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Original Articles

DIFFERENTIAL DIAGNOSIS OF SMