-learning were devoted to healthy recreation instead, both music and the world generally would alike benefit. On the one hand, there would no longer be "heard in the land" an immense amount of so-called music of purely mechanical value; and, on the other, there would largely be an end to the hysteria and neuroses which are the curse of the present day. We should daily hear less and less of young women condemned for months to lie upon the couch; whilst all the skill and ingenuity now expended in inventing new forms of pessaries would be diverted into other and healthier chan-

nels. I have but imperfectly sketched out changes which, in my opinion, are absolutely demanded by reason of the alteration which has taken place in girls' education and woman's work—no reform begins from below; private families and small schools cannot take this matter up; the initiative must come from the ladies' colleges. No reasonable reform, with common sense on its side, can long be resisted; and, if the colleges will but move, there will soon not be a private school in which high physical training is not invariably the rule. To bring this about is a duty thrown upon our own profession; the heads of colleges have not themselves felt its need or realized its advantages; they can scarcely, then, be expected to be very enthusiastic in its favor.

THE GYMNASIUM AS AN AID TO THE PHYSICIAN.—(Dr. Charles McIntyre, Jr., Lecturer on Hygiene at Lafayette College, in the *Philadelphia Medical Times*.)—In the use of gymnastic appliances it is necessary to study each case for itself. The gymnasium provides neither a panacea nor a specific, and there are many forms of exercise which, comparable to the old saw, "One man's food is another's poison," are often harmful to an individual, and should by all means be forbidden. Usually, however, our patients' sin in relation to exercise is one of omission and not of commission, so that our duty more frequently is positively to direct the exercise to be taken rather than forbid the use of any form of exercise. Thanks, however, to the workers in this field of study, we have learned that exercise is complex in character, and, when prescribed as a therapeutic measure, should be selected with as much care as is any drug. The use of a certain set of muscles will deform a wellbuilt man; the use of that same set may be necessary to bring into harmony an unsymmetrical one. The point that it is desired to emphasize is, that telling a patient to take exercise, or a definite amount of exercise, is not enough, but we must prescribe its character as well; and, as in all remedial methods, we must be careful to have a very clear view of the end to be accomplished before we prescribe. \* \* \* Selected exercise, then, brings man nearer his normal proportion. Then, again, there is comparatively little of this kind of exercise given, so that we have fallow ground to work upon, which will very probably yield us large and favorable results. The proof that too little developing exercise is taken lies in the fact that so many people are poorly developed. A fine-looking, well-developed man is a matter of observation and remark on our streets; and from the results obtained whenever developing exercise has been employed upon persons as ordinarily seen, it is fair to conclude that if such exercise were used to any great extent, there would be more individuals seen who were well developed. Of course, much of this aid to our profession will be in the line of preventive medicine—probably the highest form to practice. By building up the proportion of strength and functions of the body to a normal, there will not only be fewer attacks of disease, but many forms of disease will be better resisted. A statement made by Dr. Morgan in his "University Oars" is well-nigh worn threadbare by oft quotation, but

so apt is it here that I venture to use it. In speaking of increasing the size of the chest, and thereby of the lung capacity, if in an attack of pneumonia, "these additional fifty inches will amply suffice to turn the scale on the side of recovery. It assists a patient successfully to tide over the critical stage of his disease."

THE CAUSATION OF SEX.—Having made an elaborate study of this subject, Dr. A. J. Wall, of Her Majesty's Indian Army, arrives at the following conclusions (*Lancet*): The results obtained may be briefly summed up by saying that each parent while in his or her prime has the greatest power of imprinting his or her sex on the offspring. That probably the male is the most potent when the age is exactly equal. That the immature parent has very little power of doing so, the immature male being peculiarly powerless, for of all births when the fathers were below twenty-two, the proportion of male births was only 71 to 100 females. That when there is a difference in the age of the parents the sex of the offspring is most frequently that of the parent who is nearest the prime of life; but that if the male should be much older than the female, the female being in her prime, a considerable excess of male births may be expected. Thus, males are obtained with the greatest amount of certainty with females above thirty-six years of age and males distinctly younger, and the same result is obtained with old males and disproportionately young females, and also with immature females. Whereas females are greatly in excess if we take males under twenty-two years of age and females above that age, or else males above fifty-six years of age with females about fifteen years or twenty years younger.

In regard to the exact cause of sex, the evidence here adduced is very unfavorable to the view that it depends merely upon the number of spermatozoa that penetrate the ovum. For we see that men at advanced age are even more capable than very young men of producing males. And, again, females in their prime give an excess of females with males somewhat older, but males are more common when the father is greatly older. Not to discuss the question minutely, it would seem that the vigor of the embryo-forming tissue is a more important agent than its quantity, and that this may be modified in various ways, the female element being especially liable to modification. There are not wanting, for instance, cases in the tables that seem to imply that anything that debilitates a parent renders it far less capable of imprinting its sex on the offspring. These, however, are points quite beside the present question, which is the influence of the age of the parents. But enough has been said in this relation to prove how important a factor this is, for it can change a mean proportional birth-rate of 107.4 males to 100 females, on the one hand, to 71 males to 100 females, and, on the other, to no less than 173.3.

THE VALUE OF GASEOUS ENEMATA IN THE TREATMENT OF PULMONARY DISEASES.—In a paper published in the *Medical News*

Dr. E. T. Bruen arrives at the following conclusions as the result of his experience with Bergeon's method at the Philadelphia Hospital.

1. In nearly all cases lasting effects have been secured in the reduction of temperature, suspension of night-sweats, lessened cough, and expectoration, and in some, all physical signs of bronchial catarrh abolished.

2. Temporarily reduction of pulse-rate fifteen to twenty beats, and temperature one-half a degree to one degree during the administration of the gas.

3. The amount of gas introduced into the bowel has varied from three quarts to a gallon at each injection. It has been introduced very slowly, from fifteen minutes to a half an hour being demanded by the operation. The administration has been practiced in most cases twice in the twenty-four hours. No injurious effects from the gas have as yet been observed.

4. Administration of the gas in different amounts and varying degrees of concentration is now being practiced, and also investigations into the characteristics of the sputa.

5. In only one of the cases of phthisis the effects of the gas have been entirely negative.

6. In cases of phthisis complicated by intestinal lesions, experience is still insufficient to make it possible to state positive results.

7. The ultimate value of the treatment can certainly only be established by time. The probable mode of action would seem to be antiseptic, and by reducing suppuration the relief of the attending serious symptoms, the patient is permitted to gain by food, exercise, and general treatment. Thus far, the value of the gas seems to be that of a useful therapeutic measure, rather than a curative plan of treatment.

8. The method of preparing the gas for use in the hospital is as follows: The carbonic acid gas is passed through a solution of chloride of sodium and sulphide of sodium in twenty-two ounces of water. The proportion of the salts has been increased in some cases, and some trials of other combinations are being made.

[In discussing an address\* on this subject recently made by Dr. J. Solis Cohen before the Philadelphia County Medical Society, Dr. William Osler said: "Recently, at the University Hospital, a patient very nearly expired after an injection of a mixture of carbon dioxide and sulphuretted hydrogen, if given in sufficient quantities, is capable of producing poisonous effects even when taken by the rectum. I mention this accident, lest similar mistakes may arise. Evidently the amount of sulphuretted hydrogen which is given must be small. At the Biological Society, at Paris, some experiments were related which showed that even a few cubic centimetres are sufficient to poison a good-sized dog. In the experiences which are related in French journals, the odor of sulphuretted hydrogen is readily observed in the breath, but I have not noticed this in any of the Blockley patients. This is an exceedingly interesting, not to say comical, method of treating phthisis, but

\* See page 502.

it is too early to say what the results are likely to be. Certainly, however, in Dr. Bruen's hands, at the Philadelphia Hospital, they have been extremely good." ]

THE INADEQUATE TREATMENT OF ANÆMIA (Sir Dyce Duckworth, in the *British Medical Journal*).—None amongst us can doubt that there is everywhere a great deal of untreated anæmia. I observe it quite as commonly in healthy rural districts as in the large towns. An out-door life, in pure air, is by no means preventive or curative of this state. I have a strong impression, indeed, that many cases, anæmic in the country, improve under the conditions of the more intense life of big cities, provided the ordinary hygienic conditions are favorable. It is common to find the contrary affirmed—that country girls often become anæmic in the large towns. This is quite true, but the facts of each case must be brought out in order to explain the cause in each case. The causes of anæmia, ill-understood as they are, are certainly not uniform.

I would now instance two approved plans of treatment. Some years ago Dr. Wilks expressed the opinion that some of these cases were readily cured by aloes without any iron, and I think I have been able to satisfy myself that this is so. Constipation is a common trouble in anæmia, and it is well treated by such an aperient as aloes, which operates on the large bowel, and probably stimulates adjacent pelvic viscera, encouraging thereby restoration of function to the uterus and ovaries, and thus establishing the menses. Intestinal catarrh is relieved in this way, and so better general nutrition is secured, leading to improved condition of blood. Cases of amenorrhœa dependent on plethora, the opposite state to anæmia, may be thus treated, but saline purgatives probably answer better. The first method I would mention is that consisting in giving saline aperients together with good diet and some full-bodied red wine, such as Burgundy, to the extent of four or six ounces daily. This is found to achieve the desired result in many cases without any iron. The second method is chalybeate treatment. Good therapeutists have urged that the non-astringent preparations of iron act best, and should therefore be used. It is found that the state of the digestive system sometimes forbids the immediate use of iron. Thus, it will hardly agree, unless the tongue be clean, and any catarrhal state of stomach be first removed. For this purpose some alkaline and mild tonic remedy is necessary, such as a soda and calumba mixture for a few days; then iron may be given, beginning with small and increasing to large doses. The best preparations are the ammonio-citrate, the tartrate, and saccharine carbonate amongst the non-astringent ones; of these, from five to twenty grains may be given thrice daily. The larger doses will often succeed where the smaller fail. The carbonate of iron is perhaps one of the best preparations, and is not so much used now as formerly. In the form of "mistura ferri composita" it is still presented in the last *Pharmacopœia* (Dr. Griffiths's green mixture).

To be effectual in many cases the dose would require to be increased beyond the indicated maximum of two ounces, and patients resent such dosage. The carbonate is, therefore, better given in fuller doses in the form of the saccharated carbonate, which is not at all unpleasant, spread on bread and butter, and half-drachm doses may be thus taken. In the form of Blaud's pills it is now very commonly given, and the late Professor von Niemeyer has the credit of introducing it in this form into English practice, for it became known here only after the English translation of his book appeared in 1869. He remarked that he had "had such brilliant results with these pills that he never found any opportunity to experiment with other articles." As various formulæ are given for these pills, and they demand some skill in making, I append one which is trustworthy: ℞. Ferri sulphatis gr.ij; potassii carb. gr.ij; glycerini tragacanthæ q.s. ut. ft. pil.j. The dose is one pill thrice daily, gradually increased to four or six thrice a day. Given in this way, a large amount of iron is introduced into the system, much more than is actually taken up, but there is plain clinical evidence to show that these large and seemingly uncouth doses effect what smaller ones fail to do. Of the astringent preparations, the tincture of the perchloride, of the acetate, and the sulphate, it is certain that large doses cannot well be borne or digested. The dried sulphate is a good preparation given in pill with potash or soda. I have employed it in twenty and thirty grain doses in pills with the best effects in some very severe cases of anæmia, and I wish to commend the practice, which is at once seen to be very different from that common y pursued, in which only small doses are given. To secure the full benefit, however, in some severe cases, it is necessary to keep the patient under care or observation from time to time for one or two years, and to recur to the treatment for a few weeks at intervals. There is a great tendency to relapse, and for the benefit to pass off. The risk is of leaving such cases incompletely cured, and so still exposed to the graver evils attendant on the anæmic state. Much benefit is to be obtained from the use of chalybeate waters by patients who can resort to suitable spas. Harrogate presents, without any question, the best potable iron waters in this country, and the Kissingen aperient chalybeate spring there is very suitable for many cases; also the chloride of iron and the Tewit springs. On the Continent are many excellent iron waters, of which the best are to be found at Spa, Schwalbach, Pyrmont, Bocklet (near Kissingen), and St. Moritz. The waters most impregnated with carbonic acid are the most agreeable to take. During the treatment by iron, it is well to give a nightly dose of the compound decoction of aloes, made more powerful, if necessary, by the addition of one or two drachms of the tincture of aloes.

The therapeutics of the anæmic state demand something more than mere drugs; but I must not dwell on these. I would, however, call attention to the importance of securing rest in the early treatment of severe cases. This is urgently called for when there is cardiac debility and dilatation, also if there be any suspicion of gastric ulcer. Repose



in bed for some days or weeks proves of great value; and if there be any pain after solid food, it will be well to suspect the possibility of gastric ulcer, and to employ suitable diet for some time. The great point I seek now to enforce is the value of iron in much larger doses than are commonly given, and the maintenance of the treatment for a prolonged period. Trousseau called attention to this matter many years ago, but his precepts have been forgotten. He considered the only limit to the amount of iron to be given was the tolerance of the stomach; and, where it disagreed, he gave it with opium or belladonna, or suspended it for a time in favor of cinchona. Here was a dictum of that wise physician in respect of anæmia: "A maladie chronique, il faut une thérapeutique chronique." He regarded the disorder—not, as is too often the case, as a simple and fleeting one, but as essentially chronic. I must add that the fault is often on the patient's side. Having securing some temporary benefit, our cases pass away from us; but our duty is to follow them up till we are certain that the blood is restored to, and maintained at, due corpuscular richness. I am sure, from observation of many cases, that persistent treatment with iron, in a suitable form, and in much larger doses than are commonly given, will prove the most valuable and trustworthy remedy we have in dealing with anæmia. The mental condition of many of the subjects of this disorder must not be neglected. Chagrin and unhappiness, and want of active pursuits, often retard recovery. The venous murmur in the neck is found to be the last to disappear; but until it is no longer heard a case of anæmia demands treatment. I might add that arsenic is of unquestionable value, sometimes, as an addition to treatment by iron, though I am not able to distinguish the cases in which it is specially useful. It is intelligible that it should be beneficial in cases complicated with malarial impregnation, as in persons long resident in the tropics; and its great value in cases of pernicious anæmia, where iron is useless, must not be forgotten in connection with its occasional suitability in simple anæmia.

CEREBRAL LOCALIZATION.—In the *American Journal of the Medical Sciences*, Dr. Henry Hun sums up our present knowledge of cerebral localization as follows:

1. The greater part of the cerebral cortex can be divided into small areas, each of which is functionally associated with a definite mode of mental action, and is consequently called the cortical centre for that action.

2. The cortical centres connected with the sensory nerves are situated in the posterior half of the cerebral cortex, including the temporal lobe, and the cortical centres connected with the motor nerves are situated in the middle portion of the cerebral cortex and in the posterior part of the cortex of the anterior lobe.

3. Each sensory cortical centre probably consists of two parts: a smaller one in which the peripheral one has its termination, and in which take place those molecular changes which correspond to simple

sensation; and a larger one in which take place those changes which correspond to mental processes of memory, judgment, and comparison, which together constitute complete perception and recognition.

4. Each motor cortical centre probably consists of two parts: a smaller one in which take place those molecular changes which correspond to the action of the will in originating voluntary movements; and a larger part in which take place those molecular changes which correspond to the memories of co-ordinated muscular innervation which are factors in the production of voluntary movements.

5. The optic nerve fibres from the right upper quadrant of each retina terminate in the lower half of the right cuneus.

6. The optic fibres from the right lower quadrant of each retina terminate in the adjacent part of the right median occipito-temporal convolution.

7. The lower half of the cuneus and the adjacent part of the median occipito-temporal convolution is the point of termination of the optic nerve fibres from homonymous halves of the retinae, the right half of each retina being represented in the right occipital lobe, and left half in the lobe.

8. Functional activity of the cortex of the median surface of the occipital lobe is necessary for simple visual sensation.

9. Functional activity of the cortex of the convex surface of the left occipital lobe is necessary for full visual perception and recognition, and for the production of visual memories.

10. The temporal lobe is the cortical centre for hearing, and complete destruction of a temporal lobe, or of the auditory fibres running to it, causes complete deafness of the opposite ear.

11. Functional activity of the cortex of the left superior temporal convolution is necessary for the perception and recognition of spoken words, and for the production of the memory of these words, lesions of this part causing inability to understand spoken words and sensory aphasia.

12. Functional activity of the cortex of the left angular convolution is necessary for the production of memories of the appearance of written or printed words, lesions of it causing alexis and agraphia.

13. Only in virtue of the fact that on its functional activity depends the production of the memories of the appearance of written or printed words can the angular convolution be considered as forming part of the visual centre. It does not constitute the visual centre.

14. The cortical centre for the leg includes the paracentral lobule, the upper third of the two central convolutions, and the greater part of the superior parietal lobule.

15. The cortical centre for the arm includes the posterior part of the superior parietal lobule.

16. The cortical centre for the arm includes the posterior part of the superior frontal convolution, the middle third of the two central convolutions and the anterior part of the inferior parietal lobule.

17. The cortical centre for the face includes the lower third of the central convolutions, especially the anterior one.

18. In the anterior part of the cortical centre for the arm originate the nerve fibres for the arm, and lesions of this part cause absolute paralysis of the arm. The same thing is probably true in the case of the cortical centres of the leg and arm.

19. In the posterior part of the cortical centre for the arm take place those molecular changes which are necessary for the production of memories of co-ordinated muscular enervation. The same thing is probably true of the cortical centres for the leg and face.

20. No sharp line can be drawn between the motor centres of the leg, arm, and face, and it is very possible that in each centre all these three parts may be more or less completely represented.

21. The cortical centres for muscular and cutaneous sensibility are the same as those for motility, and probably extend backward beyond the latter over the parietal lobe.

22. The faculty of speech cannot be located in any one portion of the cortex, and aphasia can be produced by a lesion situated in various parts of the left cerebral hemisphere, the right hemisphere not being concerned in the production of speech except in the case of left-handed persons.

23. Tumors or other irritative lesions situated in the non-motor region of the cerebral hemispheres can cause general convulsions, associated with loss of consciousness.

24. Tumors or other irritative lesions situated in the cortical centres for the arm, or leg, or face, may cause convulsions commencing in the leg, arm, or face respectively, and which may become general, though they more frequently remain unilateral, and which are sometimes associated with loss of consciousness, and sometimes not.

25. Tumors situated in the cortical centre for the leg may produce a trance-like condition, or conditions resembling attacks of petit mal of epileptics.

THE PREVENTION OF FEVER IN A MALARIOUS COUNTRY.—In the *Journal d'Hygiène* Schmit notices the popular belief of the inhabitants of malarious countries that cold is a powerful factor in predisposing to malarial intoxication. During the dangerous season the inhabitants always cover themselves carefully. Popular belief lays great stress on preventive means. Science has not demonstrated a successful vaccination against malaria. It is true that in such regions races develop which are not affected easily by malaria, but this does not save workmen, travelers, and immigrants from suffering. Quinine the author considers too short-lived in effect to be more than a palliative means. Tommasi Crudeli has given the subject much study, and prefers arsenic in doses of 1-60 grain of arsenious acid in gelatin covering. He has employed this extensively in the worst portions of Italy and Sicily, and among railroad laborers about Rome, with the best results. The remedy is cheap and easily taken. In 1883, for example,

in the district of Bovino, one of the localities most severely visited by fever, seventy-eight persons were divided into two groups. To one the remedy proposed was given, with the result of perfect immunity, while the remainder were affected by malaria in all grades of severity. In 657 railroad laborers treated in 1885, 402 were completely exempted, with 119 the results were doubtful, with 136 the treatment was unsuccessful. A popular remedy, used by the Greeks, Romans, Arabs, and at Guadeloupe, is the liquid resulting from boiling a finely cut lemon until the bulk of liquid has been reduced one-third; the juice is filtered, and taken cold.—*Therapeutic Gazette*.

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## MICROSCOPY AND PATHOLOGY.

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THE HÆMATOZOA OF MALARIA.—Prof. Wm. Osler (*British Medical Journal*), having given a detailed account of the hæmatozoa found in persons suffering from the various forms of malaria, proceeds to speak of the relations of the parasites to the disease as follows: The same difficulty meets us here as in so many affections in which micro-organisms have been found: Are they pathogenic, or are they merely associated with the disease, which in some way furnishes conditions favorable to their growth? As evidence of their pathogenic nature may be urged, with Laveran, the constancy of their presence, their absence in other individuals in malaria regions, the destructive influence upon the blood-corpuscles, and their abundance in the graver forms of the disease. But even these considerations, weighty as they may appear, will not carry conviction to all, in the absence of experimental demonstration, such as can be afforded in the case of certain pathogenic schizomycetes. Attempts to isolate and grow these hæmatozoa outside the body have failed. Marchiafava and Celli have shown that the inoculation of healthy persons with blood taken from a case of malaria is followed in a variable time by genuine ague paroxysms, in which the blood contains the parasites; but in regions where malaria is prevalent such experiments are not wholly free from objections. A series of negative observations on undoubted cases of malaria would be convincing. I lay no special stress on the three cases in which I did not find the parasites, as the patients were not followed from day to day with the accuracy necessary to give any value to the observations. It must be borne in mind that hæmatozoa are not uncommon in animals, and, as in the rat, do not appear to interfere seriously with the health of their hosts. Under these circumstances, the association of a specific form with a definite disease in an animal makes it all the more probable that the species is pathogenic. A further study of the *sursa* disease is particularly to be desired with the new light which Evans and Crookshank have thrown upon it. The conditions under which the disease occurs, combined with its paroxysmal character, are so similar to those of malaria, that a full explanation of its pathogeny would have a very direct bearing upon the

present question. To my mind, two facts in connection with these hæmatozoa point significantly to their etiological association with malaria. First, the positive anatomical changes which can be directly traced to their action, changes upon which one at least of the most marked symptoms of the disease depends; I refer to the destruction of the red blood-corpuscles, which can be followed in all its stages, and is as well defined an alteration of tissue brought about by a parasite as any of which we know. The second fact is the action of quinine upon the parasites. The simultaneous disappearance of the symptoms of the disease and the hæmatozoa suggests that the specific influence of the medicine is upon the parasites, though it may be urged that the quinine, while curing the disease, simply removes the conditions which permit of their growth in the blood.

*Practical Considerations.*—An interesting practical point is the diagnostic value of the presence of these bodies. There were six of eight cases in which the examination of the blood proved of great service in determining the existence of malaria. Some of these are worth mentioning. One of the first was a man aged 37, who had been under observation on three or four occasions with anæmia and an enlarged spleen. He had had three attacks of hæmatemesis. There was no history of malaria, and, from the gravity of the case, I was led to regard it as one of severe splenic anæmia. On his fourth visit, however, a careful examination of the blood revealed the presence of the parasites, and I gave, in consequence, a more favorable prognosis of the case, which has since been justified. In an instance of pernicious malaria admitted to the Philadelphia Hospital, under the care of my colleague, Dr. J. H. Musser, the diagnosis rested on the discovery in the blood of the characteristic changes in the corpuscles. To a third case, No. 41, I have already referred, and there were four or five other instances of chronic malaria, in which the nature of the disease was determined by an examination of the blood. On the other hand, in many cases of suspected malaria, the absence of these bodies led to a more careful examination, and to the discovery of the cause of the chills and fever. Four of these were cases of phthisis with ill-defined physical signs; in a fifth, after several negative blood examinations, the ague-like paroxysms were found to be due to a septic pneumonia; in a sixth and seventh, renal disease was discovered. I feel confident that, in malaria regions, the examination of the blood will prove, in skilled hands, a most valuable aid in the diagnosis of many obscure cases.

DIABETIC COMA.—The latest interpretation of the phenomena of diabetic coma has been to attribute them to poisoning by acids formed within the system, probably from the glucose. It may be remembered that Dr. Ralfe developed this idea at the Pathological Society nearly five years ago, basing his statements upon the similarity in symptoms to those of acute yellow atrophy and poisoning by organic acids, and upon the presence of aceto-acetic acid in the urine. Acetonæmia, then, would be only one link in the chain of processes inducing dia-

betic coma. But since experimentally neither acetone nor aceto-acetic acid have been found competent to produce phenomena analogous to those of diabetic coma, the way was still open to the discovery of other acid products which should have a toxic effect. This seems to have been supplied by Stadelmann and others in the detection of oxybutyric acid and the determination of greatly decreased alkalinity of the blood. M. Lepine (*Rev. de Med.*, March, 1887) discusses this question and relates a case in which, in accordance with Stadelmann's views, diabetic coma was treated by intravenous injections of alkaline fluid—viz.: bicarbonate of soda, 34 grms.; chloride of sodium, 8 grms.; water, 1½ litre. Intravenous saline injection has, it may be remarked, been practiced before in diabetes on other grounds—notably by the late Dr. Hilton Fagge and by Dr. F. Taylor (See Guy's Hospital Reports, 1881), but with no more benefit than in M. Lepine's case. At the same time, the alkaline treatment of diabetes is justified, according to M. Lepine, not so much because of neutralization of free acid in the blood, since mere neutralization will not annul the toxic action of the acid, but on the ground that alkaline injections may assist in breaking up the acids and in favoring their elimination. In the case related he found that oxybutyric acid disappeared from the urine after the injections. Prior to the measure, both the blood and urine yielded this acid in parallel amount. Of course, as he remarks, to prevent the accumulation of the poison in the system is not everything; a way may be found some day to prevent its formation.—*Lancet*.

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## HOSPITAL NOTES.

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LEEDS GENERAL INFIRMARY: CASE OF TREPHINING OVER THE LEFT BRACHIAL CENTRE FOR PARALYSIS OF THE RIGHT ARM DUE TO A BLOW A WEEK PREVIOUSLY; CURE OF PATIENT.—J. S.—, aged thirty-eight, was admitted into the General Infirmary, Leeds, on August 9th, under the care of Mr. Mayo Robson. He gave the following account: Whilst walking along the street six days previously he was struck from behind over the head by a buckhorn-handled stick. He does not remember the blow, and was totally unconscious for ten hours. Just before recovering consciousness there was some vomiting. He noticed as soon as he regained his senses that he had lost the use of his right hand. He was dizzy and confused for some days, and had impairment of memory, as he remembered some events in the police-court, but not all. He was so far bright and intelligent, however, as to give evidence in court the day after the accident. He was apparently so little injured that a surgeon who saw him thought his arm was powerless from simple bruising due to the fall, and his head so little damaged as not to require dressing. He noticed that his right fingers and hand began to twitch twenty-fours before admission.

On admission there was a lacerated wound about  $\frac{1}{3}$  in. long, too small even to admit the tip of the little finger, situated over the left side of the skull,  $5\frac{3}{4}$  in. from the root of the nose, 5 in. from the left external angular process of the frontal bone,  $4\frac{3}{4}$  in. from the root of the zygoma,  $6\frac{1}{2}$  in. from the external occipital protuberance, and  $1\frac{3}{4}$  in. to the left of the middle line. On digital examination through the integuments very little could be made out, as there was some inflammatory swelling; but on probing the wound bare bone could be plainly felt, and at the posterior part the probe could be felt to drop suddenly for about  $\frac{1}{5}$  in. The whole of the right forearm and hand were markedly paralyzed, the extensors and supinators being entirely powerless, whilst with the flexors he could barely make his grasp felt. The muscles of the upper arm were only half as strong as those of the opposite side, but the shoulder muscles were equally powerful. Sensation was much impaired, considerable pressure being needed to make him feel; but when he did he recognized the kind of touch and noticed the temperature. There were constant rhythmic twitchings of the fingers, and occasionally of the hand and arm, those of the fingers being about 40 per minute. The hands were of the same temperature, but he had a peculiar numbness in the right. He was able to walk, the right leg seeming to be as powerful as the left, but the cremasteric and knee reflexes were both exaggerated on the right side. He was able to whistle, but not nearly so loud as before the accident, and could only screw his eyes up with difficulty. His pupils were of medium size and reacted quickly to light. There was well-marked œdema of the left optic disc; his sight, however, was good. Hearing was slightly deficient. He complained of pain at the seat of the wound and all over the frontal region, but more on the left side. He was perfectly conscious and answered questions with rapidity. His breathing was easy and tranquil; his pulse 85, full and soft; his temperature in the axilla  $98.4^{\circ}$ . He could swallow well, and passed urine nominally.

Mr. Mayo Robson at once decided to operate. The patient having been put under ether, the head was shaved and cleaned, first with turpentine and afterwards with perchloride of mercury solution. Under the spray, and with full antiseptic precautions, a crucial incision was made, the arms being  $1\frac{1}{4}$  in. long. The flaps so formed were reflected, exposing the wound in the bone, which was found to be a trifle over  $\frac{3}{8}$  in. in diameter. The whole piece of bone was depressed, the posterior part being more so than the anterior. The margins of the surrounding bone were remarkably clean cut and circular, almost as if a piece had been punched out. The periosteum from the neighboring bone was not stripped. A trephine  $\frac{2}{3}$  in. in diameter was applied, but as the centre pin could not be used, rather more bone was taken from the posterior edge than in front. The outer table and diploë were then raised in one piece by the elevator, but the inner table was found to be splintered in all directions, one piece of the size of a finger-nail depressing the membranes very considerably just over the ascend-

ing frontal convolution. These fragments were carefully picked out, but without using much force, as the dura mater was stripped from them. The dura mater, which bulged slightly into the wound after the bone had been raised, was markedly pulsating; it was not perforated, and the surface seemed perfectly healthy. The wound was syringed out with perchloride lotion (1 in 500), and the bleeding vessels in the flaps, which had been temporarily stopped by clips, were ligatured. The flaps were then stitched with catgut, and a small drainage-tube put in the centre, so that the bottom of it was just free of the dura mater. The wound was again syringed and dressed with a layer of wet carbolic gauze, iodoform, and salicylic silk. The patient took ether very well, but his pupils dilated and remained so during the operation. After the elevation, and whilst the patient was still under ether, it was noticed that the twitchings had ceased; but whether this was due to the anæsthetic or to the operation is not known, as, unfortunately, the condition of the hand was not noticed before the elevation. The whole operation only lasted twenty-five minutes. He soon recovered from the anæsthetic, and for the first hour had great pain in his head, but the twitchings in the hand had ceased; they returned, however, in the second hour with greater severity. At 6 P. M.—*i. e.*, four hours after the operation—he was much easier. Temperature, 98.6°; pulse, 80. At 12 P. M. the patient slept, but was restless; he had no pain except slight frontal headache. The hand was much stiller. Pulse 72. The twitchings did not stop during sleep.

August 10.—Patient felt much better and had no pain; pulse 72. 11th: Slept well in the night, and during sleep the movements of the hand stopped. Wound was dressed for the first time, the spray being used. The tube was removed, as the wound looked well and there was no pus. Movements of fingers were much less frequent.—12th: Patient was so well that he wanted to get up. Temperature and pulse normal. His diet having been confined to fluids since admission, he felt hungry, and asked for and was ordered solid food. Power in the hand had very slightly returned. Twitchings were rather less frequent. Had slight soreness in the concatenate glands. Temperature normal.—15th: Patient dressed, as the glands were rather swollen and painful. There was a little œdema of the scalp, but no suppuration. The centre of the wound where the blow was given gaped a little, as the tissues had been bruised and lacerated. Pulse 70.—17th: Swelling of glands was subsiding. Dressed under the spray, and the wound found healed, except the centre of the cross, which was still open. Twitchings had completely gone, and since the 15th he had only had one or two, when he attempted to raise the arm. Patient could hold his hand straight up without the fingers falling. Slight increase of power when the hand was held horizontally.—19th: Grasp of right hand could be plainly felt in any position, equal to the grasp of thumb and forefinger of the left hand. The œdema of the optic disc had disappeared, the outline being clear and normal.—21st: Grasp of dynamometer with right hand 35 lb., with left 95 lb.—25th: Grasp of right hand 50 lb., left 95 lb.—28th:



Patient got up, but felt a little dizzy.—September 3: Wound quite healed. Grasp of right hand 70 lb.—11th: Patient discharged cured. Both hands and arms equally strong. No headache or dizziness. Sensation perfect. The temperature throughout had been normal.

*Remarks.*—The man had evidently only been seen casually by a surgeon on account of the arm, which the patient thought had been bruised by the fall, the head injury appearing trivial; but the case illustrates well the great importance of a very careful examination in all, even trifling, head injuries, as out of this misapprehension arose a medico-legal difficulty, the assailant having been sent for a week to prison for ordinary assault, when it might have been a case of manslaughter. Further points of interest in the case are—(a) The recovery of consciousness and intelligence within a few hours of the accident, although the local paralysis continued; concussion apparently accounting for the former and bruising and pressure for the latter. (b) The exact correspondence as proved by measurement of the brachial centre and the wound. (c) The threatened extension of paralysis to the facial, which adjoins the brachial centre. (d) The congestion of the optic disc on the injured side, which congestion disappeared within a few days of the operation. (e) The exaggerated cremasteric and knee reflexes on the right side. (f) The localized rhythmic epileptiform movements of the paralyzed hand and arm, which began on the fifth day after incident, were forty to the minute at the time of operation, ceased for an hour afterwards, then returned as frequently as ever, to gradually lessen in violence and number until they disappeared on the sixth day after operation. (g) In the success of the measures taken to render the wound aseptic, although it was thoroughly septic at the time of admission, and had been exposed for six days previously. (h) Lastly, in the complete and perfect recovery of the patient.—*Lancet*.

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## SANITARY.

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TRAINING.—The victory of Cambridge this year in the boat-race has given rise to many comments as to the mode of training best adapted to get crews into condition. It has been stated that Mr. Bristowe, the President of the Cambridge University Boat Race, allowed fish, entrées, puddings, and dessert for dinner through the whole course of training, and did not insist upon the monotonous and excessive flesh diet usually enforced. For some years past there has been a growing tendency to adopt a more rational plan of feeding and to permit a greater range of carbohydrates and hydrocarbons in the diet. Indeed, the more varied the food the better the health of the individual, and as training was defined by Professor Parkes as a method of obtaining the highest degree of vitality, a scientific mixture of the various principles of diet is called for. With hard muscular work at a quick pace more animal food is necessary than for ordinary work, but this should never be given in ex-

cess, and beyond what the digestive secretions are able to dispose of; one pound and a half is certainly as much as is required. In giving carbohydrates, care should be taken that they are well cooked and are of a digestible character. Rice, sago, and tapioca puddings are excellent; but potatoes should not be indulged in in any quantity, as they are apt to cause flatulence—that bugbear of the trainer known as “inwardful.” The hydrocarbons should be supplied by a liberal allowance of butter; the men should be encouraged to eat the natural fat on the chops and steaks, and not cut it off as they have been directed to do, whilst meat with plenty of fat on it is usually more tender than lean. Fresh fruits should also form part of the daily dietary, since these supply the alkaline salts so useful in keeping the blood in a healthy state. The chief article to be avoided in training is sugar, especially sugar with pastry; it tends to cause acidity and promotes “biliousness.” The question among trainers is the amount of fluid permitted. Under the old system great cruelty was often practiced by keeping men, especially during hot weather, on a strict allowance; this was a mistake. On the other hand, men should not be allowed too much freedom in this respect, for fear of diluting the digestive fluids; it is well, therefore, to keep this within physiological limits. A man of 12 st., under ordinary circumstances, eliminates about three pints and a half from the body daily by the skin, lungs, and kidneys; with strong and quick work, he probably gets rid of a pint and a half more. Five pints of fluid would therefore be sufficient for most men. As training advanced and the elimination became less, the quantity might gradually be reduced. At the beginning of training slight excess of the physiological requirements might be permitted, as it would help tissue metabolism and carry off the waste products formed in consequence of increased muscular activity.—*Lancet*.

THE DISPOSAL OF HUMAN EXCREMENT.—The question now presents itself, Is there any other good way of disposing of excreta save by closet and water carriage? I say most confidently, yes. In city, town, village, and country, let every hole, vault, and receptacle be cleaned, and filled with fresh and pure material, and having placed the privy upon a solid and well-aired foundation, convenient to the house, and somewhat secluded, and if this privy is six by four feet, place under it a box seven by four, this being kept off the ground by substantial stone corners, and this whole problem is solved, while purity, health, decency, and comfort are secured. This box can be furnished water-tight, thoroughly coated inside and out with hot coal tar, and placed in position for \$2.25. The projecting foot is covered with a neatly-fitting plank, which is all that is displaced and set aside in the removal of contents. The scavengers of our town are anxious to contract for their proper care, removing contents without the knowledge or supervision of the owner, and disposing of same at the rate of \$4 per annum. The ashes are saved and thrown into this box instead of upon the ash heap. Use lime or earth or copperas if there is supposed to be occasion, but which, with my daily experience of ten years, is, in my opinion, not necessary, the ashes alone from an ordinary house being amply sufficient. Another

er great advantage is that the mass to be removed is so nearly odorless and dry, it can be removed at any time without giving offense.—*Dr. John McCurdy, of Youngstown, Ohio, in the Journal of the American Medical Association.*

MANAGEMENT OF THE SICK ROOM.—It is so generally the custom of medical men to leave the management of the sick room to the friends of a patient or to nurses that it seems to be almost forgotten that this is, in a remarkable degree, a professional duty. "Treatment" does not consist wholly, or indeed chiefly, in the administration of drugs. The surroundings of the sick are not less important as agents of cure than the medicines given to them. Indeed, we will go so far as to say that in the best and most physiological methods of therapy drugs are only admissible as *aids* to the arrest of disease and the recovery of health, which Nature will accomplish if only the case be so conditioned as to remove obstacles out of her way and facilitate the processes whereby she is working. The point on which we are especially anxious to insist is that the practitioner ought to make the management of the sick room his most solicitous care. To relegate this part of his duty as a minister of health to a nurse, however skilled, or friends, however intelligent and solicitous for the welfare of the patient, is to surrender to others a power which may be either wasted or applied obstructively, with the best of intentions; and simply because, being dissociated from the exhibition of drugs, the management of the sick is no longer felt to be what it really is—namely, an integral and elementary part of treatment.

To manage the sick room wisely and efficiently, the practitioner must be so thoroughly versed in all the details of nursing as to be able himself to do, if necessity arises, all that he expects of others. Now we greatly fear that anything approaching to this practical familiarity with the details of the duty devolving upon a medical practitioner as a minister of health is rare, and daily becoming increasingly difficult to find among the most advanced and theoretically competent workers in our profession. Division of labor is no doubt a necessity of progress, but we cannot regard without uneasiness the erection of nursing into a specialty, separate from, and in large measure independent of, treatment. It is not with any disrespect to the class of skilled nurses that we protest against the growing evil of surrendering a large and most potent part of the art of healing to those who are not in a position to master it. No lasting success can possibly attend the separation of nursing from medicine. The doctor who does not himself direct the nursing of his patient in all its details cannot be held to have control of even half of the appliances of cure, and, for anything he can tell, the manner in which his patient is treated during the intervals between his visits may be such as, though admirable in itself, must prove antagonistic to his own method and policy. We are not now thinking of the disastrous effects of bad or even careless nursing, but of the very best that can be procured. Nursing ought to play a leading *rôle* in treatment, and therefore it should be one of the first considerations of

the practitioner. His should be the guiding hand in everything that concerns the sick, and to this end his authority and influence should be paramount. A great point is gained when it can be said of a practitioner that when he appears on the scene he takes not only general but specific control of the whole management of the case and personally directs every detail. In no other way can perfect unity of aim and policy be secured. It may be argued that the busy practitioner has no time to spare for thus entering into matters, or that he descends from a high professional position when, for example, instead of contenting himself with simply ordering a poultice, he takes pains to ensure that it shall be properly made. How strangely erroneous such notions as these really are will appear when we reflect that the most successful practitioners have been, and still are, those who possess, and do not scruple to apply, the most minute acquaintance with the art of nursing—a knowledge for the most part either acquired by painful experience in their own families or obtained by years of observation and practice in the wards of hospitals where homely rather than ornate systems of nursing were in operation. It must be frankly confessed that we do not see how the students of to-day are to learn the art of nursing in such a way as to render them really able and useful practitioners in private families, seeing that the management of the sick and of the sick chamber is an art and mystery studied and practiced by a separate class of non-medical persons, who cannot share the practitioner's responsibility.—*Lancet*.

MILK EPIDEMIC OF TYPHOID AT YORK, ENGLAND.—The epidemic of typhoid fever in York, the prevalence of which we recorded a short time since, has been made the subject of a very elaborate report by Mr. S. W. North, medical officer of health to the city. York has a system of compulsory notification of infectious diseases, and under it 243 cases of typhoid fever were reported during 1886, 29 terminating fatally. Of these 243 cases, 210 came under notice during the last four months of the year, and the great incidence of the disease was in the Micklegate district, where, subsequently to October 16, no less than 119 cases occurred. In this district there are three dairies, each of which was, before the outbreak, in the habit of receiving milk from a dairy-farm at Osbaldwick. One of these dairies had used no other milk than the Osbaldwick supply; another mixed the supplies; and a third, the Cleveland Dairy Company, kept their several sources, as a rule, distinct. Considerable suspicion attached to this Osbaldwick milk, and hence Mr. North visited it. He found that the owner had been ill with some fever, and that his wife was then in bed with a similar disease; and he gives it as his opinion that the whole family had suffered from typhoid fever. The symptoms described are not sufficiently detailed to convey a decided opinion on the subject, but Mr. North's conclusion was doubtless founded on sufficient data. The Dairy pump was found to have a privy on one side, and an open ashpit on the other, together with other conditions that ought never to prevail at a dairy-farm. The analysis of the well water did not prove much, but since typhoid

excreta can be purposely mingled with water without causing special suspicion on the part of the chemist, this goes for little. But the slops and excrement from the house had gone into the ashpit or privy, or on to a slop stone near the pump, and it is added that "the arrangements of the premises and the habits of the people are such as to render any mode of contamination possible." The whole course of this milk through the tradesmen taking it and on to the public is discussed at length, and, by way of additional danger, it was found that, as a result doubtless of the use of the infected milk, there were on the Cleveland Dairy Company's premises two unreported cases of typhoid fever, and this whilst the manager was passing from the sick room of his children to distribute the milk to his men and to the shops. Between October 16 and December 18 a total of 168 cases were reported, and of these 111 are proved to have used the suspected milk. An inspector having secured a sample of this Osbaldwick milk, it was stated to contain 10 per cent. at least of added water. And taking the three dairies distributing this milk, whether alone or mingled with other milk, it was found that 42.4, 38.5, and 21.7 per cent. respectively of their customers were ill with typhoid fever. In confirmation of this view as to milk infection, cases are cited showing how the disease picked out of families, not otherwise exposed to the infection through the use of milk, single individuals who had used it; and in one charitable institution, where only one out of forty-seven took the fever, the single case was that of the only child who had milk in an uncooked form.—*Lancet*.

CHEAP VENTILATION.—According to Professor V. C. Vaughn, for every room heated by a stove, there should be two flues, one for the smoke and other gaseous products of combustion, the other for ventilation. The latter should extend to the floor, just above which there should be a register. The smoke flue should be of iron pipe placed in a large flue, and the space all around the pipe will serve as a ventilating flue. With this arrangement, the air in the ventilating flue will be heated whenever there is a fire in the stove, and the removal of the foul air will be so far insured. It should be seen to in building the chimney that the inside of the ventilating flue is finished quite smoothly, and not clogged with mortar or pieces of brick.

For the supply of fresh air, a simple and efficient plan is to bring a pipe of about six inches in diameter through or under the floor, to the stove, where it terminates in a sheet-iron jacket placed around the stove, leaving a space of one or two inches, and having escapes only at the top. The heat of the stove will produce a current through the pipe of fresh, warmed air.—*Sanitary Era*.

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## BIOGRAPHY.

JOHN G. WESTMORELAND, M. D.

Dr. John G. Westmoreland died on the 3d of March, at the residence of his son, in this city, after a long and painful illness. He was

born in Jasper County, Georgia, in the year 1816, and was, at the time of his death, seventy-one years of age. When a small boy, his parents moved to Fayette County, where he obtained a rudimental education, subsequently completed at other schools of the State. He selected the profession of medicine as his life pursuit, and entered the Medical College of Georgia. While in attendance upon the college, he devoted himself assiduously to his studies. He graduated in 1841 with distinction. Soon thereafter he located in Pike County, where, in partnership with the late Dr. J. G. Caldwell, of this city, he entered the practice of medicine. In 1846 he married Miss Louisa Buchanan, who died in 1850, leaving two children, a son and daughter, to his care. It was in the year 1853 that he came to this city and made it his home.

Being a man of popular address, he was soon a central figure in his new home. His attainments in medicine gave him an extensive and lucrative practice, while by his enterprising spirit and sound judgment he became an adviser and leader in every movement affecting the community in which he lived. Devoted to Atlanta, he omitted nothing which tended to make her a prosperous city. His hand was ever ready to advance her welfare. In 1854 he conceived the project of a medical college in this city, and entered promptly and zealously upon the work of its establishment. It was not long before he had the gratification of seeing the Atlanta Medical College a prosperous institution, holding equal rank with the very best schools of the South. Much of his own capital was called into requisition in founding this college, and for many years he was one of its most stable supports and distinguished professors. In 1855 he founded the *Atlanta Medical and Surgical Journal*, which he edited with an ability that gave it high standing with the medical profession throughout the United States.

In 1857 he was chosen to represent the county of Fulton in the Legislature of the State. During his term of service he made the reputation of being a safe, able, and progressive legislator. While always watchful of the local interests which he was elected to advance, he did not lose sight of the general welfare of the commonwealth. As a debater he was practical, logical, and earnest, forgetting self for the subject under discussion and seeming ambitious only to enforce the policy that his mind and heart approved. Returning to his constituents, they received him as one who had discharged the duties of his position well, and he could have continued to represent this county had he not positively refused to accept the honor. It was his resolve to devote himself to his profession, the college, and the *Journal*, and to this resolution he adhered until the war burst upon the land and his country called for true men to defend her cause. Accordingly he abandoned every personal interest and entered the Southern army as a private in the Fulton Dragoons. His eminence as a physician and surgeon was too well known to allow him to be left as a private soldier in the ranks. Consequently he was called to hospital service in Richmond, Va., where he added fame to that already won in his profession.

When peace was restored he returned to this city and devoted himself to the college, which was re-opened, and to the *Journal*, the publication of which he resumed. Both of these interests were soon in prosperous condition. For several years he has suffered declining health. He leaves only one child, Dr. Robt. W. Westmoreland, of this city. His funeral was attended by the physicians of Atlanta in a body and by many friends who knew him through life. His remains rest in Oakland Cemetery.—*Atlanta Medical and Surgical Journal*.

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JAMES H. HALEY, M.D.

Dr. James H. Haley died, very suddenly, at his residence in Moffett, Bell County, Texas, on the 20th February, 1887. He was born in Carroll County, Miss., November 5th, 1831. His father moved to Madison County when the son was quite a youth. Here he remained until he entered college. Dr. Haley graduated in medicine from Jefferson Medical College, Pa., the 12th March, 1856. After receiving his diploma from this world-renowned institution, he returned to Jackson, Miss., where he entered the Lunatic Asylum, as one of the attending physicians, and remained in this charity for two years. While a resident of Jackson, he was united in marriage to Miss Cora Alford, who, with eight children, survives him.

Dr. Haley was a Surgeon in the P. A. C. S., and was at the never-to-be-forgotten siege of Vicksburg. Since the close of the war, he has been regularly engaged in the practice of his chosen profession. He moved to Texas in January, 1870, residing in Washington County about four years. In the autumn of 1873 he moved to Moffett, Texas, where he lived to the hour of his death. Dr. Haley was one of the original members of the Bell County Medical Association, and was twice its presiding officer, having received a unanimous endorsement on both occasions of his election. He was always in attendance when possible, riding a distance of thirteen miles, and frequently in inclement weather, that he might aid and assist in maintaining and building up the Society, of which he was always proud. He was a consistent member of, and a shining light in, the Methodist Episcopal Church, of which he had been a worthy communicant for over thirty years.

It is a sad and painful task to chronicle the death of such a man as Dr. James H. Haley. Truly his death has overshadowed the entire community in which he lived with gloom and sorrow. He will be missed in the Church, in the State, in the Profession, in the Medical Society. He will be missed as a neighbor, as a friend, as a citizen. He will be missed among the sick and the distressed of the section where he so long and so successfully practised his vocation. But, above all, how sadly missed around the family altar! His mortal remains were conveyed to their last resting place by the hands of friendship and love, followed by one of the largest funeral processions ever formed in Bell County. He was buried by the Knights of Honor, of which organization he was a member in good standing.

Dr. Haley was no ordinary man. In all the virtues that go to make up and adorn the true man and gentleman, he was without a superior. The writer of this brief and imperfect notice knew the deceased well, having first formed his acquaintance during the session of 1855 and '56, at Jefferson Medical College. In the bloom of youth they sat together on the same benches for one long, though pleasant, session. Dr. Haley had as few faults as any man within his knowledge. He was absolutely above a low, mean, contemptible act. His thoughts and aspirations ran in higher and purer channels. He was fair, honest, open, frank, kind, generous, courteous, obliging; in short, the very embodiment of truth and honor. All who knew him loved him, and will ever revere his sacred memory. "His life was gentle, and the elements so mixed in him, that nature might stand up and say to all the world, *this was a man.*"—*H. C. G., in Daniel's Texas Medical Journal.*

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## PROCEEDINGS OF SOCIETIES.

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### MEDICAL SOCIETY OF THE STATE OF LOUISIANA.

NINTH ANNUAL MEETING, HELD AT ALEXANDRIA, LA., APRIL  
 11, 12, AND 13, 1887.

On the opening day of the session resolutions on the death of Dr. James S. Fish were adopted, and Dr. Joseph Jones, of New Orleans, made a report as delegate to the last meeting of the American Medical Association and also gave a complete statement of the organization of the Ninth International Medical Congress. As President of the Fifteenth Section of the Congress, on Public and International Hygiene, he addressed the Society at length, detailing subjects of vital importance to the people of the Mississippi Valley and of Louisiana for investigation and discussion, such as quarantine, sanitation of ships, railroads, public buildings, prisons and hospitals, military and naval hygiene, the structure and management of prisons and treatment of civil and military prisoners, the structure of hygienic arrangements, etc; ventilation of buildings, influence of agriculture on public health, influence of overflow and drainage, and the cultivation of rice upon public health; all subjects relating to food and water upon public health, influence of alcohol and narcotics and social habits, railroads and electric light; all questions relating to domestic public health and sanitation, nature of disease germs, and chemical and microscopical character of the poisons or causes of yellow and typhoid fevers.

The following were appointed delegates to the Congress: Drs. Joseph Jones, J. W. Dupree, A. B. Miles, Thomas Herbert, Henry Newton, F. R. Bernard, Samuel Logan, T. G. Richardson, R. W. Seay, J. P. Davidson, E. W. Long, P. B. McCutcheon, Richard Day, E. Souchon, and A. G. Friedrichs.



In the evening the President, Dr. Fox, and the Hon. Wm. H. Jack, the orator of the day, delivered addresses.

On the second day the report of the Nominating Committee was received, and the following officers were elected to serve for the ensuing year. viz.: Joseph Jones, of New Orleans, President; one Vice President from each Congressional district, viz.: 1. F. H. Parham, of New Orleans. 2. H. D. Bruns, of New Orleans. 3. Thomas Herbert, of New Iberia. 4. F. M. Thornhill, of Arcadia. 5. I. J. Newton, of Bastrop. 6. T. T. Tarleton, of St. Landry.

The place of meeting was fixed at Monroe, and Judge A. A. Gunby was chosen orator of the day.

The following resolutions were offered by Dr. Joseph Jones, of New Orleans, and unanimously carried:

WHEREAS, the Charity Hospital of New Orleans receives the distressed and destitute sick and wounded of all the States of the Union and of all the nations of the world; be it

*Resolved*, By the members of the Louisiana State Medical Society, That the position of resident student in this great and noble institution should be open to the competition of all honorable and intelligent and accomplished medical students; be it further

*Resolved*, That the General Assembly of the State of Louisiana be respectfully and earnestly requested by the Louisiana State Medical Society to rescind the laws enacted by the General Assembly of 1885, excluding all medical students from competition for the position of resident student of the Charity Hospital except natives and residents of Louisiana.

*Resolved*, That the action of the General Assembly of Louisiana of 1885 was in violation of those true, generous, and patriotic principles which have ever characterized the true philanthropic and noble citizens of Louisiana.

*Resolved*, That the President of the Louisiana State Medical Society be empowered to urge the abrogation of this law of 1885, establishing, for the first time in the history of Louisiana, the unwise and illiberal policy of excluding from the competitive examination of the medical service of the Charity Hospital the intelligent and enterprising medical students of other States.

Dr. Jones supported the resolutions by the following argument: The object of this great and noble institution is the relief of suffering humanity—the healing of diseases, the restoration of the sick to the performance of the active duties of life, and the advancement of the highest intellectual, moral, and physical welfare of the commonwealth. The generous and noble citizens of Louisiana have not confined their benefits and ministrations to their own citizens. Upon a careful examination and classification of the statistics of the Charity Hospital of New Orleans during the period of forty years—1836 to 1876—we find that 310,659 patients were admitted, and of this number 248,011 were foreigners, 54,403 natives of the United States outside of Louisiana, and only 11,761 were natives of Louisiana.

It is evident from these statistics that the noblest and broadest charity has actuated the citizens, and especially the medical profession of Louisiana, in their charitable ministrations to the destitute sick of all States and countries. By again throwing open the field for the honorable competition of all accomplished medical students, regardless of their nativity, the State of Louisiana will secure the most effective service and achieve the greatest good to suffering humanity.

The following resolution, offered by Dr. Jones, was also adopted.

*Resolved*, That a standing committee be created, composed of the President, Recording Secretary, Treasurer and Librarian, and two or more members, to be entitled the Committee on Building and Library. The said committee shall be empowered to make all necessary investigation for the collection of a library and of archives illustrating the history of medicine, more especially in the Valley of the Mississippi and the State of Louisiana, and to ascertain whether or not a suitable building may be obtained and suitable arrangements made for the preservation of said library and archives in a permanent building.

Dr. Jones stated that the society had already and were daily receiving valuable books, which should be preserved. He spoke of the great services rendered to education in Louisiana by Drs. Warren Stone, Thos. Hunt, Jas. Jones and others by the foundation of the Medical College of Louisiana, which subsequently became the Medical Department of the University of Louisiana. By the noble efforts of such men as Warren Stone [much applause followed the mention of his name] the grandest privileges possessed by the medical profession of the Mississippi Valley were obtained, viz.: The right by legislative enactment to the untrammelled clinical and anatomical study within the walls of the Charity Hospital. The splendid franchises obtained by these men now enjoyed by the Tulane University, and in support of whatever fame this institution may possess, the works and medical journals founded by these men and their contemporaries should be gathered up and preserved in the archives of the society. Dr. Julius Johnston, of this place, has offered to donate one-half of a square of ground as a site for the building of a library for the society, and one of our citizens headed the list by subscribing to build the same.

On the third day the President-elect assumed the chair, and having delivered a short address thanking the members for the distinguished honor conferred upon him, announced the various standing committees as follows:

On Arrangements.—S. C. Murphy, I. J. Newton, A. B. Sholes, T. O. Brewer, Wm. Sandall, T. C. Haton, C. W. Hilton, John Calder, — Wood.

On Organization.—Jos. Jones, H. D. Bruns, F. M. Thornhill, T. T. Tarleton, F. W. Parham, Thos. Herbert, I. J. Newton, S. S. Herrick.

On Necrology.—F. W. Parham, Thos. Herbert, I. J. Newton, H. D. Bruns, F. M. Thornhill, T. T. Tarleton.

On State Medicine and Legislation.—J. W. Dupree, T. J. Allen,

T. J. Buffington, C. D. Owens, A. S. Gates, D. R. Fox, A. B. Miles, J. P. Davidson, R. W. Seay, R. H. Day, Smith Gordon, S. Logan, S. F. Meeker.

On Scientific Essays, Reports, etc.—I. J. Newton, R. W. Seay, J. W. Dupree, R. H. Day, H. D. Bruns, S. Gordon, C. D. Owens, Thos. Hebert, Leslie Dickson, W. D. White, J. A. Johnston.

On Judiciary.—R. H. Day, S. E. Chaille, J. C. Egan, E. Souchon, C. J. Ducot, J. A. B. Hays, A. B. Miles, J. R. Fox, C. M. Smith, R. W. Seay, L. G. Blanchett, S. A. Johnston.

On Publication.—P. B. McCutcheon, Stanhope Jones, R. Matas, P. E. Archinard, F. W. Parham, S. Logan, G. B. Lawrason, S. S. Herrick.

The Society, having passed the usual resolutions of thanks to the retiring President, the orator, and others, adjourned to meet on the third Wednesday in April, 1888, after which was enjoyed a sumptuous banquet provided by the committee of arrangements of the Rapides Medical Association, a special feature of which was the beautiful floral decorations prepared by the ladies of Alexandria.

Among the many valuable papers presented during the session were the following: "Yellow Fever," by Dr. J. P. Davidson, of New Orleans; "The Treatment of Wounds of the Large Surgical Veins," by Dr. Edward Souchon, of New Orleans; "The Surgical Treatment of Abscess of the Liver," by Thos. Hebert, of New Iberia; "Reflex Neuralgia," by Dr. A. G. Fredericks, of New Orleans.

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## REVIEWS.

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PARALYSES, CEREBRAL, BULBAR AND SPINAL. A MANUAL OF DIAGNOSIS FOR STUDENTS AND PRACTITIONERS. By H. Charlton Bastian, M. A., M. D., F. R. S., Fellow of the Royal College of Physicians; Examiner in Medicine at the Royal College of Physicians; Professor of Clinical Medicine and of Pathological Anatomy in University College, London; Physician to University College Hospital and to the National Hospital for the Paralyzed and Epileptic; Crown Referee in Cases of Supposed Insanity. With Numerous Illustrations. New York: D. Appleton & Co., 1886. Pp. XI—671.

The name of Professor Bastian on the title-page of any work treating of affections of the nervous system is sufficient guarantee that the book is one deserving to take the highest rank in its class. The present one should prove of the greatest possible value to the general practitioner, and especially to physicians whose fields of labor are remote from the great medical centres, where in difficult cases a skilled specialist can always be called in on short notice. The author's endeavor throughout the work, as he states in the preface, is to facilitate diagnosis—to explain and gather up the essential points to be borne in mind by the student or practitioner when he is called upon to decide as to

the nature of, and give a prognosis concerning, any case of paralysis that may come before him.

The various forms of paralysis from brain disease, from disease of the bulb, and from disease of the spinal cord, he goes on to say, are now so numerous, and so many recent advances have been made in our knowledge in these directions, that some such aid to diagnosis may well be looked for by those for whom this work is intended. A knowledge of nervous diseases of the kind now looked for cannot be attained without something more than a superficial acquaintance with the anatomy and physiology of the brain and spinal cord; and hence the plentitude of anatomical details, more especially, which are absolutely essential in a work like the present. The comprehension and recollection of these have been facilitated, where this was practicable, by the introduction of a number of illustrations, the greater part of which are taken from various standard works.

Dr. Bastian's style is clear, concise, and elegant, and the work is eminently practical throughout. The diagnosis of diseases of the nervous system, as he points out in his introductory chapter, is now, by common consent, a two-fold problem. The locality as well as the nature of the lesion has, as far as possible, to be determined; in other words, a regional diagnosis as well as a pathological diagnosis has to be arrived at.

Part I. of the work, which occupies fully half its contents, is devoted to a careful consideration of paralyzes of encephalic origin, the matter of pathological diagnosis being first taken up, (after the mention of certain necessary preliminary data), and then that of regional diagnosis. Part II. deals in the same manner with paralyzes of bulbar origin, part III. with those due to lesions of the cranial nerves, and part IV. with those of spinal origin. Although there are naturally differences of opinion among neurologists in regard to some of the matters treated of, and it may be that upon a few points the distinguished author is not quite in accord with the conclusions indicated by the most recent researches, on the whole the work will be found to constitute a most admirable guide to the study of a class of more or less abstruse subjects, where a correct, or approximately correct, diagnosis, is, of course, positively essential to an intelligent prognosis and scientific treatment.

ANNUAL REPORT OF THE ADJUTANT-GENERAL OF THE STATE OF  
NEW YORK. Albany, N. Y., 1886.

The Adjutant-General's report contains, among others, that of the Surgeon-General, Dr. Joseph D. Bryant, which, together with the reports of the surgeons of the various regiments, occupies about seventy pages of the volume. The reappointment of Dr. Bryant to this position met with the most hearty approval of the profession of the State, for the reason that he had already proved himself eminently fitted for the place and that his constant aim ever since he first assumed its duties has been to increase in every way in his power the efficiency of the medical branch of the militia service, a fact that is abundantly

attested by the present report. It is naturally devoted to a large extent to the affairs of the State Camp at Peekskill, and, like his previous reports, gives evidence of much careful thought on the subjects of which it treats, and is full of valuable suggestions.

Before the last State encampment it had been customary for the Surgeon-General to attend to the selection of the necessary medical and surgical supplies for the Camp without thought on the part of those officers who were to employ them. With the view of increasing the scope and usefulness, as well as to determine the present efficiency of the officers of the medical department, it was thought best that it should in the future be conducted as nearly as possible on a basis that would increase the responsibility of the medical officers; and, accordingly, at the request of the Surgeon-General, the Governor issued a special order requiring regimental surgeons to make out requisitions for such supplies for their term of duty as, in their opinion, might be necessary and requisite. The general character of the requisitions was such, Dr. Bryant says, as to warrant the statement upon his part that if at a future time any one of the commands were to be placed on detached duty, its medical and surgical needs would be fully appreciated and provided for by its medical officers.

Dr. Bryant naturally complains of the injustice done to the separate company organizations by a recent change in the military code which deprived many of them of medical officers. "It seems," he says, "that less regard is had for the safety of the men of a separate company than for the horses of the battery, since the code provides at the present time that 'to such a battery of four guns there should be \* \* \* one veterinary sergeant.'"

Among the other sanitary arrangements of the Camp he refers to the important matter of bathing, and expresses his pleasure at noticing that many of the medical officers, in their response to his call for suggestions relating to their commands, urge in their reports the desirability of suitably arranged shower-baths for the use of the men. The expense in such a commendable measure would, in his opinion, be infinitesimal when compared with the sanitary benefits and the comfort that might be derived from its use.

**WEAR AND TEAR, OR HINTS FOR THE OVERWORKED.** By S. Weir Mitchell, M. D., LL.D., Harv., member of the National Academy of Sciences, President of the College of Physicians of Philadelphia, etc. Fifth Edition, Thoroughly Revised. Philadelphia: J. B. Lippincott Company, 1887. Price \$1.00.

It is rare to find marked literary talent combined with eminent scientific attainments, such as is so happily met with in the case of Dr. Mitchell. This little volume is a masterpiece in its way. It is crisply and forcibly written throughout, and it is no wonder that, with its useful teachings so admirably expressed, it has already passed through four editions.

It is gratifying to learn, in the preface to the present edition, that

while there is still need to repeat and reinforce the warning given fifteen years ago to a restless nation possessed of an energy tempted to its largest uses by unsurpassed opportunities, the author finds that since he first wrote on these subjects they have not only grown into importance as questions of public hygiene, but vast changes for the better have come about in many of our ways of living, and everywhere common sense is beginning to rule in matters of dress, diet, education, and habits of daily life. The rate of change in regard to these matters in this country, he thinks, cannot fail to surprise even the most watchful American observer.

Still, there are many left among us to whom the lesson of this teacher should be of immeasurable value, and, although it is designed for the general public, there are doubtless those even in our own profession who would do well to heed its warning.

That lesson is simply this: "*Wear* is a natural and legitimate result of careful use, and is what we all have to put up with as the result of years of activity of brain and body. *Tear* is another matter. It comes of hard or evil usage of body or engine, of putting things to wrong purposes, using a chisel for a screw-driver, a penknife for a gimlet. Long strain, or the sudden demand of strength from weakness, causes tear. Wear comes of use, tear of abuse."

#### BOOKS AND PAMPHLETS RECEIVED.

"Medical and Surgical Memoirs. Containing Investigations on the Geographical Distribution, Causes, Nature, Relations, and Treatment of Various Diseases, 1855-1876." By Joseph Jones, M.D. Volume I. New Orleans.

"The Therapeutical Drinking of Hot Water. Its Origin and Use. Origin of the Salisbury Plans of Diet in Chronic Diseases, with Directions for Preparing Beef Pulp." By Ephraim Cutter, M.D. New York: W. A. Kellogg.

"Remarks on Hepatic Phlebotomy." By George Harley, M.D., F.R.S. Reprinted from the *British Medical Journal*, Nov. 13, 1886.

"Remarks on Hepatic Phlebotomy and Puncturing the Liver's Capsule as Remedial Measures in Hepatic Diseases." By George Harley, M.D., F.R.S. Reprinted from the *British Medical Journal*, Jan. 15, 1887.

"On Sounding for Gall-Stones." By George Harley, M.D., F.R.S. London: J. & H. Churchill.

"Annual Address Before the American Academy of Medicine, at Pittsburgh, Pa., Oct. 12, 1886." By R. S. Sutton, A.M., M.D., LL.D., of Pittsburgh, Pa., President of the Academy. "Medical Education in the United States. Its Defects and the Remedy."

"The Sources of the Mississippi, comprising: I. Letter from Messrs. Ivison, Blakeman, Taylor & Company. II. Report of Hope-well Clarke, Chief of the I. B. T. & Co. Expedition to the Head-

Waters of the Mississippi, October, 1886." Reprinted from *Science* (December 24, 1886).

"Dermatological Notes." By J. Clark McGuire, M.D., Louisville, Ky.

"Common Errors, Theoretical and Practical, Relating to Insanity." By Orpheus Everts, M.D. Reprinted from the *American Journal of Insanity*.

"A Case of Ante-Partum Hemorrhage at Term. Recovery." By Augustus V. Park, M.D. Reprinted from the *Journal of the American Medical Association*.

"Certain Peculiar Features of Bronchitis as it Occurs in Children." By S. Henry Dessau, M.D. Reprinted from the *Archives of Pædiatrics*.

"Is the Danger from Post-Partum Hemorrhage Increased by the Use of Anæsthetics During Parturition?" By Fordyce Barker, M.D., LL.D. Reprinted from *The Medical News*.

"The Antiseptic Treatment of Summer Diarrhœa." By L. Emmett Holt, A. M., M. D. Reprinted from *The New York Medical Journal*.

"Sterility. Management of the Secundines." By Wm. A. Wathen, M. D. Reprinted from the South-western *Medical Gazette*.

"A Case of Pyelitis of Nineteen Years' Duration Caused by a Renal Calculus; Recovery." By Augustus V. Park, M. D. Reprinted from the *Journal of the American Medical Association*.

"Follicular Amygdalitis." By A. Jacobi, M. D. Reprinted from *The Medical Record*.

"Vesical Irritation in Women," By Virgil O. Harden, M. D. Reprinted from the *Atlanta Medical and Surgical Journal*.

"Report on Diseases of the Rectum." By Joseph M. Matthews, M. D., Louisville, Ky.

"Tubercular Consumption; Is It Ever Inherited?" By Henry D. Didama, M. D., Syracuse, N. Y.

"Biennial Report of the Alabama Insane Hospital, at Tuscaloosa." Montgomery, Ala., 1886.

"The Fourteenth Regular Report of the Medical and Surgical Staff of St. Francis' Hospital, Jersey City, N. J."

"Twenty-Seventh Annual Report of the Medical Superintendent of the State Asylum for Insane Criminals, Auburn, N. Y."

"Surgical and Medical Report of St. Mary's Hospital, Quincy, Ill., for the Year 1886."

"Eighteenth Annual Report of the Trustees of the Willard Asylum for the Insane."

"Superintendent's Report of the Eastern N. C. Insane Asylum for the Year 1886." Goldsboro, N. C.

"Ninth Annual Report of the Presbyterian Eye, Ear, and Throat Charity Hospital, Baltimore."

## PHARMACY AND THERAPEUTICS.

THE TREATMENT OF AFFECTIONS OF THE RESPIRATORY PASSAGES AND OF BLOOD-POISONINGS BY GASEOUS ENEMATA.—The *Medical News* of April 2 publishes a report of a clinical demonstration before the members of the Philadelphia County Medical Society, by Dr. J. Solis-Cohen, at the German Hospital of Philadelphia, which is in great part as follows:

A letter from Dr. Bennett in the *British Medical Journal* for December 18, 1886, so strongly impressed me that I wrote to Paris at once for an apparatus, having previously procured a pamphlet on the subject by his pupil, Dr. V. Morel, of Lyons, who devised the apparatus which will be used before you, and from whose pamphlet\* I have obtained most of the information that I propose to communicate—much of it in his own phraseology. Mr. Kyner, of the Polyclinic, has made for me and for some of my friends a number of apparatus imitated from this one of Morel, which answer just as well, and which can be procured for ten dollars, less than one-half the cost of the imported one. I have them in use in this hospital, in St. Joseph's Hospital, in the Home for Consumptives, in the Hospital of the Polyclinic, and in private practice. While unprepared, at this early date, to express a positive opinion as to the value of the method in curing consumption, I do not hesitate to state that sufficient evidence exists to demonstrate its value as a legitimate therapeutic measure; and I have invited you to a clinical demonstration because it is of importance that those of you who have not had access to the original sources of information should see how the administrations are made, in order that you should not submit yourselves to unnecessary disappointment should you feel disposed to give the method a trial, as I believe you should do. As you will see, the process is simple, but requires some precautions which necessitate the presence of the medical attendant at the first few administrations.

The principle upon which the treatment is based is that the disastrous results of pulmonary tuberculosis are due to septicæmia set up by absorption of the noxious products of suppuration in ulcerous lesions in contact with the atmospheric air; and that repeated prolonged bathings of the suppurating surfaces with a safe antiseptic agent controls the suppuration and gives the lesions an opportunity to undergo cicatrization. When an attempt is made to administer such an agent by inhalation, the quantity required to produce the desired effect is so large that it is poisonous to the individual. The same may be said of administrations by the stomach or by the subcutaneous connective tissue. Dr. Bergeon, reasoning on some experiments reported by Claude Bernard in 1857, has found that certain antiseptic agents, of which he has found hydrogen sulphide the best, can be administered in sufficient quantities by the rectum with impunity, provided that care is taken not to introduce too much at a time. The first experiments of

\* “Nouveau Traitement des Affections des Voies Respiratoires et des Intoxications du Sang par les Injections Gazeuses, d'après la Méthode du Dr. L. Bergeon.” Paris, 1886.



Dr. Bergeon were made on animals with chlorine, turpentine, ether, ammonia, and bromine; but these agents had to be abandoned because they soon produced a violent inflammation of the rectum, and even points of sphacelus in the mucous membrane. On the other hand, a mixture of carbon dioxide and sulphuretted hydrogen was thoroughly tolerated when these two gases were pure and completely deprived of admixture with atmospheric air. In their union, the carbon dioxide plays somewhat the part of an inert agent and attenuates the irritant properties of the hydrogen sulphide. Sulphur is well known as a powerful microbicide long recommended in pulmonary disease. Carbonic acid gas is likewise rapidly absorbed by the venous system and rapidly eliminated by the lungs, provided it is injected slowly and in small quantity. The good effects of carbonic acid gas in pulmonary phthisis, in asthma, and in other affections, have long been known to the profession, as I had occasion to refer to it some twenty years ago in the first edition of my little "Treatise on Inhalation."

Dr. Morel's apparatus for administering gaseous enemata is based on the principle that a current of carbon dioxide passing over certain gaseous or volatile substances produces a disassociation of the gaseous elements and drives them forward with it. It is necessary to produce a pure carbon dioxide, and then to pass it through a medicated liquid or over a volatile substance, and to force this gaseous combination into the intestine without permitting any reflux into the reservoir of carbon dioxide. The carbon dioxide is prepared by dropping a solution of dilute sulphuric acid (200 grammes of sulphuric acid to the litre of water) on sodium bicarbonate. Chlorohydric acid was used in the earlier experiments, but a portion always escaped with the carbon dioxide and produced irritation of the rectum and kidneys.

The apparatus for generating the carbon dioxide consists of a square bottle in which three tablespoonfuls of sodium bicarbonate are placed. The bottle is hermetically closed by a rubber cork with two apertures, through one of which a glass tube extends to the bottom of the bottle, the upper portion being expanded into a funnel and reservoir for the dilute sulphuric acid, beneath which is a glass stopcock to regulate the descent of the liquid. The second aperture in the cork is filled with a curved glass tube for the escape of the gas, and this exit tube is prolonged by a section of rubber tubing for attachment to a rubber bag of six litres capacity, in which the carbonic acid gas is to be collected. The mouth of this bag is furnished with a stopcock. The sodium bicarbonate being placed in the bottle, the cork is inserted, and the stopcock of the sulphuric acid reservoir is closed. This reservoir is then filled with the dilute sulphuric acid, say four ounces, and the stopcock is turned so as to allow the acid to drip on the soda. The carbonic acid gas is evolved immediately, the activity of the disengagement being controlled by the stopcock. A little gas is allowed to escape into the atmosphere, so as to drive off the atmospheric air in the bottle. Meanwhile the reservoir is rolled tightly so as to drive out all the air it contains, as far as possible, and is then attached to the exit

tube for the gas and allowed to become filled with the carbonic acid. It is then removed and its stopcock is closed. It must be removed before the stopcock is turned, in order that pent-up gas in the bottle shall not break the apparatus. This is one of the points to which the physician must direct the attention of his nurse, before entrusting the patient to the attendant. Another point upon which stress must be distinctly laid is the rolling of the bag to prevent retention of atmospheric air. The gas is now ready for use. The reservoir is attached to a handball aspirator with check valves at each end. This is attached to a metallic tube passing through a cork which is intended to be placed in the neck of the bottle containing the medicated solution, preferably a highly charged natural sulphur water. The vertical portion of the tube is furnished with a double valve to prevent aspiration of the liquid through which the carbonic acid bubbles and contains an orifice at top for the escape of the gas into the distal horizontal branch, to which is attached a tube connected with a nozzle for introduction into the rectum. As this tube could not be made here in time to supply me with the number of instruments I required, Mr. Kyner, Superintendent of the Polyclinic, has imitated the contrivance at my suggestion by two glass tubes placed in the cork just as in the cork of a modified Wolff bottle; the longer tube being supplied with a valve to prevent regurgitation. It answers equally well with the original. This branch is placed in a bottle three-fourths filled with the sulphurous water—in this instance the Red Sulphur Spring water of Virginia—and the aspirator is worked two or three times to drive out the atmospheric air in the bottle, another point to which the physician must emphatically direct the attention of his nurse. The nozzle is then inserted into the rectum of the recumbent patient and the injection made slowly. All clothing must be loose. With the hand on the abdomen, the amount of distention of the colon is noted, and when this is marked, or when pain is complained of, the process is suspended until absorption takes place, as manifested by relaxation of the tension; and then the process is resumed. Fifteen to twenty minutes are consumed in the process of driving the six litres of carbon dioxide through the sulphur water. The sulphur salt—*e. g.*, sodium sulphide—is decomposed, hydrogen sulphide being formed, a portion of the carbon dioxide taken up to form sodium carbonates.

The only modification of the process I have permitted myself (for I deem it due in justice to Dr. Bergeon and Dr. Morel to test their method of administering the gas in their own way) is to place the mineral water bottle in a bath of warm water, which renders the injection more grateful. Within four minutes, sometimes within one, the sulphuretted hydrogen can be perceived in the breath, and be detected by paper saturated with plumbic acetate. It is prudent to have a bed-pan at hand in case there should be a call to stool. The injection should not be made upon the full stomach. This may produce emesis, it is said. You want all the room possible in the abdomen to prevent pressure upon a distended stomach and upon the diaphragm. Three or

four hours after a meal, or just before one, is the best time for injection. Two injections are given daily. I have found three hours after breakfast and three hours after supper the best periods. My patients have slept better after an injection just before bedtime than after one three or four hours after the midday meal. At the first injections but half the contents of the reservoir of carbonic acid should be used, so that the parts and the system may be gradually accustomed to the process. If the bottle of sulphurous water remain strongly impregnated after the injection, it may be tightly corked for use a second time. It is not necessary to have the bowels moved before an injection. Hæmoptysis and the presence of the menstrual period do not contraindicate the process. Indeed, Dr. Bergeon has seen amenorrhœa relieved during this treatment, even when that condition had failed to yield to the ordinary methods of treatment for that special condition. When the pulmonary lesions are extensive, and, in consequence, elimination of the gas takes place slowly, the injections must be made very slowly, or they will produce sensations of fulness in the thorax and in the abdomen.

Now, as to therapeutic results. All published observations recount rapid amelioration of the suppurative phenomena, a marked diminution in cough, expectoration, dyspnœa, and night-sweats being noted within two or three days. Similar prompt improvement, with reduction of temperature, has been noted in some of my own cases, not in all. Some of his more than 200 patients Dr. Bergeon considers cured. These, he states, no longer expectorate, and present no other stethoscopic evidences than the dry sounds due to cicatrized or cicatrizing cavities, or to cicatricial bands consecutive to old lesions. Some of them have been able to resume laborious occupations and to ascend several flights of stairs many times a day without injury to their respiratory apparatus or loss of the ameliorated condition which had been secured. Some who considered themselves cured at the end of a few weeks abandoned treatment, despite the advice of Dr. Bergeon, and underwent recurrence. It is, therefore, important that the treatment should be continued for some months, until all the pulmonary lesions have been cured, lest incompletely cicatrized surfaces undergo suppuration afresh, and reproduce septicæmia. They should be renewed from time to time, even after apparent cure, and especially upon any reappearance of cough, expectoration, fever, or emaciation. Not only are pulmonary lesions said to be cured by these enemata, but pharyngeal and laryngeal tuberculous ulcerations are said to undergo cure likewise, and that without any topical applications whatever, simply from the contact of the gas in its elimination from the lungs.

Of the cases treated under my own supervision I have as yet little positive to state. With a single exception, they have done quite well so far, and some of them are very pronounced cases—cases that I have had no hope of benefiting very greatly by any treatment with which I am more familiar. One of my patients insists that she is well, but she is not. Some of these cases are here for the purpose of receiving the

treatment in your presence. They will answer for themselves that they are better in several ways. Hope of recovery has much to do with this, but not all. I went through a similar experience more than twenty years ago with inhalations of oxygen in phthisis. Hope buoyed the patients up until they found that oxygen had not the power of curing them, and then some of them, I fear, sank all the sooner for the disappointment. In the present instance the prospect is better, the treatment being more in accord with scientific principles, despite the awkwardness of the method. Try it, gentlemen, and within a few months Philadelphia will be able to prove whether this treatment is to be regarded as a novelty of the moment, or whether it has the therapeutic value that has been claimed for it. In the one instance, it is hardly to be supposed that your patients will have been injured; in the other, they will have had all the advantage of an early resort to a beneficial agent.

Should it be desired to administer some volatile medicament, as iodoform, carbon sulphide, eucalyptol, or the like, the bottle of mineral water is replaced by a bottle of common or distilled water, and between the T-tube and the injection-pipe a glass tube is inserted, in which the volatile substance has been introduced between two tampons of cotton.

In addition to pulmonary phthisis, the following diseases are said to be usefully treated by his method, the therapeutic principle being the same in all of them: asthma, whooping-cough, bronchitis, pulmonary catarrh, typhoid fever, the eruptive fevers, puerperal fever, and general septicæmia. If this be true, the list can be extended, as stated by Dr. Morel. The gas acts on the mass of infected blood in the right cavities of the heart, and upon its entire transit through the ramifications of the pulmonary artery, so that the venous blood is disinfected in its course to the pulmonary alveoli and re-enters the branches of the pulmonary veins in a purer condition.

ANOTHER NEW TREATMENT FOR PHTHISIS.—A new method of treating phthisis has been proposed, but apparently as yet but slightly tried, by Professor Kremianski, who read a paper on the subject at the recent Moscow Medical Congress, which provoked a good deal of discussion. The idea is based, firstly, on the fatal effect of the most dilute solution of aniline on Koch's bacillus, and, secondly, on the fact that aniline seems to be but slightly, if at all, poisonous to the human body. Professor Kremianski proposes to introduce aniline into the lungs, and, indeed, the circulation generally, by inhalation, so that the phthisis bacilli should be bathed in a very dilute solution of aniline, wherever they may be. This, he thinks, would kill them, and render even pulmonary cavities free from bacilli, so bringing them into the condition of healthy granulating ulcers, which may be expected to cicatrise. A committee has been appointed, including Professors Subbotin and Ostroumoff, who expressed themselves at the meeting as strongly opposed to the plan, for the purpose of observing Professor Kremianski's proposed experiments in one of the Moscow hospitals. Two cases in

which the aniline treatment had been successfully tried were detailed. A lad of eighteen, who had undoubted phthisis, was offered a four-drop dose of aniline (but took by mistake three times the proper quantity) combined with nux vomica, mint water, and antifebrin, his diet being good, including dried meat, kvas, and oranges. He was also given inhalations of atomised aniline. A remarkable change took place almost immediately, all the râles disappearing, his temperature, respiration, and pulse becoming normal. His skin, however, assumed a slightly blue tinge, but whether this was as permanent as the cure is represented to have been is not stated. The second case was a complicated one, there being tubercular peritonitis and meningitis, together with typhoid fever, present at the same time as pulmonary phthisis. Aniline inhalations, washing out the pulmonary cavities with corrosive sublimate and antifebrin, were employed, together with a special acid diet, as in the other case. Here, too, the results are said to have been remarkably good, the bacilli disappearing from the sputum, and the patient regaining his health entirely. No mention is made in the abstract published by the *Vrach* of any change of color in this patient's skin. Amongst the various replies that were made to Professor Kremianski, Dr. Zakrzhevski, of Helsingfors, remarked that, admitting the facts as stated, still there was nothing to show that the aniline had been the cause of the cures. He himself had had surprisingly good results in phthisical cases, the disease becoming completely arrested by simply giving increased nourishment and prescribing antipyrin.—*Lancet*.

THERAPEUTIC ACTION OF TANNIN IN THE TREATMENT OF TUBERCULOSIS.—At a recent meeting of the Biological Society, M. Arthaud made a communication respecting his researches, in conjunction with M. Raymond, on the etiology and treatment of tubercular affections. Three substances had given satisfactory results: (1) sulphide of carbon, (2) iodoform, (3) tannin. Experiments were made on rabbits, which were submitted to the action of these substances and examined at the end of a month, in order to ascertain whether they could be inoculated with tubercle. No very decided result followed the use of iodoform or sulphide of carbon, probably owing to the method employed for introducing those substances into the organism; with tannin, however, the results were very remarkable. Six rabbits were treated for a month with doses of tannin, varying from 50 centigrammes to 1 gramme; after two successive inoculations, one, with lung-tissue from a patient who had died of acute tuberculosis, the other with miliary tubercle from a hospital patient—no trace of infection was observed, whilst three other rabbits, to which tannin had not been given, succumbed in consequence of inoculations with the same material. These experiments suggested a mode of treatment which has been adopted with excellent results in over fifty cases. Tannin was given in doses of from two to four grammes a day, and the improvement was visible at the end of a fortnight, the patients had increased in weight, and no relapse occurred. In cases of acute tuberculosis, both in children and adults, it sometimes happens that the

symptoms appear less favorable; but, at the end of a week or a fortnight, the patient's condition improves, even when fatal results have been feared. From these experiments the following conclusions may be drawn: (1) That tannin is preferable to sulphur of carbon or iodoform in the treatment of tuberculosis; (2) that animals submitted to this treatment for a month offer great resistance to the action of tubercular virus.—*Paris correspondence of the British Med. Journal.*

ANTIFEBRIN.—This new drug appears to possess certain advantages which render it worthy of more extended trial. Drs. Cahn and Hepp, whose report may be found in the *Centralb. f. d. Klin. Med.*, 1886, No. 33, have just published a second and more elaborate report on antifebrin in the *Berliner Klin. Wochenschr.*, 1887, Nos. 1 and 2, the more important facts of which are here reproduced. Antifebrin is acetanilide or phenylacetamide, and has the formula  $C_6H_5NHC_2H_3O$ . It is produced by the action of heat upon aniline acetate, one molecule of water being driven off. It is a light crystalline powder, very stable in composition, undergoing distillation without alteration, and being unaffected at the ordinary temperature by acids or alkalies. It melts at  $113^\circ C.$ , and boils at  $292^\circ C.$  It is almost insoluble in cold water, requiring 160 parts for its solution, but is soluble in 95 parts of hot water and easily soluble in alcohol, ether, brandy, or strong wine. It may be conveniently administered suspended in water, as it has no bad taste, but only a slight and not unpleasant sensation of burning, and patients evince no aversion to it, even after its administration for a long time. The action of this drug in reducing temperature is most certain; it never fails to lower it by several degrees. It is four times as strong as antipyrin in its effects, is very cheap, does not cause vomiting, and rarely causes any rigors, as the temperature subsequently rises again. Moreover it causes no cerebral disturbance, and the appetite even improves under its use. In a few cases, some degree of cyanosis of the face and limbs was observed; this, however, always disappeared (without any symptoms of shivering as it faded off), and the authors paid very little attention to it. Indeed, they complain that certain remarks in some chemical advertisements have been exaggerated in this particular, in order to favor the sale of antipyrin, and distinctly state that the above appearance was not more frequently observed than after other antifebrile agents, far less than after kairin. To call it "aniline poisoning," as has been done, is quite unjust.

The drug was used in twenty-four cases of fever, and always lowered the temperature. Fifteen grains given in the morning is the favorite daily dose with Drs. Cahn and Hepp. The temperature began to fall in about an hour, and continued to fall for about three hours longer; it then gradually rose again; as the temperature fell, the skin reddened, and there was perspiration; the pulse became less frequent, and the arterial tension was increased. In some cases, during the period of intermission, there was much thirst, followed by increased urination and gentle sleep. A further series of cases, sixty in number, included twenty-nine of typhoid fever, six of erysipelas, two of croupous pneumonia, four of acute rheumatism, six of phthisis,

two of pleurisy, two of pyæmia, and two of septicæmia. Liebermeister has taught us that quinine is more energetic in its effects if given coincidentally with the natural daily remission in fevers, and this is also the case with antifebrin. A dose given early in the day has a far more potent effect than if given in the evening. A good dose at one time is far better than small doses frequently repeated, and in high fever the latter treatment is useless at first. But, if the temperature be brought to the normal by a good daily dose (fifteen grains) for two or three days consecutively, it will be found that small doses of two or three grains daily will often suffice to keep it low afterwards. As to the limit permissible, the authors themselves repeatedly took one or two grammes a day without the least effect; and one young man, who was suffering from diarrhœa, took three grammes (forty-six grains) daily for a week without the least discomfort. Indeed, Fürbringer and Reise raised the dose boldly to over ninety grains daily without harm—a dose certainly equivalent to five drachms of antipyrin. Thus, there is no cause for disquietude with the moderate doses recommended, but it is always advisable to study the individual susceptibility.

But one of the chief advantages of antifebrin over antipyrin is the freedom from vomiting after it, and patients who usually had retching or even vomiting attacks after antipyrin took antifebrin without any discomfort. No irritation of the urinary passages was observed; in some cases of albuminuria, the albumen disappeared during the use of the drug, in others not till the patient was free from fever. Again, shivering was rarely seen after antifebrin, whereas it is a common result after antipyrin. The subsequent rise of temperature is often temporarily higher than the normal elevation, but this is a common result after all energetic agents on the temperature, especially after the use of dioxybenzols in general; for example, resorcin, kairin, and particularly thallin; also after antipyrin, and even after cold baths. The patients feel much better after antifebrin, and the mind is cleared to a remarkable extent. This is best noticed in typhoid cases. Another advantage of antifebrin is the rise of arterial tension, together with lessened frequency of the pulse. Even when directly injected into the veins of animals, antifebrin never causes lowering of the arterial tension. This was established by experiments in Professor Schmiedeberg's laboratory. At the same time the increased diuresis caused by antifebrin is distinct evidence of its favorable effect upon the circulation. Nospecific action of this drug is claimed as against any disease in particular; the chief experiences of Cahn and Hepp related to typhoid.

From all this it appears that, as said above, antifebrin is evidently a powerful antifebrile agent worthy of further trial. It is no doubt unfortunately true that the action of these aniline derivatives is of a more or less evanescent character, but this may be compensated to a great extent by giving them in appropriate repeated doses. It may be added that Lépine (*Semaine Médicale*, 1886, p. 473) calls this agent a "nervine," and finds that it relieves the peculiar pains in "tabid" subjects.—*British Med. Journal*.

## MISCELLANEOUS.

**SCHEDE'S METHOD OF DRESSING WOUNDS.**—Professor Mikulicz communicates to the *Przegląd Lekarski* an account of fifty cases of surgical operations which were treated by the method recommended by Dr. Schede at the last surgical congress in Berlin—viz., to allow blood to fill the wound and to lie between the lips after they are brought together, any deficiency in the quantity of blood being remedied by the use of the knife, the idea being that the blood either actually becomes organized or serves as a protection for the granulations, as they are formed. The wound is covered with protective, to prevent evaporation. Professor Mikulicz's observations included six resections of joints, four amputations, six dissections, two ligatures of arteries, seven extirpations of large tumors, etc. In thirty-six of the fifty cases union took place without suppuration, in four there was extensive formation of pus, in five superficial suppuration starting from the points of suture, and in the remaining cases pus had existed previously to the operation, and the disinfection at the time not having been complete, it continued subsequently. The general condition of the patients was highly satisfactory, even in those cases where suppuration occurred, the temperature in no case rising much beyond normal. The dressings were not removed or changed for at least a fortnight, sometimes not for a month. This appears to be of great advantage in the case of bone and joint operations, where complete immobility of the parts is a desideratum. Other specified advantages attributed to this plan are that wounds attended with a loss of substance rapidly fill up, and the cicatrices that form are peculiarly soft and smooth. Professor Mikulicz does not find, as Schede did, that the existence of silver sutures in osseous lesions has any unfavorable influence on the cicatrization of the wound. He remarks that it is important not to bind the external dressings too tightly to the wound.—*Lancet*.

**THE USE OF UNCOOKED MILK.**—The question of the habitual use of uncooked milk which prevails in this kingdom is one which demands serious attention. Again and again have milk epidemics of typhoid fever, scarlet fever, and diphtheria shown conclusively how severely the incidence of the disease in question has been felt upon those using uncooked milk, as opposed to those taking milk only after it has been boiled or otherwise cooked. At one time it was thought that the matter involved only the question of the cleanliness of the dairy and the freedom of those engaged in its management from communicable disease; and the mere fact of milk coming from country dairies has been held to be a sufficient guarantee of its wholesomeness. As a matter of fact, our experience goes to show that the danger is at its greatest according as dairies are situated in the more remote and rural localities; for it is precisely in scattered rural areas that first cases of ill-defined sore-throat and other affections in the families of those having to do with cows and milk are most likely to pass unnoticed. But recent ex-



perience has shown that disease in the human subject, whether unrecognized or concealed, is not the only—perhaps not the greatest—danger that has to be contended with in connection with our milk services. It has now been shown that the cow herself may suffer from a disease which at present is rarely, if ever, regarded as of any importance by dairymen, and which may give to the milk, at the actual moment of entering the pail, the power of producing scarlet fever in those who consume it in its raw state. Just as the excellent arrangements which have been made for the medical supervision of dairies must at times fail to detect certain cases of disease in the human subject, so must any veterinary or other inspection of cows fail in certain cases to prevent scarlatina-producing milk from being despatched from the dairy. We would therefore once again urge the importance of using milk only after it has been boiled or otherwise cooked. And for those who have not habituated themselves to the somewhat altered taste of boiled milk as a beverage, we may note that if milk be boiled immediately after its delivery by the milkman and be then set aside in a cool place for some six hours, the taste which is sometimes objected to will be found to be almost entirely removed; and not only so, but milk so treated keeps good and wholesome for a longer period than does un-boiled milk.—*Lancet*.

A CASE OF PROLONGED SLEEP.—Dr. De Watteville writes to the *British Medical Journal* as follows in regard to the case of Chauffat, which has excited so much public interest in England. The condition appears to have been from the beginning one of lethargy, with a condition of muscle combining some cataleptiform plasticity with well-marked tendency to rigidity on mechanical excitation. The eyes were closed and upturned, but could be opened, and made to fix and follow a light. Remembering the cases I had seen at the Salpêtrière, and the descriptions given in Dr. Richet's celebrated book on "La Grande Hystérie," I suggested that passive movements should be communicated to the arms, legs, and face. Such movements, once started, were continued for an indefinite time when the patient was left to himself. An attitude of menace (closed fist) given to the arm was accompanied with a corresponding expression of the face, amounting to ferocity. Such phenomena are characteristic of the hypnotic condition in hystero-epilepsy. Chauffat appears to me to belong to the group of aberrant hystero-epileptics, of which many instances will be found described in Dr. Richet's work. The typical clonic and tonic phases of the attack can be obtained in him by cutaneous excitation; and his present condition may be described as one of hypnotic lethargy, with plasticity and hyper-excitability of nerves and muscles.

IODOFORM AS AN ANTISEPTIC.—The doubts cast upon the antiseptic power of iodoform are surprising, and must surely be contradicted by the experience of every practical surgeon. It really seems absurd to quote instances to prove the superiority of iodoform (through the penetrating character of its volatile particles) to other antiseptics, it is

a matter of such daily experience. I will just mention one case, however, if you will permit me. When surgeon on board the Orient steamship *Lusitania* (temporarily an armed cruiser), I had an invalided engineer from the Nile boat corps handed over to my charge at Alexandria, with the worst "poisoned hand" I ever saw. It was riddled with abscesses back and front; it had been deeply incised in several places, the pus burrowing up the tendon sheaths above the wrist; and it was horridly offensive. It had been treated with carbolic baths continuously. I kept it four hours in a carbolic bath, and then syringed it well and dressed it with carbolic solution (1 in 40). At night it was as offensive as ever. I then wrapped the fingers and hand with strips of lint on which was spread a weak iodoform ointment (twenty grains to an ounce of zinc ointment). The hand in the morning was *perfectly sweet*. The dressing was simply renewed, first twice a day, then daily. The healing process commenced immediately, discharge rapidly diminished, and there was never the slightest odor from the hand after the first dressing. The man's temperature became normal (it had been 101°), appetite good, and he went ashore with his hand healed. I would only say, in conclusion, that, as my supply of this invaluable drug was very small, I learned how exceedingly small an amount was necessary, and that the waste to which I had been accustomed in London hospitals was simply sinful. To powder a wound over or stuff a sinus with pure iodoform is utterly unnecessary. I am convinced that drachms are used when grains would suffice, especially in hospital practice.—*Dr. J. P. Glover, in the Lancet.*

THEISM—THE NEW NERVOUS DISEASE.—Attention has recently been drawn to a new nervous disorder said to be especially prevalent in England and America; it is called "Theism," or tea-drinker's disease. It is said to exist in three stages—the acute, subacute, and chronic. At first the symptoms are congestion of the cephalic vessels, cerebral excitement, and animation of the face. These physiological effects, being constantly provoked, give rise, after a while, to reaction marked by mental and bodily depression. The tea-drinker becomes impressionable and nervous, pale, subject to cardiac troubles, and seeks relief from these symptoms in a further indulgence in the favorite beverage, which for a time restores to a sense of well-being. These symptoms characterize the first two stages. In chronic cases theism is characterized by a grave alteration of the functions of the heart, and of the vasomotors, and by a disturbance of nutrition. The patient becomes subject to hallucinations, "nightmares," and nervous trembling. With those who take plenty of exercise, an habitual consumption often may be indulged in with impunity, but with women and young people who follow sedentary occupations this is not the case. The best treatment for theism is said to be indulgence in free exercise, such as walking and open air life.—*Journal of the Amer. Med. Association.*

EXAMINATION OF THE HIP-JOINT THROUGH THE RECTUM.—Valuable information as to the condition of the acetabulum may be

obtained by examination with the finger in the rectum. Three cases are reported by Schmitz in the *Centralblatt für Chirurgie*, in which this mode of examination proved useful. The patients were children from three to five years of age, in whom symptoms of coxalgia had existed for three, six, and twenty-one months respectively. In all three the thigh was slightly flexed, abducted, and rotated inwards. In one case rectal palpation revealed a well-defined tumor in the acetabular region; in the others abscesses varying in size from a hen's egg to a nut were detected. Movement of the femur during anæsthesia produced no friction. Resection was performed in all the cases, and the head of the femur, with its cartilage, was found to be quite healthy, but the acetabulum was extensively diseased. Schmitz recommends the use of this method of examination in all cases of suspected hip-disease.—*British Medical Journal*.

AN EXAMPLE OF REFORM.—Some very important work in the field of administrative reform at Washington has been done without a blowing of trumpets. Our Washington correspondent's dispatches concerning the Record and Pension Division of the Surgeon-General's office show very plainly and forcibly what has been accomplished there in three months by the use of business methods. Under Dr. Pope this division, to which the Pension Bureau must apply for the military and medical history of applicants, had fallen to the condition of an infirmary or a hospital. In December last, when Dr. Pope was relieved, it was nearly 10,000 cases in arrears. Under the administration of Dr. F. C. Ainsworth, at the end of three months, there were only 419 cases on hand. Under his predecessor the average time for the preparation of a response to an inquiry from the Pension Bureau was sixty-three days. In three months it had been reduced to four days. But Dr. Pope had reported to Secretary Endicott that "there was no necessity for improvement or change" in his division. The deplorable condition of the division when Dr. Ainsworth took charge of it was due in great measure to the fact that scores of worthless clerks were employed. Some of these were physically or mentally disabled, and others were drunkards. It is almost incredible that any department could be so handicapped, but the record is set forth in detail in our dispatches. The accumulation of so much worthless material was one of the results of the long and uninterrupted domination of one party and a disregard for the sound business principles upon which the civil service reform movement is based. The record made in so short a time by Dr. Ainsworth shows, not only that there was a great need of improvement in the division, but also that the work of reform was intrusted to the right man.—*N. Y. Times*.

THE MEDICINE AND HYGIENE OF THE TALMUD.—Since the publication of my address on "Jewish Hygiene and Diet in the Talmud and Various other Jewish Writings Heretofore Untranslated," delivered before the American Medical Association in 1884, at Washington, D. C., I have been constantly urged by the profession to translate and publish

the medical and hygienic portion of this "wonderful" compilation, the Talmud. I therefore beg to state to the profession at large that I have concluded to translate and publish from the Talmud everything relating to medicine, providing that, prior to the undertaking, I can receive one thousand subscribers for the book. Such subscription may be addressed to me in the following words: "I, the undersigned, agree to take one (or more) copy of the "Talmudic Medicine" of Dr. von Klein, which shall not exceed \$5.00 in cost for 500 octavo pages, or at \$1.00 for each 100 pages, payable on delivery." Under no other circumstances will I undertake this labor. No more copies will be published than the number subscribed, and fifty extra copies for distribution to the principal medical journals for review.

CARL H. VON KLEIN.

110 E. 2d St., Dayton, Ohio.

THE SIGNIFICANCE OF URIC ACID DEPOSITS IN URINE.—Dr. Johannes Mygge, while chief of Professor Trier's clinic in Copenhagen, having repeatedly remarked abundant and persistent deposits of uric acid coinciding or alternating with albuminuria, carried out a series of examinations on the urine of the 272 male patients under his supervision. Of 3,287 urines examined, 2,786 from 127 patients were entirely free from uric acid deposits, while they were found in 501 specimens from 105 patients, but only in any considerable quantity in 262 specimens from 59 patients. In 43 of these last patients the deposits were of a transitory character—that is, they were only observed once or twice; while in the remaining 16 they were found to persist for a week or more. Deposits both of a transient and of a permanent character were found, especially in rheumatic affections, whether of an acute or chronic form. Transient deposits were found also in pneumonia in 11 cases out of 25. In 27 out of the 59 patients in which uric acid deposits, were observed, albuminuria was also present in appreciable quantity, and in many of the rest there was a doubtful trace noticed. Dr. Mygge's observations confirm Dr. Dickinson's statement that deposits of uric acid of a transitory character frequently coincide with the suppression of acute albuminuria. In the majority of cases where the deposit was examined microscopically, casts or tubal epithelium cells were found, indicating that some connection probably exists between uric acid deposits and functional renal disorder. In some instances, it may be supposed that a peculiar condition of urine, especially its supersaturation by uric acid or an increase in its acidity, has irritated the epithelium of the tubes, and has thus set up a renal lesion. In others, the latter condition doubtless precedes the precipitation of uric acid, and here Esbach's theory of the precipitation of uric acid being due to the existence of morphological elements in the urine may afford an explanation.—*Lancet*.

A GHASTLY SHOWING.—In speaking of the mortality among the Siberian convicts the *British Medical Journal* states that, during the decade 1876-86, 218,578 prisoners passed along the highway between Tiumen and Atchinsk, which leads to Siberia, and of this number no fewer

than 2,867 died on the way. The report which furnishes this information gives no record of the probably larger number who perished on the latter part of the journey, nor of the causes of death, nor of the hardship and suffering which doubtless had much to do in producing so high a mortality.

STAYS AND MOVABLE KIDNEYS.—Referring to the remarks of Dr. A. Myers (*Journal*, December 11th, 1886) and Professor Graily Hewitt, (*ib.*, January 15th, 1887) on the effect of tight-lacing in producing flexions of the womb, Professor V. A. Manassein writes (*Vratch* No. 8, 1887, p. 206) that he has collected a large number of cases which confirm the fact that movable kidneys are met with, other conditions being equal, in women who wear or have worn stays, far more frequently than in those who have never done so. This is true in regard both to nulliparæ and childbearing women.—*British Medical Journal*.

THE JUBILEE ODE.—Lord Tennyson does not seem by any means to have added to his reputation by his latest effusion, "The Jubilee Ode"; but, whatever may be thought of its poetical qualities, the Laureate is evidently sound on the hospital question, as shown in the following lines:

" You that wanton in affluence  
Spare not now to be bountiful.  
Call your poor to regale with you ;  
Make their neighborhood healthfuller.  
GIVE YOUR GOLD TO THE HOSPITALS ;  
Let the weary be comforted ;  
Let the needy be banqueted ;  
Let the maimed in his heart rejoice  
At this year of her jubilee !"

CREMATION AND ITS ADVANTAGES.—Miss Kate Field tells the following, illustrative of one of the benefits of cremation: A lady, visiting some friends, neglected to bring her tooth-powder. Looking about her bed-chamber she noticed an elegant vase. On removing the cover she found a grayish, calcareous powder. This she regarded as a dentrifice, and proceeded to avail herself of the discovery, finding it very satisfactory. The next day she mentioned the fact to her hostess, apologizing for making free with her tooth-powder. The countenances of the family expressed various emotions, which at last found vent in the gasp of one of the daughters: "Why, that's Aunty." Thus, as a tooth-powder, the ashes of the cremated are a success.—*N. W. Lancet*.

AN UNEXPECTED DOSE.—At the recent midnight banquet given by Mr. Daly at his theatre in honor of the one hundredth consecutive performance of "The Taming of the Shrew," Mr. Marshall P. Wilder, the humorist, got off (with imitations, in his own inimitable style, of the horse, the coachman, and the tube), the following yarn: Friend of mine had a horse—taken sick—colored coachman told to doctor it. Put medicine in his feed—no good—horse wouldn't eat it. "Jes' hol'

on," said the coachman, "I'll fix him." Next morning coachman didn't come to breakfast—found in stable looking very weak and white—strange thing for a negro. Asked him what the matter was. "Well," said he, "I put dat med'cine in dat tube, an' was gwine to blow it in the horse's mouf, but de horse blowed fust."

DR. HOLMES AND THE APOTHECARIES.—At a banquet given to Mr. Theodore Metcalf by the Boston Druggists' Association, Oliver Wendell Holmes gave his opinion of apothecaries as follows: "I have always had a great opinion of the medical advice of apothecaries. The truth is, they put up the prescriptions of all the best physicians in the place in which they live, and they have the very cream of all their wisdom at their fingers' ends. So, when I have myself been suffering from any slight bodily inconvenience, I am ashamed to say—or ought to be, perhaps—instead of going to a professional brother, I have quietly crept into the back room and asked Mr. Metcalf what such and such a doctor was in the habit of prescribing."—*Boston Surgical and Medical Journal*.

LAUGHS FROM "TEXAS SIFTINGS."—*A New Wrinkle*.—A rather impecunious party met a friend, who was sporting a new suit of clothes. "Hello!" exclaimed the former, "where did you get those new clothes?"

"Hush! It's a secret. I'll tell it to you if you'll promise not to give it away."

"I'll promise."

"You know there's a new doctor in town?"

"Yes."

"Well, I sit in his waiting-room two hours every morning, to make the public believe that he has got a patient."

*Taking it Philosophically*.—"Mawnin', Brudder Smif! How's all de fokes wid you?"

"Dey is all well, bress Moses! One ob de chilluns was ailin' yis-terday, but hit died jurin' de night."

*A Fascinator*.—Society Lady No. 1: "Have you been to the new dentist?"

Society Lady No. 2: "No."

Society Lady No. 1: "He is such a nice man that I feel happy as soon as my teeth begin to pain me."

ENGLISH AS SHE IS TAUGHT.—Mark Twain contributes to the *Century* a number of illustrative examples of the failure of teaching to educate the pupil, taken from a school-master's actual experience. From them we select a few with a medical bearing.

Physillogigy is to study about your bones, stummick, and vertebry.

Occupations which are injurious to health are carbolic acid gas, which is impure blood.

We have an upper and a lower skin. The lower skin moves all the time and the upper skin moves when we do.

The body is mostly composed of water, and almost one-half is avaricious tissue.

The stomach is a small pear-shaped bone situated in the body.

The gastric juice keeps the joints from creaking.

The chyle flows up the middle of the back bone and reaches the heart, where it meets the oxygen and is purified.

The salivary glands are used to salivate the body.

In the stomach starch is changed to cane sugar and cane sugar to sugar cane.

The olfactory nerve enters the cavity of the orbit and is developed into the special sense of hearing.

The growth of a tooth begins in the back of the mouth and extends to the stomach.

Socrates destroyed some statues and had to drink Shamrock.

Ipecac: a man who likes a good dinner.—*Phila. Med. Times.*

A WILD LEECH HUNT.—The *New York Sun*, says the *Boston Medical and Surgical Journal*, tells a pretty story of a woman who was carrying three leeches home in a street-car from an apothecary's for her sick husband, when one escaped from the the box and fastened upon her wrist. Piercing shrieks from the lady called the attention of the passengers to the mishap. One man, unusually bold, went to the rescue and removed the creature, but on replacing it in the box it was found that the other two had also escaped. A general panic ensued, with screams and mounting of seats by the female passengers, each of whom imagined she was wearing one or both of the other two leeches. A semblance of peace was restored only when the missing creatures were found in the matting of the car. Their spirit was broken and their functional usefulness past restoration, but the sick man for whose swollen leg they were intended, on hearing the story, laughed till the swelling went down.

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## MEDICAL NEWS.

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CENTENNIAL OF COLUMBIA COLLEGE.—On the 13th of April there was celebrated, with appropriate ceremonies at the Metropolitan Opera House, the one hundredth anniversary of the revival of Columbia College after the Revolution. In 1787 it was re-organized by an act of the State Legislature, which confirmed the royal charter granted in 1754 for the establishment of a college in New York, and also changed the name of the institution from King's College to Columbia College. During the Revolution the students had been dispersed, and the buildings were used as barracks and hospital by the American troops. In 1787 Dr. William Samuel Johnson, son of the first President of King's College, was inaugurated the first President of Columbia College, and during his term of office the Medical School was more firmly established by the appointment of a Dean of the Faculty and several medical professors. In the beginning of the present century Dr. David Hosack was professor of botany and materia medica. He collected an excel-

lent library, and, having failed to secure land from the State for a botanical garden, he leased from the city corporation twenty acres of ground between what are now 47th and 50th Streets and Fifth and Sixth Avenues, a district then far out in the country. This property, which, with \$10,000, was afterwards given to the college by the State, now constitutes a considerable portion of its wealth. The Medical School, established in 1767, existed until November, 1813, when it was consolidated with the College of Physicians and Surgeons, which remained entirely distinct from Columbia College until 1860, when it became formally recognized as the medical department of the college.

The only physicians upon whom honorary degrees were conferred on this anniversary occasion were Dr. John C. Dalton, President of the College of Physicians and Surgeons, and Professor von Helmholtz, of Berlin, who received the degree of LL. D.

**MORTALITY IN THE STATE OF NEW YORK.**—The total reported mortality for the month of February was 6,653; of which 36.8 per cent. were under five years of age. From zymotic diseases there were 1,058 deaths, a ratio of 159 per 1,000 total mortality.

**TENNESSEE STATE MEDICAL SOCIETY.**—The 54th annual meeting of the Medical Society of the State of Tennessee was held in Nashville April 12th. The address by the President, Dr. W. T. Briggs, of Nashville, was on Medical Ethics, and among the scientific papers presented were "On Amputations," by Dr. Duncan Eve; "Necessity of Quarantine," by Dr. S. T. Armstrong; "Management of the Puerperal Period," by Dr. J. B. Murfree; "Penetrating Wounds of the Abdomen," by Dr. Richard Douglas; and the "Hypodermic Treatment of Internal Hæmorrhoids," by Dr. B. B. Henning.

**THE INTERNATIONAL MEDICAL CONGRESS.**—The programme of the proceedings of the Congress will not be completed till after the meeting at Chicago, in June, but it is expected that one of the general addresses will be delivered by Dr. Semmola of Naples, and another by Professor Austin Flint. Communications are expected amongst others from the following gentlemen:—Great Britain: Dr. W. Dunnett Spanton, Dr. Julius Althaus, Dr. W. M. Whitmarsh, Mr. Edmund Owen, Dr. R. Norris Wolfenden, Dr. Sidney H. C. Martin, Mr. Lawson Tait, Mr. Henry Power, Dr. Samuel Benton, Dr. W. Macewen, Dr. G. Feilding Blandford, and Dr. Geo. H. Savage. Ireland: Dr. Thos. More Madden. France: Dr. E. Landolt, Dr. P. Meniere, Dr. M. C. Marquis Nadaillac, Professor Dr. A. Charpentier, Dr. J. Ameda-Doleris, Dr. Victor Aud'houi, and Dr. Max Durand Fardel. Germany: Professor Dr. Hegar, Professor Dr. Gusserow, Dr. A. Oldendorff, Dr. L. Lewin, and Dr. J. Veit. Hungary: Professor Joseph Korosi. Austria: Professor Dr. Gustav Braun, Professor Dr. E. H. Kisch, and Dr. Emil Ehrendorfer. Belgium: Dr. Alf, Struebens. Switzerland: Dr. A. Cordes. Canada: Dr. Daniel Clark and Dr. MacCullum. Italy: Dr. Luigi Casiti and Dr.



Domenico Perruzzi. We cordially wish the Congress every success.—*Lancet*.

THE JAPANESE PHARMACOPŒIA.—The new Japanese Pharmacopœia has just appeared, and it is hoped that an end will now be put to the inconveniences which have hitherto existed in Japan of there being no official standard for medicines. The chemists obtain their drugs from America, England, France, and Germany, and as the preparations vary considerably in strength, all kinds of confusion arose. The new Pharmacopœia was undertaken some twelve years ago, and in 1880 a commission was appointed by the Government to carry out the work. This commission has held 155 sittings. It was found advisable to write the text of the Pharmacopœia originally in German, that being the language most generally understood by the members of the committee. The official text is, however, Japanese, and there is also a Latin translation. The number of preparations is 475, which are named first in Japanese and then in Latin. The general character of the work is similar to that of the English and German Pharmacopœias.—*Lancet*.

JEFFERSON DAVIS AT TULANE UNIVERSITY.—During the recent commencement of the medical department of Tulane University, at New Orleans, the Hon. Jefferson Davis occupied a seat on the stage. While the bouquets were being distributed among the graduates, a pretty compliment, says the *New Orleans Picayune*, was paid to Mr. Davis, "when Dr. Forsythe, the valedictorian, and Dr. Charbonnet, the Charity Hospital medalist, approached the venerable gentleman, each bearing a basket of flowers, which they presented to him. In so doing Dr. Forsythe made a few remarks, to which Mr. Davis replied: "I thank you from my heart for the kind courtesy extended to me on this occasion. May your paths in life be as flowery as these baskets, and may you illustrate in your careers the high principles that belong to your profession. Standing next to the ministry, you have not only the care of the body, but you are the repositories of family confidences. To you are intrusted secrets that none others know. You stand by the bedside of the dying and hear their last utterances. I trust that science, benevolence, and morality will go hand in hand in your profession."—*Maryland Medical Journal*.

NEW YORK POST GRADUATE MEDICAL SCHOOL AND HOSPITAL.—The annual dinner of this popular school was recently held at the Hotel Brunswick. Dr. D. B. St. John Rossa presided, and among the speakers were Gen. W. T. Sherman and Dr. W. A. Hammond.

CHICAGO MEDICAL SOCIETY.—The thirty-fifth annual meeting of the Chicago Medical Society was held at the Grand Pacific Hotel, Chicago, April 4.

THE EASTERN DISPENSARY, NEW YORK.—We take pleasure in chronicling the fact that the Eastern Dispensary has been added to the

list of the institutions which pay their attending physicians. There does not seem to be any good reason why medical men alone, of all professional classes, should work without recompense. And we regard it as a step forward in the status of our profession when dispensary directors begin to see that it is wise and just to pay their medical officers for services rendered.—*Med. Record.*

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.—The next annual meeting of the Mississippi Valley Medical Association will be held at Crab Orchard Springs, Ky., July 13th, 14th, and 15th, 1887. The territory embraced in its membership includes the entire country west of the Allegheny Mountains. The qualifications for membership are the same as required by the American Medical Association, except the admission fee, which is \$2.

PRIZE OF \$1,000.—The Concentrated Produce Company, of London, offer the above prize for the best work upon the "Physiological Action of the Narcotic Principle of Hops." Competition is open until February, 1888.

A PERILOUS POSITION, *Chicago, April 7.*—Dr. W. N. Williams of 3,262 Vernon Avenue, had a narrow escape from death at the hands of an infuriated Anarchist. He was called to attend the seven-year-old son of Frank Moeck, the boy having been run over by a Thirty-first Street car. Dr. Williams, who is employed by the street railway company, was engaged in amputating the boy's leg when the father, who had heard of the accident, arrived home. Moeck was furious when he saw Dr. Williams, and was imbued with the idea that he could have revenge on the corporation by killing the doctor. Seizing a pistol, he leveled it at the physician, but it failed to explode. The doctor escaped through a rear window, carrying the sash and all with him, but returned later with two other medical men and finished the amputation, Moeck having been induced to see the necessity of it by the expostulations of the neighbors.

ST. FRANCIS HOSPITAL, JERSEY CITY.—From the annual report of the Medical Board of this excellent institution, which is under the efficient supervision of Dr. Theodore R. Varick as Medical Director, it is learned that the total number of patients under treatment in the wards of the hospital during the year ending December 31, 1886, was 1,491, an increase over the previous year. Of the cases admitted 559 were surgical, 910 medical, and 22 gynæcological. The death-rate was slightly in excess of that for 1885, this being due to an unusual number of patients admitted *moribund*—fatal railroad injuries and hopeless cases of phthisis pulmonalis—otherwise the necrology of 1886 compares favorably with that of 1885.

THE WORLD'S MEDICAL REVIEW is the name of a new monthly journal in Philadelphia, which is edited by Dr. Joseph Schmidt, and

devoted exclusively to extracts and condensations of medical publications in various parts of the world.

THE NASHVILLE MEDICAL NEWS is the title of a new journal published semi-monthly at Nashville, Tenn., and edited by Drs. Richard Douglas and John W. McAlister.

JOHNS HOPKINS UNIVERSITY, BALTIMORE.—Dr. H. C. Wood, of Philadelphia, states that the report which announced that the chair of Practice of Medicine in this university had been offered him is incorrect.

MEDICAL COMMENCEMENTS.—Jefferson Medical College, Philadelphia, April 5—187 graduates.

Medico-Chirurgical College, Philadelphia, April 7.—15 graduates.

Albany Medical College, March 16—37 graduates.

Central College of Physicians and Surgeons, of Indianapolis, Feb. 8—4 graduates.

Southern Medical College, Atlanta, Ga., March 3—30 graduates.

DR. DUDLEY S. REYNOLDS, of Louisville, Ky., delivered the alumni address at the commencement exercises of the Medico-Chirurgical College, Philadelphia, on the 7th of April.

DR. GEORGE STERNBERG, U. S. A., is to have the direction of the new Hoagland Pathological Laboratory, in connection with the Long Island College Hospital, Brooklyn, which will be completed by the opening of the next regular term.

TEXAS STATE MEDICAL ASSOCIATION.—During the recent annual session of this society *Daniel's Texas Medical Journal* showed its enterprise by publishing a daily edition for gratuitous distribution to members.

TOWNSEND PAVILION, BELLEVUE, HOSPITAL.—On the 11th of April the corner-stone of the new Townsend pavilion annex to Bellevue Hospital was laid with appropriate ceremonies. The building is designed especially for cases of abdominal surgery among women, and Dr. W. Gill Wylie is to be the surgeon in charge. It is generously erected as a thank-offering by Mrs. R. H. L. Townsend, of this city, in gratitude for the success attending an operation upon herself, and will be under the supervision of a committee of ladies belonging to Calvary Church. It is to be a two-story cottage-like structure, with a frontage of seventy feet on First Avenue, and will cost about \$7,000.

A DIPHTHERIA HOSPITAL.—A number of physicians of this city, among whom are Drs. G. F. Shradly, Fordyce Barker, J. H. Ripley, J. Blake White and A. Jacobi, have set on foot a movement to establish a hospital exclusively for cases of diphtheria.

THE VASSAR BROTHERS' HOSPITAL, at Poughkeepsie, which has just been completed, was opened for visitors on the 11th. The property is valued at \$125,000, and has an endowment of \$300,000. Dr. Guy C. Bayley is resident physician.

MESSRS. PARKE, DAVIS & CO., have just issued an excellent lithographic portrait of Dr. Robert Koch, the eminent bacteriologist, and they kindly offer to mail a copy to any physician applying to them for it.

DR. W. H. PANCOAST.—The Board of Guardians of the Philadelphia Hospital at their last meeting elected Dr. William H. Pancoast Emeritus Surgeon of that institution. Prof. Pancoast served the Philadelphia Hospital as senior surgeon for many years, and this generous action by the board will be greatly appreciated by many members of the medical profession.—*Med. Bulletin.*

PROPOSED JUBILEE HOSPITAL IN MONTREAL.—Sir Donald Smith, member of the Canadian Parliament, and Sir George Stephen, President of the Canadian Pacific Railway, have offered to give \$500,000 each for a new hospital in Montreal, to be erected in commemoration of the Queen's jubilee year, and to be named, with her majesty's permission, the Royal Victoria Hospital. The city is asked to give a site of ten acres for the purpose.

SWIMMING BATH AT HARVARD.—A most important addition is to be made to the Hemenway Gymnasium at Harvard College, through the generosity of two gentlemen, the name of one of whom is not announced, the other of whom is Mr. Henry R. A. Carey, of New York City, a special student. The latter has given the college \$25,000, to be used in erecting a swimming bath at the rear of the gymnasium, and the gift will enable the college authorities to erect a handsome, well-equipped building at once. The usefulness, and even necessity, of a swimming bath has been felt for a long time, and it will be a great addition to the present facilities for gymnasium work and exercise.—*Boston Med. and Surg. Journal.*

DEATH OF PROFESSOR JEWELL.—Dr. James Stewart Jewell, one of the most eminent physicians of Chicago, and recognized throughout the country as a leading authority in neurology, died at his home April 18. He was born at Galena, Ill., in 1837, and graduated at the Chicago Medical College in 1860. From 1864 to 1869 he was professor of anatomy at his Alma Mater, and since 1872 he had occupied the chair of nervous and mental diseases. In 1874 he started a quarterly devoted to his specialty, and in 1886 *The Neurological Review*, a monthly, the publication of which he was obliged to suspend on account of failing health.

DEATH OF DR. CARRINGTON OF GUY'S.—We regret to say that Guy's has sustained another misfortune in the death of Dr. Carrington.

He was senior assistant-physician, and died on Wednesday morning from pleuro-pneumonia after two or three days' illness. On Sunday last he made an important post-mortem of a man who died from symptoms much resembling those of glanders, and it is thought that he may have become infected with some animal poison. This is the fourth physician which Guy's has lost in four years. We shall reserve any further notice of Dr. Carrington, only now remarking that in his death the profession loses one of its most popular members, who was as modest as he was promising.—*Lancet*, March 19.

DR. ARTHUR FARRE, F. R. S., died March 25th, at the age of seventy-seven years. He was honorary President of the London Obstetrical Society, Physician Extraordinary to the Queen, and accoucheur to the Princess of Wales.

DR. ARLT, the distinguished German ophthalmologist, died March 7.

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## EDITORIALS.

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ETHER VERSUS CHLOROFORM.—The recent discussion at the New York Academy of Medicine on the question of the proper selection of ether or chloroform as an anæsthetic has served the purpose of showing the unabated confidence, on account of its acknowledged greater safety, with which the vast majority of New York surgeons still regard ether. No higher tribute to the advantages of this agent as compared with chloroform could possibly be paid than was given in the letter which Dr. H. Knapp, the world-renowned ophthalmic surgeon, who was unable to be present, sent to be read on this occasion. It was a brief but very significant record of his own personal experience, and when it is remembered that Dr. Knapp was born and educated, and that for many years he practiced, in Germany, where chloroform was universally in use, so that he was naturally prejudiced strongly in its favor from the first, the testimony which he presents becomes all the more forcible.

From 1860 to 1874, he said, he used chloroform in some three thousand cases. While he had no fatal results, in many instances the effects were very unpleasant, and he met with a considerable number of critical cases. During this period about once a month he was obliged to resort to artificial respiration and other measures for the resuscitation of his patients. Since the year 1874 he has used ether exclusively, and since then he has found no ground for complaint, and no contra-indication for the administration of this agent. It is his practice to employ what is known as the "choking plan" in giving it; though at the beginning of the anæsthetization the patient is allowed to have enough air to prevent the sensation of strangulation often complained of by those taking ether. He has found that many operations per-

formed by the ophthalmic surgeon can be completed during preliminary anæsthesia—that is, before profound narcosis is induced. In several hundred of his cases the average duration of the maintenance of the anæsthesia was one minute and thirty-seven seconds. He has met with no fatal cases, and only a very few in which there was any trouble whatever on account of the anæsthetic. The secondary effects, moreover, he has not found any more unpleasant than those of chloroform. On the whole, therefore, he regards ether as an invaluable anæsthetic, and he looks upon it with especial favor, from the fact that now that he habitually employs it, his mind is quite free from that anxiety as to the effect of the anæsthetic which, in the case of chloroform, he could never overcome.

As to the presence of renal trouble as a contra-indication against the use of ether, upon which stress has recently been laid by Dr. Emmet and others, it seemed to be the sense of the majority of those who took part in the discussion that, as a rule, this was not a positive contra-indication, but that when ether was to be administered to a patient suffering from nephritis this should be done with unusual caution. Among those who considered ether as positively contra-indicated in cases of this kind was Dr. W. Gill Wylie, who stated that during the last two months he had been unfortunate enough to lose two patients, so affected, after taking ether; one presenting a case of strangulated umbilical hernia, and the other of large abdominal tumor. Dr. Weir, however, in commenting on these cases, called attention to the fact that operations for hernia, and upon the peritoneum in general, have been shown to have of themselves a direct effect upon the kidneys, independent of the anæsthetic used. Dr. Weir seemed to express the prevailing sentiment when he stated that, as for himself, if he were the subject of kidney trouble, he would prefer to take the chances with ether rather than consent to take chloroform.

Dr. A. P. Gerster, who read the paper of the evening, dwelt upon the injurious secondary effects of ether, particularly in the way of acute nephritis and pneumonia or bronchitis; but it was contended in rebuttal that even if these acute affections did result, they could almost invariably be controlled by the adoption of appropriate remedial measures. As regards the occurrence of pulmonary trouble, however, this was believed to be due, as a rule, not to the anæsthetic, but to the exposure of the patient during or subsequent to the operation. But when chloroform was attended with bad effects, these showed themselves during the actual administration of the anæsthetic, usually without the slightest warning, and the result was often fatal, in spite of the most energetic and persevering efforts to resuscitate the patient. As Dr. R. W. Amidon said, quoting the impressive words of Dr. Reeve in Holmes's "System of Surgery," "There is a danger attending the use of chloroform which no foresight can discern, no precaution avoid, and no skill avert." In one of the cases of his own which Dr. Gerster related, a male patient, thirty-two years of age, on whom he was about to operate for a glandular abscess of the jaw, suddenly expired on the

table after taking *two drachms* of chloroform. It would be interesting to know why, in this particular instance, Dr. Gerster administered chloroform, since he expressly stated that, as a rule, he preferred ether, and this patient, so far as appeared from the notes given of the case, did not present any of the contra-indications against the latter, as pointed out in his paper.

In the course of the discussion Dr. Mundé, who for the most part spoke strongly in favor of ether, stated that for short operations he preferred chloroform. This would seem to be a dangerous practice, however, if, as Dr. Gerster stated, it is a fact that most of the deaths from its use occur in slight operations. One explanation of this, he thinks, is the morbid fear which the patient may have of the operation or the anæsthetic, and which is always associated with a more or less depressed state of the nervous system; while in severe operations the patient generally nerves himself courageously for the ordeal to be undergone, and hence there is less danger from this source. In the fatal case just referred to, this patient, as Dr. Gerster afterwards learned, expressed the conviction that he would not leave the operating-room alive.

As to the accumulation of mucus in the air-passages, which is often an inconvenient, and sometimes a dangerous, result of the inhalation of ether, this is a difficulty which, as Dr. Amidon has shown, can be readily obviated by the preliminary hypodermic injection of atropia. Among the lessons emphasized by the discussion at the Academy, in addition to that of the necessity for special caution in the use of ether in all cases where renal trouble exists or is suspected, is the importance of administering both chloroform and ether in such a manner that only the smallest possible quantity of the anæsthetic which will answer the surgeon's purpose may be taken by the patient. Such inhalers should therefore be used as will enable the latter to breathe in at each inspiration only air that is impregnated with the vapor of the anæsthetic, while a free vent to the foul air is offered during expiration. In this way the patient can be much more promptly and efficiently anæsthetized, and the narcosis can be maintained with a very small amount of the agent employed. Dr. Sayre, who for many years has used chloroform in his practice, laid great stress upon this point; as did also Dr. Thallon, of Brooklyn, who was present on this occasion. As regards ether, while it is no doubt true that the great majority of individuals can take it with impunity, however freely and carelessly it may be administered, in other cases it is important that the amount used should be as limited as possible; and Dr. Thallon, who employs the inhaler ordinarily used by dentists for nitrous oxide gas, stated that in this way he had been able to keep a patient anæsthetized for hours, and yet not use more than a quarter of a pound of ether altogether.

Another lesson to be derived from the discussion is the importance of always having a medical man of special training in this regard to administer the anæsthetic. In too many hospitals it is the practice to entrust the matter to young and inexperienced internes, and some years

ago Dr. Wylie heard a young man just beginning his hospital service, who had come near losing a patient during an operation from the effects of ether, make the remark that he "didn't know that a person could be killed with ether."

Finally, in obstetrical practice there can be little question that, as a rule, owing to the special conditions met with in parturient women, the use of chloroform is perfectly safe; and its advantages over ether in this class of cases have been well brought out in the paper which Dr. Fordyce Barker recently read before the Medical Society of the State of New York, and an abstract of which was published in the last number of the JOURNAL.

THE HOSPITAL SATURDAY AND SUNDAY COLLECTION.—The eighth annual report of the New York Hospital Saturday and Sunday Association presents a very gratifying showing; exhibiting, as it does, an increased amount of receipts from its various sources, religious as well as secular, in almost equal proportion. The total collection for 1886 amounted to \$53,051.98, as against \$46,085.38 in 1885, and \$36,542.75 in 1884. After thanking all who in any manner contributed to the success of the collection, the Association calls special attention to the feature expressed by designated gifts and its relation to the movement. When the work was first organized the offerings from the churches came almost altogether in the form of designated gifts, to particular institutions having specific denominational connections, and thus this class was inordinately favored above institutions of an undenominational character. Without positively refusing designated gifts the Association has worked steadily to discourage them, as out of harmony with the broadly humanitarian spirit of the movement, and, as events have proved, with excellent success. In the collection of 1880, for example, the designated offerings constituted 45 per cent. of the whole collection and 80 per cent. of the church collections, from which source they were chiefly derived. In the last collection, on the other hand, the designations to denominational institutions had fallen from 45, in 1880, to 24 in the total collection, and from 80 to 38 per cent. of the church collections, a rate of decrease which, if maintained, will in a few more years see this form of contribution entirely eliminated from the collection, and that, too, solely because of the broadening influences permeating the fundamental organization of the work.

In carrying out the philanthropic aims of this work the managers of St. Luke's Hospital, among whom the idea of a general hospital collection originated in this country, have shown a most commendable spirit of self-sacrifice for the general welfare. While in 1880 St. Luke's, which is an Episcopal foundation, received designations to the extent of \$11,344.81, last year, in a much larger collection, both from general and Episcopal sources, it was favored to the extent of only \$2,594.11; and, in admirable harmony with the spirit of the movement, the managers have by resolution asked their patrons and the public to refrain in the future from designations to St. Luke's in the general hospital collection altogether; this, too, in the face of the fact



that the hospital is still dependent for more than half of its expenses upon the year-by-year gifts of the public. Attention is also directed in the report to the contributions by ladies in the last collection, and the hope is indulged that out of this beginning in interest on the part of the women of New York there may eventually result a helpful ladies' auxiliary. There can be no question that if a general movement in behalf of the cause were set on foot among the ladies, the receipts from the annual collection would be still further very materially increased.

The grand total of the collection of 1886 is \$53,051.98, of which \$32,784 comes from religious bodies, and \$20,267.32 from secular sources; and \$16,578, or nearly one-third of the entire amount, has been contributed by the Episcopal churches.

In referring with commendation to this increased hospital collection (which is the largest that has ever been made in New York), the *Medical News* comments on the striking contrast which it presents "with the situation of the like fund in London, in which there has been a falling off this year of \$2,500 from the sum of a year ago, when about \$28,000 was the amount received." This is entirely unjust to our English friends, however, and arises from the *News* having overlooked the fact that while in this city there is but a single fund, known as the Hospital Saturday and Sunday Fund, in London the collections of the two days are kept separate; that of Sunday being by far the more important. By a reference to the *Lancet* and the *British Medical Journal* of August 7th, 1886, it will be found that the total amount of the last Hospital Sunday collection was about \$200,000, of which there remained for distribution among the various institutions, after deducting liabilities and current expenses, no less than £38,279, or something like \$191,395.

As regards the Hospital Saturday Fund, it is true that the streets' collection was \$2,500 less than the preceding year; but this was attributed to the unfavorable weather on the day the collection was made, and at a meeting of the Society having it in charge, which was held last September, it was officially announced that the amount which had been received from the workshops' collection was £1,500 (\$7,500) in excess of the amount received to the same date the preceding year, thus more than compensating for the falling off in the streets' collection.

GASTON'S OPERATION.—Our readers will, no doubt, be much pleased to see in the pages of the JOURNAL the admirable paper which Dr. J. McF. Gaston, of Atlanta, read in the Section of Surgery at the last meeting of the British Medical Association. It had been hoped to publish it before, but this has been impossible, owing to the delay in the arrival of the blocks for the illustrations, which, it should be mentioned, were kindly forwarded by Dr. George Harley, of London, who has naturally taken a very deep interest in Dr. Gaston's contributions to the surgery of the gall-bladder and its connections. The name "Gaston's Operation," which was given the procedure to which the paper relates by the lamented founder of the JOURNAL, is one which certainly deserves

perpetuation. It has, by the possibilities which it opens up, attracted a large amount of attention, and at the Brighton meeting Mr. Willett, the distinguished surgeon of St. Bartholomew's, in reporting a case of cholecystotomy for complete obstruction of the common bile-duct, said in the course of his remarks:

“Reflection has convinced me of the advisability of rendering cholecystotomy, in cases similar to this, a complete operation—complete in the sense of forming an artificial channel between the gall-bladder and the intestine, at a part where they lie in close proximity, in order that the biliary secretion should be discharged after the more normal arrangement into the bowel, rather than drain away externally. There are, it appears to me, but two points, from one of which an election must be made: one at or about the junction of the first and second parts of the duodenum; the other where the ascending colon curves, and becomes the transverse. It is at one of these two sites that naturally-produced entero-biliary fistulæ are almost invariably found to have occurred. In the group of these cases, nearly thirty in number, collected by the late Dr. Murchison, in about two-thirds the fistulous communication was located in the duodenum, and one-third in the colon. There are reasons both for and against either of those sites for the operation, so that it would seem difficult to give an absolute preference to either; for a selection of the duodenum would rest upon its appropriateness of physiological grounds, whilst a choice of the colon would be rather upon surgical, from its close relation here to the gall-bladder.”

In connection with these views of Mr. Willett, corroborating, in some respects, the proposition for making a direct communication from the gall-bladder into the duodenum, may be noted the following statement of Professor Gaston, in an autopsic lecture reported in the *South-ern Medical Record* of March 20, 1885: “I proceeded to demonstrate the mode of uniting the gall-bladder and duodenum, with a view to secure an outlet for the bile. I selected the upper portion of the duodenal wall, opposite the entrance of the bile-duct, and pinched up with my thumb and forefinger a small doubling of the tissues, which was transfixed with the curved needle armed with a silk thread. This surface of the duodenum lay in close proximity to the lower and posterior surface of the gall-bladder, so that pinching up its wall in the same manner the needle with the ligature was also carried through its tissues; and, drawing the two ends of the ligature, it was evident that it passed into the cavity of each to a very slight extent. The ligature being now freed from the needle, the outer surfaces of the duodenum and the gall-bladder included within the loop of thread were thus brought into immediate contact, and they were secured together by knotting the loop in such a manner that the knot should press upon the duodenal wall. With the assurance that this ligature shall cut an opening between the gall-bladder and duodenum, while their outer surfaces are united by adhesive inflammation, it will be put into execution whenever an occasion offers.”

THE NEW PRESIDENT OF THE LOUISIANA STATE MEDICAL SOCIETY.—The recent annual meeting of this society, as will be seen from the report of the session published in the present number of the JOURNAL, was a most valuable and interesting one, and the society is especially to be congratulated on having honored itself by the selection of such a man as Professor Joseph Jones, of New Orleans, for its President. No one in the American profession is more highly esteemed or has accomplished more solid and enduring scientific work, and as indicative of the position which he holds, not only in this country but abroad, it is with much pleasure that the following appreciative letter from the eminent Professor Richard Owen, of London, in regard to his medical and surgical memoirs, is inserted. It is, indeed, only one of many such that Dr. Jones is in constant receipt of.

SHEEN LODGE, RICHMOND PARK,  
LONDON, 24th February, 1887.

DEAR DR. JONES :

I cannot sufficiently express the pleasure with which I received the witness of your kind and valued remembrance in the well and richly filled volumes, in which series of successful treatment in the removal and alleviation of human sufferings are clearly and comprehensively recorded, not by pen alone but by painting; mind and art, in rarest combination, devoted to instruct and give new powers to your successors in the Healing Art. Both science and art are thrice blessed in the rare accomplishment of a devoted practitioner and teacher, of a liberal and self-denying illustrator and publisher of a laborious life's experience. Seldom have the pages of an uninspired work interested me more than pp. 363-375 of your Volume II.

I retired on my 81st year from the direction of our British Museum of Natural History, after completion of the arrangements in the new and adequate edifice, now in South Kensington, and truly National, obtained after ten years' agitation. I pass the remainder of a peaceful existence in a charming abode assigned to me by a gracious sovereign in one of her royal parks.

Believe me,

Your truly appreciative and grateful fellow-laborer,

RICHARD OWEN.

STRANGE CONSISTENCY.—In the address delivered by Professor Henry J. Bowditch, of Boston, at the last annual meeting of the Rhode Island Medical Society, occurs the following passage: "Before closing let me say in a few words what course I have pursued in regard to consultation with homœopaths and eclectics. I have never voluntarily consulted with members of either of these sects. It is true that on one or two occasions I have been unwittingly brought into contact with them. When asked to consult with a homœopath, I have replied, 'It would be useless for us to meet, because I have no faith in his system, and if he does not believe in it *while claiming to be a homœop-*

*athist*, he acts wrongly, and for that reason I do not wish to meet him in consultation.’”

Entertaining such sentiments as these, it certainly seems extraordinary that he should come down from the position to offer the advice which he does in certain “recommendations” made to the Society, the first of which reads as follows: “Let every State Society follow the lead of New York, and let the members be allowed, without injury to their status in these bodies, to consult with the members of other ‘legally constituted’ medical societies.”

THE SPIRITS GET A BLACK EYE.—In Philadelphia, on the 21st of April, the jury returned a verdict of guilty in the case of Mrs. Sarah Patterson, an alleged medium, charged by the County Medical Society with practicing medicine and surgery without being registered as a physician. The defence set up by the defendant’s counsel, Carrie P. Kilgore, and her husband, Damon Y. Kilgore, was that Mrs. Patterson was a medium and under the control of spirits, and was not, therefore, responsible for what she had done in a trance. The defendant’s counsel are both said to be pronounced spiritualists, and the case has attracted considerable interest. In his charge to the jury, Judge Arnold said: “The question before you is a simple question, whether or not the defendant practiced medicine, surgery, or any of their branches for gain and received or accepted certain fees from the two witnesses. If she did, she is guilty in manner and form as she stands indicted, unless you believe that she was insane and not responsible for her acts, and if you acquit her on that ground, you are to say not guilty on the ground of insanity, and then we can put her in an asylum. Spiritualism is no defence whatever. Therefore dismiss all that you have heard about spiritualism.”

After the verdict was announced a new trial was asked for and granted, and the Judge permitted the defendant to renew her bail.

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## ORIGINAL ARTICLES.

### ARTICLE I.

PLETHORIC CONDITIONS OF THE SPINAL CORD AND ITS MEMBRANES. By J. LEONARD CORNING, M.D., New York, Consultant in Nervous Diseases to St. Francis's Hospital, Jersey City, etc., etc.

There can be little doubt that a large number of spinal symptoms, more or less evanescent in character, are directly attributable to morbid

fluctuations in the circulation of the cord. It is true that the pathological evidence bearing upon the point is, to say the least, imperfect; but, on the other hand, analogy, and the amenability of these functional disorders to treatment both go far to support the theory which ascribes the phenomena to vaso-motor inefficiency. In the present paper I propose to consider a group of symptoms, which the weight of evidence leads me, as well as a goodly number of distinguished observers, to ascribe to a condition of congestion affecting either the entire cord or certain of its physiological tracts. Moreover, since it is impossible to clinically differentiate hyperæmia of the spinal membranes from that of the cord itself, it will be necessary to consider the two conditions together.

*Symptoms.*—A patient afflicted with spinal hyperæmia complains of a long catalogue of symptoms, most of which are directly referable to derangement of sensibility or motility. In the category of sensory disturbances belong: pain along the spine and in the loins, and later, lacerating pains in the lower limbs and hyperæsthesia. Formication and tingling are frequently met with, as well as sensations of constriction about the limbs and thorax. Reflex activity is sometimes increased and sometimes diminished. Anæsthetic areas are found in some cases, but the condition is less frequent than hyperæsthesia. As a rule the anæsthesia is incomplete. Sometimes well marked symptoms of depression are present; there is numbness in the legs and a sensation of heaviness in the feet which, taken in conjunction with the pains, often leads to the supposition that ataxia is impending.

The motor symptoms consist in local spasms of the muscles, trembling, which is particularly well marked in the lower extremities, and manifest loss of power in the latter. Complete paralysis of the lower extremities, as a result of uncomplicated spheræmia, probably rarely, if ever occurs. Paresis of the bladder or its sphincter is accounted a frequent accident by some, whereas it is looked upon by other observers as a comparatively rare occurrence.

Lying upon the back, with the extremities raised, is said to aggravate the symptoms, while the latter are much ameliorated by reclining upon the abdomen or by standing or walking. This accounts for the fact that the paresis is greater in the morning than previous to retiring. The general health of the patient suffers, as a matter of course, by reason of the spinal disturbance; but it is probable that uncomplicated hyperæmia does not, as a rule, terminate fatally. Where the hyperæmia extends to the centres of cardiac innervation in the medulla, the pulse may be considerably accelerated or retarded. In many cases, however, it is unaltered.

*Etiology.*—Like many other affections of the cord, hyperæmia is directly traceable in a large number of cases to excesses of various kinds. Abuses of the sexual functions undoubtedly play a prominent part in the causation of the disorder; and certain remedies, which exert a demonstrably powerful effect upon the functions of the cord, may likewise cause congestion. Strychnia and alcohol have been assigned a prominent place among the possible etiological factors. Hammond\* assigns special importance to intense cold, which he considers the most common cause of the disease, and to fevers, particularly those of malarial origin.

*Diagnosis.*—Hyperæmia of the cord is sometimes developed with great rapidity, and under these circumstances the course of the disease is usually acute. In a considerable number of cases, however, the onset of the disease is slow, and the symptoms often persist for weeks, months, and, under exceptionable circumstances, for years.

It will at once occur to any one at all familiar with affections of the cord that the diagnosis of hyperæmic conditions of the same must often be a matter of exceptional difficulty. Thus the symptoms ascribed to *anæmia* of the cord resemble in many respects those produced by hyperæmia. So great a resemblance exists, indeed,\* in certain cases that I am convinced no amount of careful clinical analysis would serve to differentiate the two conditions. Fortunately Brown-Séquard's observation that an increased flow of the blood towards the nervous centres of those afflicted with hyperæmia of the cord serves to aggravate the symptoms, affords a ready means of ascertaining by a simple test whether we have in reality to do with hyperæmia or anæmia of the cord. If we ask a patient in whom hyperæmia or anæmia of the cord is suspected to lie down upon the back, we *often* find an appreciable amelioration in the symptoms, provided the latter condition is present, but an equal aggravation of the same if the state is one of congestion. In the milder types of circulatory derangement of the cord, however, this method, though correct in principle, leaves much to be desired. Merely lying upon the back, or even raising the extremities, is not adequate in such cases to cause a flow of blood in the direction of the cord of sufficiently increased pressure to materially affect the functions of the latter. Consequently the test is useless in the less pronounced forms of spinal anæmia and hyperæmia. To obviate the practical disadvantages of this theoretically and otherwise excellent method, I resort to the following expedients:

\* "Diseases of the Nervous System," p. 393: 1881.

I. I envelope the upper and lower extremities of a recumbent patient, in whom anæmia or hyperæmia of the cord is suspected, with Esmarch's bandages. The latter are applied in such a manner that the blood is excluded to a considerable extent from both arms and legs, much after the manner adopted in amputations. It will readily be seen that this procedure augments the amount of blood circulating in the viscera and spinal cord to an enormous degree; and the afflux toward the cord is still further increased by raising the head of the patient and supporting it upon appropriately adjusted pillows. Having allowed the patient to remain enveloped in bandages, as above described, for several minutes, I ascertain by careful interrogation whether the symptoms have increased or decreased in severity. If there is less pain, less depression, if the tingling in the extremities is diminished and the general feelings of the patient improved, it is legitimate to conclude that we have to do with a case of spinal anæmia.

II. In order to confirm or reverse the decision formed from the application of the above test, I remove the bandages, and after a suitable length of time has elapsed the patient is placed in an apparatus constructed for me by Messrs. Rheinders & Co. after the manner of Junod's boot. The appliance in question consists of a metal cylinder, which, encircling the body from the feet to the hips, is hermetically sealed about the waist, by means of an india-rubber armature. The patient being in a recumbent posture, the air is exhausted from this cylinder, by means of an air pump, and a partial vacuum produced. It is evident, that the result of this is to cause a derivation of blood from the parts situated above the waist in the direction of the lower extremities; and it is equally apparent that, this being the case, the spinal cord, as well as the brain and the viscera, must share in the depletion.

In default of Junod's apparatus, the following simple procedure may be resorted to:

Around the proximal portion of each upper and lower extremity an elastic band is secured. The bandage should be tightened to a sufficient extent to arrest the venous return; arterial circulation should, however, remain unimpeded. As an immediate result of this procedure, each limb is converted into a kind of receptaculum, in which blood may be collected at will. This storage in the limbs of course materially diminishes the amount of blood circulating in other corporeal districts, and, consequently, the spinal cord and indeed the entire cerebro spinal axis must share in the affects produced by the general anæmia. How great are the anæmiating effects exercised by this procedure upon the viscera may be imagined when we recall the



fact, so frequently noted by Dr. Theodore R. Varick, that pulmonary hemorrhage may be arrested at once by resort to it.

If, while the apparatus or bandages remain in place, the sensations experienced by the patient are materially aggravated, the conclusions already arrived at, from the first test, receive substantial confirmation—the case is indeed one of spinal anæmia. But if, on the other hand, there is marked amelioration of the symptoms, we are bound to infer that some error has occurred in the first test—such an one as may reasonably be supposed to have originated in some misjudgment or misstatement on the part of the subject himself.

With *acute myelitis* there is slight danger of confounding the affection. The distinguishing features of acute inflammation of the cord are: fever, vesical paralysis, bed-sores, contractures, and paralysis. The physiognomies of the two diseases are, in fact, so essentially different that it is surprising that errors should ever have occurred.

What is true of myelitis applies with equal force to *spinal apoplexy*. The latter begins suddenly, and the resultant paralytic symptoms are far more permanent in character than those occurring in spinal hyperæmia.

The spasms in the back and neck, high fever, and pains in the legs when movements of the latter are attempted, which are so characteristic of *spinal meningitis*, will serve to sufficiently differentiate this affection.

With *concussion of the cord* it is not liable to be confounded, since in this disease there is the history of previous injury.

*Pathology.*—It was customary among the older medical writers to assume the presence of congestion in a large number of obscure spinal symptoms. The evidence bearing upon the point was, however, extremely fragmentary, as the methods of post-mortem research were unreliable in the extreme, and such as they were but scant application was made of them. In recent times the methods of investigation, though still deficient in many respects, have shown substantial advancement. Thus, Feinberg\* has shown that when perspiration is checked in an animal, by covering the skin with a coating of varnish, hyperæmia of the cord may be induced, and when the congestion is perpetuated for a sufficient length of time secondary tissue changes may be induced. Magnan† has, moreover, found that when an animal is poisoned with absinthe, sections of the cord present a rosy, injected appearance.

Autopsies performed upon persons afflicted with active spinal hyperæmia, and who have succumbed to some intercurrent affection,

\*Cited by Rosenthal.

†*Op. cit.*

show that the grey substance frequently appears of a reddish color, of which the white substance partakes in a somewhat less degree. Microscopical examination of the smaller vessels shows the latter to be distended with blood; and in severe cases minute ecchymoses and extravasations may be discovered in the membranes and substance of the cord. The spinal fluid is, in some cases, increased in quantity and of a dark, reddish color.

Where passive hyperæmia exists, the extra-meningeal plexuses of veins are seen to be unusually engorged, and the cord itself presents a bluish appearance. Ecchymoses are sometimes present and the spinal fluid may be increased in quantity.

There is no doubt that when the irritation which gives rise to hyperæmic conditions of the cord is perpetuated for a long period, as occurs in cases of onanism and other forms of morbid sexualism, secondary tissue changes may be produced. This view explains the slow pathogeny of many organic affections of the cord; and serves, moreover, to exhibit the importance of functional affections in the prophylaxis of profound tissue changes. A positive differentiation of active from passive hyperæmia of the cord during life, I consider, in the present state of knowledge, to be an impossibility.

*Treatment.*—Having once formed a definite diagnosis, the principles of treatment, suggested mainly by the nature of the morbid physiology, should be followed up with energy.

The procedure which I usually adopt is as follows. If the patient reside in a large city, I prescribe a rarefied air bath, three or four times a week, or even daily. Should the subject be unable to procure these facilities, I prescribe an apparatus constructed after the plan advocated by Junod,\* and which envelopes both lower extremities. This appliance is adjusted in such a manner that the patient lies upon his face, his head being supported upon an appropriately arranged cushion, and is allowed to remain in place for from ten minutes to half or even three-quarters of an hour. The pulse is carefully consulted, and care is exercised not to cause syncope or cardiac weakness by extreme rarefaction.† After the removal of the apparatus, six to eight dry cups are applied in the immediate neighborhood of the sacrum, or two or three leeches may be applied about the anus.

The fluid extract of ergot (Squibb's) may be given in half drachm or

\*The appliance here referred to has been previously described.

†Vide: "On the Relation of the Quantity of Intra-Cranial Blood to the Action of the Heart," by Dr. Edward L. Holmes, *Transactions of the Illinois State Medical Society*, p. 81, 1868.

drachm doses three times a day. Too much, however, should not be anticipated from its use.

Hammond\* speaks highly of belladonna in congestion of the cord, and prescribes it in the tincture, in doses of fifteen drops three times a day. The hot douche, applied to the spine for about five minutes each day, is also highly praised by that author.

Of all the remedies with which I am familiar, the rarefied air bath, when persistently employed, has yielded the most happy results. This is entirely in accord with the observation that those afflicted with hyperæmia of the cord find relief by resort to mountainous regions many thousand feet above the sea level, whereas their condition is greatly aggravated by a sojourn at the sea-side. It is undoubtedly an excellent expedient to send patients of this class to the mountains; but, as a rule, I am convinced that this should not be done until they have undergone a course of appropriate preliminary treatment. Electricity, particularly in the form of the galvanic current, often yields good results. It should be applied directly to the spine, care being taken to enclose the affected portion of the cord between the electrodes. I am firmly convinced that it is a matter of perfect indifference whether the character of the current is ascending or descending. The point of most importance, as far as I have been able to discern it, consists in the *protracted* application of the current—from twenty minutes to half-an-hour is usually sufficient.

General faradization may be practiced in conjunction with galvanic applications to the spine.

Purgatives have been recommended by a number of authors, and where the subject suffers from habitual constipation they are doubtless of use, in so far as they are instrumental in diminishing the tension of the intra-abdominal vessels, and causing derivation from the seat of congestion in the meninges and substance of the cord.

Ross\* mentions a case of spinal hyperæmia treated by his colleague, Dr. Simpson, with Chapman's ice bags, which recovered in a few days. The bags were applied to the spine while the patient remained in a recumbent posture with his face directed downwards.

As soon as the motor and sensory symptoms disappear under appropriate treatment, I sometimes give small doses of strychnia (1-60 of a grain). I should be at a loss to give an explanation of my conduct in this regard upon the basis of any known pharmaco-dynamic action

\* *Op. cit.* p. 399.

\*\* "A Treatise on the Diseases of the Nervous System," by James Ross, M.D. etc. New York, 1883, p. 145 *et seq.*

of the drug; the most that I can say in justification of the procedure is that it has yielded good results in several cases. Doubtless there are instances of spinal congestion, resembling the more aggravated forms of spinal concussion, in which strychnia is absolutely unendurable to the subject at any stage of the disease; but the same may be said of spinal irritation. Indeed, the more I see of these cases of functional derangement of the cord, the more thoroughly I am convinced of the impossibility of treating them entirely upon any mere *à priori* system of reasoning, however dexterously constructed. Neither our present clinical nor pathological knowledge justifies such an exclusive course of action. The best results, so far as internal remedies are concerned, will, in many instances, accrue from a conscientious application of a conservative empiricism.

26 West 47th Street.

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## ARTICLE II.

MUTILATIONS. By M. A. RUST, M. D., Richmond, Va.

### PART I.\*

When we contemplate the multitude of variform mutilations which man, primitive and savage, as well as civilized, in all regions of the earth, has at all times inflicted on this or that part of his body, we might be led to the conclusion that a tendency to such mutilations naturally prevails among mankind. But, in fact, no propensity of the kind is inherent in individual human nature; on the contrary, any act tending to self-injury is repugnant to it.

The mutilations in question are at all times prompted by a subtle force from without, the social force, by which the individual is permeated, actuated, and unconsciously constrained to adjust his acts to social demands. The motive may be designated as belief, creed, fashion, clannish or tribal custom, sacred custom, social rites, etc. It is the outcome of the same social force—the social medium—by which the civilized as well as the savage is surrounded.

In a paper read before the Richmond Medical and Surgical Society, I spoke of several of these voluntary or artificial deformations. Here I only propose to speak of the two mutilations most widely spread in the civilized world.

The first of these artificial deformations is the deformed foot, the offspring of fashion, thoughtlessness, and ignorance. Fashion prescribes

\*Read before the Medical and Surgical Society of Richmond Va., April 26th, 1887.

the form of the shoe; ostensibly it pretends to fit the foot; actually, by hook or by crook, the foot has to conform to the shoe.

Casting a glance on the conventional last upon which the shoe is shaped—and looking at the normal foot—one finds the greatest discrepancy between the two. The shoe-last tapers symmetrically on both sides, to the point of the toes, whereas the foot presents, on its inner side, a straight (slightly waved) line, running parallel with the long axis of the foot, from the inner side of the heel to the centre of the great toe. Both *normal* feet, when placed together, touch each other at the heel and at the point of the great toe, whilst a pair of fashionable shoes, when placed together, leave between each other, at the toes, a triangular V-like space, with the wide opening in front. Looking at such a shoe, it seems as if it were contrived to fit a foot of which the great toe had been beveled off. Indeed, the human foot, with its great toe, were it not so exquisitely elastic, could never be squeezed into this narrow space, and the feat is only accomplished by dint of forcing the great toe out of its normal position, twisting and turning it outwards, almost at a right angle to the foot, and by cramming the smaller toes under and above each other like a crowd of market chickens cribbed into a narrow coop. Consequently the whole arch of the foot is pressed out of shape and loses its delicate elasticity; the play of the muscles is impaired, the circulation obstructed, the toes stiffened, dislocated, and crippled—and all that array of torturing evils, corns, articular inflammation, ulcerations, bunions, ingrown nails, etc., follow close in the wake.

Of these evils, the two last named come most frequently under the physician's care. Obviously the ingrown nail is the result of shoe pressure. The shoe presses the great toe against the smaller ones, but those, in their turn, are likewise pressed, from the opposite side of the shoe, towards the great toe, and bruise and squeeze the fleshy part of its second phalanx (facing the middle toe) against and over the edge of the nail. To this must be added the downward pressure from the top of the shoe, contorting and twisting the nail and bending it towards the smaller toes. The ingrown nail always appears on the side where the great toe faces the middle one; the fleshy parts are here wedged in, as if squeezed between the jaws of a vice.

The bunion, a chronic inflammation with more or less displacement of the articulation formed by the base of the first phalanx of the pollex pedis and the head of the first metatarsal bone, is the result of a similar squeezing process. The narrow shoe presses against the great toe, pushing it outward against the smaller toes, and if, as usual, the shoe is rather short, the second phalanx of the pollex is curved down, whilst

the first phalanx is thrust, by the pressure from the top of the shoe, against the metatarsal joint, causing the head of the shaft to swerve towards the inner edge of the foot and towards the sole. The dislocation appears in the shape of a protuberance corresponding to the site of the phalango-metatarsal articulation. By the constant bruising of the leather the bursa mucosa is formed, as in housemaid's knee; inflammation, ulceration, perverted growth of bone, and periostitis follow. The bunion constitutes an exceedingly vulnerable spot on the foot; this ill-used and ill-nourished tissue is a predilected spot for chilblains, which, on this place, form at a temperature considerably above the freezing point.

No treatment of either of these evils (ingrown nail or bunion) can be of avail, unless we procure a foot cover which will allow the great toe a position approaching as nearly as possible to the normal one; that is to say, the phalanx of the great toe normally follows the direction of the first metatarsal shaft, running in a straight line and pointing outwards, like the thumb of the hand, though now-a-days we rarely meet with a normal foot.

The hackneyed remedy of the shoemaker, of nailing to the last, on the spot corresponding to the bunion, thick rounded pieces of sole leather, hereby producing in the leather of the shoe a hollow to receive the bunion, may in some instances afford temporary relief; but, if the old vicious form of the shoe is retained, the pressure from above the bunion will continue, and nothing will be gained but more space for the lateral deviation of the joint. In many instances I have found, after a lapse of time, an increase of the deformity.

By pressure on the capillaries the narrow shoe impedes circulation and prevents the escape of perspiration. Thousands of cells die every minute on every inch of the surface of our bodies. Unsuitable as the rest of our garments may be, they allow a partial escape of the exuvia; in the narrow shoe the cell-corpses are retained to decay; hence the odor. The leather of the narrow shoe, if in the least wet, chills the foot; hence the frequent "colds." Expansion and contraction of the foot are, in the narrow shoe, reduced almost to zero; consequently hip and knee must do more work in walking; hence the inelegant, stamping gait. This gait, moreover, endangers the beauty of the leg. The long tendon in which the three muscles, constituting the calf of the leg, unite, is attached to the calcaneum; with the foot encaged in the narrow shoe these muscles are insufficiently exercised and the calf of the leg is apt to shrink. Given more freedom to the play of the joints and muscles of the foot, the gait would be more secure, more easy and

elegant; there would be less slipping and stumbling, fewer sprained ankles, fewer colds, etc.

Our horses, likewise, would be less apt to stumble were they more rationally shod, or not at all. By the way, I will note that we find in the periodical literature horse-shoeing often enough discussed, man-shoeing very rarely. This reminds me of the German peasant, who is always much swifter to run for the cattle-doctor when his cow is sick than for the physician when his wife is the patient.

In the military countries of Europe the first outcry against the narrow shoe came from the army. It was the army surgeon, Dr. Ziegler, who first sounded the alarm when he discovered that in little Switzerland seven hundred recruits had been rejected in one session on account of crippled toes. In this country the military authorities will hardly pay attention to the matter; in happy America the whole male adult population are not compelled to march up once in every year before the recruiting officer and show their toes.

It behooves each one of us, in his sphere of action, to enlighten the public.

The great flood of those villainous shoes which cripple the feet of the whole population of the United States, without distinction of color or race, comes from New England. By this time, indeed, the manufacturer ought to know something about the consequences of his doings. "There are, moreover, plenty of sensible people who scour the shops in search of a shoe more comfortable to the human foot. In vain! "I guess it is against the laws of Massachusetts," a facetious salesman once said to me. The manufacturer naturally shrinks from throwing away his entire stock of lasts, etc., replacing them by new ones, and as long as he finds sale for his wares he will run on in the old groove. But a day will come when an elect shoe manufacturer, sitting post prandium in unquiet slumber, moaning and groaning with a fit of indigestion, will see himself suddenly surrounded by millions upon millions of ghastly crippled toes, crippled and maimed by his agency—and he will awake a new man, a benefactor of tormented feet.

True, people with means, willing to pay double the price, may pass the shoe store by and have their shoes made by measurement at the shoemaker's; they will be a shade better off—but only a shade. The art of taking the measurement of the foot, if it ever existed, seems to be a lost art. The way the average shoemaker sets about taking a measurement is full of fallacies. The customer sits down, takes off his shoe, raises his foot, and the shoemaker takes the measure *over the stocking*.

That the foot, just freed from its fetters, is still benumbed, contracted, half paralyzed; that the pressure of the stocking is sufficient to hold the toes squeezed together; that the moment the foot treads firmly on the ground it will expand; that any measurement taken in this way in the morning, after rest, will be found in the evening, after the foot has been exercised, egregiously too small; all this is not generally taken into account. Some of the more enlightened shoemakers have recently adopted the more reasonable plan of placing the foot on a sheet of white paper and tracing a lead-pencil line round the sole. But even this method, if executed in a slovenly manner, may defeat the end in view.

The customer ought to bare his foot, stand erect and press the foot, the heel slightly elevated, firmly on a sheet of paper spread on the ground. If, as usual, the toes are crowded together, perching, riding, or straddling one on the top of the other, they must be brought into their natural relative positions, the great toe slightly in the position of abduction, and, if already too much crippled, a piece of cotton wool should be placed between the second and first toe to keep the latter somewhat abducted. A better plan than the pencil tracing is to dust the sole of the foot with pulverized chalk and take the imprint on a sheet of dark paper. The inner side of the foot (corresponding to the great toe) being thicker than the outer side, this thickness, or the distance from the ground to the dorsal surface of the foot, must be measured. A still better plan, though more troublesome, is to take a plaster cast of the foot, never neglecting to bring the toes previously, as much as possible, into their natural positions.

No shoe, even when it appears to fit, should be worn if it do not comply with the too paramount requirements, viz.: the foot in its entire length and breadth must rest on the sole inside the seam, and the shoes, if put together, must touch each other at the heels and toes.

It matters little whether the sole be afterwards made square or round at the top, provided such pruning does not curtail space. A shoemaker with artistic taste will speedily find a suitable finish, to which the eye of fashion will accommodate itself.

Few, indeed, are those who ever set eyes on a normal adult human foot; but we cannot imagine that any person, not infatuated, would, even on beholding it for the first time, call it ugly. To get a good look at a normal, undeformed foot, we have to travel to the bare-footed savages; in civilized countries it is only the babe's little foot which presents the model of perfection; and who, with sound sense, would not be struck by its exquisite beauty?



In the great unparalleled master-pieces of Grecian sculpture the artist has likewise found the model of a perfect human foot. Modern scientific criticism has, however, animadverted upon the pretended perfection of the Grecian foot. Virchow, the keen observer, in scrutinizing the matter, has come to the conclusion that all the Greek statues, even those of the gods, have deformed feet and are unfit to convey an idea of the real beauty of an unimpaired human foot.

Now we may take it as a truism of the widest bearing: *Whenever a god, otherwise perfect, presents deformed toes—his worshipers have been wearing ill-fitting shoes.*

In the foregoing we have only contemplated the mischievous action of shoes and boots on the form of the foot. We have still a word to say about the structure and function of the human foot.

Few people form a conception of the wonderful mechanism they permit their shoes to cripple. But the student at the dissecting table does. In face of the complex structure before him, the numerous bones, the many layers of muscles, of which especially the phalanges, the flexors, extensors and abductors so closely resemble those of the hand, he will readily accord to the foot a functional aptitude similar to that of the hand. To be sure, the foot has its morphological, anatomical, and physiological characters which distinguish it from the hand; nevertheless, we may fitly designate the foot as a *modified* hand. We call our cousin, the ape, a *quadrumane*; but the characters which distinguish the foot from the hand are essentially the same both in the ape and in man.

We often see our babes oppose their great toe to the second toe, performing the act of grasping. Many bare-footed savage tribes have, as we are told, preserved to this day the faculty of using their feet as prehensile organs. In some lonely parts of the Mediterranean coast the fishermen, who never wear shoes, use the feet handily in arranging their nets. In some parts of the East Indies the sandals are provided with a projecting peg, thong, or button, fitting in between the first and second toe; the toes grasp this button and slip the sandal on.

All that has ever been seen or heard of, in this regard, is exceeded by a Mr. Nesthan, who, a short time ago, was presented by Professor Virchow to the Anthropological Society of Berlin. Mr. Nesthan was born without arms, having only two stumps, half the length of the upper arm. He has had a college education. Exercising his feet since boyhood, he became an accomplished penman, a virtuoso on the violin; he rides on horseback, dresses and undresses without assistance, etc. At the meeting, sitting on a chair, his feet resting on a table, he took

up a pack of cards, shuffled and dealt; drew a cigarette from his pocket, lit and smoked it; took out a pen-knife, opened it, sharpened a lead-pencil, and did some writing as readily and rapidly as any man can with the hand, etc., etc.

What a prodigious work of nature do we strive to destroy with our ill-shapen shoes!

Albeit, seeing the complex anatomical structure of the foot, framed as it were after the pattern of the hand, and seeing the use which man makes and has been making of his foot thousands of years, we must admit that a simpler arrangement would have served the purpose.

However, as this complex structure of the foot is and has been in actual existence, and as an organ only evolves through adaptation to environments, and only develops and grows to the modes in which it is exercised, it follows that a time must have been when the function of the foot had a wider range than it now has, when all its various bones, joints and muscles were adjusted to different ends and served different purposes, in common with those of the hand.

Penetrating into the dimmest past, we are hardly prepared to find primeval man exercising his hands and feet in playing the violin, rolling cigarettes, or the like. We may ransack our brains as we will; there is no imaginable exercise, concordant with the status of primitive man, apt to arrest our thoughts except *one*: this is *climbing*. Climbing was the inbred primordial exercise of primitive man. Only by enduring climbing could that wonderful mechanism of foot and hand develop and grow; could every part of it be exercised and nursed into completeness of function. High up, on the summits of ever verdant trees, far removed from filth and bacteria, free from knowledge and free from sorrows, our speechless ancestors lived their paradisiac life, lustily climbing and scrambling from branch to branch, bough to bough, the live-long day for uncountable ages. Some inherited residuum of the ancestral climbing nature is still cropping out among our boys during their years of indiscretion.

We turn a leaf in the book of eternity, and we find our ancestors descended from their sylvan paradise. They have left their tails behind, and climbing is no longer their chief occupation. In the course of an infinite past we meet them as cave dwellers; all over the globe we lift from the bowels of the earth the relics of their handiwork, the implements which give name to the "stone age," "bronze age," etc. Foot function has become restricted to locomotion on firm ground. Brain development has progressed, speech and reason have been evolved.

Ladder, bow and arrow, rope and edge tools, exemplify the ways and means by which a higher order of brain function relieved muscular exertion, and by which man gradually acquired "dominion over every thing that moveth upon the earth." He had eaten of the tree of knowledge. Civilization emerged to be again submerged; and as there is reason to believe that each civilization had its own particular shoe—and *no* reason to believe that the shoemakers of past civilizations were more thoughtful in regard to foot function than the shoemakers of the present day, it is presumable (as well as indicated by other signs) that a pernicious influence of the shoe has been more or less at work since the earliest times.

Be this as it may, disuse of certain parts of the foot during an immeasurable time, ill use of the whole foot during the ages of civilization, have, as yet, not resulted in reducing the bones and muscles of the foot into a state of atrophy and wasting—into a rudimental state. Stunned and crippled as the toes may appear after having been engaged in the shoe, when adequately exercised in early life they assume their primitive fulness of life and function.

From this fact we can draw an inference as to what an immense, incalculable, time must elapse for an organ to become rudimental and useless by disuse.

Should civilized humanity continue to move on in its narrow and pointed shoes, a time will come—be it ever so remote—when it will find itself without toes, the foot converted into a pointed hoof. The rudimental and useless bones of this foot will be to the anatomist of that remote future a puzzle, as the two useless shrunken side bones above the hoof of our one-toed horse have been to us, till Prof. Huxley, and especially Prof. Marsh, of Yale College, by his discovery of the many-toed great-great-grandfather of our one-toed horse, so happily and convincingly solved the riddle.

All, or nearly all, complex organisms, our own body not excepted, present such rudimental organs, which once served, but no longer serve, a purpose. At the sight of them our imaginative power is stimulated to rehabilitate them, in mental conception, in their original buoyancy of life and functional vigor. Thus, whenever I recall the *coccyx*, that bootless little appendage to the sacrum, with its four or five shrunken bones, the remnants of a once mighty tail, or the pale, slender fibres of the three rudimental auricular muscles, which once gave the external ear movement and expression, a molecular dance is incited in certain groups of my brain cells, and in the dimmest, almost unthinkably remote past I perceive, on a mighty limb of a giant tree,

our hairy progenitor, proudly raising his bushy tail, and pricking up, wagging and shaking his ears, to give vent to his deeper emotions.

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### ARTICLE III.

CASE OF CARCINOMA OF THE PANCREAS, WITH INFILTRATION OF THE OMENTUM AND WALLS OF THE STOMACH ALONG THE GREATER CURVATURE; WITH REMARKS.\* By THOMAS C. TAYLOR, M. D., New York.

I bring before the Association this evening the above case for the reason of the infrequency of this affection and the obscurity as regards its diagnosis. Perhaps, however, such cases may not be as infrequent as is supposed, for many patients die with symptoms similar to the one in the case I will relate, which have been ascribed to some other disease, whereas, had autopsies been held, the primary cause of death might have been found in the pancreas.

Mrs. P., of Yonkers, aged 30 years, widow with one child, came to my office on July 16, 1886, with the following symptoms: Head, back, and legs aching; vomiting immediately after taking food; tongue red, clean, and moist; also symptoms of pyrosis, acid eructations, flatulency, and increased thirst; temperature 101 2-5° F.; pulse 105; complained much of pain at pit of stomach. My diagnosis at this time was simple malarial fever, with its consequent stomachic symptoms. I prescribed Warburg's tincture in drachm doses night and morning, with a powder of lactopeptine and salicylate of soda to be taken after meals; also a restricted diet. She was extremely emaciated and anæmic. She had been under treatment in Yonkers for 3 months previously, and the only thing ordered was a strictly milk diet, which she was unable to continue, as it had become so obnoxious to her. To this I ascribed her weak and emaciated condition.

July 19th, 1886. Patient is much better, the aching condition of legs, back, and head having nearly disappeared. There is still no appetite, however, and the stomach remains irritable. Continued treatment.

July 21st, 1886. Marked improvement, but the pulse is still quite fast, small, and easily compressible. She complains of shortness of breath on rapid motion or on going up stairs; ordered tincture digitalis in 10 minim doses 3 times daily, and continued other remedies.

July 28th, 1886. Improvement in all the symptoms. She has had diarrhoea for several days; so stopped Warburg's tincture and ordered

\*Read before the New York County Medical Association, April 18, 1887.

an iron, quinia and strychnia tonic to be taken after meals, the temperature in the mouth now being only 98° F.

Aug. 2nd, 1886. Appetite has returned; the patient's strength is increased and the shortness of breath lessened. She says she has not felt so well in a year as now; temperature in mouth still 98° F.; pulse 100°. Continued treatment.

Aug. 6th, 1886. Called to say she was not quite so well, but I ascribed the fact to some little family trouble which she spoke of. Advised her to return home and keep as far as possible in tranquil mind and spirits.

Aug. 7th, was called to Yonkers, and found patient in bed. The symptoms which were observed were pain referable to the epigastrium, borborygmus, vomiting, diarrhœa, chills, and more or less febrile movement. She drew my attention to a tumor, which she says moves up and down and sometimes disappears, and which she thinks occasioned the extreme pain on eating. On examination I found a small tumor, about the size of a hen's egg, situated in the left hypochondrium and a little below the sternum, freely movable, and not painful to the touch. On pressing the tumor I felt a distinct pulsation, and on auscultation I discovered a bruit; at this point my attention was naturally directed to the possibility of an aortic aneurism. Flint says that the condition present in this case is liable to be confounded with aortic aneurism, as pulsation has been met with in this form of cancer. I ordered small pieces of ice, barley water, stimulants, and small doses of codeia to quiet restlessness. Knowing, as I did, the weak and precarious condition she was now in, and feeling that she ought to have medical attendance daily (which I would be unable to give), I advised calling in a Yonkers physician to attend her in the intervals of my visits; with which suggestion she complied. Between this date of Aug. 7th and Aug. 16th the physician selected attended her and wrote me fully concerning the case. His report I will endeavor to recall as far as I can, as I am exceedingly sorry to say that I destroyed his letters, not anticipating so interesting a case.

During this interval she improved till about the 14th or 15th of August, when she complained of extreme pain in the right iliac region, and on examination there was found tenderness on external palpation, while on vaginal examination the uterus was quite painful on being moved. Besides, infiltration of the cellular tissues upon the right side was found, and the doctor thought also some displacement of the uterus.

Aug. 16th I was called in consultation and found patient extremely

weak, with the above symptoms and slight elevation of temperature. Ordered hot vaginal douches and counter-irritation by means of tincture of iodine over right iliac region, with bismuth. subnit. and pulv. kino comp., for vomiting and pain. Also milk and small pieces of ice. Between this date (Aug. 16th) and Sept. 8th the patient improved daily, and in a short time was around the house attending to her domestic duties, eating well of all kinds of food, and complaining of nothing except weakness, of which she wrote me, and for which I prescribed iron with a bitter tonic.

I did not hear from her again till called by telegraph on Sept. 8th, when I found that the patient had been imprudent as regards her eating, and that she herself ascribed her present trouble to this over-indulgence. She was very weak, with a red, glazed tongue, pulse 110, temperature 98° F. She was unable to retain any kind of food. She was too feeble to stand, and when attempting to do so complained of great pain in the epigastric region, where I had formerly discovered the small tumor. On again examining this region, I found the tumor above mentioned, not increased in size. It disappeared under my manipulations, and could not again be found during my visit. Perhaps if I had put her in the erect position I might have found the tumor, but she was too weak to allow of this. She also complained of a great amount of wind in her stomach and bowels, which annoyed her exceedingly. For this I prescribed drop doses of oil of turpentine, and, in addition lactopeptine and subnitrate of bismuth, with small doses of codeia for pain. As she was unable to provide herself with an attendant or a substitute in her household duties, I strongly advised her going to a hospital.

I heard no more of the case until Oct. 8th, when her Yonkers physician informed me of her death on the preceding day, Oct. 7th, at St. John's Riverside Hospital. I received the letter too late, however, to be present at the autopsy. The following notes of the case and the post-mortem examination I have taken from the hospital records :

She was admitted to the hospital on Sept. 22d, 1886.

*Family History.*—No tubercular, specific, or nephritic history.

*Previous History.*—Two years ago she commenced to lose flesh, strength, and appetite, without any apparent cause, except, perhaps, overwork. Last May she commenced to develop a paroxysmal pain across the abdomen; the intervals between the paroxysms, at first of considerable length, have gradually decreased, and are now very short. No chill or fever ushered in the attacks of pain. (It may, perhaps, be well to call attention here to a fact that is omitted in the hospital re-

port, viz.: the radiating pain into both thorax and abdomen, of which she frequently complained.) She commenced to vomit at the same time, but never vomited blood nor passed blood from bowels.

The other symptoms recorded are such as I have already described, and the treatment prescribed was practically the same as mine. Following the hospital records, I find nothing of any importance to note (except that she improved somewhat in health) till the 27th of Sept., when on examination the house physician discovered the tumor I mentioned, but greatly increased in size since I saw it. The record makes no mention of what this tumor could be. At this time the alvine discharges were examined, but nothing of note discovered in connection with them.

On Oct. 6th patient vomited blood and passed blood from the bowels for the first time. She was given pulv. cretæ and opium to check diarrhœa and spts. camphor to control retching. These measures seem to have checked both the diarrhœa and vomiting for a time, but they afterward returned, and it became evident that she was suffering from internal hemorrhage. Hypodermics of whiskey and ergot were given repeatedly; also codeia to quiet restlessness. These remedies apparently controlled the hemorrhage until four A.M., Oct. 8th, when the bloody discharges again reappeared in spite of all medication, and as there was great pain complained of in the abdomen and delirium had set in, measures were taken to produce euthanasia. She sank rapidly, and died at 6:20 A.M., Oct. 8th, 1886; about three months from the date I first saw her.

*Autopsy.* October 8th, at 4 P. M. Body much emaciated; rigor mortis well marked; no œdema; in the pelvis some remains of the old cellulitis were observed.

Uterus normal.

Lungs not examined.

Heart small, but otherwise normal.

Liver and spleen normal.

Kidneys anæmic; markings distinct; capsules not adherent.

Lying just below the greater curvature of the stomach, and involving the pancreas, there is a tumor consisting of hard nodules, carcinomatous in appearance; this tumor corresponding in size and location to that described in the examination of September 27th. A probe enters the pancreatic duct one inch. The stomach is somewhat contracted. The lower portion of its walls is markedly thickened ( $\frac{1}{4}$  inch), and in spots is the seat of a colloid deposit. There is no

stricture of the pylorus. The mucous membrane of the stomach is in places hemorrhagic, and the intestines contain a tarry material.

In looking back upon this case there are found to be absent three important and common symptoms, generally regarded as diagnostic of this disease: 1. Jaundice. 2. Œdema. 3. Fat in the alvine discharges, as already mentioned. No one of these symptoms was observable from first to last; and if, Mr. President, I need to defend my original erroneous diagnosis, this would form a complete defence. Dr. Norman Moore, in a paper published in *St. Bartholomew's Hospital Reports*, says that where the pancreas is the primary seat of a new growth jaundice is always found, and states that in ten cases with autopsies which he had jaundice was met with in all. He believes that in cases where there is long persistent jaundice in which gall stone symptoms are absent, and in which cancer of the liver is not to be felt, it is probably due to primary cancer of the pancreas. Sir Chas. Murchison mentions persistent jaundice and a sensible tumor as among the common symptoms of this disease, but I find that this is not a pathognomonic sign, for Dr. Louis Starr states in his treatise in Pepper's system of medicine that it is of clinical importance to know that the *ductus choledochus communis* sometimes does not pass through the head of the pancreas, but merely passes over it. When this is the case any enlargement of that organ would merely push the duct aside, and hence no jaundice would be likely to occur. This happens, according to Wyss, fifteen in twenty-two times.

Œdema occurs, according to the majority of authorities, in more than half the cases recorded. Fat in the alvine discharges is found in nearly all cases. Lussanna considered this and the wasting away of the body the most reliable symptoms; but fat may be found in the alvine discharges when the duodenum and not the pancreas is diseased (Reynolds). Pain is not a pathognomonic symptom, for Abercrombie states that there may be extensive disease of this organ with little or no pain. Reynolds considers the cardinal symptoms to be a dull, heavy, aching pain deep down in the epigastric region, which radiates through to the back, diarrhœa, languor, emaciation, and acceleration of pulse, together with a clean tongue. This disease, according to Pepper, rarely extends to the stomach, but rather affects the neighboring lymphatic glands, the duodenum and liver. Hiccough is another very common symptom mentioned. I have been unable to find any authority who gives even one pathognomonic symptom; therefore it appears to me that Dr. Da Costa's manner of diagnosing these cases is the most feasible, viz.: by exclusion.

To conclude, I will ask myself if a case of cancer of the pancreas



is positively diagnosed, of what avail would this knowledge be, and of what advantage to the patient? Could we prolong life, or could we stay the steady progress of the disease? My answer is, *possibly*; for we find recorded by Billroth two cases in which he made a partial resection of the pancreas, in one removing the tail, and in the other a portion of the head, but, of course, not injuring the duct; and both patients recovered from the immediate effects of the operation. How long these cases lived, or whether the disease returned, he does not state. I believe that when I first saw my case but a very small portion of the head was involved, and think it would have been an excellent opportunity to perform an operation similar to that of Billroth if the diagnosis of cancer of the pancreas could have been made out at that time.

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## LECTURES.

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### THE DIGESTIVE DISORDERS OF URÆMIA.

A LECTURE DELIVERED BY M. LANCEREAUX, AT THE HOSPITAL LA PITIÉ, PARIS.

Translated from the *Union Médicale* by H. MCS. GAMBLE, M.D.,  
Moorefield, W. Va.

Physicians have for a long time overlooked the frequency and the gravity of renal affections. The mortality through the kidney is extremely great. It would appear greater still if a better account was kept of the pathological rôle of this viscus and of its predominant intervention in the complex morbid states in which other organs participate. It is thus that are currently designated under the name of *cardéaques* a host of patients who are threatened almost solely by a renal lesion, the contemporary effect of the general chronic arteritis.

The kidney almost always kills through the process of uræmia. This syndrome is to diseases of the kidney what asystolism is to those of the heart. It expresses the functional insufficiency of the organ, and may likewise be compared to icterus gravis, which clinically betrays the destructive changes of the hepatic cells.

In order to understand the mechanism of this disorder it is necessary to refer to the principal facts that we possess in regard to the intimate phenomena of nutrition. All physiologists are agreed in defining nutrition by these two terms: assimilation, then waste. The first consists in the fixation by the tissues, at the expense of the materials elaborated by the digestive canal, of the principles necessary to their repair, to their growth, and to the performance of their functions. These principles are incorporated with the anatomical elements; they are oxid-

ized or resolved, hydrated or dehydrated, without the nature of these chemical and dynamical operations being yet perfectly defined. But this series of transformations and changes tends in all cases to the rejection of unutilizable products and to the separation of veritable organic waste. It is for this second act of the nutritive process that is reserved the name of *désassimilation*. The destiny of these excrementitial materials, for the most part injurious and poisonous, is variable. Some of them are almost immediately reduced by the oxygen of the blood, and you will appreciate at once the importance of a good pulmonary hæmatisis in uræmic subjects. Others, the products of retrograde changes of albuminoid substances, for example, doubtless undergo in the liver secondary modifications which bring them to the state of urea. But, in the end, all ought to be eliminated. For this purpose the organism possesses several emunctories. They are the skin, the alimentary canal, the lungs, and, in the front rank, the kidneys. If disease suppresses their depurative rôle, the waste materials of nutrition, toxic or not, accumulate in the humors and in the tissues. It is to the ensemble of the symptoms caused by this abnormal retention of excrementitial materials that the word *uræmia* ought to be applied.

Custom has consecrated this ancient expression. But it is proper to enlarge its present signification. This appellation ought not simply to arouse in your mind the idea of accumulation in the blood of urea, or even of the totality of the urinary residua. It ought to correspond to the wider conception of an auto-intoxication through the retention of products normally destined to be excreted, and that *whatever may be the organ involved*, because, in effect, by the side of renal uræmia there should be a place for uræmia of cutaneous origin; perhaps even for uræmia of pulmonary and digestive origin. Only, these latter disorders are still very imperfectly understood.

It is above all upon the kidney that is devolved the principal rôle in the depuration of the organism; and it is renal uræmia alone that will engage our attention in these lectures.

The skin, the lungs, and the intestines occupy a secondary rank in so far as regards surfaces of elimination. Their isolated suppression entails only troubles limited like their function itself. But if the renal filter becomes insufficient, it is towards them that the depurative function is diverted. If they are sound, a natural substitution is established, and the accidents of renal uræmia are often averted through the means of a spontaneous curative process. At least the physician can direct his efforts towards them, and favor excretion through this succedaneous route. On the contrary, if these organs cannot lend themselves to the derivation, if age or disease has modified them in a way to restrict their functional action, the danger of the renal insufficiency is increased by the insufficiency of the other emunctories.

You know the disorders produced in animals by the experimental application of an impermeable varnish over the whole extent of the external integument. Some cutaneous affections realize analogous conditions. But in such cases the troubles almost always pass unno-

ticed, because the suppression of the tegumentary function is incomplete, because it takes place progressively, because the kidneys are sound and readily support this increase of labor. If the study of uræmia of cutaneous origin is still in the state of incipency, we know at least that the alterations of the skin create, in renal uræmia, a grievous coincidence.

Atheromatous old men, affected with renal sclerosis, have at the same time a dry, thin skin, with atrophied glands and contracted subcutaneous vessels. Often in them the digestive mucous membrane and the lungs are modified at the same time. The uræmic symptoms are also repeated in an indefinite manner, and therapeutical treatment has a much slighter hold upon them than upon children, whose skin and intestines fully perform their functions.

We will analyze at greater length in another lecture the pathogenic course of uræmia. But these few propositions were necessary to enable you to understand the different clinical forms of the poisoning. The non-eliminated excrementitious substances bring their action to bear upon the nervous system, like certain vegetable or mineral poisons; whence an important class of uræmic symptoms that we may call *cerebro-spinal uræmia*.

These same toxic principles, by a spontaneous effort of the organism, tend to eliminate themselves through some of the organs capable, in a certain degree, of supplying the place of the diseased kidneys. The normal conditions of secretion or of exhalation of these surfaces find themselves violently modified, as if in consequence of a topical action upon the tissues. Thus are explained various lesions on the part of the bronchi, of the serous membranes, and of the skin.

We will study further on the broncho-pulmonary lesions of uræmia, the peritonitis, the pericarditis, and the pleurisy of the subjects of Bright's disease, and the cutaneous eruptions that arise from this intoxication. We will have to distinguish them from analogous disorders arising equally in the course of uræmia, but due to another morbid process. Let it suffice you now to know that these disorders are relatively rare, often slightly accentuated, and that they hold only an obscure rank in the symptomatology of uræmia.

It is upon the digestive mucous membrane that the derivation principally bears. The discharge which is effected by this surface is almost always sufficient to determine extremely pronounced functional troubles. The experiments of Cl. Bernard and of Barriswell have shown that, in nephrectomized dogs, the urea was eliminated by the stomach and by the intestine under the form of carbonate of ammonia, and that this elimination was accompanied with vomiting. There is, then, no necessity for invoking, as has been done, the œdema of the digestive mucous membrane, in order to explain the gastro-intestinal phenomena of uræmia. Besides, there are many dropsical subjects who present nothing of the kind; then, these symptoms show themselves in subjects of uræmia who do not offer a trace of œdema, and, finally, their appearance often amends the symptoms of a nervous order,

which shows clearly that a natural curative process is concerned therein.

The totality of these phenomena characterizes the second form, or *gastro-intestinal form*, of uræmia. This is what we are going to describe to-day.

In this form of uræmia the more especial seat of the disorders is the stomach and the large intestine. But it is sometimes located in the small intestine, and even in the mouth and pharynx.

Buccal and pharyngeal uræmia has not been described in Bright's disease, and moreover the cases of it are not common. However, I have observed, both in private practice and at the hospital, some cases which permit no doubt as to the existence of this disorder.

A man fifty-five years old, whom I had been treating for more than three months for an affection of the kidneys, with hypertrophy of the heart, had upon several occasions suffered from paroxysms of uræmic dyspnœa, when he ceased to eat, refused every kind of food and drink, and fell into a state of general prostration. At the same time the mucous membrane of the mouth, and especially that of the pharynx, was covered with a thick, grayish, semi-transparent, extremely abundant mucus, so viscous and sticky that it was necessary for me to extract it with the hand in order to prevent it from obstructing the digestive and respiratory tracts. The patient, almost always somnolent, neither thought of expectorating nor of eating, and I was several times upon the point of introducing the œsophageal sound. For the nearly eight days that this condition lasted I had to take away by the handful the mucosities of the mouth and pharynx, which were not wanting of a certain resemblance to the membraniform products of pultaceous pharyngitis. Then the patient came out of his torpor and decided to swallow. I succeeded in nourishing him a little, and the symptoms improved. He died afterwards in an attack of uræmic coma.

I have found in other subjects of uræmia these bucco-pharyngeal disorders characterized by the presence of this adherent mucus, quite analogous to glue. When one detaches it, the mucous membrane beneath is found red and dry, but not ulcerated. In one case I saw one of the most distinguished physicians confound this condition with pultaceous angina. But in this form of angina the false membranes are less abundant and whiter, and then the general aspect of the affection has no resemblance to that of buccal uræmia.

It is, then, important to know how to recognize this symptom and to assign it to its real origin. But how explain its rarity, and what is the condition of its genesis? Might it be the elimination by the salivary glands of a stronger proportion of excrementitial principles? That is a reasonable hypothesis, but one that can be proved only by comparative analyses of the saliva, and by the knowledge of the chemical or other agent that succeeds in thus modifying the condition of the mouth.

Outside of these rare cases, we habitually observe that the tongue of the subjects of uræmia is red along the borders, and covered in the

centre with a gray or yellowish saburral coating. It becomes dry, dark, and horny only when the uræmia accompanies suppuration of the urinary passages.

If the preceding type is rare, *gastric uræmia* is a very common accident. A few days ago we stopped in the ward by a young woman attacked with typhoid fever, and whose spittoon was half full of a greenish liquid which she had discharged by the mouth. Recognizing in this fluid the characteristics of uræmic vomiting, I immediately had the urine examined, which contained large quantities of albumen. The patient was suffering, moreover, with a headache, and dyspnoea of a very peculiar physiognomy. It was a question, in fact, of uræmic troubles, doubtless due to an attack of epithelial nephritis, a very common complication of typhoid fever. Then arose there a formal therapeutic indication, and, thanks to a few diuretic pills, aided by a milk *régime* and purgative enemata, the patient recovered without difficulty.

In cases of chronic nephritis, in which gastric uræmia is a matter of daily observation, the appearance of vomiting is preceded by loss of appetite. There arises a disgust for certain articles of diet, especially for meat; then the vomiting supervenes. Rarely preceded by nausea, it is easy, requires little effort, and often has the appearance of vomiting *en fusée*, as in cerebral and meningitic diseases. They are not alimentary, and the patient never ejects much fluid at a time; a half glass-full, a fourth of a wash-basin at the most. The matters vomited are liquid, grayish, similar to muddy and stale broth, sometimes slightly greenish, but not porraceous, as in peritonitis. These characters are always the same, and, when one is acquainted with them, it suffices to see one of these vomitings to be invincibly lead to suspect uræmia. These vomitings persist, are repeated in the course of the same day, and sometimes during several days. They generally cease spontaneously, or under the influence of a simple purgative enema, and that without doubt because the blood finds itself freed from excremential matters which encumbered it, as if the stomach performed the office of a valve which, at a certain moment, is lifted up in order to let the overflow pass out.

What is the nature of these attacks of vomiting? In the early stages they simply express the secretory exaggeration of the stomach, which supplies the diminution of the renal fountain. To this degree we witness a clinical realization of the famous experiment of Cl. Bernard, and the matter vomited contain an excess of urea and of carbonate of ammonia. But, later, under the influence of a prolonged irritation by the excremential substances, the gastric mucous membrane is profoundly modified. It becomes the seat of lesions which we will study another time, and these lesions in their turn influence the vomitings. Here is a distinction to be made, indispensable as regards therapeutics. The vomiting at the commencement, in fact, ought to be respected, as an index of a natural curative effort. Afterwards there is sometimes reason to moderate it.

One cannot help thinking that the nervous system, also, sometimes intervenes in the production of these vomitings, for they are frequently accompanied by hiccough, bulbar dyspnœa, and other cerebro-spinal phenomena. Besides, I have shown you the analogies which connect these evacuations with cerebral and meningitic vomiting.

It is important to be fixed in our views in regard to these vomitings and their origin, if we wish to avoid clinical errors that will be regretted. During the time of my service as interne at La Pitié, I often saw diagnosed a cancer of the stomach or chronic enteritis in subjects who, when the autopsy was made, presented no other lesions than atrophied kidneys. So, every time that one of my colleagues came to tell me that he had in vain sought for a cancer of the stomach, I advised him to examine the kidneys, and we found, so to speak, always these organs profoundly altered, granular and atrophied. It was the same in the greater part of the cases of chronic enteritis. Since then I have many times met with the same errors, although the phenomena of uræmic intoxication are better understood to-day. It happens still pretty often to inexperienced physicians to treat solely the stomach of persons whose kidney is on the road to becoming sclerosed, and to see simple dyspeptics in confirmed cases of uræmia.

Diarrhœa is the revealing symptom of *intestinal* uræmia, and this symptom possesses features which it is important to be well acquainted with. This diarrhœa arises without being preceded by pains or colic, and although it is in some cases abundant, it wearies but little or not at all the persons attacked with it; more than that, it favors sleep and tends to dissipate the existing headaches to such a degree that, generally, it ought to be considered as a benefit, and so respected. The matters ejected, ordinarily abundant, serous and fetid, of grayish color, contain, in greater or less quantity, whitish and rice-like particles, quite similar to frog spawn.

These characters, as elsewhere those of the vomited matters, suffice in most instances to put the physician on the road to the diagnosis, if not to affirm the existence of a renal lesion. These evacuations contain likewise an excess of urea and of carbonate of ammonia, resulting from the transformation of the urea in the intestine. These are the only excrementitial principles the investigation of which has been carefully made up to the present time. There might be grounds, without any doubt, for searching therein for the other toxic matters which have been incriminated, as we will see, in the pathogeny of uræmia.

At a more advanced stage of the disease the diarrhœa changes its character. It is tinged with blood, and from serous becomes sometimes dysenteric. In the intestine, modifications take place identical with those that we have just described in the stomach. At length the intestinal mucous membrane is altered in consequence of this abnormal functional operation. There are produced therein, as I will show you, typical lesions of which the seat of election is the large intestine. For the effects of the depurative hypersecretion are substituted then those of adulteration of the walls of the intestine.

To sum up, the uræmic troubles may affect together or separately the different departments of the digestive canal. Bucco-pharyngeal uræmia is rather uncommon; gastro-intestinal uræmia is of extreme frequency. When attacks of vomiting or a serous flux come on, they ought to be looked upon rather as a providential exaggeration of secretion than as a morbid process. So, one ought not to think of arresting them so long as no other means of derivation has been found.

The indication in such cases is to act energetically upon the skin, to restore the action of the kidneys, and to moderate the evacuations only so much as that the equilibrium may be re-established by aid of another organ. If we intervened prematurely we would run the risk of seeing convulsions or coma replace the diarrhœa suddenly suppressed.

On the contrary, the diarrhœa and the vomiting which supervene at an advanced period of the disease, when the material lesions have installed themselves upon the digestive mucous membrane, may be combatted, if their abundance is too great. I do not dare, however, to give opiates, except in a restricted number of cases.

It remains to us to mention a final symptom which might find its place as well in the description of cerebro-spinal uræmia as among the phenomena of digestive uræmia. I refer to hiccough. This symptom has, as its point of departure, the stomach or the nervous centre. It is often found in the train of uræmia, and then sometimes it accompanies the vomiting, sometimes paroxysms of dyspnœa more or less intense. It calls attention to itself by its violence and by its tenacity; it lasts sometimes several hours, or even several days. It constitutes a severe symptom, and too often it is the indication of an approaching fatal termination.

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## SELECTIONS.

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A SUCCESSFUL CASE OF CÆSAREAN SECTION. By William T. Lusk, M. D.

Bridget Curry, primipara, aged twenty-four, domestic, Ireland, was sent to me from the country branch of the Mother's Home, on Staten Island, by Dr. O'Reilly, the attending physician, because of marked pelvic deformity. The patient entered my service at the Bellevue Hospital on March 21, 1887. She had menstruated last early in the previous July, and was presumably in the ninth month of pregnancy. She was suffering from lameness due to hip disease, which dated from her eleventh year. At that time sinuses had formed in the neighborhood of the right acetabulum from which there had been a discharge, which had continued for some time, and for which she had been sent to a hospital in Dublin for treatment. A cure had been then effected, but during the latter months of her pregnancy fresh suppuration, with sinus formation and purulent discharge, had taken place at the site of her previous trouble.

On the 22d of March I visited her at the hospital, with a view to making a careful measurement of the pelvis, in order to decide upon the proper course to pursue. The woman was, however, found on my arrival to be already in labor. The pelvic measurements were as follows:

Distance between the anterior spines	-	-	21.5	centimetres;
Distance between the cristæ ilii	-	-	24	"
External conjugate	-	-	16	"
Distance between the anterior and posterior spines (right side)	-	-	14½	"
Distance between the anterior and posterior spines (left side)	-	-	16	"
Diagonal conjugate	-	-	9	"
Internal conjugate (estimated)	-	-	7.5	"
Distance between the ischia	-	-	6.5	"

The shortening of the right leg (measured from the trochanter to the malleolus) amounted to 4 centimetres. The pelvis belonged to the oblique variety. On the right side the iliac bone ran in a nearly straight line, and on the left the curve was greatly diminished. The promontory projected to a marked degree into the pelvic space. While with these dimensions it did not seem impossible to remove the child by craniotomy, still the risks of extracting the child through the natural passages, owing to the combined transverse and antero-posterior narrowing, I concluded would equal if not exceed those to which the woman would be exposed if subjected to Säger's operation—*i. e.*, the old Cæsarean section, modified by the employment of an exact series of deep muscular and superficial peritoneal sutures for the closure of the uterine wound. In this decision I was sustained by Dr. I. E. Taylor and Dr. Garrigues. The examination took place about noon, and at once, in all haste, preparations were made for the operation. As the private pavilions were both in use at the time, it was necessary to operate in one of the public wards of the hospital without preliminary disinfection.

The operation was begun at 3.30 P.M. Dr. Garrigues kindly assisted me. His thorough knowledge of each step in the operation proved of great value to me. The incision through the abdominal wall extended from a point three inches above the navel to within two inches of the symphysis pubis. The uterus was then tilted, with its left border to the front, and everted from the abdominal opening by firm downward pressure upon the abdominal walls. After the uterus had been turned out, the intestines were retained by a large, flat sponge placed behind the uterus and beneath the abdominal parietes. A piece of rubber tubing was placed around the lower segment to control hemorrhage.

The exposed uterus was wrapped in towels, wrung out in a warm corrosive-sublimate solution (1 to 5,000), which were replaced at short intervals. A short incision about two inches in length was first made in the median line near the lower uterine segment. The tissues were



divided slowly and with care until the membranes were exposed. Then, with scissors, the incision was rapidly extended upward toward the fundus until an opening five inches in length was obtained. As the uterus contracted, the membranes formed a hernial protrusion from the wound. Owing to the elastic ligature the incision was nearly bloodless. While Dr. Garrigues drew the abdominal walls tightly around the uterus, to protect the peritoneal cavity, the membranes were ruptured. The child presented by the head, in the left occipito-anterior position. A knee was seized, and the child was rapidly extracted. It weighed five pounds and a half, and was deeply cyanosed, but was happily resuscitated by my friend, Dr. A. B. Ball. The separation of the membranes and placenta was accomplished by tractions upon the protruding sac, and by means of two fingers inserted between the decidua and the uterine walls. This act furnished a beautiful demonstration of the fine cobweb-like processes described by Leopold, which connect the decidua with the residual portion of the mucous membrane which remains adherent to the uterus. The uterine cavity was carefully sponged with a corrosive sublimate solution (1 to 10,000). With the removal of the child and the subsequent retraction of the uterus, it became necessary to employ towels, rendered aseptic by immersion in warm corrosive sublimate solution, to keep back the intestines. Owing to the arrest of the circulation by means of the elastic ligature, the uterus presented a pale, waxy appearance.

In the closure of the wound carbolized silk was used. According to Dr. Taylor's count, thirty-four sutures in all were employed. Of these, probably sixteen were deep and the others superficial. The deep sutures were introduced about a third of an inch from the cut border, and were passed obliquely inward, so as to avoid impinging upon the mucous membrane. The superficial sutures were inserted at short intervals, to secure complete approximation of the peritoneal surfaces. The Lembert stitch was employed. No lifting of the peritoneum nor resection of muscular tissue was found necessary. When the temporary ligature was removed the blood slowly returned to the palid organ, which, from a waxy white, became at first suffused with a pale-pink, the color then gradually deepening to a rose-red, and finally to a dark-purple hue. A little oozing from a stitch-wound at the placental site was observed as the blood returned to the organ. After twenty minutes, during which hot-water applications, pressure, and deep sutures at a right angle to the bleeding stitch were vainly resorted to to arrest the oozing, the uterus was returned to the abdominal cavity, a drainage-tube was inserted behind the organ, and the abdominal wound was closed by ten silver sutures. Owing to the extreme contraction of the antero-posterior pelvic diameter, there was no room for the drainage-tube in the *cul-de-sac* of Douglas.

At the close of the operation the patient's condition was excellent. The time occupied was one hour and fifteen minutes. For two days subsequent to the operation the temperature was below 100°. At the beginning of the third day the temperature (afternoon) rose to 100·5°.

On the fourth day there was considerable tympanites, which was relieved by three grains of calomel, followed by a Seidlitz powder and an ox-gall enema. The highest temperature ( $102.8^{\circ}$ ) occurred on the fifth day, but fell, however, to  $100.5^{\circ}$  after a large spontaneous evacuation of the bowels. On the sixth day the temperature was  $99.5^{\circ}$ . As the serum from the abdominal cavity had become colorless, the drainage-tube was withdrawn. On the seventh day the abdominal stitches were removed. On March 31st the temperature was  $101.6^{\circ}$ . Upon a careful examination pus was detected in the line of the incision. The pus was evacuated and the wound dressed with iodoform gauze. On the 9th of April a large abscess was found at the site of the old sinuses over the right hip. After lancing the abscess the temperature fell to the normal point, and no further disturbance took place. From the second day the patient took an abundance of liquid food, with tea, toast, and eggs by the end of the week. There was no vomiting or other gastric derangement. The patient sat up at the end of the fourth week, and her condition was greatly improved as compared with that which existed previous to the operation. Indeed, had it not been for the symptoms resulting from the hip complication, the period of puerperal convalescence would have compared favorably with that following an easy natural labor. The child was weighed on the 24th of April, and was found to have gained three pounds and a quarter. Too great praise can not be given my house physician, Dr. L. M. Silver, for the intelligent care he bestowed upon my patient.—*N. Y. Med. Journal.*

#### THE TEACHINGS OF THE PULSE.

The subject selected for treatment by the Croonian lecturer of this year is one of abiding interest; and he deserves thanks for doing much to widen and deepen that interest. The study of the pulse and its indications is, indeed, as ancient as the medical art itself; and one has only to turn to the writings of Hippocrates to learn how closely and how accurately its variations were observed, with much remarkable result in prognosis and treatment. For, however faulty may have been the ideas concerning the nature of the pulse that have prevailed from the days of Hippocrates almost until now, no one can venture to dispute the accuracy of observations and the sagacity in clinical interpretation that have gathered around this subject. With the rise and progress of physiology there seemed to be a fear lest we should set at naught the old teachings and neglect too much the time-honored practice of feeling the pulse. Nor was it without reason that the lament arose that the rising generations of practitioners were neglecting the old ways and relying more upon instrumental aids than on the *tactus eruditus*. To feel the pulse was in danger of becoming a merely ceremonial act; and the reading of the sphygmographic tracing was held of greater import than the reading of the lessons of the finger. Not that we believe this lament to have been ever justified, or that mechanical apparatus, however cunningly devised, can equal in delicacy the educated tactile sense. There was never any real danger of converting our clin-

ical records into a series of observations in which the observer only played the part of a skilled mechanic. Yet it is well to be reminded that the pulse is to be read with greater accuracy and certainty by the old method than by the use of the instrument which we owe to the genius of Marey. The sphygmograph has done a great deal to interpret the significance of the pulse and advance our knowledge of the circulation in health and disease; but as a means of clinical observation, as an aid in diagnosis, its place is necessarily subordinate to the older practice. This Dr. Broadbent did well to state, and also to dismiss, once and for all, the pretensions to a precision which the sphygmograph cannot claim. No doubt much of the attraction that the study of the pulse had for our fathers lay in the mystery that invested it; and the care with which they separated its varieties, and allied them to differences in temperament and habit, as well as employed them in prognosis and diagnosis, was more or less influenced by the superstitious reverence in which it was held. Nor did the discovery of the circulation, the starting-point of physiology as a science, go far to dispel the glamour that invested the subject, and the true nature of the pulse remained more or less concealed. Dr. Broadbent, therefore, did well at the outset to clear the matter of its surrounding misconceptions by laying stress on the fact that the pulse, felt by the finger as it depresses the artery against a resisting surface, is the sign of the momentary heightening of the blood pressure due to the impact of the ventricular systole. It cannot, of course, be denied that the vessel is distended at the moment of its receiving this impact; but it is not dilated. It is not, in healthy conditions, disturbed from its bed. Nor does it indicate the actual movement of the blood column. It is a physiological truism that the rate of the (so-called) pulse wave is wholly different from the rate of the blood current, whilst if the current be checked the pulse grows in vigor. The pulse, then, thus simply interpreted, gives information mainly upon one of the chief factors in the circulation; it indicates changes in the degree and duration of arterial blood pressure, besides informing us of the rate of the cardiac contractions, which are also often dependent upon changes in that pressure. By observation of the pulse we determine the condition of the circulation; we infer from its indications the character of the circulation in the periphery, as well as the vigor of the heart; we can learn the condition of the arterial system; and, finally, base upon physiological grounds the evidences of derangement in the circulation thus derived.

No more can be claimed for the pulse than that it is the best index we have of the condition of the circulation in the human subject, and the more the sense of touch is educated to detect the variations in the pulse the more accurate will be our perception of this condition. The Croonian lectures have introduced us to this subject, with ample illustrations drawn from a wide clinical experience; and yet if they have done good service in directing attention to the relations between conditions of circulation and disease, they have equally left open many paths for further exploration. Dr. Broadbent has no hesitation in dis-

elling a delusion which is as old as the art of feeling the pulse. He declares that he has been unable to associate any condition of pulse, as regards low or high tension, with any special vigor of body or mind or any peculiarities of temperament. Persons with a pulse of low tension may perhaps, he tells us, be longer lived; they may not wear out so rapidly; but, if better able to endure the stress of life, they are less capable of withstanding the onset of acute disease. In the presence of such considerations and of individual differences, it would then seem to be hopeless to create a criterion or a standard of health from the condition of the circulation alone, in spite of all *a priori* notions to the contrary. When, then, we learn, as in the very interesting lecture that closed the series, that certain nervous derangements—notably insomnia, convulsions, and melancholia—are referable to circulatory disorder, we may fain ask whether this latter is sufficient by itself to produce these effects. As regards insomnia, the evidence adduced by Dr. Broadbent would seem to be all-sufficient, and his very practical suggestions upon the different forms of insomnia, associated with pulses of high and low tension respectively, will be appreciated. As to convulsions, and their assumed induction from changes in the intra-cranial pressure due to changes in arterial pressure, it requires something more than the latter to account for the phenomenon. We admit the strength of the evidence adduced in support, especially that afforded by the arrest of the convulsions on reducing the blood pressure by bleeding; but the circulatory condition is one so common, apart from these nerve symptoms, that we must assume superadded instability of nerve tissue in all such cases, whether uræmic or otherwise. The same applies to the argument respecting melancholia, by which we gather that Dr. Broadbent would infer that the long continuance of heightened blood tension leading to vascular changes will ultimately affect the nutrition of the brain and degrade its tissue. That calomel should purge the soul of melancholy is an interesting if ancient fact; but that the whole of its explanation lies in the reduction of the arterial tension, or that changes in the arterial tension are alone adequate to explain the cerebral state, are subjects which may well be further investigated. This is but one instance of the points raised in these lectures. We must refer to the text for the careful expositions, with a wealth of clinical illustration, of the variations in the pulse; the conditions of low tension and high tension, and their significance; the bigeminal pulse, and its relation to the infrequent pulse, in which only one out of every two cardiac beats succeeds in reaching the wrist; the conditions of irregularity and intermittence, of dicrotism and of abnormal frequency, especially some remarkable neurotic conditions described.—*Lancet*.

#### INTRA-UTERINE DEATH.

Dr. Priestley's Lumleian Lectures on this subject will form an important addition to obstetrical literature. Many of our readers must have faithfully studied these interesting lectures, yet a brief review of their contents may prove acceptable, and may prompt others to read them.

Amongst the more general causes, some appear referable to the father, for the pro-creating power is distinct from the developing power, so that, as it appears, a man may beget a fœtus which cannot develop to the end of the normal term of gestation. In the case of the mother, anæmia, starvation, and over-feeding are active agents in killing the fœtus. Dr. Priestley discusses some important questions respecting the effects of high temperature, the immediate cause of death of the fœtus when the mother is stricken with any complaint where the temperature rises considerably. Runge's experiments show that the temperature in the fœtus is higher than in the mother, and rises proportionately higher when her temperature rises. The fœtus may die solely from high temperature in cases where the mother recovers. Overcharging of the fœtal capillaries occurs in the fœtus, and it is expelled dead by contraction of the uterus, stimulated by the carbonized blood in its sinuses. In puerperal eclampsia the fœtus is killed either by a rise of temperature, or by uterine contractions which cause imperfect aeration of blood, or by uræmic vitiation of blood. Suckling and mental emotion are given as undoubted reflex causes of intra-uterine death.

The child is frequently killed by disease of the fœtal appendages, generally due to previous inflammation of the unimpregnated uterine mucous membrane. These diseases are chronic diffuse endometritis, polypoid endometritis, and catarrhal endometritis, the hydrorrhœa of pregnant women. Dr. Priestley dwells at great length on cystic disease of the chorion, so that the *Journal* of April 9th contains a valuable summary of the pathology of that remarkable disease. It is probably the causè, not the effect, of the death of the fœtus. The embryo either disappears in the cystic mass, or is found shriveled and wrapped in its amnion, or even without an amnion, in the midst of the "mole." Hydramnios is a cause of fœtal death; this affection is associated with twin gestation, monstrosities, syphilis, and female children. It is rare in first pregnancies.

Placental disease plays an important part in causing fœtal death. Dr. Priestley, in accordance with other living authorities, agrees that there must be several distinct diseases of the placenta. The different stages of one disease are liable to be taken for distinct affections. Apoplexy and true inflammation of the placenta, or placentitis, are noted by the lecturer, who then proceeds to speak of a remarkable affection known as placental phthisis. It is not tubercular, no specific bacilli can be found, nor is it essentially a fatty degeneration. A deposit, probably a low type of exudation, is thrown out among the villi. This deposit breaks down and cavities form, which fill with blood. The placenta is thus rendered totally unfit for its functions, and as the dead child is sometimes expelled plump and otherwise in good condition, this placental disease must run a rapid course. We are glad to learn that Dr. Priestley promises to read a paper on the minute pathological anatomy of placental phthisis before the Obstetrical Society; the communication will doubtless form a worthy addition to the valu-

able series of scientific monographs which have recently appeared in that Society's *Transactions*. True fatty degeneration of the placenta, described by Drs. Barnes and Kilian, and myxoma fibrosum, a fibroid hypertrophy of the villi sometimes forming distinct tumors in the placental structure, are active causes of foetal death. It appears that we are not yet able to say with precision that any one distinct lesion of the placenta belongs alone to syphilis. Fränkel describes a "disfiguring granulation cell-disease," the placental affection which appears to be the most frequently associated with syphilis. He further notes that the evidences of placental syphilis vary according as to whether the syphilitic virus is derived from the mother or the father.

The treatment of patients subject to bring forth dead fœtuses prematurely cannot be said to be satisfactory. Antisyphilitic drugs are no sure protection against intra-uterine death, even if they do not of themselves kill the fœtus, whilst curing or producing no effect on the mother, as has been suspected on reasonable grounds. Even rest may, in some cases, be an inferior therapeutic agent to certain forms of exercise. The most satisfactory cases are those where foetal death has been due to anæmia or debility. Aix-les-Bains has been recommended in these cases. Dr. Priestley believes that the baths of Schwalbach have tonic properties for anæmic patients, whilst a visit to Kissingen is appropriate for those in whom the digestive and portal systems are at fault. There is, undoubtedly, much to be learnt concerning the treatment of habitual abortion, and the necessary knowledge may yet be found by a faithful, scientific, and intelligent study of the subject which Dr. Priestley chose for the Lumleian Lectures.—*British Medical Journal*.

#### THE PRACTICAL VALUE OF OUR PRESENT METHODS OF TREATING THE UPPER AIR PASSAGES.\* By F. H. Bosworth, M.D.

It is now thirty-three years since Garcia, of London, demonstrated the feasibility of examining the interior of the larynx during life, followed by Czermak, of Pesth, who, making practical adaptation of Garcia's teaching, presented to the medical profession a new method of treating disease, and thus inaugurated a new specialty. It seems eminently fitting that, at the present time, when our specialty occupies so large a share of public and professional attention, when new and important observations crowd one upon another so rapidly, and the results of treatment are so much more flattering in their success than ever before, we should pause for an instant (take an account of stock, as it were) to examine the by-technique which has built itself up around our practice, and put it to the test of experience, indorsing all that is good and rejecting that which is bad. The early days of our specialty were days of invention, and so rapidly did the number of appliances and ingenious devices for treating diseases accumulate in our hands that the impression grew that we treated disease by machinery. Nor was this impression ill-founded, for so extensive and com-

\*Read before the New York Academy of Medicine, April 21, 1887.

licated has the mere mechanical features of our specialty become that the laryngologist's office has grown to be not unlike a machine-shop. I long since began to ask myself the question, how much aid has all this machinery been in the successful treatment of disease? This is to largely be the subject of our discussion to-night. The point of view which I take is, that when we knew little about the treatment of these diseases our machinery was very extensive. As our knowledge increased, the machinery rapidly diminished; and now that we finally obtain striking success in the management of the majority of the diseases of the upper air-passages, I think I may safely say that all the machinery necessary might be carried in a small hand-satchel.

In discussing special methods of topical applications, I will make a few remarks successively on the treatment of the larynx, lower pharynx, vault of the pharynx, and the nasal passages. As regards topical applications to the larynx, in the early days of our specialty, brushes, sponges, probangs, syringes, sprays of various kinds, were made use of in the treatment of so-called chronic laryngitis, and their comparative merits were discussed with great seriousness. Whatever may have been their comparative value, a question of far greater importance is, did any of them ever do any good? I think I am safe in saying that in the whole history of laryngology no case of so-called chronic laryngitis was ever cured by topical applications, whether made by brush, sponge, or spray. The more serious affections of the larynx, such as tumors, syphilis, cancer, tuberculosis, paralysis, etc., of course no one ever claimed to cure by topical agents. I have already expressed my views with regard to chronic laryngitis, and will not repeat them here, but will content myself with simply saying that the condition called chronic laryngitis is merely symptomatic and secondary to disease of the nasal cavities in every case. The morbid condition is not an hyperæmia with hyper-secretion, to be corrected by an astringent, but rather a perversion of the normal secretion of the part, due to the morbid lesion above.

Applications to the lower pharynx from time immemorial have been made by brushes, sponges, cotton pledgets, sprays, syringes, etc., for the purpose of relieving a supposed chronic pharyngitis. Various astringents have been applied with the idea of correcting hyper-secretion. I have elsewhere tried to make plain the fact that the lower pharynx is in no sense a part of the air-tract, but is a part of the food-tract; is covered with hard pavement-epithelium with limited capacity for secretion; is rarely, if ever, involved in inflammatory process of the air-passages, and therefore local astringents, however applied, do not cure. The vault of the pharynx, we have finally learned for the first time in Mackenzie's second volume on "Diseases of the Throat and Nose," is the seat of morbid changes which characterize what has been called in years past naso-pharyngeal catarrh. What these morbid changes are, however, neither Mackenzie nor any other writer has ever made clear to us, the truth being that there is no such disease as naso-pharyngeal catarrh in the sense of it being a catarrhal inflammation of the vault of

the pharynx. This disease, which is supposed to consist essentially in an excessive secretion from the vault of the pharynx, due to a chronic inflammation of its lining membrane, is a myth. This excessive secretion is in reality diminished secretion. It is a normal secretion from a healthy membrane, but undergoing subsequent change as the result of disease in the part above. The indications for treatment are not astringents, but rather some method which reaches the cause or source of the disease which lies in the nasal cavities themselves. No local application by brush, sponge, or probang behind the palate to the vault of the pharynx, in the whole history of laryngology, ever cured or even mitigated the severity of this so-called naso-pharyngeal catarrh. As regards such conditions in the vault of the pharynx as hypertrophy of the pharyngeal tonsil, acute or chronic inflammation, neoplasms, or other diseased conditions consisting in structural changes, no local agents are of any avail other than palliative, as the indications are clearly for surgical measures.

In the treatment of so-called nasal catarrh a vast amount of ingenuity has been exercised in devising methods of making topical applications to the whole membrane lining this cavity, and some extravagant claims have been made as to the superior success of certain measures above others, ignoring the question as to the amount of real benefit derived even if the applications do reach the whole cavity. We are confronted here at the outset with the question as to what is nasal catarrh, so called. I again take the ground that the disease which has figured so extensively in our medical literature as nasal catarrh is not a hyper-secretion, to be cured by the local application of astringents. Even if it were a hyper-secretion, the whole list of astringents which are found in our pharmacopœia have been tried in vain. I have not time here to enter upon the discussion of this question of the true pathology of nasal catarrh, nor the right, as it is but a short time since I presented the subject to you in a paper read from this desk on "Deflections of the Nasal Septum." I took the ground then that essentially the symptoms of so-called nasal catarrh are due to those morbid conditions of the nasal mucous membrane which interfere with the great respiratory function of the nasal passages—namely, exosmosis of serum. And, furthermore, that the so-called catarrh of the pharynx, larynx, and trachea are merely secondary to this condition, and not diseases in themselves, being amenable only to treatment directed to the real seat of disease—viz., the nose. I say that douches and sprays have never yet cured cases of catarrhal inflammation in the upper air-passages. I do not mean by this to utterly condemn their use. They have their uses, undoubtedly. They are of very great assistance to us in the management of our cases, but if we depend alone upon the use of local applications, no matter what special astringent we use, or stimulant or alterative; no matter how elaborate our pumps and thickly plated our air-receivers; no matter how expensive and complicated our machinery, we will fail absolutely and utterly in giving that amount of relief which our patients are entitled to receive



at our hands—namely, a complete and radical cure. The nasal douche, first suggested by Weber, afterward appropriated by Thudichum, and improperly called Thudichum's douche, has occupied a prominent place among our therapeutical resources. Its advantages have been lauded, and its dangers have been insisted upon. Its advantages are that it is an excellent method of reaching the whole nasal cavity for cleansing and palliative purposes; radical good, it does none. Its dangers are vastly overestimated. I have never seen bad effects from its use.

Inhalations at one time filled a prominent place in our therapeutic resources. They have deservedly fallen into disuse, as it is very questionable whether they were ever of any permanent service. Sprays have always deservedly occupied the most prominent place among our therapeutic resources. Various forms have been suggested, and various methods of producing sprays have been in use, and what shall we say of these devices? Simply this: Sprays have been of great help to us as cleansing, as palliative remedies, and nothing more. Is there any special virtue in one form of apparatus, or in any one form of spray? Unquestionably not. We frequently see in the columns of our journals some new invention, or new device, or new suggestion regarding the spray-tube, air-pump, air-receiver, which it is claimed possesses certain specified advantages over all others. The validity of these claims I should call in question. Compressed air, as a force for generating sprays, has been supposed to possess superior advantages. The moral effect on the patient undoubtedly is often very great. Its advantages over simpler apparatus I regard as nothing. I hold in my hand here a simple hand-ball spray, which is sold in the drug-stores for one dollar and a half. I think I am justified in saying that the spray produced by this little apparatus is as efficacious as any produced by the most elaborate and most beautiful and most expensive air-pump and receiver that can be made. In former days we paid higher prices for spray producers with a double bulb, one of those absurd devices which, after its first introduction, it took us years to rid ourselves of. A far more vigorous spray, as you see, is produced with a single bulb, which gives the full pressure which can be exerted by the fingers, the double-bulb spray being projected by the contractile force of a thin India-rubber ball. The treatment, then, of catarrhal affections of the upper air-tract, from my point of view, consists in the treatment of the nasal passages. And this involves the restoration of these passages to a normal condition by the removal of obstructing bone and cartilage, reducing hypertrophied membrane, and correcting hyperæmia or other morbid conditions; in other words, in the use of the snare, the saw, the knife, and the cautery. I shall speak of but one of these devices.

The cautery has figured very extensively for many years in our literature as a valuable method for reducing obstructing lesions in the nasal passages. Now, I think I am justified in claiming that the object to be accomplished by the use of the cautery is not the destruction

of tissue. If you stop to think for a moment of what the anatomy of the nasal mucous membrane is, I think you will see the truth of my reasoning. The superficial layer of epithelium is superimposed upon a bed of connective tissue containing blood-vessels, nerves, and beneath that we have a large plexus of blood-vessels—the falsely called erectile tissue. In hypertrophy the thickening largely involves the connective-tissue structures which are found in the intra-venous spaces and above. The epithelial layer is not thickened. Now it is idle to suppose that a superficial destruction of this membrane reduces hypertrophy. It would be not unlike lowering a house by taking off its roof. We certainly should destroy its usefulness as a dwelling. The essential condition in what we call hypertrophic rhinitis is chronic hyperæmia of the blood-vessels, with increased nutrition. A caustic applied on the superficial layer of the mucous membrane reduces the amount of blood-supply to the part, arrests hyperæmia, diminishes nutrition, and in this way restores healthy action. This is accomplished in the following way: The mucous membrane in a state of hyperæmia is treated with a solution of cocaine, which, as I first pointed out three years ago, exercises a specific action in causing vigorous contraction of the unstripped muscular fibres found in the coats of the blood-vessels. The blood-vessels thus become emptied, and the membrane, rendered pale and anæmic, clings closely to the turbinated bone beneath. A mild caustic then applied to its surface coagulates and destroys the superficial tissues, creates a closely adherent slough which, lying upon that membrane, acts much as a film of collodion would—clings closely to it, holds it down, prevents the return of the blood to the part, reduces hyperæmia, reduces nutrition, and encourages thereby a healthy, nutritive process. That this is a more logical view, more rational, than the one which directs our therapeutic resources toward correction of hypersecretion and the opening of the passages, I think will be generally accepted, and that soon. Certainly in my own experience—and it has not been a small one—I have failed to reach any intelligent comprehension of these diseases on the old theory. But acting on this view of it, directing my therapeutic efforts in this manner, I find myself able, not only in a very large majority of cases to give a favorable prognosis, but to verify the justice of it. Accepting this view of the action of caustics in the nose, it follows that, what I have many times before claimed, the simple methods, such as chromic acid, possess advantages over the cumbersome and expensive devices, called the galvano-cautery, which should be recognized by all. A crystal of chromic acid accomplishes all that the platinum-wire can possibly accomplish; accomplishes it in a better manner—it can be applied with far more accuracy, its action controlled with far more delicacy, and it also creates a more efficient slough. While the galvano-cautery, on the other hand, is a cumbersome, expensive, disappointing, troublesome device, and also is not unattended with danger.

It will be noticed that I have confined myself to the discussion of our methods of treating *catarrhal* inflammations of the upper air-passa-

ges. This, I take it, comprehends all diseases for which anyone will claim topical applications to be efficacious. The treatment of neoplasms, malignant and benign, syphilis and tuberculosis, paralysis, etc., of course does not properly belong to our subject to-night. Acute catarrhal inflammation I regard as merely a symptom of chronic. Most acute inflammations of mucous membranes nowadays are immediately eliminated by the local use of cocaine. My usual rule is, after the application of cocaine, by which the acute appearances are eliminated, to treat the chronic disease which underlies it. I think I have gone sufficiently over the ground of our present methods. I may add one word, and keep within the limits of our subject to-night, regarding our elaborate methods of examination. Soon after Czermak's publication Toboldt presented us with the laryngoscope. We still use it, as well as the elaborate modification by Sass. It presents a very imposing appearance in our office. I wish to say here that I do not believe Toboldt's laryngoscope or Sass' involve any optical principle in their construction. I regard them simply as a portentous arrangement of lenses in a metal cylinder, nor do they possess any special advantages as an illuminating apparatus over the head-mirror. Furthermore, as to head-mirrors, every young man twenty years ago who returned from Europe with a full outfit brought with him a five or six-inch head-mirror mounted on a Schroetter head-band. I have here a small two and a half inch head-mirror mounted on a head rest perhaps one-sixth the size of Schroetter's, which I think possesses every advantage over the large, cumbersome affair of former days. The use of laryngoscopes is largely a delusion. The lenses have little to do with it. A good light renders this little head-mirror here, or Toboldt's laryngoscope, a very powerful aid in a thorough examination. A poor light renders one as well as the other of little account. No possible arrangement of lenses increases the lightning power of any kind of light.

We thus come, at the close of my paper, if my conclusion is right, to this: Elaborate laryngoscopes, elaborate air-pumps, nickel-plated air-receivers, have been of but trifling service to us in the development of our specialty. I hold in my hand a little hand-satchel which I can almost put into my overcoat pocket, which holds apparatus quite as efficient as the most elaborate piece of machinery that is set up in any physician's office in the land. We have ceased to treat by machinery since we have commenced to treat our cases with success. In former days it would seem almost that the stock-in-trade of an accomplished laryngologist consisted of a large display of nickel plate, with the ability to place a brush into the laryngeal cavity charged with such medicament as fancy might dictate. Now, however, what I think we most demand is a thorough knowledge of the anatomy, physiology and pathology of the air-passages and their lining membrane, a trained eye to recognize morbid conditions, and a notable amount of manipulative dexterity sufficient to deal with these lesions. In other words, as Dr. Daly very aptly remarked at the Copenhagen Congress: "The sooner we cease to be throat doctors and become throat surgeons" the better will be our

success in the management of diseases of the upper air passages.—*N. Y. Med. Record.*

DR. BRUNTON ON HOMŒOPATHY :

Dr. Brunton has fulfilled the promise made in our columns that in the preface to the third edition of his well-known work, "Pharmacology, Therapeutics, and Materia Medica," he would express his opinion regarding homœopathy in reply to the charge that he had taken many of his principal drugs from the Homœopathic Materia Medica, as well as the indications for their use. It is a favorite delusion of those who hold peculiar views that all other people's best ideas have their germ in what they think their peculiar property. The homœopaths have this delusion to a happy extent, and cultivate it diligently in their writings, though in their practice nowadays they are as little hindered as other practitioners by any exclusive principles or dogmas. Our simple object, however, just now is to give our readers the benefit of Dr. Brunton's views on homœopathy as a system. First, and most pleasantly, let us record his admissions of the service it has done, though similar admissions have been made before. Dr. Brunton says the system which Hahnemann founded has done great service by teaching the curative power of unaided nature, the use of diet and regimen in treating disease, and the more than inutility—the actual hurtfulness—of powerful drugs in many instances. Dr. Brunton shows how homœopaths are led to be anxious about diet. "If," says he, "a patient was being treated with *carbo vegetabilis* in the thirtieth dilution, the utmost care was necessary to his diet, for if he happened to eat a single piece of burned toast at breakfast he would consume at one meal as much vegetable charcoal as would, when properly diluted, have served him for medicine during the remainder of his natural life." \* \* \*

The ordinary practitioner differs from the homœopathic in being free to use any drug which he knows to be of use in the case, and that in any quantity experience shows to be best. Hahnemann's greatest delusion was that the causes of disease were not material but spiritual, and that medicines must be spiritualized to cope with them. Hence his infinitesimal doses. Fancy any of our best and most certainly remedial agents being used in this way and on this theory. When would ague be cured by quinine, or pemphigus by arsenic, or syphilis by mercury, if the spiritual theory of disease and drugs were adopted? Dr. Brunton says that Hippocrates knew that in some instances a drug in small doses will cure a disease exhibiting symptoms similar to those produced by a large dose of the drug; but Hippocrates had the sound sense to see, as some homœopaths have had the sense to see, that this was not a rule of invariable application; therefore not an invariable law, as Hahnemann taught. Dr. Brunton deals with the favorite case of cinchona and ague, the action of which drug on the healthy frame, homœopaths are fond of saying, led Hahnemann to investigate the action of other drugs, and thus lay the foundation of his system. Dr. Brunton shows that, though Hahnemann got symptoms of intermittent

fever from taking large doses of cinchona, they were probably produced by the irritant action of cinchona on the stomach, which Jorg found to be produced by two-drachm doses, half the dose that Hahnemann took. He thinks that pork pie might have had similar consequences, having often seen ague reproduced from heavy dinners and other stomach irritations. We are pretty familiar nowadays with the effects of large doses of quinine, the essential cure of ague, but the production of intermittent fever is certainly not one of them. Our homœopathic friends appear to have been much misled by Dr. Brunton's therapeutical index, which indeed seems a sort of *omnium gatherum* largely done by an amanuensis, and so imperfect that Dr. Brunton had nearly left it out of his book altogether. His own description of many of their favorite remedies is very slight, and such as to show no personal belief in their specifics. His estimate of Hahnemann will be endorsed by all who with sound minds have gone into the study of his views. This estimate is summed up in one or two sentences: "It seems to me that in founding homœopathy, Hahnemann has preceded with his facts as he did with his medicines—diluting his active drugs with inert matter, and diluting his facts with much nonsense." Again: "It is the falsity of the claim which homœopathy makes to be in possession, if not of the universal panacea, at least of the only true rule of practice, that makes homœopathy a system of quackery." If homœopaths rely on Dr. Brunton for any countenance of their fundamental doctrines they must be woefully disappointed. He is a leader in a new and active school of therapeutics. He is bound to no master. He seeks help in understanding the use of drugs from a study of their action both in health and disease. He gives Hahnemann credit where credit can be given, but this does not prevent his denouncing his system, and pointing out to those who have renounced his errors the supreme duty of frankness.—*Lancet*.

ERYSIPELAS OF THE UPPER AIR-PASSAGES, WITH CASE. By D. Bryson Delavan, M.D.

Since the remarkable and exhaustive thesis of Cornil, which appeared in the *Archives Générales de Médecine*, in 1862, little new information has been advanced upon the subject of erysipelas of the upper air-passages. An excellent *résumé* of it has been given by Morell Mackenzie in his book upon diseases of the nose and throat. In this he states that he has seen but four cases. Pathologically erysipelas of the upper air-passages is similar to the same malady when situated upon the external surface of the body. It may occur either primarily, or by extension from the face along the mucous tracts of the mouth, nose, or ear. Its causes are the same as those which give rise to it when situated upon the surface, although it has been observed most often in the course of general epidemics of the disease. Of eighteen cases recorded, in which the pharynx was affected, fifteen were under the age of thirty, and two-thirds were females. Cornil makes three divisions of the malady, viz.: (1) Erysipelas with simple

redness; (2) erysipelas with phlyctenulæ; (3) erysipelas terminating in gangrene. The disease most commonly reaches the larynx from the pharynx, and it may extend still farther down the respiratory tract and involve the trachea and bronchi. As to the prognosis, the dictum of Hippocrates, namely, "When erysipelas extends from within outward it is a favorable symptom, but when it removes to the internal surfaces it is a deadly one," has been confirmed by modern observation. In nine cases analyzed by Cornil, when the face was first attacked, seven deaths occurred; whereas in nine other instances, in which the enanthem preceded the skin eruption, seven recoveries took place.

From all that has been already said it will appear that the disease under consideration is rare. In this country cases have been reported by Drs. De Blois, of Boston; Porter, of St. Louis; and Roe, of Rochester, as well as by the writer, who, at the meeting of the American Laryngological Association, held June 24, 1885, read an article upon this subject, in which the records of two original cases were given. From the fact that erysipelas of the throat is probably more common than would be supposed from the small number of cases recorded, and because of the serious dangers which it may occasion, it has seemed well to call attention to the following case, the symptoms of which were exceedingly well marked and severe, and in which although extension of the inflammation from without inward took place, recovery resulted.

G. T—, Scotland, aged forty-seven, stonecutter, married. Family history and previous record good. Fourteen years ago had an attack of facial erysipelas. Present attack began upon February 3, 1887. The inflammation appeared first upon the cheeks but quickly extended to the external surface of the nose, which became enormously swollen. Thence in the next four days it made its way over the forehead, scalp, and ears. Meanwhile the general symptoms were severe; pyrexia, anorexia, prostration, constipation. About February 16, the attack upon the surface of the head having begun to abate, the patient was attacked with pain in the pharynx and dysphagia, whereupon the inflammation extended to the nasal cavities, the upper pharynx, the faucial region, the larynx, the mouth, and the adjacent glands. This was attended with a return of the general symptoms in greater severity than before. There was also mild delirium and decided mental hebetude.

February 26.—An abscess of the pharynx was incised and about one ounce and a half of dark bloody serum evacuated. The patient reported at the Demilt Dispensary, and was then seen by the writer.

February 28.—At this time the disease was at its height; the general condition was one of great prostration. There was the appearance over the face and scalp of a recently resolved attack of erysipelas. Great emaciation; mental condition dull; pulse feeble. Examination of the upper air-passages showed intense congestion of the nasal, pharyngeal, faucial, and laryngeal regions, which were filled with an abundant muco-purulent secretion. There was tumefaction at

both sides of the pharynx behind the tonsils, particularly well marked on the right, where, he stated, the abscess had existed, pronounced œdema of the epiglottis, the arytenoids, and the ary-epiglottic folds, slight dyspnœa, and intense dysphagia. Had been taking little nourishment and no medicine except quinine for several days.

*Treatment.*—The nose and pharynx were sprayed with an alkaline and antiseptic solution and all secretion removed. Especial care was taken to cleanse the nasal passages and pharynx by means of the anterior nasal spray. The result was immediate and marked relief. The early acute stage having passed, and no advantage being likely to accrue from the use of ice, there were ordered inhalations of benzoated steam once every half-hour; a spray of a solution of chloride of zinc, three grains to the ounce, every hour; tincture of the chloride of iron, fifteen drops every two hours; sulphate of quinine, two grains every six hours; and abundant nourishment in the shape of milk, beef-tea, oatmeal-gruel, raw oysters, and raw eggs.

March 2.—Patient's condition had greatly improved. Was able to swallow easily, and was almost free from pain. Local condition better; mental dulness less apparent; treatment continued.

March 4.—Still improving. General condition infinitely better. Local treatment decreased in frequency of application.

March 7.—Local condition excellent; gaining rapidly in flesh and strength. Mind clear and vigorous.

Complete recovery in about ten days, during which time the case presented nothing worthy of record.—*N. Y. Med. Record.*

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## ABSTRACTS.

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FATTY HEART, WEAK HEART, PSEUDO-ANGINA PECTORIS, AND ALLIED STATES SUCCESSFULLY TREATED BY A NEW METHOD.—In a clinical lecture published in the *Medical News*, Prof. Roberts Bartholow says: Of course an iron-clad rule, admitting of no variations, cannot be adapted to all cases; but, in general terms, the method of treatment consists in a regulated diet, systematized exercise, the use of trinitrin (nitroglycerin) and arsenic. I should also state the negative side—why digitalis is not given; why iron is avoided, and why the digestive organs are not forced by supplying food of all kinds; but this contention may be settled the more clearly in the course of my observations on the plan under consideration.

I mention foremost among the remedies a regulated diet. You will all bear witness how persistently I have advocated a dietary adapted to the conditions present. Whether the theory I have constructed be true or not, the results have been most fortunate. I have not urged a full diet. I have not prescribed tonics so-called, and remedies to goad the sluggish digestion. The principle has consisted in giving the few foods which the patient can digest, and which can best repair dam-

ages. Under the circumstances it is not so much force-developing and heat-producing foods that the patients require as tissue-making. The sweets, starches, and fats, for the most part, are cut off from the diet, and milk, eggs, fresh meat, game, or poultry, and the succulent vegetables are given. I have explained the part which certain kinds of fermentation, stomachal and intestinal, take in some pathological processes, but the reflex effects on the heart's movements are also important. I warn you against large draughts of cold milk. Bulk becomes a cause of offense, and cold affects the heart injuriously through the solar plexus. Only a moderate quantity of hot skimmed milk is admissible, but this is a precious resource. A small amount of fresh meat—beef, mutton, chicken, broiled or roasted, excluding all the parts charred in cooking, should be given once a day, and eggs allowed for breakfast. Bread must be eaten in moderation, and it should be a day old at least. All hot breads, cakes, pastry, crackers, all gravies, sauces, condiments, pickles, fried articles, dried and preserved fruits, "canned" fruits and vegetables, salted meats, pork, bacon, ham, etc., are strictly prohibited. Such vegetables as lettuce, asparagus, celery, spinach, tomatoes, a single boiled or baked potato, if unexceptionable in quality, are advised. Stewed apple (fresh) without sugar is allowed as a vegetable, or a baked apple at the conclusion of a meal. Berries generally are advised against, unless known to agree, and then only in the fresh state, when they can be eaten quite in moderation without the addition of sugar or cream. Such a simple dessert as wine or lemon jelly may be allowed if it does not give trouble. Such in general terms is the diet of those who have still fairly good digestion; but in cases of extreme gastric disorder an absolute milk diet may be required, or such modifications made in the dietary just given as experience may demonstrate to be necessary. The capital point is to allow the patient no aliment that can give rise to indigestion or to fermentation in the least degree. After a time the number and quality of the foods can be slowly increased as the condition of the digestive apparatus will permit, but the general plan of alimentation already sketched must be adhered to.

The next point in the treatment is exercise. Rest, but not sleep, is enjoined for a half hour to an hour after meals, and two to three hours after meals, or longer, if digestion be slow, a definite quantity of exercise is prescribed. This is not left to chance, but the amount of exertion the patient can make with safety is ascertained, and the length of the excursion is slowly increased from day to day. Warn patients against the gymnasium. The constrained exercises taught in these institutions are a fruitful cause of heart trouble, and hence I do not advise them. The exercise which can be most accurately adjusted to the requirements of the case is walking, and this should be made an habitual duty. Of late the necessity of exercise in certain forms of heart disease has been brought forward from abroad, as a new addition to the present treatment, and, as usual, we are likely to see exercise in heart diseases carried to a ridiculous excess. Those of you who have



attended my clinics here for several years past, and have been familiar with my practice, know that I have persistently urged systematized exercise as a means of increasing the strength of the heart and of improving its nutrition. I have not proposed that mountains be scaled, that somersets be turned, or that "ground and lofty tumbling" become the daily occupation. On the contrary, whilst I have advised systematic walking, regularly increased as the improvement warrants, I have sedulously warned against sudden and powerful muscular effort and all movements that endanger the heart by overstrain. If you ask me why exercise is so important, I will tell you first that walking increases the quantity of oxygen obtained, thus improving the blood by an addition to the amount of an essential constituent and by burning off unnecessary materials. Exercise favors nutrition by increasing the quantity of blood received by the tissues in a given time, and this result is as true of the heart as of any other part of the body. Also, regulated exercise, by increasing the work of the heart, improves the tone and energy of the muscular elements.

I have now to call your attention to the application of drugs to the treatment of the fatty heart or weak heart—to the use of the medicinal agents, strictly speaking. In the letter, extracts from which were just now read, the most important of the remedies are named: Trinitrin, or nitroglycerin, solution of *one per cent.*, and arsenic. You observe I do not mention digitalis. I do not at all subscribe to the doctrine that digitalis is a "heart tonic." From my point of view this is a pernicious phrase—for, misled by this conception of its mode of action, physicians have not hesitated to administer it under all circumstances, if the heart were only weak. When the arterial tension is high, there is increased resistance to the flow of blood; and hence the heart must compensate by putting forth stronger efforts. Now, digitalis, given in the full doses considered proper, raises the arterial tension, and thus adds to the work of the heart, and by slowing the beat whilst the calibre of the vessels is narrowed the amount of blood distributed is lessened. A fatal case of poisoning by digitalis, reported by Böhm, admirably demonstrates the fallacy of this "heart tonic" notion, and this is, probably, the only fatal case reported free from any source of erroneous interpretation. The victim, a girl, who had taken but one dose, died on the fifth day, suddenly, on attempting to get out of bed. Paralysis of the heart occurred, you see, when a little extra demand was made on its contractile energy. Does not this history throw an ominous light on those cases of fatty heart that die suddenly when taking digitalis as a "heart tonic?"

We have an admirable proof of the utility of physiological investigations as a means of ascertaining the therapeutic powers of remedies in the applications of nitroglycerin to the treatment of diseases; for its real value as a remedy, and the conditions in which it will prove curative, could not otherwise have been known. The special reasons for its good effects in weak heart are the following:

It lowers the vascular tension by dilating the arterioles;

It increases the rate of the heart's movements ;

It lessens that irritability of the nervous system which finds expression in spasm, especially of the nervous system of organic life.

It follows from these actions that the quantity of blood sent through the arterial system is much increased, and this increase includes, of course, the arterioles in the cardiac muscular tissue, and hence in this way the heart is provided with more abundant materials for its nutrition. A greater activity of movement, sustained in force, contributes to the reparative process. As the treatment also removes the disorders of digestion, and furnishes a more appropriate supply of aliment, the making of good blood is assured, and thus in turn all the tissues of the body gain in nutrition and the functions are rendered more active in a corresponding degree. Under no plan of treatment have I seen so rapid and thorough improvement in the condition of the weak, the anæmic, and the ill-nourished.

The capital fact which I would have you realize in all its significance is that by this means the nutrition of the heart is so promoted that morbid conditions of a dangerous kind are prevented, and, indeed, removed. I am firmly convinced that incompetence of the valves, caused by yielding to the weakened walls of the heart, may be recovered from entirely under the influence of these remedial measures. One of the cases amongst many others which seem to prove this statement is that of a physician of this city who, in consequence of fatty heart, with extreme weakness and irregularity in the action of the organ, was confined to bed and incapable of movement. The diagnosis of this case had been made by one of our ablest clinicians, and I cannot, therefore, be accused of exaggeration to enhance the merit of the treatment. In this case, as in others we have had under consideration, the original cause of the cardiac derangement was a severe gastro-intestinal catarrh. At the period of maximum cardiac disorder the stomachal distress was most extreme. The case required the most careful handling, but the final result was that the heart was restored to the normal state, the digestive organs, by a discreet graduation of the quality of the food stuffs, became able ultimately to dispose of a mixed diet, and the patient's health is so completely restored that he has returned to a daily life of most vigorous exertion, undisturbed by those irregularities of the circulation which at one time threatened early dissolution. Many similar cases have been observed, but I prefer to mention those that may be quickly referred to, in answer to the unbelief of the sceptical.

I must state with more particularity the manner of administration of trinitrin. As you have observed here, I prescribe the one per cent. solution, beginning with one drop, and adding one drop at each dose until the characteristic effects are produced. The susceptibility to its action varies greatly. The amount required ranges from one to ten drops for the largest number. When the patient feels the least degree of the action, the dose is sufficient, and that quantity should be continued, the intervals being from two to six hours, according to the character of the symptoms and the persistence of the effects. It fol-

lows that the preparation of nitroglycerin used must be such that fine gradations in the quantity administered can be effected.\* If the dose necessary to produce distinct physiological effects is large at the outset, it often happens that a considerable reduction can be made and yet the action be maintained. On the other hand, if a small dose suffice at first, after a time it becomes necessary to increase it a little. I am thus particular in referring to these practical matters, because I meet physicians who complain that they cannot accomplish the results claimed by others, and they therefore cry out "humbug!" and never suspect that the deficiency may be in themselves. Other medical sceptics and pessimists illustrate the philosophy of Mrs. Gummidge—"Everythink goes contrary with me."

I must not fail to mention the other remedy—arsenic. I usually prescribe Fowler's solution (two to three drops three times a day); sometimes Pearson's solution of the arseniate of soda (three to six drops three times a day). This remedy plays an important part in several ways:

It removes the morbid state of the gastro-intestinal mucous membrane;

It stimulates the appetite, the primary assimilation, and thus powerfully contributes to improve the nutrition of the body;

It lessens the irritability, and the abnormal readiness of reflex action of the nervous apparatus, and imparts that influence to the cardiac and respiratory functions which we call *tonic*. I have said nothing about iron and tonics and all the armamentarium of supporting treatment. I have advised nothing of these remedies because they are hurtful rather than beneficial. They keep the stomach in a turmoil, interfere with the proper alimentation, and in this way retard, if they do not prevent, improvement. We must not lose our hold on that elementary fact—that blood is made from food and not from medicine, and that other basic truth that the construction and repair of the tissues can only be effected by good blood. Above all, I have surely taught in vain if I have not convinced you of the value of simplicity in therapeutics. Not less in medicine than in philosophy, are necessary—"clear thinking and straight seeing." Without these all our efforts are blind and aimless.

EYE-STRAIN IN ITS RELATIONS TO NEUROLOGY. (Dr. A. L. Ranney, in the *N. Y. Med. Journal*, discussing a paper read before the N. Y. Neurological Society, by Dr. Geo. T. Stevens, on Irritations Arising from the Visual Apparatus, Considered as Elements in the Genesis of Neuroses.) Respecting the view that the *eye* is an important factor in creating and prolonging the so-called "*neuropathic predisposition*," the following facts are pertinent:

1. No one has yet shown in what this predisposition lies; hence, if

\*At the present time excellent tablets of trinitrin are made. The writer can speak in praise especially of Wyeth's, which are so made that the dose can be varied with the utmost nicety.

Dr. Stevens has shown that eye-defect is an important element in these conditions, a great advance has been made.

2. There is no recognized pathology in functional nervous diseases.

3. Heredity is very common in these affections. It is one of the most marked features in this class of nervous diseases.

4. My records (in common with those of Dr. Stevens) go to show that eye-defect is found in a very large portion of such subjects.

5. Many of the eye-defects found can be shown to be congenital—being inherited, like other facial peculiarities.

6. The manifestations of the neuropathic predisposition vary with each case. They are called forth often by extremely trivial circumstances. These are too frequently regarded as of great clinical interest.

In the treatment of the *severer forms of functional nervous disease* (for example, in a typical case of chronic epilepsy), one radical cure without the aid of drugs offsets a thousand failures as a proof of the scientific value of a discovery. Let us see how the paper stands in this respect:

1. Radical cures of epilepsy have been reported. In Dr. Stevens's experience seven patients have been free from epileptic seizures for more than five years, after tenotomy of the eye-muscles and without the aid of medication. Such a result can not be attributed by fair-minded critics to the effect of chance or accident.

2. Dr. Wise's report of the work in the Willard Asylum (with the light thrown upon it by Dr. Stevens) is a remarkable record. In spite of the cessation of the bromides and all medicinal treatment, in twelve cases of chronic epileptic insanity the attacks were decreased over seventy-five per cent. during the month following the operations. No unbiased person can fail to see the great disadvantages which existed in treating the hopeless cases of those whose answers could not be relied upon when tests were being made, and whose treatment was of necessity crude and incompleated (Dr. Stevens's stay being of very short duration). It must also be borne in mind that an incomplete relief of ocular tension, made under such disadvantageous circumstances, would naturally be liable to be followed by relapses. If one patient so treated made a perfect recovery, it is the strongest evidence in favor of the necessity for operation.

3. My own experience in the treatment of epilepsy by this method has yielded very satisfactory results.

I have taken from my own record-book the following abstract of cases of epilepsy, treated by me in private practice during the past year and a half. Total number of cases = sixteen. In only two were both eyes emmetropic; in nine, hyperopia or hyperopic astigmatism existed; in five, myopia or myopic astigmatism was found. In only one case was no defect in the eye-muscles found. Insufficiency of the interni (*exophoria*) was not detected in a single instance. Esophoria and hyperphoria predominated. In nine the mental powers were very markedly impaired. Of these sixteen patients five refused operations;

one was sent to an asylum; one, whose trouble was due to syphilis, recovered under specific treatment; one was too young to make the tests sufficiently reliable to warrant surgical interference; and eight were operated upon by me. Of these, three are apparently cured and five are still under treatment. Two have had no fits for over one year. One of these averaged at times as high as ten seizures in a day before I operated upon the eye-muscles. In every one of the five cases still under my observation the attacks have been lessened, in spite of the fact that no medication has been allowed since the date of the operation. One patient has granular kidneys, and the four others bid fair to improve still further, if not to recover entirely.

One case of *neurasthenia*, with mental symptoms closely bordering on insanity, was completely cured by me through the relief of a high degree of insufficiency of the externi and the correction of a latent hyperopia of about two dioptries. Another subject of *neurasthenia*, with recurring attacks of severe gastralgia, palpitation of the heart, and frequent symptoms of impending suffocation of sixteen years' standing, is to-day apparently cured by tenotomy of the externi. For many years she had not been able to spend evenings in company, or often with her immediate family, on account of the excitement induced by so doing. She had more or less constant tremor, which immediately ceased after the operation. In cases of *headache* and *neuralgia* I have had some very remarkable results follow tenotomy of the eye-muscles. I have never yet encountered a case of typical migraine in which some form of eye-defect did not exist. In *chorea* I have found that hyperopia and muscular defect in the orbit existed in a very large proportion of the cases examined by me. The externi have been generally insufficient, or hyperphoria has existed in addition to a refractive error. The interni have never been defective in any case which has come under my personal observation, as far as I can recollect. In *hysteria* and *hystero-epilepsy*, I have had some very satisfactory results from tenotomies performed upon the eye-muscles.

In summary, I would present the following conclusions as the result of uninterrupted investigations in this field for the past two years or more upon subjects afflicted with nervous diseases:

1. I believe that eye-defect constitutes a very important factor in the so-called "neuropathic predisposition." It is not pretended that it is present in all cases.

2. In neurology the importance of this line of investigation is particularly marked in the so-called "functional" diseases.

3. I am satisfied that "latent" insufficiency exists in many cases, as well as latent hyperopia, which is to-day generally recognized. There are many indisputable facts which confirm this proposition.

4. We have no means of accurately determining, in any given case, the exact amount of abnormal tension which needs correction, as we can do in the case of latent refractive errors by atropine.

5. I believe that tenotomy of the eye-muscles by the Stevens

method is a safe and satisfactory way of relieving abnormal tension, if practiced by competent experts.

6. Prisms will not meet the requirements of many cases. I regard them, at best, as but a temporary makeshift.

7. A tendency to vertical deviations of the visual axes is of great clinical importance in nervous diseases.

8. Tests for the determination of muscular error should be made at a distance of twenty feet, in case operative procedures are to be based upon the error detected.

9. The attitude of the head of the patient should be carefully regarded while making these tests. A head-rest is of great value, in many cases, as an aid in making the tests.

10. Statistics show quite conclusively that the benefits derived from tenotomies performed upon the eye-muscles are permanent *when all errors are thoroughly rectified*. No case is to be considered as finally disposed of so long as muscular errors in the orbit are clearly shown to exist. If a relapse occurs it is generally safe to presume that a renewed search will enable a competent observer to detect some errors which the patient did not exhibit when under observation. The existence of "latent" insufficiency explains how such relapses may occur.

11. It can be shown that repeated tenotomies do not impair the normal functions of the eye-muscles when a proper interval is allowed to elapse for a firm union of the divided tendon to the globe.

12. I believe that a careful regard to the details of the Stevens method of examination and operation, a thorough knowledge of physiological optics, and a full record of the results of every examination made of a patient's eye (combined with good common sense), will give equally good results in other competent hands as in those of its main supporters.

EXTIRPATION OF RUPTURED UTERUS.—E. C. Andrews, M. B., Senior Obstetric Resident at Guy's Hospital, reports in the *Lancet* a case of the above, after delivery with the forceps. The child, which was a large one, weighing nine and a-half pounds, was stillborn, and the delivery was followed by a gush of blood, though the uterus appeared firmly contracted. After waiting a few minutes, finding that the placenta did not come away, he introduced his hand and found that it passed through a rent in the uterine wall into the abdominal cavity. Following up the cord with his fingers, he discovered the placenta in the abdominal cavity above the uterus, and removed it without difficulty. An injection of two-thirds of a grain of ergotine was now administered. The pulse was quite imperceptible, and the patient apparently dying. An hour later the patient had rallied considerably; the pulse was 140, of fair force, and there had been no further hemorrhage from the vagina. About 10:30 P. M., however, the pulse was much feebler, and coils of intestine had come down through the rent into the vagina.

After consultation, it was agreed that the patient's only chance lay in the immediate performance of abdominal section. Ether was accordingly administered, and he proceeded to open the abdomen by an incision in the median line extending from a quarter of an inch below the umbilicus to a quarter of an inch above the pubes. Each layer was in turn divided on a director until the peritoneal cavity was reached, and then, passing his hand downwards and to the left over the surface of the uterus, he found a large, ragged tear in the left and front of the organ, while the abdominal cavity contained a very large quantity of blood. The position and extent of the rent, together with the extreme laceration and thinning of its edges, determined him to remove the entire uterus and appendages rather than attempt to unite the tear with sutures. He accordingly lifted the uterus out through the abdominal wound, placed a double ligature round both broad ligaments, and divided them. Then carefully clamping the cervix below the rent, he transfixed the pedicle with a needle and tied each half with a double ligature, afterwards carrying one of the ends round the whole stump. Cutting through the pedicle above the clamp, he now removed the uterus. The peritoneal cavity was sponged out as completely as possible, and the pedicle brought forward and fixed with harelip pins to the lower end of the abdominal wound. He then closed the upper part of the incision with wire sutures, and applied the usual gauze dressings. During the whole operation, which lasted three-quarters of an hour, there was but very little hemorrhage, and during the earlier stages the patient's condition was all that could be desired. Towards the end, however, she gradually sank, and she died soon after the operation was completed. As far as he is aware, the uterus and appendages have not before been removed for a rupture of that organ.

Immediately after delivery the patient appeared to be sinking much too rapidly for any operative interference to be attempted. As the notes show, she rallied from the shock, but only to sink again from hemorrhage into the peritoneal cavity as soon as the reaction was well-established. That this hemorrhage was the fatal factor in the case he has not the least doubt. Not having a *serre-nœud* at hand, he had to make use of an ordinary ovariectomy clamp. In conclusion he states his belief that such an operation as he performed gives a chance to an otherwise hopeless case, and that it should be undertaken without hesitation under such circumstances.

A REMARKABLE CASE OF BRAIN SURGERY.—Drs. R. W. Birdsall and R. F. Weir recently reported to the New York Neurological Society (*Medical News*) the removal of a large sarcoma, causing hemianopsia from the occipital lobe. In some remarks on the case Dr. Weir says: There are several surgical points of interest in connection with the foregoing case that may be cursorily dwelt upon. The most important, because it largely entered into the cause of death, was the erroneous method adopted of arresting the hemorrhage. I had previ-

ously encountered lacerated vessels in the substance of the brain, the first time in 1882, and twice since then, and had secured them by ligature or by torsion, but none of these was at a greater depth than an inch from the surface. From the effect of sponge pressure I was led to believe in the present case that the openings in the bloodvessels could be easily controlled, in which idea I was mistaken; the bleeding was also probably favored by the headlow position which his shocked condition induced me to direct. It would have been more correct, perhaps, to have tried cautiously to elevate his head, and in this way diminish the blood pressure. On a review of the case, however, I believe it would have been better surgery, and in another instance I would so act, to control the bleeding at once from vessels too deeply placed for a ligature, by means of clamp forceps which might protrude through an opening in the flap, and be removed after a period of twenty-four or forty-eight hours, as is done by Richolot's forceps in the vaginal removal of the uterus.

The size of the tumor, it is hardly necessary to state, exceeded anticipation, those usually encountered being smaller, although one has recently been reported by Horsley which weighed four ounces, and produced hemiplegia and coma at the time of the operation. In the present operation, though the size of the skull opening was fully two and three-quarters by two and one-quarter inches, further bone room would have allowed an easier extraction of the growth. This enlargement was most desirable toward the median line, and would have been resorted to without much hesitation had the attempt at enucleation failed, for sundry experiences of injuries over the longitudinal and lateral sinuses, together with those obtained in the cadaver, had convinced me that the skull over such a sinus can be removed without opening it, and without giving rise to any uncontrollable bleeding or subsequent risk. In the rehearsals made for this particular case, which were conducted on the possibility of the growth projecting from the inner side of the cuneus against the falx, as was seen in one of Dr. Seguin's cases, it was ascertained after the bone had been gnawed away over the longitudinal sinus, that the dural flap, whose attached base was toward the sinus, could be so pulled upon as to expose fairly the median plane of the brain, aided by a spatula lightly pressing the latter outward. The same procedure could be applied to the inferior surface in respect to the lateral sinus, so as to expose to a considerable depth the tentorium. Such an examination was conducted in a patient, in whom a frontal lobe was largely opened up to view for the relief of traumatic epilepsy of thirty-five years' duration. The lateral sinus, I may also remark, has been exposed by others beside myself, viz., by Schondorff, Lucas, and by Knapp, to a varying extent, without mishap. The size of the skull opening, therefore, should be large, and Horsley advises the use of a two inch trephine, and makes two openings with this instrument, connecting them with a saw and cutting forceps. The apprehension that this large vacuity in the calvaria would subsequently expose the patient to the risk of easily inflicted cerebral injury is not



so great as imagined, and can be greatly lessened by resorting to the expedient first practiced elsewhere in the body by Macewen, of employing bone grafts, and by sprinkling, as Horsley does, over the dura, after its edges have been sewn together, the chopped-up disk of bone, which is to be carefully kept warm till the completion of the operation.

A further step in this direction has been made by Poncet, who has shown that pieces one-third of an inch long and one-sixth of an inch wide can be similarly used. I recently ventured, in the case of trephining for epilepsy which was just mentioned, after exposing the brain and dividing an adhesion extending between the pia and dura mater, through an opening nearly two and a half by three inches, to replace, after closing the dural opening, the two one inch disks of bone which had been removed by the trephine. These had been wrapped in a towel wrung out of warm carbolic solution, which in its turn was then placed in a jar immersed in warm water. The operation lasted fully half an hour before the bones were put back. It is now seven weeks since the operation, and the wound is all healed, save at one point over the eyebrow, where an opening was made recently downward through an obstructed suppurating frontal sinus to the nose, to permit drainage, and that no communication leads to the circles of bone, which can be felt above the point, solid, resisting, and painless. Later still, Dr. McBurney, at St. Luke's Hospital, has repeated this procedure, after an exploratory operation, for brain disease. This plan, if corroborated by further experience, will relieve our minds of the objections held to large openings in the skull, and will facilitate greatly bolder surgical explorations.

Up to the present time the opening of the skull for the extraction of a contained tumor has been resorted to eight times, once by Bennett and Goodlee in 1884, three times by Horsley in 1886, which with the one above narrated make up the five cases of removal of a tumor, the result of which in two of Horsley's is yet unknown, but presumably it was a successful one. Of the three other cases, in one by Hirschfelder and Morse in 1886, the tumor was found, but only a part was removed, the patient dying shortly afterward from suppurative encephalitis; in the two remaining cases no tumor was found, though in the one operated on by me and reported at length in the *Medical News* for March 5, 1887, at the post-mortem two and a half months later a tumor was found pressing upon the cerebellum and spinal cord. The last case is the one reported by Dr. G. M. Hammond, read before the Society, in which the search nearly succeeded, as was shown afterward at an autopsy. The cause of the symptoms was the presence of three cysts adjacent one to another, and thought to be of hydatid origin.

*Remarks by Dr. Birdsall.*—Owing to its large size, so much of the occipital lobe was compressed by it that the case is of little value for the purpose of determining the limitation of the visual area in the occipital lobe. The growth was a sarcoma, originating in the meningeal structures, and producing destruction of the cerebral tissues by pressure alone; no part of it was infiltrated into the cortex. The absence of

severe headache in this case should be noted, as it is usually a prominent symptom of tumor involving the meninges. That convolutions may be reduced to the thinness of paper by such a process is well known, and in this case the apex of the occipital lobe was literally crushed between the tumor and the cranium, while the more frontal portions were compressed in that direction. The parts beneath the tentorium were also compressed, as the symptoms during life led us to infer. The remarkable feature of cases with so large a tumor is not so much that they give rise to localization symptoms as that they exhibit so few. One of the most important lessons that the study of cerebral tumors teaches is that growths remaining limited to the meninges may attain a large size before disturbing the function of neighboring parts of the brain, frequently giving rise to less marked symptoms than very small growths, which infiltrate the cortex. In the deeper conducting tracts of the brain, where fibres run more in parallel courses, growths may attain large size without producing much irritation or destruction, by slowly pushing the fibres aside; this gradual expansion could not go on in the felt-like mass of fibres in the cortex without destructive action resulting. Thus, in one of my reported cases a sarcoma the size of a hazelnut displaced the cortex of the arm area, producing spasm and paresis of the arm, while a similar growth under the same area of the opposite hemisphere, but a few lines deeper, yet not reaching the cortex, gave rise to no symptoms whatever. Again, when tumors destroy by pressure, the softer mass of the growth may injure less than the rigid walls of bone against which the cerebral tissue is compressed; so that regions away from the tumor may give signs of impairment before those in contact with the tumor. These are some of the contingencies (and there are others) which will probably always constitute obstacles to the correct localization of tumors, as guides to surgical operations for their removal.

While we have much to hope for respecting a more complete knowledge of the functions of different cortical areas and subcortical tracts of the brain, increase in this class of facts for the practical purposes of brain surgery will be of little avail. Indeed our knowledge of functional localization is already in excess of other factors in the problem. The degree of interference which neutral tissue will sustain in different regions is an "unknown quantity" to such an extent that it renders further refinement of functional localization almost superfluous. And it may be said that from the standpoint of functional localization we are probably as well able to act as the surgeon's guide in the removal of cerebral growths as we ever shall be. This is not a designedly pessimistic statement, but rather a hint that there will probably never be a better time than now for modern surgery to come to the front and with her vastly improved methods seek to eliminate to the extent possible the dangers and difficulties which yet attend operative work upon the human brain. Surely, the extreme fatality of intracranial neoplasms is a high warrant for taking an extreme surgical risk. The coöperation of neurological science and surgical art, in the present

state of each, can hardly fail to build up an experience which will in some cases save life that would otherwise be lost.

THE SURGICAL TREATMENT OF PULMONARY CAVITIES.—In his lectures at the Consumption Hospital, Brompton, Mr. R. J. Goodlee thus sums up the state of opinion at the present time with regard to this subject (*Lancet*): 1. Gangrenous cavities should always be sought, and, if possible, opened; and the prognosis, if the operation be successful, is not bad. 2. The same may be said in regard to abscesses caused by the rupture of purulent collections from other parts into the lungs, at least as regards the pulmonary complication. 3. Abscesses connected with foreign bodies must be opened, and if the body be not found it must be remembered that, if of any considerable size, it probably lies pretty near the middle line. If possible these cases should be treated early by tracheotomy and incision. 4. Bronchiectatic cavities, when single (a very rare condition), will be cured by operation. When multiple (a very common condition), they offer but small chance of relief by our present surgical methods. Still, for the reasons stated, an attempt may be made to open the main one if such is to be found, but only if the pleura has been ascertained to be adherent. 5. Tubercular cavities should only be opened in cases where the cough is harassing and the cavity single. Injections may be used to relieve symptoms, but cannot be expected to be curative.

THE STOMACH: IMPORTANT POINTS IN ITS ANATOMY AND PHYSIOLOGY, AND THEIR APPLICATION IN PRACTICE.—The following is a brief summary of the principal points brought out in a paper in the *Medical News* on this subject by Dr. A. W. P. Leuf:

1. The position of the stomach is more nearly vertical than horizontal.

2. An empty stomach, if in good tone, is always tubular.

3. A tubular stomach should be the rule on rising.

4. Non-irritating liquids pass directly through the tubular stomach.

5. They do likewise if the stomach contains food, and in such cases pass along the lesser curvature.

6. The morning mucus contained in the stomach hinders or retards digestion.

7. Water drunk before meals dilutes and washes out this mucus, stimulates the gastro-enteric tract to peristalsis, and causes hyperæmia of its lining membrane, thus greatly aiding digestion as well as elimination.

8. Cold water should be given to those who have the power to react, while warm or hot water must be administered to all others.

9. Salt added to the water is very beneficial in preventing the formation of unabsorbable parapeptone.

10. It is perfectly proper to drink water before, during, and after meals.

RESUSCITATION OF ASPHYXIATED INFANTS (Dr. T. C. Smith, of Aurora, Ind., in the *Medical and Surgical Reporter*.)—I write to renew attention to a method brought to notice several years ago, that has served, for me, an excellent purpose in some very obstinate cases of infantile asphyxia. I regret that I do not now remember the one who first brought this method forward. It is very simple. Take the infant by its lower extremities with the left hand, suspend it head downward, then with the right hand embrace the neck posteriorly, using for this purpose the thumb, ring, and little fingers, while the index and middle fingers support the head. Now hold the head and shoulders downward and comparatively still, while with the left hand the body and feet are made to sweep forward and backward from ten to fifteen times or more in a minute, until respiration is established. Each time that the body is bent forward on the face the air is pressed out of the lungs, and when bent well back again the air enters the lungs freely. Keeping the head downward causes a full supply of blood to be given to the brain. This process does not prevent fanning, or sprinkling suddenly a little cold water on its sides by an assistant if needed for the shock it produces. Cloths wrung out of hot water can also be applied if needed. It is not good practice to lay an asphyxiated infant on its back, for if there is mucus in the mouth or throat this will tend to strangle it. If placed on its side or with the face downward this cannot occur, or, at least, is less liable to do so. If there is enough mucus in the child's throat to cause considerable noise by its rapid succussions in process of respiration, all this will cease in a little time by placing the child face downward, or on its side with the face inclined downward. In this way the mucus will gravitate away from, rather than into, the throat. Of course it can be otherwise removed, but this is an easier and a very ready way to obtain relief from this harrassing symptom. Some have claimed that the Marshall Hall method of artificial respiration will not cause air to enter the lungs of an infant where the respiration has not already been partially established. In the method above recommended, one can readily satisfy himself of the entrance and exit of air into and from the lungs every time the infant's body is well bent forwards and backwards, for the evidences will be unmistakable and easily observed.

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## HOSPITAL NOTES.

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A REVIEW OF TWENTY-TWO COTTAGE CASES OCCURRING IN THE WOMAN'S HOSPITAL, IN THE SERVICE OF DR. T. GAILLARD THOMAS.—Dr. A. H. Buckmaster, in the April number of *The American Journal of the Medical Sciences*, describes the technique of antiseptic laparotomy as practiced by Dr. T. Gaillard Thomas in his wards at the Woman's Hospital. All taking part in the operation, including the nurses, wash their arms and forearms carefully with soap and water, paring the nails and using a nail brush. The hands are dipped

into a solution of bichloride of mercury (1 : 2000) and a basin containing a solution of the same strength is within easy reach, so that the operator may cleanse his hands from time to time, particularly before introduction into the peritoneal cavity. All instruments are placed, for an hour before the operation, into 1 : 20 carbolic acid solution, to which an equal quantity of sterilized hot water is added when the instruments are in use. The water is taken from the tank of a high-pressure boiler and carried to the operation-room in demijohns. The same sponges are used continuously, and to each is sewed a piece of tape, so that it is almost impossible to overlook them when closing the abdominal cavity. After an operation the sponges are carefully washed with soap and water and then boiled for several hours. They are preserved in a glass jar with an air-tight cover, and rest upon a false bottom composed of galvanized rubber, which is perforated and stands in a solution of carbolic acid, 1 : 20. Before use they are soaked for two hours in bichloride of mercury, 1 : 1000. If a sponge becomes friable, or is difficult to clean, it is replaced, and a new one is prepared by soaking it in a very weak solution of hydrochloric acid for several weeks. For ligatures and sutures, silver wire is used, rendered aseptic by immersion, with the instruments, in the solution of carbolic acid before an operation. Of catgut, that prepared by Am Ende is preferred. It is preserved in oil of juniper. No. 3 is the size most used, and Nos. 4 and 5 are at hand. The silk for the pedicle and ligatures is prepared in the following manner: A piece of glass rod is bent in the form of a square, and on this the ligature is rolled, so that all parts are evenly exposed to the boiling solution of 1 : 2000 bichloride of mercury, in which it is suspended for an hour. It is removed from this solution under the spray (the utmost cleanliness as to the hands being observed) and dropped into a solution of carbolic acid, 1 : 40. Under the solution it is reeled on a glass spool, and finally placed in a bottle containing 3 per cent. of carbolic acid in alcohol. The bottle, cork, and glass spool are boiled with the ligature. The end of the ligature is carried through the cork by means of a carrying thread attached to a round-pointed needle; all of these articles have been rendered aseptic. Before an operation the walls, flooring, and everything in the operating-room should be rubbed with a cloth wet with the chloride of lime, 1 : 10, and the doors and windows thrown open for 24 hours, so that there may be the freest circulation of fresh air. For an hour and a half two spray apparatuses saturate the air with a solution of carbolic acid, 1 : 40. The solution used is about 1 : 20, but it loses about one-half of its strength by dilution with the steam. The spray is discontinued when the operation commences. To guard against contamination from spectators, a rope is interposed, at least three feet from the wound. The abdominal wall is shaved low enough to prevent the pubic hair from reaching the wound, and the abdomen washed with soap and water and covered with a towel wet with a solution of bichloride of mercury, 1 : 1000. This is removed just before the operator makes his first incision. To prevent auto-infection from cysts

containing septic material, the patient is turned on the side when they are evacuated. The preparation of the patient for the operation, the method of operating, and the after-treatment are also fully described and illustrated by the notes of twenty-two cases.—*Maryland Medical Journal*.

SURGICAL CASES AT ST. MARY'S HOSPITAL, QUINCY, ILL.—In the medical and surgical report of St. Mary's Hospital for the year 1886, Dr. W. A. Byrd, attending surgeon, refers to the following, among other cases of interest:

*Left inguinal colotomy* was made to relieve a man who came in for supposed rheumatism, but the tissues on the left thigh becoming emphysematous, they were cut through to the sinuses, containing pus and gas. The sinuses were followed up to the great sciatic notch and opened. Nothing more was done for some ten days, when fecal matter commenced coming out through the sciatic notch; then I decided to make left inguinal colotomy to allow the ulcerated opening in the rectum to close. The upper opening of the lower portion of the colon was closed, to prevent the possibility of the passing through it of feces. He improved rapidly for some time, when large quantities of pus began to be evacuated through the anus. After this he soon died. Autopsy showed caries of the lower lumbar vertebra. The pus from the carious bone passed down along the right side of sacrum, then across the centre of that bone through the left great sciatic notch and down nearly to the knee of that side. In its course it involved the rectum, causing an ulcerated opening on the posterior portion, through which the thumb could be easily passed.

*Popliteal aneurism* in a very tall man, 6 ft. 6 in. The pain from the tumor was very great, with the tumor rapidly growing. In this case I decided to lessen the risk of hemorrhage by torsion instead of ligation. The femoral artery was cut down upon, cut in two, and both ends twisted two inches above the tumor. He suffered great pain while the collateral circulation was trying to become established. The fourth day gangrene began at the toes and gradually passed up the limb. In a week he died. Amputation was not done on account of his weakened condition.

*Extirpation of parotid gland*.—The tumor was quite large and deep. During the operation it became necessary to cut in two the external carotid artery, which was done, and both ends twisted. In less than a week he returned home and rapidly recovered. This is the third extirpation of the parotid gland, all successful, that I have made in the hospital.

Nearly the whole of one upper lip was removed for *epithelioma*. A plastic operation was made to remedy the deficiency. In four weeks he was discharged, not only cured, but it would have taken a very close observer to detect that any operation had been made.

*Resection of ribs for empyema* was done twice on the same subject. He came into the hospital very thin in flesh and badly broken down

from drainage of pus from an old empyemic sac that had been opened, about a year before, in Chicago, by incision between the fifth and sixth ribs, on the right side. Finding the cavity quite large, I determined upon making the operation introduced by Dr. A. G. Walters, of Pittsburg, in 1857, but now generally known as Estlander's, Estlander, of Berlin, making his first operation in 1876; that is, the cutting away of enough of the ribs to allow the cavity to be filled by the falling in of the chest wall. The first operation consisted of taking out the fifth and sixth ribs from the cartilages in front to the point where they met the transverse processes of the vertebræ. He improved rapidly, but three months later there was still a cavity with a small discharge from it, above the point of resection in the former operation. The side had pressed in until the space once occupied by the resected ribs was filled by the ribs from above and below. To obliterate this cavity, five inches of the third and fourth ribs were removed and the chest fell in, the cavity closed, and he rapidly gained flesh and strength and was discharged cured.

*Extirpation of the external malleolus for a compound Pott's fracture, caused by a railroad injury.*—I had seen several cases get well of this injury, but all had bad legs. They were lame because the foot turned out too much. To prevent this I removed the external malleolus and the cartilage from the ends of the tibia and the upper part of the astragalus, and established through and through drainage. The limb was some time healing, but he got a good serviceable leg, the ankle being solid from union of astragalus with the tibia.

*Psoas abscess.*—There was one death from psoas abscess that was operated upon in 1885 by making an incision at the lower portion of the abscess and passing a probe up through the sinus and opening upon the point of the probe above the ilium, then following the sinus along upward with the probe and opening at different points, so as to secure perfect drainage. He died worn out by suppuration. The autopsy revealed abberent sinuses running down among the muscles of the pelvis and thigh that could not have been discovered by that method of operating. The next case of this kind that I saw was with Dr. J. C. Hearne, of Hannibal, Mo. In that case we cut into the pus cavity just above the pubis and laid the whole cavity open, from there to the junction of the twelfth rib with the spinal column, a distance of nineteen inches. By that means every recess was reached, thoroughly cleaned and rendered as nearly aseptic as possible, although the inner wall of the cavity was the peritoneum; it was greatly thickened by the inflammatory process, and was strengthened by deep stitches of large catgut every two or three inches apart to allow of free drainage, and then a tightly fitting bandage was applied. In five or six weeks he was up and around the streets.

*Trephining the skull* was done once for a woman, aged eighteen years, who was subject to *epilepsy* and *insanity*. She had been struck on the skull with the corner of a hoe at the junction of the coronal and sagittal sutures five years before. She got well of the injury, that is,

the wound healed, but there was a depression of bone where she was struck. Epileptic attacks began shortly after recovery, followed in time by insanity. Two disks of bone were removed and the intervening space removed with a roughener. When the operation was finished, there was an oval opening in the skull, two inches by one and a half. She made a rapid recovery, and is now serving as a domestic, giving satisfaction, in Audrian County, Missouri.

*Typhlitic Abscess.*—The abscess was opened by making an incision into it parallel with Poupart's ligament extending above the ilium and then parallel to it. The ulceration was at the junction of the appendix vermiformis and the cæcum. The pus was extra peritoneal, or between adhesions and the ilium. By keeping the abscess cavity cleaned well and packed with oakum it soon healed up and the man is well.

*Myoma of the Bladder.*—One patient presented with hæmaturia; great pain and passing of small sloughy masses from the bladder. By sounding, a large mass was found, occupying the right posterior portion of the bladder. External urethrotomy, with removal of as much of the mass as possible, was the only thing that offered any hope. This operation was made, and as much of the papillary and fibrous portion of the tumor was removed as would fill a tea-cup. Since the operation there has been no pain, no hemorrhage; his sleep is undisturbed, and he feels much better every way. Dr. T. L. Gilmer made careful microscopical examination of some of the papillæ, and pronounces the tumor to be myoma.

An old *united fracture of patella*, presented with a separation of the two pieces of bone, to the extent of five inches, when the leg was flexed. The limb being perfectly useless as it was, he was very anxious for the patella to be repaired. The bones were cut down upon and each piece transfixed by two wires. By tightening the wires the parts were brought nearly together. Tenotomy of the quadriceps femoris was required before they could be brought into close apposition. The wires were twisted. Through and through drainage established at the lower part of the knee's joint. He did well for a while, but pyæmia ensued, of which he died.

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## SANITARY.

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THE NEW YORK TENEMENT HOUSE LAW.—The new Tenement House Law recently enacted by the Legislature of New York provides for the detail of fifteen policemen to enforce the Sanitary Code so far as it relates to tenement and lodging houses. The Board of Health is to report every year. The Mayor and one Commissioner from the Department of Health, the Commissioner of Public Works, one delegate from the Bureau of Inspection of Buildings, and the Street Cleaning Commissioner shall meet annually between November 15 and Decem-



ber 30 to consider the subject of tenement and lodging houses in New York, and shall make such recommendations of improvement in the laws affecting tenement and lodging houses as will best serve the interests of the people. These recommendations shall be sent to the Governor and the Legislature by January 15. Provisions are made that where more than one family reside on a floor the halls must open directly to the external air with suitable windows, without obstruction, to insure proper ventilation. Every tenement and lodging house must be provided with improved privy sinks or such receptacles as the Board of Health may require, one for every fifteen occupants in lodging-houses, and not less than one for every two families in dwelling-houses, with proper traps, sufficiently ventilated to prevent the escape of poisonous gases. Every tenement-house shall be connected with the sewer by air-tight pipes, as required by the Board of Health, and shall be properly cleansed and flushed. Every owner of a tenement or lodging-house is compelled to file with the Department of Health a notice containing his name and address, a description of the property by street numbers or otherwise, the number of apartments, and the rooms in each apartment, the number of families occupying each apartment, and the trades or occupations carried on therein. Notices and orders from the Board of Health shall be filed in a conspicuous place in the building five days before doing the thing for which the notice is issued. On the same day a copy of the notice is to be mailed to the address of the owner. The Board of Health is empowered to close a building which is deemed unhealthful and its orders are not complied with, whether the owner be present to protest or not. Twice a year the Board of Health shall inspect all tenement and lodging-houses. Stringent provisions are made against the occupation of an entire city lot for a tenement. Any court of record is authorized to restrain by injunction an owner of a tenement who refuses to comply with the requirements of the Board of Health. Water is to be supplied in sufficient quantity at one or more places on each floor. Cellars shall be water-tight, and when the house is built on made ground the cellar floor shall be covered to prevent evaporation or dampness.—*Sanitarian*.

NEW DISINFECTANTS.—At a recent meeting of the New York County Medical Association Dr. C. A. Leale presented samples of his new antiseptics and disinfectants which he had tested, with satisfactory results, in his own practice. The first of these was glycozone, which consists of chemically pure glycerine, with four volumes of ozone. It is an entirely colorless fluid, and it effectually destroys all bad odors. He said it was thus a very valuable application for cases of offensive cancer. The other agent exhibited was solution of peroxide of hydrogen, which, he said, constituted a most admirable substitute for Labarraque's solution of chloride of lime, which was very offensive to many individuals. Diluted with water, ten parts to one, it could be used in all cases for which the latter was employed; and, like the glycozone, it was entirely odorless and colorless.

## PROCEEDINGS OF SOCIETIES.

NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED MEETING, APRIL 18, 1887.

DISCUSSION ON CÆSAREAN SECTION.

Dr. Wm. T. Lusk reported a successful case of Cæsarean section.\* Dr. Silver, who had charge of the case, stated that the patient did better than any other case of laparotomy that he had the opportunity of observing during his service at the hospital. He said that in *The American Journal of the Medical Sciences* for 1879 (N.S. lxxvii. 43-65) Dr. Robert P. Harris, of Philadelphia, had published statistics of one hundred cases of Cæsarean section, and out of nineteen of the cases, occurring in dwarfs, only one mother and five children were saved. In all of these cases the operation was only undertaken as a last resort, when the patient was utterly exhausted, and the results certainly afforded ample proof of the importance and desirability of early surgical interference.

Dr. Thomas Kearney inquired whether it would not have been better in such a case as this to perform Porro's or Tait's operation, in order to prevent the woman's becoming pregnant again.

Dr. Lusk replied that Harris's statistics showed that with the Sanger operation (modified more or less from the original procedure proposed by Sanger) there were over 70 per cent. of recoveries, while in Porro's operation the recoveries were only 40 per cent. It was, therefore, unquestionably a more dangerous operation. In regard to Tait's operation, it seemed to him that the additional risk to which the removal of the ovaries subjected the patient rendered it inadvisable, the extremely vascular condition of the parts constituting a serious objection. At all events he should not like to attempt this, in addition to the Cæsarean section, unless he had time to consider the matter very carefully beforehand, and in the present instance the operation was undertaken in a very hurried manner, as he had no idea that he would find labor actively commencing at the time he made his first examination of the patient.

Dr. C. S. Wood said that in the course of his experience he had performed three craniotomies, and this class of cases was without doubt as disagreeable and repulsive as one could possibly meet with. If, therefore, by this operation it was possible to save more mothers than by craniotomy, it would be a great boon. Thus far, however, the statistics unfortunately showed that it saved a far smaller proportion of mothers. In two of the cases of craniotomy that he had met with the mothers recovered, while in the third the mother was lost. Yet in one of the successful cases he labored under great disadvantages, as, not expecting to be called on to perform craniotomy, he had no instruments for the operation, and was so situated that none could be obtained at such short notice. Under these circumstances he resorted to the device of

\* See page 557.

manufacturing such rough instruments as he was able from some shoemaker's tools, and he thought the case was interesting as showing what might be accomplished by very simple means sometimes in an emergency.

There seemed at present to be gaining ground a sentimental notion that it is of the greatest importance to save the child, but he was one of those who believed that the mother should always be saved at all hazards, whether the child was sacrificed or not; and as long as it could be shown that more mothers' lives were lost by the Cæsarean section than by craniotomy, he thought the latter should be preferred.

Dr. Kearney said that he could not agree with the views expressed by the last speaker. Dr. Bedford, he thought, had given the most rational statistics, and if, as was undoubtedly the case, it could be shown that in the aggregate more lives (of mothers and children taken together) could be saved by Cæsarean section, it should without doubt have the preference over craniotomy. The matter was not merely one of sentiment, it was more than that, and involved a question of deep ethics. By simple logic alone the justice of the Cæsarean operation could be established, and he had never yet seen the objections against craniotomy adequately answered by any author with which he was conversant.

Dr. Lusk said that if in speaking of Cæsarean section reference was made to the old operation, as it had usually been performed, unskillfully or carelessly, and when the patient was already in a dying condition, the mortality was without doubt very heavy. It was a fact that in most of the cases it was resorted to only when the woman was moribund, and when all other methods of delivery, craniotomy included, had been exhausted. When it was remembered also that a rude and careless way of operating had also been the rule, it was no wonder that the patients died, and that statistics based on such cases bore heavily against the value of the procedure. But even under all these disadvantageous circumstances, a few cases had recovered. At the present time it was getting to be understood that the operation should be performed, whenever this was possible, under more favorable conditions and in the same careful way as other surgical procedures involving the abdominal cavity. The operator should take sufficient time to make out the pelvic diameters and consider fully the risks that would be encountered in performing craniotomy. If, having done this, he decided that the Cæsarean section offered the best chance of success, he should make his preparation as deliberately as the circumstances of the case would allow, and perform the operation by methods in accordance in every particular with the precepts of modern antiseptic surgery. When this course was pursued, the results were infinitely more satisfactory than those met with in the old operation, as was shown very clearly by the cases of Leopold, for instance, who, if he remembered rightly, had operated ten times with only one death. Even the case that he had lost Leopold thought that he would now have been able to save, in the light of his later experience. Very few obstetric surgeons, Dr. Lusk

thought, could show a result of 90 per cent. of recoveries in their cases of craniotomy. Within the last eighteen months Harris had collected 52 cases of Cæsarean section, with 71 per. cent. of recoveries; while the best results of craniotomy in these difficult cases showed only sixty per. cent. of recoveries. Still, he was quite aware that too implicit reliance was not to be placed in statistics. Other operators besides Leopold had reported a number of successive cases without a death. One great reason for the gratifying success of the modern operation, Dr. Lusk believed to be the use of the rubber ligature, which so effectually prevents hemorrhage from the severed uterine structures. When this is employed the surgeon can go to work very deliberately, and bring the edges of the wound together with the greatest accuracy. In his own case there was absolutely no symptom during the lying-in period which was referable to the uterine wound. In conclusion, he would only say that if we were to wait until the woman was dying, instead of interfering early, as in this instance, we should only have the old statistics repeated.

In reply to an inquiry as to what he thought of the operation of laparo-elytrotomy in these cases, he said that this procedure was particularly adapted to a special class of cases, viz.: when the head is arrested at the brim of the pelvis and the cervix is already dilated, or in a dilatable condition. If, however, after laparo-elytrotomy we were obliged to extract the child through an undilated cervix, it became a very serious operation. In case, therefore, we desired to operate early, we had to do it at a time when the conditions favorable for laparo-elytrotomy did not exist. Of the twelve cases of this operation which had been reported, six had resulted in recovery and six had proved fatal; the latter being cases in which success was impossible from the conditions existing at the time.

#### NEW YORK ACADEMY OF MEDICINE.

##### SECTION ON PRACTICE OF MEDICINE.

##### DISCUSSION ON LOCAL TREATMENT IN DIPHTHERIA.

Dr. C. E. Billington read the paper of the evening. The first factor to be considered in this disease, he said, was the entrance into the system of a specific poison or contagium, which, in many cases, at least, seemed to act by direct local implantation upon some portion of the air-passages, and this naturally suggested the local use of antiseptics. The second factor in diphtheria was inflammation. This, if pre-existing from other causes, was very apt to invite the disease. Inflammation was an essential constituent in diphtheria, and ceased only with the cessation of the disease itself. The therapeutical indications furnished by the inflammation were: (1) The treatment of catarrhal trouble. (2) The employment of the most active anti-phlogistic measures, local and general, in the hope of cutting short or modifying the course of the disease. There was also an important contraindication, namely, the avoidance of all local applications, which have the effect of causing irritation of the parts.

The third factor in diphtheria was a membranous exudation. This, he thought, was probably an invariable element, though it varied very greatly in extent and in its characteristics in different cases. Besides acting as a local obstruction, the membranes had the effect of covering up the diphtheritic poison, thus preventing whatever antiseptic measures which might be resorted to from accomplishing their purpose effectively, and permitting septic infection to go on. The presence of membranes, however, was sometimes the lesser of two evils, the greater being their premature removal, whether intentional or accidental. When this occurred, the general inflammatory action and the membranous exudation were both apt to become more marked than before. Indeed, the forcible separation of the membrane might be attended with very considerable danger. The destruction of the membrane by powerful caustics or the actual cautery had been repeatedly resorted to, in the hope of substituting a simple ulcer for the diphtheritic deposit; and undoubtedly this was the true indication present in cutaneous diphtheria. But this plan was difficult or impracticable as regards the mucous membrane, and the use of such agents had now been discarded by the great majority of the profession. In severe cases of diphtheria, the sudden removal of the exudation would leave exposed a raw and irritated surface, and the sequel would almost inevitably be an increased absorption of the diphtheritic poison. The rational indications in regard to the membrane were: (1) To effect its gradual softening and thinning by the local use of non-irritating solvents; and (2) in exceptional cases, in which their prompt removal was necessary, to accomplish this by such means as would cause the least irritation possible. The true object in treating diphtheria, Dr. Billington remarked, was not so much to cure the disease as to bring the patient through it alive.

The fourth factor in the disease was the absorption of the poison, with its attendant evils. In the earlier stage of diphtheria, the condition of the throat was not distinguishable from that met with in ordinary angina. The absorption of the poison began with the exudation, and it seemed probable to him that the disease was, at first, a local one. He here referred to the series of cases reported by him in the papers which he read before the Academy in 1876 and 1880, in which the plan of local antiseptic treatment was systematically and carefully carried out. The result was that in a large number there was little or no evidence of constitutional disturbance, while the number of deaths from toxæmia was extremely small. As indicated by his experience, nature was capable of tolerating and successfully eliminating a certain amount of the poison absorbed.

The fifth factor was the emanation of poison from those affected with the disease.

The indications of local treatment were three: (1) To subdue inflammation. (2) To effect a gradual and superficial thinning and softening of the membranes. (3) By antiseptic measures, to minimize septic absorption.

Passing on to speak of the means by which these ends were to be

accomplished, Dr. Billington said that, in the first place, the frequent swallowing of water, milk, or other bland fluid had a good effect in washing the parts clean. Ice and ice beverages also had a beneficial effect upon the inflammation present. Of medicinal agents, tincture of chloride of iron and chlorate of potassium had long been regarded by many as holding the first place. When employed with glycerine, in the proportion of one to eight, the tincture of iron was very grateful to the taste, and could be given every hour, with a little water. The chlorate of potassium might be employed in the following formula:

℞	Potass. chlorat:	-	-	-	-	-	-	gr. xii
	Glycerinæ,	-	-	-	-	-	-	f ʒ ss
	Liquor: calcis,	-	-	-	-	-	-	f ʒ ii ss

M. Dose, a teaspoonful.

In certain cases the tincture of iron was found too irritating, and there were other agents which could be employed in its place, such as the benzoate of sodium.

Gargles were condemned by him, and the use of the syringe was regarded as more generally applicable. Any ordinary syringe holding half an ounce or an ounce would answer, and warm water holding common salt in solution, was, perhaps, as good as anything else to employ with it. Still, the use of the syringe had its limitations and dangers. Great care should always be observed in such manipulations, and this method should never be practiced when any of the membranes were partially dislodged. In nasal diphtheria, the syringe had been so long in use, he said, that it was unnecessary to speak of its advantages; but here, also, it was essential to use the greatest caution. The fluid should be thrown in with sufficient force, and the injection kept up long enough to thoroughly cleanse the passages. He thought that the physician should always use the syringe himself, and that two or three times a day was often enough for the injections. The frequency should never exceed the tolerance of the patient. Spraying, while possessing the advantages of being a gentle and unirritating method, was not of as much service in nasal diphtheria, in his opinion, as syringing.

As regards solvents for the membrane, lime-water was of no service if it was required to secure a very rapid effect; but, in general, it was of positive therapeutical value by its gradual action. A useful formula consisted of ten minims of carbolic acid to four ounces of lime-water, which might be employed every half-hour. Lactic acid, pepsin, and other similar agents had often been recommended, but their practical value as solvents had not as yet been satisfactorily demonstrated. Trypsin and papayotin, however, had been used with good results. Inhalations of vapor were often resorted to as adjuvants. As an escharotic, nitrate of silver was to be recommended, on account of its superficial action. Tincture of chloride of iron, in the proportion of two to one, and Monsell's solution, were also of service in certain cases.

Dr. A. Jacobi said that nasal diphtheria was very apt to prove



It is conveniently applied by a large camel-hair pencil, two or three times daily, or in malignant cases oftener. It is a powerful astringent, and always after its application a considerable quantity of pseudo-membrane and congealed muco-pus is brought away, and it therefore gives greater satisfaction to the parents than almost any other application. Diluted by an equal quantity of water, it may be used in the atomizer. Perhaps the following formula is as beneficial as any for more frequent use:

Rx.—Aquæ chlorinæ, - - - - - ℥j.  
 Sodii bicarbonat., - - - - - ℥ss.  
 Mellis, }  
 Glycerinæ, } - - - - - aa ℥ss.  
 Aquæ calcis, - - - - - ℥iv.—M.

This should be used in the hand-atomizer every hour or second hour, and if the instrument work well I have found three or four compressions of the bulb sufficient. As alkaline solutions dissolve pseudo-membrane, the solvent action of the lime-water is, of course, increased by adding the sodium bicarbonate. Trypsin may be employed in the mixture, since its solvent action, unlike pepsin, is not impaired by the alkaline medium, but it is expensive, is not soluble, and must be added sparingly so as not to clog the atomizer. In the declining stage, when the amount of pseudo-membrane is diminishing, the atomizer need not be used so frequently.

Nasal diphtheria is properly receiving more attention than was bestowed upon it a few years ago. In not a few instances the first manifestation of diphtheria is in the nostrils, and I have noticed that in many instances it is not diagnosticated, and is supposed to be a simple coryza until three or more days have elapsed, so that the proper treatment is not employed until the pseudo-membrane begins to appear on the faucial surface, or around the entrance of the nostrils, which may not be until four or five days have elapsed. Nasal diphtheria is a dangerous form of the disease, because septic absorption is very liable to occur from the nature of the tissues involved, so that early and frequent local treatment is important. The Schneiderian membrane is midway in sensitiveness, as it is in position, between the conjunctiva and pharynx, so that a wash which is proper for the fauces might be too irritating for the nostrils. I do not employ the potassium chlorate for the nostrils, because it is in my opinion too irritating. We must prescribe a wash that does not possess irritating properties, and is at the same time actively antiseptic and disinfectant. The following is the formula which I employ:

Rx.—Acidi borici, - - - - - ℥ij.  
 Sodii borat., - - - - - ℥ij.  
 Sodii chloridi, - - - - - ℥j.  
 Aquæ, - - - - - Oj.—M.

Any wash prescribed for the nostrils should always be used tepid, and it is important that it be made with the proper instrument. If the





serous exudation, extreme dyspnoea suddenly occurred, and the patient, who a few hours before was in a comfortable state, perished with such symptoms as occur in extreme œdema of the lungs. Useful as is pilocarpine in nephritis, it does not appear to be the proper remedy in the active period of diphtheria, and its use seems to be extremely hazardous.

Dr. F. H. Bosworth said that one point of great importance had not been referred to, namely, the fact that glandular tumors of the pharynx offered one of the most favorable niduses possible for lodgment of the diphtheritic poison, while if the nasal passages and fauces were entirely clear of all obstructions the individual was much more likely to escape the disease. Dr. Billington's paper only afforded additional proof of the fact that there are no specifics for diphtheria. It was, therefore, to the faithful carrying out of the two or three indications to which he had referred that we were to look for success in the treatment of this disease. In regard to nasal injections, he thought that placing the use of the syringe in the hands of even a trained nurse involved considerable danger, and he greatly preferred to employ the spray. Delano's atomizer was a good instrument as long as it would work, but the trouble with it was that it was constantly getting out of order. Hence it was better to use one constructed on a different principle, and the "Magic" atomizer, which could now be obtained at any druggist's for one dollar, was as efficient as any for the throat. For the nose, Millard's atomizer, No. 5, costing \$1.25, was probably the best form of apparatus. It had a large nozzle, and by means of it fluid could be made to pass into one nostril and out of the other. Of all cumbrous and useless applications ever put into the hands of the medical profession, he thought the galvano-cautery the worst. The effect produced with it was simply that of heated platinum wire, without any electrical action whatever, and precisely the same results could be obtained by other agents which were infinitely more convenient to handle.

Dr. D. Bryson Delavan spoke particularly of the value of bichloride of mercury in the treatment, and expressed regret that it had not received the attention in the present discussion to which its merits entitled it. This agent had been conclusively shown to have much greater germicide power than carbolic acid, and therefore he thought it ought to be preferred to the latter. In his own hands it proved more efficient than any other remedy. While in nasal diphtheria the efficiency of the antiseptic spray was unquestionable, he thought it was a good plan to spray the nasal passages even in the pharyngeal form of the disease, as it assisted in freeing the fauces of obstructions, and also enabled the patient to breathe through the nose. He greatly preferred the spray to the use of the syringe.

The chairman, Dr. E. Darwin Hudson, Jr., stated that Dr. J. T. Hutton, of Minnesota, having reported unusually good results with the topical use of a lunar caustic, Dr. Billington had written for some further particulars of his method of treatment, when Dr. Hutton replied that he would be present in person and express his views when the pa-

per was read; and it now gave him great pleasure to introduce that gentleman to the Academy.

Dr. Hutton said that while the disease was local in the pharynx he believed that he could arrest it in every instance. His statistics showed a mortality of only twelve in two hundred and nine cases, and that notwithstanding the fact in several of them he did not give continuous treatment. His experience was confined entirely to Minnesota, although he presumed the disease was essentially the same in its general characteristics everywhere. He had gone to Minnesota to practice nine years ago, but did not meet with any diphtheria until seven years ago. In the neighborhood where he resided five families had lost twenty children, and thirteen families thirty-six children from the disease, before he moved there. The first time that he was called upon to treat diphtheria his experience was very unfortunate. When he arrived at the house, which was twenty miles from his own home, he found that three children had already died of the disease and three others were very low with it. He was sorry to say that two of the latter also succumbed afterwards. In the next family that he visited he first made use of the plan of treatment to which he has ever since rigidly adhered. In this household no less than five children were dead from diphtheria, and three others were very low with it. All three of the latter, however, recovered under the treatment which he then instituted, and which he believed to be infallible for the first stage of diphtheria in the region of the country in which he lived, however it might be elsewhere. He did not make use of it in the stage of stenosis. The two great indications in diphtheria, he believed, were, first, to destroy the false membranes, the disease being, in his opinion, entirely local at first, and, second, to support the patient, as the disease was usually attended with marked depression of the vital powers. For destroying the membranes he employed a solution of nitrate of silver, the strength of twenty to fifty grains to the ounce, applied by means of a camels-hair pencil, and the application (which he said was no more painful than that of syrup or water) repeated until all the membrane was completely destroyed. He had known violent cases sometimes to be controlled by a single application. Chlorate of potash was also directed to be used as a gargle, or swallowed. In carrying out the second indication an abundant supply of fresh air was a necessity, and if it could not be obtained in any other way the patient should be taken out of doors, unless the weather was intensely cold. As the heart was liable to fail, it was desirable to have the patient as quiet as possible, with the body kept in the recumbent position and sufficiently warm. Milk, eggs, beef-extract, and alcoholic stimulus were to be given freely, and he generally employed quinine in one-grain doses about every hour. With this plan of treatment most of the cases were gotten under control within twenty-four hours, and there was no subsequent paralysis, or other disagreeable sequela. In nasal diphtheria he used a five per cent. solution of carbolic acid by means of the syringe.

Dr. Joseph E. Winters said that local treatment was impracticable in cases of diphtheria limited to the throat in young children, though this was not the case when the disease affected the nose. If diphtheria were primarily local, the first object in the treatment ought to be to destroy the membranes by means of strong caustics; yet all who had taken part in the present discussion, with the exception of Dr. Hutton, had condemned their use. All, however, agreed that local treatment should be directed against the membranes; but for his part he could not see why so much stress was laid upon the membranes, as long as they were confined to the fauces. If they were removed forcibly, or by means of caustics, they would only re-form. The one thing that promotes secretion more than anything else is heat, and it should be constantly applied, both internally and externally. Hot applications should be made early, and should be kept up continuously. The primary indication in diphtheria, he thought, was to prevent the extension of the membrane into the larynx, and this was also accomplished by the persevering use of heat. The patient was to be kept absolutely still and no change from the recumbent posture allowed for any purpose whatever. If heat were properly applied externally and internally he did not think it worth while to fatigue the patient with the frequent or continued use of the spray. The croup-kettle giving off the vapor of turpentine he had found very useful, and he was also in the habit of employing the remedies mentioned by Dr. Billington. In nasal diphtheria local treatment could be satisfactorily carried out if sufficient tact were used. In the treatment of swollen glands in connection with nasal diphtheria, Dr. Winters said that he could not subscribe to the use of ice, as recommended in the paper, as he believed it to be injurious by promoting the spread of the inflammation.

Dr. H. D. Chapin said that he greatly preferred the spray to the syringe for local treatment in the throat, and spoke particularly of the liability of the use of the syringe to excite vomiting.

Dr. Beverly Robinson said that he should be very much opposed to any form of douche which caused vomiting, and that he also was decidedly in favor of the spray. He did not believe, however, that the ordinary spray-producer was of any use practically. The only atomizer which he employed was that of Dr. Lefferts, and he thought that spraying with an efficient apparatus was the only thorough way of washing out the nasal cavity. The plan referred to by Dr. Smith, of using a medicine-dropper, was simply a delusion and a snare. As to Dr. Hutton's method of treating diphtheria, it was pretty nearly as old as the history of the disease itself, and the use of lunar caustic, which had formerly been employed by a large number of physicians, had long been abandoned. Cubeb, he thought, was more useful in its action upon the throat than the chlorate of potash. He had at one time supposed that it had some specific effect, but he now believed that it was simply a very efficient agent in combating the catarrhal element of diphtheria. In his opinion there was no one remedy which would cure a very toxic case of diphtheria invariably, and death would occasionally result, whatever means might be employed against the disease.

Dr. Andrew H. Smith said that, while he agreed in the main with the practice of those who had spoken in the discussion, he did not agree with the majority of those in the matter of theory. As to the nature of diphtheria, he was glad to hear it stated that the membranes do not constitute the disease, and personally he believed it was as much a constitutional affection as scarlatina, for instance, and that the membranes were not even an essential element. We were told that the membranes were precisely the same as those met with in ordinary membranous croup, and also in those cases in which patients from time to time brought up complete casts of the trachea and ramifications of the bronchi. But if this were so, the latter class of patients must be affected with chronic diphtheria, which he could not possibly believe to be the case. The membranes, therefore, were not so important as had been represented; but still there was apt to be a necrotic process going on underneath them, and the absorption of septic material rendered it necessary to resort to local treatment. Local treatment was more important in the nose than in the throat, and as the hard-rubber syringe was apt to cause suffering and do injury, he had been in the habit of using a soft-rubber nipple, which was attached to an ordinary hand-bulb. When this was applied in one nostril, the fluid could be made to flow out from the other. It was important that the fluid employed should be of the same density as the serum of the blood, and the preparation which he preferred was a weak solution of bichloride of mercury (1 to 4,000 or 6,000) with a drachm of salt to the pint of fluid, in order to give it the required density.

Dr. Wm. H. Thomson said that what he had heard this evening had shown him that there was nothing new to be learned at present concerning the treatment of diphtheria. Twenty-five years' experience had also convinced him of the advantages of local treatment. He then related a case indicating that the disease was primarily of constitutional character. A young man whose bed-fellow was taken with diphtheria was separated from his companion and carefully watched. On the ninth day afterward he had a very severe chill, and within ten minutes afterward his physician examined his throat and nostrils, but found nothing but a little diffused redness. In an hour, however, there was extreme congestion of the fauces, with grave constitutional symptoms; but it was not until the next day that any membranes made their appearance. On the sixth day afterward all the membrane disappeared, and the temperature was found to be normal. On the evening of the seventh day, however, he had another chill. The urine was now found to be loaded with albumen, and in two days he died from cardiac paralysis. This was a case, he thought, which clearly demonstrated that diphtheria is a purely constitutional disease. His own treatment, therefore, was based on internal support, and the question which he put to himself was, What antiseptics can be given in the largest quantity? The answer, he had found, was, Those of the chlorine group. Bromine was a useful remedy locally, and there was one agent which had not been referred to to-night which was an admirable

antiseptic, particularly when any necrotic process was going off. This was the persistent use of oxygen gas.

Dr. Alfred L. Loomis remarked that it seemed to him that Dr. Billington had arrived at the conclusion which every sensible practitioner would come to who carefully watched his cases. While in a certain proportion of cases diphtheria might be primarily a local disease, he believed that in the great majority of instances it was primarily constitutional. In former years he had seen a great deal of it, and he had travelled over pretty much all the ground that was known as regards local treatment. He had employed, first, mechanical agents; second, escharotics; and third, astringents, including the nitrate of silver. The conclusion that he had at last arrived at was that nothing but cleanliness, with local antiseptics and constitutional support, was required. There were no specifics in this disease, and it was always best to treat the *case* and not the diphtheria.

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## PHARMACY AND THERAPEUTICS.

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THE ADMINISTRATION OF GASEOUS ENEMATA.—From four to five minutes should be allowed for the injection of each quart. The patient should lie on the right side or on the back. Should any difficulty occur from the escape of gas from the rectum, the patient's legs should be extended so as to compress the sphincter. It is the universal statement of patients that the injection can be given more satisfactorily and with less uneasiness when the bowels have been emptied. Two injections a day should be given. Since the injection interferes slightly with digestion, it should be given either one hour before or three hours after a meal. No pain except that of slight distention of the bowel is felt unless air is present in the apparatus. The natural sulphur waters used in this city are the Red Sulphur Springs of Virginia and the Mount Clemmens water of Michigan; the latter is to be preferred, since it contains about ten times the available sulphur compounds. The same portion has been used satisfactorily for three consecutive injections, and still smelled strongly of the gas. Although artificial waters have been said to cause pain, the following formulæ have been used without any difference of effect from natural waters having been noticed by the patient.

℞. Sodium sulphide, pure,  
 Sodium chloride, āā, - - - gr. v.  
 Water, - - - - - fʒxxij. M.

This is the formula first used at the Philadelphia Hospital. The hydrogen sulphite is formed by the action of the carbolic acid on the sodium sulphide substantially according to the following reaction:—



When pure sodium sulphide is not attainable, the *potassium sulphuretum* or corresponding sodium compound may be used. These must be used in rather large proportion, and produce an objectionable white precipitate of sulphur. When a stronger sulphur water is desired than that produced by the above formula, the following may be used:—

R.	Sodium sulphide, pure,	-	-	-	-	gr. x.
	Dilute hydrochloric acid, U. S. P.,	-	-	-	-	m xxx.
	Water,	-	-	-	-	f℥ xxii.

Mr. Kyner, who has proposed this formula, prefers to keep the liquid on hand after use, and freshen it up for subsequent use by additional quantities of sodium sulphide and dilute hydrochloric acid. This freshening up should be done whenever the liquid ceases to smell of the hydrogen sulphide. A liquid so kept seems to acquire more nearly the characteristic odor of the natural water. If the sulphur water is of sufficient strength, the patient's breath will, in about five minutes after beginning the administration, darken lead acetate paper, and will continue to smell of gas for an hour after the process is discontinued. It may be well to remark that metals, especially silver, are readily tarnished by the sulphur gases.—*Polyclinic.*

THE GERMICIDAL VALUE OF GASEOUS ENEMATA.—In the *Medical News* of April 23, Dr. E. L. Trudeau reports a case of phthisis in which he used the Bergeon treatment for eight weeks, and in which the results were, on the whole, encouraging, indicating that the gas exercised a beneficial influence on the suppurative processes going on in the lungs. The temperature during the last three weeks of treatment never once reached 99° F., but rose at once on discontinuing the injections for a few days. The tubercle bacilli, however, remained present in the expectoration, and the pulse and respiration fell but little. The physical signs showed no decrease in the area of consolidation, though a very marked diminution in the moist sounds was noted. At the left apex these almost entirely disappeared.

At the time this case was under treatment, Dr. Trudeau made a series of experiments and notes bearing on the germicidal value of the gas, from which he arrives at the following conclusion: *The gas, therefore, as it enters the body appears to have no germicidal value whatever.* A satisfactory conclusion as to the real therapeutic merit of this method cannot necessarily be reached for many months to come, but so far as the evidence procured by its application to one case for so short a time may be of value, it would seem that rectal injections of gas by Bergeon's method have a beneficial influence on the suppurative processes of phthisis. The method seems deserving of a most thorough and extended investigation, and *though the treatment may prove in the future to be a useful therapeutic measure, a consideration of the facts here presented does not in the least warrant the assumption that a specific for tuberculosis has been discovered.*

THE USE OF SULPHURETTED HYDROGEN INHALATIONS.—Dr. G. A. Williams, resident physician at Sharon Springs, writes as follows to

the *Medical News*: My attention having been attracted by an article, entitled "Sulphuretted Hydrogen Inhalations," in your issue of May 7, 1887, in which are described the methods employed at Allevard, France, I respectfully desire to call your attention to the fact that these identical methods have been in operation in Sharon Springs, N. Y., since June, 1884, and are described in Dr. Beverly Robinson's "Nasal Catarrh and Allied Diseases" (second edition, page 141).

During the past three years I have had occasion to use them in my own practice, in many cases of diseases of the respiratory organs, and with gratifying success. As the use of sulphuretted hydrogen is now receiving marked attention from the profession, it seems to me eminently proper that medical journals, while directing special notice to results obtained in foreign lands, should not ignore the employment of the same means in our country, and within easy access of those of their readers who may not be able conveniently to cross the sea.

THE TREATMENT OF PHTHISIS BY ANILINE.—The commission which was appointed by the second congress of Russian medical men at Moscow to examine the treatment of phthisis by aniline, as proposed by Professor Kremianski, has, after experimenting on a number of animals who were fatally affected by even small doses of aniline, and after some little trial in the wards, come to the conclusion that aniline is not harmless to animal life, but, on the contrary, very poisonous indeed, and that it also exerts no beneficial effect at all on phthisis.—*Lancet*.

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## REVIEWS.

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OUTLINES OF THE PATHOLOGY AND TREATMENT OF SYPHILIS AND ALLIED VENEREAL DISEASES. By Hermann Von Zeissl, M.D., Late Professor at the Imperial-Royal University of Vienna, Second Edition, Revised by Maximilian Von Zeissl, M.D., Privat-Dozent for Diseases of the Skin and Syphilis at the Imperial-Royal University of Vienna. Authorized Edition. Translated, with Notes, by H. Raphael, M.D., Attending Physician for Diseases of Genito-Urinary Organs and Syphilis, Bellevue Hospital Out-Patient Department, etc. New York: D. Appleton & Co. Pp. XII—402. Price \$4.00.

As the mature production of one of the most eminent syphilographers of the age this work is entitled to a very careful consideration. In preparing the present edition Von Zeissl's son, in order to present as graphic and perfect a description of the morbid picture of venereal diseases as possible, diminished the size of the book by omitting certain special subjects, at the same time giving greater prominence to clinical descriptions, while some chapters of only theoretic importance, or devoted to methods of treatment of only historic interest, have been reduced to brief sketches. The chapters on the therapeutics of gonorrhœa, epididymitis, strictures, and syphilis, as



also the one on visceral and hereditary syphilis, he states, have been almost entirely rewritten, and Professors Von Shrötter and Muthner have prepared the articles on syphilitic affections of the larynx, trachea, and eye. "I am fully aware that the book offers little that is new," he goes on to say, "but it is not intended that it should spread any new doctrines; it claims only the modest task of presenting a comprehensible picture of venereal diseases and their treatment as briefly as possible to the practical physician whom time will not permit to read extensive works upon every special branch of our science." This claim to constituting a practical and valuable guide in the venereal diseases is well substantiated by the work as it now appears, although it is but right to state that in some important points, both as regards certain of their characteristics and the matter of treatment, its teachings are somewhat at variance with the views entertained by the great majority of our best syphilographers.

The book, like all Gaul, is divided into three parts, one hundred pages of it being devoted to gonorrhœa, about forty to soft chancre or chancroid, and the remainder to syphilis. In regard to gonorrhœa it is stated that the hypothesis that an animal or vegetable parasite (Neisser's gonococcus) forms the basis of a gonorrhœal contagion has not yet been satisfactorily demonstrated. It is believed by the authors, however, that the morbid potency of such an infection is to be found in a "specific catalytic form of the secretion, i. e., in a contagion which adheres to the epithelial as well as the pus cells, and which we are not able to isolate any more than other kinds of contagion." The treatment recommended is simple and admirable in every way, although we are reminded that most cases of gonorrhœa would get well within four or six weeks without either injections or internal medicine. The origin of chancroid is also ascribed to an unknown specific element, rather than to the simple irritation of pus. Here, again, the treatment suggested will be found philosophical and satisfactory.

As regards syphilis a very complete and careful study is presented. Its contagion, it is stated, appears to be a fixed principle; but "there is no such thing as a syphilitic miasm. Neither the microscope or chemistry has so far been able to furnish us with any more definite information regarding its nature." The translator, however, refers to the bacilli recently found by Lustgarten and Doutrelepon in the morbid product of the syphilitic diseases and in the discharges, and, stating that they are constant in the initial syphilitic lesion, in the papules, in the gummatous nodes, and in the discharge from a syphilitic chancre and from the papules, while similar researches, made with the most varying morbid products, have yielded only negative results, expresses his conviction that it is highly probable that these bacilli actually constitute the syphilitic poison. The statement that the syphilitic virus is conveyed to the blood by the lymphatic vessels will be generally accepted as correct. The principal difference between the Von Zeissls and our most approved authorities will be found in the matter of treatment. Here, as well as in England and France, it has been commonly taught that the best chance which the subject of syphilis has for a shortened course of the disease, as well for avoiding

as far as possible its more serious results, lies in the early resort to a systematic and prolonged mercurial treatment ; and in this country, at least, the correctness of this position has apparently been abundantly demonstrated by practical experience.

Our authors, on the other hand, pursue an expectant plan of treatment, prescribing no specific remedy until after the appearance of the eruption, and not even then if the latter is of a macular or papular form. If the symptoms do not disappear in eight weeks, however, iodine treatment is commenced (either in the form of tincture of iodine, iodoform, or the iodide of potassium, sodium, lithium, or iron); and then, if the symptoms continue after another period of eight weeks, mercury is at last resorted to. So great is their confidence in this treatment that they state that iodine in proper quantities, in conjunction with a carefully regulated regimen, is sufficient to cause the symptoms of syphilis to disappear, or at least to be weakened, so that only a few mercurial inunctions will be necessary to complete the cure, without fear of a relapse occurring in years to come. Their great objection to mercury is the fact that it is commonly given at too early a period, as they hold that when this agent is employed very early—as soon as the primary lesion is detected or the first eruption appears—while it is true that the symptoms then present will speedily disappear, obstinate relapses are more likely to follow than when the disease is first allowed to spend its fury.

“Syphilitic patients who are mercurialized very early, especially before general phenomena have appeared,” they go on to say, “are oftener attacked by grave lesions of syphilis (cerebral and visceral), and they are oftener subject to relapses than those who, for a long time, were not treated at all, or first with iodine and later on with mercury.” This sounds like strange doctrine to American ears, which have been so long accustomed to just the opposite, and it seems hardly likely that, notwithstanding the high source from which it emanates, that it will be received with much favor here ; but when it is remembered that Professor Von Zeissl, as Dr. Raphael reminds us, devoted his entire life to the study of syphilis, and that his experience is the result of the observation and treatment of upward of thirty thousand patients in private practice and in the wards of the Allgemeine Krankenhaus of Vienna, the views which he thus advocates so warmly certainly seem worthy of a careful and unbiassed investigation. The whole treatise is wonderfully clear and concise for a German production, and the translator, who has also supplied an excellent index, has done his work in an admirable manner ; while the publishers have brought out the book with their accustomed good taste and liberality.

A TREATISE ON SIMPLE AND COMPOUND OPHTHALMIC LENSES, THEIR REFRACTION AND DIOPTRIC FORMULA ; INCLUDING TABLES OF CROSSED CYLINDERS AND THEIR SPHERO-CYLINDRICAL EQUIVALENTS. By Charles F. Prentice. New York : James Prentice & Son, Opticians.

This is a book of some forty large-sized pages, beautifully printed on heavy paper, and very handsomely bound. Its various sections

are devoted respectively to refraction, prisms, simple lenses, compound lenses, including convex, concave, and mixed meridians, and asymmetrical surfaces, also including convex, concave, and mixed meridians; with a table of dioptric numerals and tables of crossed cylinders at the end.

In treating of refraction by simple and compound ophthalmic lenses, more especially through graphical and analytical means, the author's aim is to guide the reader upon a path by which he may gain easy access to an understanding of the subject without recourse to mathematical dioptrics; and in order to better attain his purpose he develops the principles involved in their primary or natural order of succession, and under the restriction of the hypothesis that the reader is a novice.

It is profusely supplied with illustrations, which are photo-engravings from the author's own pen; and, showing him to be a successful teacher, as well as master of his subject, the book is altogether a most creditable achievement.

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## MISCELLANEOUS.

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DEGREES FOR LONDON MEDICAL STUDENTS.—The decision arrived at by the Committee of Delegates of the Royal Colleges of Physicians and Surgeons to recommend their respective colleges not to confer at present with University and King's colleges, but to proceed conjointly and independently of other bodies, in their endeavor to obtain the right to confer degrees in medicine and surgery, will be received with much regret by all who are anxious to secure an academic degree for medical students in London, and will in no way diminish the opposition to a mere professional title, but tend to increase it. The provincial schools will insist on their claim to equal rights and privileges with the London medical schools, in any action taken by the two royal colleges, of which they claim to be constituent factors, and they will be strengthened by the professors and councils of University and King's colleges, who will protest against a degree being conferred, in one faculty only, by two professional corporations without university rank or academic status. The entire weight of the university interest in London and the country will now be thrown against the scheme, whereas by conjunction with University and King's colleges the antagonism of the University of London would have been the only opposition to be apprehended on the academic side, and we have no doubt on which side the argument for "least resistance" really lies. With the University of London applying for a new charter, which will be opposed by many of its own graduates in Convocation and by those who are promoting the movement in favour of a Teaching University in London; with University and King's colleges also applying for a charter to grant non-medical degrees, which will be opposed by the existing university, which dares not let its largest colleges secede with-

out a struggle; with the royal colleges, again, endeavoring to obtain a charter to grant medical degrees—a movement that will be opposed by the provincial schools if a residential qualification be inserted and only half-heartedly supported by London teachers if this be omitted; by University and King's colleges, who know that now or never they must become real constituents of a university; by all interested in founding a Teaching University in London, who will not willingly see the chief faculty of such a university slip from the combination; by the Irish and Scotch corporations, which will seek similar powers out of jealousy and self interest; and by the Apothecaries' Society, which has been contemptuously thrust aside—the outlook is not a hopeful one. We are quite sure that it would have been more to the advantage of students if the question had been considered on a wider basis, and that less opposition to the degree would thereby have been aroused. Indeed, we still hope that the Crown will insist on the different bodies waiving their personal prejudices and jealousies, and compel them to unite to form a real university, such as exists in every metropolis and educational centre in the world except London.—*Lancet*.

DRUNK, OR WHAT?—Dr. E. C. Seguin thus summarizes the pathological conditions which may give rise to coma in Volume V. of Pepper's "System of American Medicine."

1. The patient may be epileptic. The following signs of a past convulsive attack should be sought for: a bitten tongue; flea-bite ecchymoses on the face, neck and chest; saliva about the face and neck; evidences of micturition or of seminal emission in the clothing, etc. There is usually a small rise of temperature after a single fit, and consciousness soon returns without assistance, or a second seizure appears.

2. The patient may be suffering from surgical cerebral compression or concussion. Signs of injury about the head or other parts of the body, oozing of blood or sero-sanguinolent fluid from the ears and nose, will sometimes clear up the diagnosis. Especially suggestive of cerebral hæmorrhage is a gradually increasing stupor without distinct hemiplegia.

3. The coma may be uræmic. In some cases anasarca and slow pulse point at once to this pathological condition. In all comatose cases without history the urine should be drawn with a catheter for testing, and signs of various forms of Bright's disease may be detected. The ophthalmoscope by revealing neuro-retinitis or retinitis albuminurica may yield valuable suggestions.

4. The patient may be suffering from the effects of a clot in the brain or of acute softening of a considerable part of the organ. Hemiplegia with conjugate deviation of the eyes and head is usually present, the head and eyes turning away from the paralyzed side, the patient looking, as it were, toward the lesion. A latent hemiplegic state may sometimes be determined by one-sided redness of the buttock, and by

slight difference of temperature between the two hands. The general temperature of the body exhibits a marked rise. After cerebral hemorrhage there is a fall below the normal during the first hour, followed by a steady rise to one hundred and six degrees F., to one hundred and eight at death in severe cases. After embolism or thrombosis, causing softening, the rise of temperature is less in extent and not so regularly progressive.

5. The patient may be simply drunk or poisoned by alcohol. In such cases the patient may be usually aroused momentarily by loud speaking, shaking, or painful impression; the breath is alcoholic, the cerebral temperature subnormal or normal. The urine must be tested for alcohol. It must not be forgotten that intoxicated persons are most prone to falls causing fracture of the skull or concussion, and that the early stage of coma from meningeal hemorrhage resembles narcosis.

6. The coma of malignant or congestive malarial fever is to be distinguished mainly by the absence of physical or paralytic symptoms coinciding with a high rectal temperature. The spleen is often enlarged.

7. Toxic narcosis from opiates, morphine, chloral, etc., are often difficult of diagnosis, except that from opiates and morphine, in which extremely slow respiration and contracted pupils, with lowered temperature, point at once to the cause.

HANGING AS A SOURCE OF PLEASURE.—If those are to be believed who, having been more or less hanged, have been resuscitated, and have narrated their experiences, the much-commiserated victim of the law's extreme penalty is not wholly miserable. It would seem that even death "sus. per coll." has its ameliorating conditions or circumstances. One sufferer in the religious cause in France is said to have "complained" because he was called back to consciousness from an experience of surpassing delights, in which he enjoyed the pleasure of gazing upon the most beautiful scenery. The immediate sensation of pain is momentary; and it would appear not unlikely that, in our anxiety for the avoidance of needless annoyance to those we put to death judicially, we may be actually increasing their sufferings and diminishing their pleasure. The instantaneous deaths have all the pain and little or none of the pleasure. Slowly induced congestion of the brain may be the least painful, and if only the blood pressure be effectually raised at the centre that sees, the beautiful light and charming scenery are enjoyed in the highest perfection. The subject is a grim one, and we are not sure that the new view of hanging experience tends to make the death penalty increasingly deterrent, but it is right that both sides of a question which the late Mr. Whalley once excited the merriment of the House of Commons by describing as "a poor man's question" should be carefully considered at all costs.—*Lancet*.

THE FRENCH SALON.—The Parisian painters seem to have outdone themselves in the bad taste exhibited by their selection of subjects this

year. The *Lancet* has already severely commented on the pictures of surgical operations, and now it seems that the famous Cabanel has sent quite a large canvas representing Cleopatra watching the effect of different poisons upon her slaves in order that she may be able to choose for herself the one causing death in the least painless manner.

Merlatti, the celebrated faster, who, it appears, is also an artist, contributes a portrait of himself in his studio.

HOW DR. MURRELL'S BOOK PREVENTED A SUICIDE.—In the preface to the last edition of his "What to Do in Cases of Poisoning" Dr. Murrell says: "This work has reached a fifth edition, but it is not my fault, and I disclaim all responsibility in the matter. I am told that it has been the means of saving many lives, and I have no doubt this is true, for I hear that a gentleman who thought of poisoning himself changed his mind on reading the directions for treatment."

THE TWO JOHNS.—When a small boy Dr. John Wesley John, now of Biddeford, was stolen by the Indians as he was at play near his father's house in Limington. As time passed he was given up for dead and a tombstone was erected to his memory in Saco, where his father had moved. The doctor's identity was not discovered until years afterward. Another singular circumstance is that after his supposed death a younger son of the family was named for him, so the two brothers now bear the same name. They are distinguished in the family as "our John" and "Indian John."—*Saco (Me.) Sentinel*.

ONE OF THE DISCOURAGEMENTS IN THE PHYSICAL TRAINING OF GIRLS.—A girl in Boston discovered that a month's work in a gymnasium increased the size of her hand by one size of glove, and she quit training faster than you could drop a hat.—*Toronto Globe*.

THE "ANTISEPTIC SHAKE" has become a well-recognized convention in the clinics of the city. The surgeon about to operate extends to his invited guest, not his hand, but his elbow, which is gently seized by the latter, a slight pendulum motion is made, the courtesies of the day exchanged, and then the quasi-anatomical relations cease. Thus it is shown that true courtesy is not inconsistent with micro-parasitical innocuousness.—*N. Y. Medical Record*.

NEEDED RELIEF.—The *Mayflower* must have been a pretty large ship if all the people now claimed by living individuals as ancestors who came over in her were really passengers by that famous craft. It is pleasing to note that in an account of a recent fashionable wedding in Philadelphia the groom, who belonged to a New England family, is stated to have been a descendant of an immigrant who came to Plymouth by the ship *Handmaid* in 1630. The *Mayflower* being so dangerously overcrowded, Bostonians and others can now find comfortable accommodations for their ancestors on board the *Handmaid*, which, after all, arrived only two years later.

A SEVERE CASE.—"Good-mornin', Mrs. Bryan. An' how is your brother-in-law, Mr. McCafferty, to-day?" "Very bad indade, Miss

Corcoran—very bad indade. Sorra a bite does he ate except what he drinks.”

BIDDING FAIR TO ECLIPSE KING SOLOMON.—According to recent advices from Zanzibar, the king of Uganda is, as Artemus Ward would say, a very numerous husband. Although but eighteen years old, so far from thinking himself “o’er young to marry yet,” he already has 1,000 wives; which is doing pretty well for one of his age.

CONVERGENT STRABISMUS FROM A SENTIMENTAL POINT OF VIEW.

I know there’s a cross about Norah’s blue eye,  
But that fact me love cannot smother;  
For her eyes are so pretty! No wonder they thry  
To be gazin’ ’round into each other.

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MEDICAL NEWS.

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NINTH INTERNATIONAL MEDICAL CONGRESS.—*Section of Laryngology.*—The following are among those who have signified their intention of presenting papers: Dr. B. Baginsky, Berlin, Germany; Dr. A. Cartaz, Paris, France; Dr. H. H. Curtis, New York; Dr. W. H. Daly, Pittsburg, Pa.; Dr. C. M. Desvernine, Havana, Cuba; Dr. Richard Ellis, New-Castle-on-Tyne, England; Prof. Jos. Gruber, Vienna, Austria; Prof. Hack, Freiburg in Baden, Germany; Dr. J. H. Hartman, Baltimore, Md.; Dr. Theodore Hering, Warsaw, Poland; Dr. Camalt Jones, London, England; Dr. H. Jones, London, England; Dr. Paul Koch, Luxembourg, France; Dr. H. Krause, Berlin, Germany; Dr. George Mackern, Buenos Ayres, Argentine Republic; Dr. George W. Major, Montreal, Canada; Dr. F. Moure, Paris, France; Dr. D. F. Massei, Naples, Italy; Dr. A. W. Orwin, London, England; Dr. William Porter, St. Louis, Mo.; Dr. J. O. Roe, Rochester, N. Y., U. S. A.; Dr. John A. Robinson, Chicago, Ill., U. S. A.; Dr. O. Rosenbach, Breslau, Germany; Dr. A. Schnee, Nice, France; Prof. John Schnitzler, Vienna, Austria; Dr. Shaumacher, Achen, Germany; Dr. Carl Seiler, Philadelphia, Pa.; Dr. J. G. Sinclair, Nashville, Tenn., U. S. A.; Dr. F. Semeleder, City of Mexico, Mexico; Dr. J. A. Stucky, Lexington, Ky.; Dr. W. McNeil Whistler, London, England; Dr. Edward Woakes, London, England; Dr. Zeim, Dantzig, Germany.

Dr. W. H. Daly, M.D., of Pittsburg, is President of the Section. The American Secretaries are: William Porter, M.D., 1337 Lucas Street, St. Louis, Mo.; D. N. Rankin, A.M., M.D., 85 Lincoln Ave., Allegheny, Pa. *German Secretary*—Dr. Ottakar Chiari, 14 Elisabeth Strasse, Vienna, Austria. *French Secretary*—Dr. E. G. Moure, 2 Cours de Gouron, Bordeaux, France.

*Addresses in the General Sessions of the Congress.*—Among the general addresses announced are the following: Prof. F. Semmola, of

Naples, Italy, on "Bacteriology and Its Clinical Therapeutics"; Dr. Neudorfer, of Vienna, Austria, on "The Military Medicine of the Present and of the Near Future"; Dr. Esmarch, of Kiel, Germany, on "Bloodless Operations in Surgery"; Dr. Lutaud, of Paris, France, on "The Influence of the Discoveries of American Surgeons on the Development of Gynæcology in Europe"; and Dr. Austin Flint, of New York, N. Y., on "Fever; Its Cause, Mechanism, and Rational Treatment."

*Section of Anatomy.*—Dr. E. C. Spitzka, of this city, has accepted a Vice-Presidency of this Section.

**MORTALITY IN THE STATE OF NEW YORK.**—The Official Bulletin of the New York State Board of Health announces that the total reported mortality for the month of March was 7,830, of which 32.5 per cent. were under five years of age. From zymotic diseases there were 1,653 deaths, a ratio of 211.11 per 1,000 total mortality. There was an increased mortality from all zymotic diseases over the preceding month, except from measles. From consumption the ratio of mortality was 84.80 (the lowest ever noted in this bulletin), and 125.78 per 1,000 above the age of five years. From acute respiratory diseases there were 153.64 deaths per 1,000 total mortality.

**MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.**—The Eighty-ninth Annual Meeting of this Society was held at Baltimore, April 26, 27, 28, and 29, 1887. The following officers were elected for the ensuing year: *President*—Dr. I. E. Atkinson. *Vice-Presidents*—Dr. Chas. H. Jones, Dr. James Carey Thomas. *Recording Secretary*—Dr. G. Lane Taneyhill. *Assisting Secretary*—Dr. Robert T. Wilson. *Corresponding Secretary*—Dr. Joseph T. Smith. *Assisting Secretary*—Dr. Edward E. Mackenzie. *Treasurer*—Dr. W. F. A. Kemp. *Executive Committee*—Dr. Geo. W. Miltenberger, Dr. J. Edwin Michael, Dr. Philip C. Williams, Dr. John S. Lynch, Dr. Randolph Winslow. *Examining Board of Western Shore*—Dr. S. C. Chew, Dr. T. S. Latimer, Dr. Frank Donaldson, Sr., Dr. T. B. Evans, Dr. Wilmer Brinton, Dr. T. A. Ashby. *Examining Board of Eastern Shore*—Dr. G. T. Atkinson, Dr. B. W. Goldsborough, Dr. A. H. Bayley, Dr. James Bordley, Dr. J. K. H. Jacobs.

**UNIVERSITY OF PENNSYLVANIA.**—The annual commencement of the University of Pennsylvania was held May 2d, when the degree of M.D. was conferred on ninety-nine graduates. The *Medical News* prize of \$100 for the best graduation thesis was, by the award of the Medical Faculty, divided between Arthur C. Hugenschmidt, of Paris, France, and Peter J. J. Martin, of Pennsylvania.

At the annual meeting of the Alumni, Dr. Alfred Stillé was re-elected President.

The Faculty of the University have banished cigarettes from the college grounds on the recommendation of Prof. J. Wm. White, who has charge of the physical education of the students.



JEFFERSON ALUMNI SOCIETY.—At the annual meeting of the Alumni of the Jefferson Medical College, Dr. S. W. Gross was elected President and Dr. Austin Flint Orator for the ensuing year. In the evening the Alumni gave a reception to Dr. Hunter McGuire, the Orator for 1887.

MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE CITY OF NEW YORK.—Dr. Wesley M. Carpenter has been appointed Clinical Professor of Medicine, and Dr. A. M. Phelps, late of Chateaugay, N. Y., Lecturer on Orthopedic Surgery, at this institution.

THE MEDICAL SOCIETY OF THE STATE OF CALIFORNIA held its Seventeenth Annual Meeting at San Francisco, April 20, 21, and 22. The following officers were elected: *President*—R. H. Plummer. *First Vice-President*—A. H. Agard; *Second Vice-President*—David Powell; *Third Vice-President*—H. N. Rucker; *Fourth Vice-President*—L. M. F. Wanzer. *First Assistant Secretary*—J. H. Parkinson. *Second Assistant Secretary*—G. W. Davis. *Treasurer*—G. C. Simmons. *Board of Censors*—Jules Simon, W. Anderson, J. D. Arnold, I. E. Oatman, C. G. Kenyon. *Board of Examiners*—C. E. Blake, W. Lawlor, Jules Simon, C. H. Steele, T. J. Le Tourneau, C. E. Farnum, A. H. Pratt. *Alternates*—H. H. Hart, C. C. Wadsworth, A. P. Whittell.

VIRGINIA STATE BOARD OF MEDICAL EXAMINERS.—During the third annual session of the Virginia Medical Examining Board, held in Richmond, April 5, 6, and 7, 1887, nineteen applicants appeared before the Board, and but seven passed satisfactory examinations—four representing the Medical College of Virginia, and three the Medical Department of the University of Maryland.

TENNESSEE STATE MEDICAL SOCIETY.—At the Fifty-fourth Annual Meeting at Nashville on the 13th, 14th and 15th of April, the following officers were elected for the ensuing year: *President*—P. D. Sims, M.D., of Chattanooga. *Vice-Presidents*—Drs. J. M. Masters, of Knoxville; T. J. Happel, of Newton; and Richard Douglas, of Nashville. *Secretary*—Ambrose Morrison, M.D., of Nashville. *Treasurer*—Richard Cheatham, M.D., of Nashville.

The Society contributed \$250 for the treasury of the International Medical Congress. Its next annual meeting, in 1888, will be held at Knoxville.

PROPHYLAXIS OF YELLOW FEVER.—MM. Freire, Gibier, and Rebourgon recently presented a note at the French Academy of Science on the "Prophylaxis of Yellow Fever by the Inoculation of an Attenuated Virus." In 1885 and 1886 6,524 persons submitted themselves to this protective vaccination in Rio Janeiro, and during this period the total number of deaths from yellow fever was 1,675. Of the victims, 1,667 had not been inoculated, the mortality amongst those protected amounting to eight deaths only. The authors state

that, taking as the base of their calculation the population exposed to the contagion, the percentage of deaths for the whole number was one per cent., whereas for those who had been subjected to preventive inoculations it was only 1 per 1,000.

SIR WILLIAM JENNER has, for the seventh time, been elected President of the Royal College of Physicians of London.

LEPROSY IN LOUISIANA.—(From the *New Orleans Times-Democrat*, May 5.)—The very thorough report of Dr. Holt on the subject of the leprosy found to exist in St. Martinsville calls attention to a duty which the legislature ought to have attended to years ago. There are lepers in Lafourche, St. Martin, and Vermilion Parishes. It is to be remembered, however, that, while the cases of leprosy in St. Martinsville were clearly shown to be hereditary, a former investigation in Lafourche indicated that the disease was contagious, and the British Medical Commission which investigated the epidemic in Nova Scotia, to which most of the cases in Louisiana are traceable, was thoroughly convinced of its contagiousness. Dr. Holt calls on the State Government to provide a special hospital for these people. Dr. Jones, when he made an investigation some years ago of the leper settlement in Lafourche, made a similar suggestion. There are less than two dozen lepers in Louisiana whose existence and location are known. To care for them would cost a few thousand dollars at most, and the result would be to exterminate in a few years a disease which has remained a blot on Louisiana for too long a time already. Even the old Spanish governors recognized the duties of the Government in this matter, and to meet the increase in leprosy then prevalent in New Orleans, as well as in some of the parishes, established an hospital here just a century ago, and within a few years leprosy had disappeared from Louisiana.

THE FRENCH AND GERMAN TRANSLATIONS OF PROF. SAYRE'S LECTURES ON ORTHOPÆDIC SURGERY.—A very satisfactory translation of the second edition of Dr. Lewis A. Sayre's "Orthopædic Surgery and Diseases of the Joints" was made by the late Dr. Henri Thorens. We regret to learn that Dr. Thorens's death prevented him from quite completing the task, to which he devoted a great deal of care. The volume has recently been published by Steinheil, of Paris, the concluding work on the translation having been done by Dr. J. Pignol, a hospital interne. An interesting and appreciative preface has been written by Dr. Polaillon, and the book makes a very creditable appearance.—*N. Y. Medical Journal*.

We have received from J. F. Bergmann, of Weisbaden, a translation of Dr. Sayre's "Lecture on Orthopædic Surgery and Diseases of the Joints." It is translated from the second and enlarged American edition, and is fully illustrated. Dr. Sayre's methods have now such universally recognized currency and value throughout English-speaking countries, and are so well known and largely practiced throughout Europe, that it is sur-

prising that these valuable lectures have not before been translated into German—if, indeed, this be the first translation of them. Time, which tries all things, has set its seal of emphatic and general approval both on the principles and methods which Dr. Sayre has ingeniously devised, ably illustrated, and successfully carried into practice. He has removed a great mass of painful, tedious, and incurable complaints into the region of curable and easily manageable affections. He has substituted a simple and practicable method, within the reach of every practitioner, for costly, complicated, and heavy mechanical devices, which were accessible only to a few, and which only imperfectly and occasionally fulfilled their objects. Few men have, in their generation, accomplished so much for the relief of humanity, and his name will go down to posterity, with that of Marion Sims, as among the most distinguished benefactors whom the American medical profession has produced, for the glory of medicine and the good of mankind, during this century.—*British Medical Journal*.

In commenting on the above the *Medical Register*, of Philadelphia, remarks: How the heart of the American doctor beats with pride at this sense of appreciation of the work of one of our most able men—an appreciation which ranks him as the first orthopædical surgeon of the world. This honor is most creditable; not on account of ancestry or hereditary title; not on account of the name of Sayre alone, but because he has associated with that name, by industry, indefatigable energy, and great ability, a circumstance which makes it known from pole to pole.

INEBRIETY TRACED TO THE INTOXICATION OF PARENTS AT THE TIME OF CONCEPTION.—Dr. T. D. Crothers, Supt. Walnut Lodge, Hartford, Conn., reports in the *Med. & Surg. Reporter* three cases in which inebriety was traced directly back to the parents at the time of conception. While it is not a new fact in science, it is not often so clearly traceable; usually intoxicated states in the parents appear in idiotic, feeble-minded, or defective children. These cases, he thinks, are sufficient to call renewed attention to this subject, and throw light on many of those unexpected outbreaks of inebriety that are a source of wonderment.

PASTEUR AND HIS INSTITUTE.—The members of the committee of the Pasteur Institute have decided to refuse the site offered by the municipality and to purchase a site beyond Montparnasse Station for 430,000f. They have also agreed on plans for the erection of four buildings, to cost 600,000f. About 1,000,000f. will then remain available, representing a revenue of 40,000f. This is inadequate, for the calculations made, not only for the treatment of rabies, but for fresh experiments and a laboratory, show that an income of 100,000f. is necessary. The fund will therefore be kept open till this income has been secured. With devotion equalled only by the absence of ostentation M. Pasteur has written a letter to the committee assigning to the institute the proceeds of his splenic fever treatment and industrial

processes, which bring in 25,000f. a year. This sum added to the one mentioned above of 40,000f. makes a revenue of 65,000f., leaving 35,000f. still to be secured. It is sad to have to add that M. Pasteur himself is seriously unwell, and that his condition gives great uneasiness to those who love and admire him.—*Galignani's Messenger*.

RAGS AND REPUTATIONS.—We have referred more than once to the subject of disinfection at this port as connected with charges of conspiracy involving the Health Officer and certain political intrigues. The question has at last been submitted to a jury, whose verdict is very significant. Messrs. Lockwood & McClintock two years ago imported a cargo of rags from Japan, which they allege to have been detained to their loss. The rags were ordered to the warehouse of Bartlett & Co. to be disinfected by a patent process in which, as they alleged, the Health Officer was interested. This procedure they declare to have been unnecessary, the process itself worthless, the result injurious to the goods, and the payment mere extortion. This was substantially the case submitted to the jury, after evidence and argument, and the jury returned a verdict giving the importers \$8,000 damages, but they were unable to agree upon the question of the collusion of the Health Officer, although, upon a poll of 11 members, the jury stood 7 to 4 against him. This is a most damaging result for the Health Officer. If his conduct had been correct throughout, the rags would have gone properly to Bartlett & Co., and the disinfection by their process would have been no ground of action. But a verdict against them is practically a verdict against him, and although it does not follow that his order in favor of Bartlett & Co. was part of a corrupt conspiracy, the testimony and the evident feeling of the jury, after hearing and weighing it, are very significant. The judge in charging said that the evidence of conspiracy was not satisfactory, and that was obviously the feeling of the jury, who, according to one of them, gave the Health Officer the benefit of the doubt. Enough, however, was shown upon the trial to prove what the verdict attests, that there is a great wrong to importers and a great deal of knavery involved in this patent disinfection, which is also complicated with political intrigue. The Health Officer's term expired long ago. The Governor has nominated an unexceptionable successor, but the Senate, under the influence, as is believed, of Mr. Thomas Platt, one of the Quarantine Commissioners, who is also holding over, has declined to act upon the nomination. The whole transaction is apparently a job in which certain Republican politicians are beneficiaries. It has now been investigated and argued. The question has been referred to an impartial jury, and the verdict is against the job and the jobbers.—*Harper's Weekly*.

CASES OF LAPAROTOMY FOR GUNSHOT WOUNDS OF THE INTESTINES.—In the *Medical News* of April 30 Dr. Cornelius Kolloch, of Cheraw, S. C., reports the case of a negro boy, fifteen years, who was shot in the abdomen with a Smith & Wesson pistol (ball 38 calibre) at a distance of six feet. The symptoms indicating intestinal perforation,

he performed laparotomy. By an incision of three inches in the median line, below the umbilicus, the peritoneum was reached. The edges of the opening were thoroughly mopped with sponges wrung out of hot water before the peritoneum was opened; consequently very little blood, if any, escaped into the cavity. When the cavity was reached, every precaution was taken to prevent the bowels from becoming chilled, by enveloping them in hot cloths. Search was then made along the track of the ball, and three intestinal openings were found—two in the descending colon, the ball having entered a little above the sigmoid flexure and passed through; a third opening was found at the point where the ball emerged from the cavity, it having cut through a knuckle of the small bowel. An appendix epiploicæ, which was found lacerated and bleeding freely, was tied with catgut at the base and cut off. The discharge of blood from a small vessel on the inner side of the colon was so free that it was necessary to throw a small ligature around it. There was considerable oozing from a number of smaller vessels which was readily checked by sponges soaked in hot water. The edges of the intestinal openings were now pared and drawn together by Lembert's suture, the stitches being placed only a line apart. Care was taken in putting in the stitches to introduce the needle more than a quarter of an inch from the opening, causing it to penetrate to the submucous tissue, and then bring it out again about an eighth of an inch from the edge of the wound on the same side. On the opposite side it was introduced about one-sixth of an inch from the opening, and brought out a quarter of an inch from it. The advantage from this precaution is that, when the sutures were tightened, the mucous membrane was inverted, and the serous surfaces were brought in contact. Serous surfaces unite readily when brought in apposition; but no union can possibly be effected between two mucous surfaces, or between a mucous and a serous surface. The peritoneal cavity contained a considerable quantity of blood and fecal matter. The cavity was thoroughly mopped with hot sponges. The nozzle of a fountain syringe was introduced—the patient being turned a little to one side—and a steady stream of hot carbolized water kept up till the water came out clear. All blood and fecal matter being removed from the cavity, the incision was closed by five white silk sutures, supported by adhesive strips, the whole enclosed in a gauze dressing and an elastic flannel bandage. The operation was very satisfactory. The patient recovered without a bad symptom, and is now, more than three months since the accident, perfectly well, and attends regularly to the duties of a farm hand.

In the *Medical News* of May 14, Dr. W. W. Keen reports a case of pistol-shot wound of the abdomen, involving the liver, stomach, small intestine, and kidney, in which he performed laparotomy and nephrectomy. Death took place on the 15th day from peritonitis and gangrene.

In *Daniel's Texas Medical Journal* for April, Dr. George Cupples, of San Antonio, Texas, reports the case of a female who shot herself

with suicidal intent. The bullet, 41 calibre, entered at the lower edge of the right hypochondrium, and was afterwards found to have traversed the peritoneal cavity, missing the liver, but grazing the interior or peritoneal surface of the abdominal parietes; it then penetrated the ileum, lodging under the integuments. An incision of four inches was made in the linea alba, revealing large hemorrhage into the abdominal cavity. Very careful examination was made of the whole intestinal tract, which discovered two knuckles of ileum, penetrated by the bullet, causing four wounds, all within a length of bowel of about three inches. The corresponding portion of mesentery having been secured by forceps, was excised, and a continuous suture made this absolutely secure. The portion of intestine of the same length, held in forceps, was separated by scissors, and, the two ends having been carefully adjusted, the enterorrhaphy was completed by two rows of Lembert's suture, the whole comprising thirty-nine sutures. The hemorrhage ceased from the moment that the mesenteric supply was cut off from the wounded intestine. The peritoneal cavity was thoroughly and carefully cleansed and the abdominal wound closed by three silver wire and four silk sutures, completing the operation in one hour and fifty-five minutes. Her condition after the operation was not satisfactory; collapse, with vomiting, ensued, and the patient died five hours after the completion of the operation.

THE INVESTIGATION OF YELLOW FEVER INOCULATIONS.—The President, in accordance with the provision made in the Sundry Civil Appropriation Bill, passed at the last session of Congress, has appointed Surgeon George M. Sternberg, U. S. A., to investigate the merits of inoculation for the prevention of yellow fever, as practiced in Mexico and Brazil.

A PRIZE OF TWO THOUSAND DOLLARS (10,000 francs) is offered by the Académie de Médecine, Paris, for the best work on the treatment of stricture of the urethra or on the therapeutic methods for diseases of the urethra.

MEDICAL SOCIETY OF NORTH CAROLINA.—The thirty-fourth Annual Meeting was held at Charlotte, N. C., April 13, 14, and 15. Many valuable papers were read, and the discussions were full and interesting. A resolution was adopted expressive of the pleasure which the Society felt in hearing of the improved condition of their distinguished and long-loved member, Dr. Thomas F. Wood, editor of the *North Carolina Medical Journal*, of their sympathy in his severe trial, and their hope of his restoration to health and usefulness.

The following officers were elected: *President*—Dr. T. D. Haigh, Fayetteville; *Vice-Presidents*—Drs. W. T. Ennet, Burgaw; J. B. Dunn, Raleigh; Thomas E. Anderson, Statesville; *Secretary*—J. M. Baker, Tarboro; *Treasurer*—C. M. Poole, Salisbury; *Orator*—S. D. Booth, Oxford; *Essayist*—W. C. Galloway, Snow Hill; *Committee on Publica-*

tion—Drs. Thomas F. Wood, George G. Thomas, Wilmington; W. T. Ennet, Burgaw; J. M. Baker, Tarboro; *Board of Censors*—Drs. George G. Thomas, W. J. Love, and W. W. Lane, Wilmington.

HAWAIIAN LIBERALITY.—Her Majesty Queen Kapiolani has founded the Kapiolani Home for the children of Hawaiian lepers, and Princess Lilinokalani, the heir apparent to the throne, is the president of the Lilinokalani Educational Society for Hawaiian girls.

THE SLEEPER OF THENELLES.—The *Revue d'Hypnotisme* contains a report by Dr. Edgar Bérillon on "La Lethargique de Thenelles," a young woman who will shortly have accomplished the fourth year of an uninterrupted trance. Miss M. B. —, now twenty-five years of age, has always been sickly, delicate, and nervous. On May 30, 1883, after a fright, she had several convulsive attacks, and then fell into a profound sleep, from which she has never awakened. She is kept alive by small quantities of liquid food, which are swallowed automatically. The excretions are greatly diminished and menstruation is now entirely suppressed. When examined by Dr. Bérillon, the limbs were found to be much wasted, and all trace of adipose tissue had disappeared. Anæsthesia is complete, and the knee reflex is abolished. The pulse is almost imperceptible, and gives one hundred beats to the minute. Respiration is regular, but feeble. The breath has not the autophagic odor of insanity and starvation. The face is pale, waxy, and without expression. The mucous membranes are colorless. When the eyelids are opened the eyes are seen to be convulsed upwards, and blowing upon them produces no palpebral reflex. The jaws are tightly closed by contracture of the masseters. The arms can be easily raised, but enter at once into contracture. The muscles are in that state known as neuro-muscular hyper-excitability, and the slightest touch or puff suffices to cause contracture, which can be removed by the application of warmth. Besides the sensory anæsthesia there is complete mental inertia, and the patient is inaccessible to any kind of hypnotic suggestion.—*Paris Correspondence of the Lancet.*

BERGEON'S TREATMENT.—Dr. Henry Leffmann, editor of the *Polyclinic* (P. O. Box 791, Philadelphia), desires to obtain results of the new treatment of pulmonary consumption and phthisis by gaseous enemata, for publication in the *Polyclinic*. The correct therapeutic value of this method can only be arrived at by the collection of statistics, and he therefore requests any one who has administered the gas to communicate the result to him, the formula used, and any special information that may be useful.

A DAILY EDITION.—The Philadelphia *Medical Register* announces that it will issue a daily edition during the six days' session of the International Medical Congress in September. It will be furnished free to all subscribers. To those who are not subscribers the daily edition will be sent for the six days for fifty cents.

THE STRONGEST MAN IN THE WORLD.—There is a man on the Darson River, below Dayton, Col., named Angela Cordella, who claims to be the strongest man in the world. He is an Italian, aged twenty-eight years, and stands five feet ten inches, weighing 198 pounds. Although not of unusual size, his spinal column is much beyond the ordinary width, and his bones and joints are made on a similarly large and generous scale. He has lifted a man of 200 pounds with the middle finger of his right hand. The man stood with one foot on the floor, his arm outstretched, his hands grasped by two persons to balance his body. Cordella then stooped and placed the third finger of his right hand under the man's foot, and, with scarcely any perceptible effort, raised him to the height of four feet, and deposited him on a table near at hand. Once two powerful men waylaid Cordella, with intent to thrash him, but he seized one in each hand, and hammered them together until life was nearly knocked out of them.—*Annals of Hygiene*.

DR. BROWN-SÉQUARD has been elected President of the Société de Biologie, Paris.

THE MEDICAL AND SURGICAL REPORTER.—Drs. Brinton and Edwards have retired from the editorial management of this journal, which has been assumed by Drs. N. A. Randolph and C. W. Dulles. Dr. Brinton, who has for many years been the editor and publisher, intimates that in the autumn he will probably be connected with another journal; and Dr. Edwards has for some time been the editor of the *Annals of Hygiene*, the official organ of the State Board of Health of Pennsylvania.

COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.—The annual commencement was held May 12, when a class of 106 was graduated. The first Harsen Prize of \$500, for proficiency in examination, was awarded to Ellsworth Eliot, Jr., and the Cartwright Alumni Prize of \$500 for the best medical essay, open to universal competition, to Dr. B. Farquhar Curtis, of New York; subject, "Injuries to the Abdomen and Rupture of the Intestines." Drs. J. Gardner Smith, of New York, and Hobart Hare, of Philadelphia, received honorable mention.

THE DOUBLE-HEADED BOY.—At the recent meeting of the Medical Association of Georgia (*Atlanta Med. and Surg. Journal*), Dr. W. F. Westmoreland reported the following interesting operation upon this well-known museum curiosity: "The boy had, at the lower extremity of the spinal column, what seemed to be an extra head. The outlines of the nose, mouth, and eyes were well marked. The growth was covered, except what seemed to be the face, with long curls, not unlike the hair on the head. The boy was eleven years old. He had been exhibited in all parts of the United States as the double-headed boy, and up to within a few months before he was brought to this city had



enjoyed good health. About six or eight weeks before he was brought here the extra head began to give him pain, and very soon began to suppurate. In a few weeks the boy showed well-marked symptoms of septicæmia, and when presented to Dr. Westmoreland he advised the removal of the mass. The parents objected at first, saying that they had consulted the best surgeons in the country and they had advised against any operation, deciding that it would surely produce death whenever the mass was removed. They reluctantly gave their consent, however, and the operation was performed. Dr. Westmoreland stated that the coccyx and a portion of the sacrum were involved in the tumor, or head, and had to be removed. Dissection revealed very well-marked cranial bones in the mass, with a membrane similar to the dura mater, but there was no brain-substance in the sac. He presented the boy and the tumor. The boy had entirely recovered from the operation."

THE FLORIDA MEDICAL AND SURGICAL JOURNAL has been merged into the *New Orleans Medical and Surgical Journal*.

THE ASSOCIATION OF AMERICAN PHYSICIANS.—The second annual meeting of this society will be held in Washington, D. C., June 2d and 3d, Dr. S. Weir Mitchell, of Philadelphia, presiding. Those who are announced to read papers are Drs. R. P. Howard, of Montreal; J. Guiteras, of Charleston; H. A. Johnson, of Chicago; H. C. Wood, Wm. Pepper, J. C. Wilson, E. T. Bruen, and Wm. Osler, of Philadelphia; G. Baumgarten, of St. Louis; H. Hern, of Albany; J. T. Dana, of Portland; W. H. Welch and I. E. Atkinson, of Baltimore; F. C. Shattuck, F. Minot, and J. J. Putnam, of Boston; and F. P. Kinnicutt, of New York.

THE AMERICAN ORTHOPÆDIC ASSOCIATION will hold its first annual meeting the third week in June.

DR. E. DARWIN HUDSON, JR., of this city, died May 9, after a brief illness, at the age of forty-three. At the time of his death he was Professor of General Medicine and Diseases of the Chest in the New York Polyclinic, Chairman of the Section on Practice of Medicine of the New York Academy of Medicine, and attending physician to Bellevue and St. Elizabeth's Hospitals. He was also one of the original members of the Association of American Physicians. By diligent application and the careful training of his admirable natural gifts he had achieved marked success in the profession, and no man of his years was more highly esteemed as a clinical teacher and consultant. His untimely death is a serious loss to medical science, and will be deeply mourned by a large circle of friends, to whom he had endeared himself by his sterling worth, his modesty, and his urbanity. He was a firm friend of the JOURNAL, and always had a word of encouragement for it.

DR. ELLIOTT RICHARDSON, Lecturer on Clinical and Operative Obstetrics, and Demonstrator of Operative Obstetrics, in the University of Pennsylvania, died of typhoid fever at his residence in Philadelphia on the 9th of May.

PROFESSOR VULPIAN, the eminent authority on diseases of the nervous system, and Dean of the Faculty of the French Academy of Medicine, died May 18, at the age of 60.

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## EDITORIALS.

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THE DIAGNOSTIC VALUE OF THE ABSENCE OF HYDROCHLORIC ACID FROM THE STOMACH IN GASTRIC CANCER.—A number of German writers having of late years come to regard the absence of hydrochloric acid in the stomach liquids as a very important sign of cancer of that organ, Professor Debove has been making an extended series of experiments with a view of testing its practical value, and at a recent meeting of the *Société Médicale des Hôpitaux* he stated as a result of these observations that he does not hesitate to declare now that it is an absolute rule in all patients attacked with cancer of the stomach that there will be found not the slightest trace of hydrochloric acid in the stomach juices.

While this would seem to be too sweeping an assertion, there can be little doubt that, in general, the sign is a most valuable one. In a leading article recently published in the *Philadelphia Medical Times*, Dr. J. P. Crozer Griffith states that in some clinical observations in the *Deutsche Med. Wochensch.*, Nos. 47, 48, and 49, 1886, Korczynski and Jaworski detail the examination of fifty-two cases of ulcer or of cancer of the stomach. The function of the viscus was tested in three ways. 1st. Aspiration after strict fasting was practiced. If nothing was obtained, one hundred cubic centimetres of distilled water were ingested and the operation repeated and the gastric contents chemically tested. 2d. A modified Leube's ice-water method was employed. 3d. The digestive power of the stomach was tested by the ingestion of portions of boiled white of egg, the contents of the stomach being then aspirated after a certain length of time. These results confirm the statement made by Riegel and others that free HCl is absolutely essential to digestion, pepsin alone not being sufficient. In twenty-four cases of ulcer they found the gastric secretion always increased in quantity, present even after fasting, and always containing a considerable amount of HCl. In twenty-eight cases of cancer digestion was always retarded, and in many instances the stomach was found to contain remnants of food, even after fasting. HCl was present in but two patients, both under thirty years of age.

The authors conclude that free HCl is almost invariably absent in can-

cer, but do not agree with Riegel that this is due to the action of the cancerous juices upon the gastric secretion, rather believing that an already established mucous catarrh, with an absence of HCl, as seen in old persons, predisposes to the development of the neoplasm.

While many writers have disputed the statement that free HCl is absent in cancer of the stomach, Dr. Griffith thinks that the greater weight of evidence goes to show that the absence of HCl, at least as indicated by the ordinary tests, is a very important diagnostic sign of carcinoma.

Regarding the tests which have been employed, he says: Riegel advocates tropæolin, methyl-violet, and Congo paper for HCl, and Uffelmann's carbolated-iron test for lactic acid. Numerous others have been recommended. Our own experience has led us to put most faith in the methods with methyl-violet and carbolated iron. We have made no trial of Congo paper, and tropæolin and fuchsin have proved unsatisfactory. The tests are easily performed as follows:

1. To a weak aqueous solution of methyl-violet in a test-tube add a portion of the filtered gastric contents. The violet color becomes distinctly blue if HCl be present. The test is delicate for one and one-fourth parts HCl in one thousand of the filtrate.

2. Make a mixture of an aqueous solution of the sesquichloride of iron and a very concentrated solution of carbolic acid. The quantities are best determined by experiment. An amethystine-colored fluid is produced, which becomes a bright yellow when added to the filtrate, if lactic acid be present. This test fluid must always be freshly prepared. The reaction is delicate for one-half in one thousand.

We should not fail, too, to test the peptic strength by allowing the filtrate in a test-tube to act for a certain time upon a portion of boiled egg-albumen. This should be done at a slightly-elevated temperature, to obtain which the heat near the kitchen-range will answer if no thermostat be available.

THE APPLICATION OF THE LOCAL MEDICATION OF NERVES IN THE TREATMENT OF FACIAL NEURALGIA AND OTHER PAINFUL NERVOUS AFFECTIONS.—Dr. J. Leonard Corning, who, by his original and admirable researches, recently extended so widely the field of the usefulness of cocaine in medicine and surgery by demonstrating, beyond question, that in order to prolong its local anæsthetic effects it is necessary to keep the drug in protracted contact with the filaments of the sensory nerves, has now given to the profession a new mode of inducing prolonged neural anæsthesia by pressure applied directly above the anæsthetic zone, and consequent occlusion of the subjacent capillaries. In the paper in which he describes it (*New York Medical Record*) he refers in the first place to the fact, which must be evident, he thinks, to all who have bestowed any attention upon the subject, that the longer we are able to expose a nerve or its branches to the influence of a medicinal substance, the greater are the chances of setting up chemical changes

of sufficient profundity to insure permanent cure. Prolonged local anæsthesia, or some other form of protracted local medication, is therefore in order in the treatment of a large number of painful neural affections. He then goes on to say: "One of the most common and atrocious forms of nerve-pain is facial neuralgia, particularly when it occurs in advanced life; and yet, heretofore, these same face-pains have been among the most obstinate difficulties to cure in the whole range of neurological medicine. I long since saw in these pains a field well adapted to the use of prolonged local anæsthesia; but I also soon ascertained that the means at hand for keeping the anæsthetic in contact with the nerve filaments—bandages, rings, clamps, and the like—were not applicable to any extent about the face. I was therefore reduced to the necessity of developing some new method of application, in order to meet these unwonted exigencies." This method is as follows:

1. He first introduces the anæsthetic (cocaine) into the skin by means of the electro-chemical method described by him\* some time since, or by means of the hypodermatic syringe.

2. When the area in question has been well saturated with the medicament, he covers it with a piece of fine wire gauze.

3. By means of a T-shaped block of wood and an appropriate elastic strap, uniform pressure is maintained upon the wire gauze.

With this appliance he has succeeded in inducing cutaneous anæsthesia of one hour's duration on the forearm, and of nearly two hours' duration on the forehead.

The physiological principles involved in this mode of treatment may be thus stated: When we press upon the tissue above the anæsthetic zone, we simply cause occlusion of the subjacent capillaries. The object of the wire gauze is to distribute the pressure at given intervals throughout the anæsthetic zone. By this means we avoid pressing out the anæsthetic from the tissues, which transpires if we press directly upon the skin with a perfectly smooth surface. Now, by interposing the fine wire gauze, we occlude the subjacent capillaries without pressing out the anæsthetic. This mode of inducing protracted local anæsthesia is far more effective than that involving the use of clamps, rings, and the like. It is also much more universally applicable than are those devices or the commonly employed bandages. For the purposes of neural medication it possesses all the requisites of an ideal technique, being at once universally applicable and wonderfully simple. In surgery it can render little assistance, its chief field of usefulness being, of course, confined to neurology. In this latter field of practice, however, he believes it has unquestionably a brilliant future. He has employed this mode of treatment in various forms of neuralgia, particularly in those varieties occurring about the face. In two cases of occipital neuralgia a cure was effected—in one instance, after one application; in the other, after two applications. It is in those most distressing

\*See *The New York Medical Journal* for November 6, 1886.

neuralgias of the supra- and infra-orbital nerves, however, that it has yielded the most brilliant results. In two such cases, which had failed to yield to all other kinds of treatment, he has been able to effect cures. These favorable results he attributes in great measure to the prolonged exposure of the nerve-filaments to the analgesic influence of the drug.

Where the pain extends throughout the lower portion of the face, and particularly over the cheeks of thin persons, it is difficult to press the wire gauze against the integument with sufficient precision to cause an occlusion of the subjacent capillaries. Under these circumstances he is in the habit of tamponing the space between the teeth and the inner surface of the cheek. This he accomplishes by the aid of ordinary cotton-batting. The space between the alveolar process of the upper jaw and the cheek is first carefully filled out with small pieces of cotton-batting, and the like process is repeated for the lower jaw. The patient is then told to close his jaws and the anæsthetic may now be introduced and the wire gauze adjusted over the medicated territory and pressed thereupon with perfect facility. The coaptation of the various mechanical features involved is, under these circumstances, all that could be desired.

Where it is a question of medicating deep-seated nerve-stems, as in sciatica, the nerve should be flooded with the anæsthetic before applying the bandage above the seat of injection. By this he means the injection of at least from 100 to 200 minims of a one-half to two per cent. solution (of cocaine), according to the susceptibility of the individual to the physiological effects of the drug, and to the profundity of the chemical impression which it is desired to produce upon the diseased nervous filaments. He has sometimes re-enforced the influence of the cocaine upon the nerve-filaments by the supplementary introduction of a certain amount of chloroform or ether into the anæsthetic zone. Under ordinary circumstances such a procedure would be intensely painful, but as thus employed there is no inconvenience to the patient.

It is evident, therefore, that this new method is to be regarded as an addition to neuro-therapeutics of great practical value, and an advance which reflects the highest credit upon the ingenuity and skill of its author.

WHAT IS AN ORIGINAL ARTICLE?—During the past month the *Medical Register* of Philadelphia has been publishing in successive numbers among its "Original Communications" the paper on spondylitis and rotary lateral curvature of the spine read by Dr. Lewis A. Sayre before the New York State Medical Association in November, 1885. The *Register* deserves great credit for making better known this admirable and exhaustive essay (hitherto locked up in the transactions of the Association), which sets forth in complete detail, with many illustrative cases, the modern treatment of spinal curvature, both antero-posterior and lateral, as perfected by Professor Sayre after a vast

experience extending over many years; but why it should reproduce it as "original" matter, when the transactions in which it was originally published appeared fully a year ago, and many months before the first number of the *Register* was issued, is somewhat difficult of comprehension. If this is to be regarded as a legitimate precedent, any medical journal can select for its "original communications" any contribution to the transactions of American or foreign medical societies, of late or recent date, which seems sufficiently interesting or valuable.

THE TEXAS TRANSACTIONS.—The editor of *Daniel's Texas Medical Journal* appears to be somewhat over-sensitive in regard to the Transactions of his State Association. No human work is perfect, and a little friendly criticism, if offered in the proper spirit, may sometimes be of assistance. The JOURNAL, in its review of these transactions, did not intend in the least to be hypercritical, and it fully recognized the many and evident excellences of the volume. It still thinks that in such a large book, embracing such a variety of disconnected subjects, the absence of an alphabetical index is a "serious fault." The table of contents is entirely satisfactory in its way, but for reference purposes there should undoubtedly be an index of this kind also. As to the placing of all the scientific papers in the appendix, this is largely a matter of taste, and while it is contrary to the usual custom no one will be disposed to consider it a matter of vital importance. As a whole, the transactions reflect the highest credit on the medical profession of Texas, and its mechanical execution is certainly a great triumph when the fact is appreciated, of which Dr. Daniels assures us, that the work was published by a job printing establishment and at the surprisingly small cost of \$1.55 a volume.

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END OF VOL. XLIV.

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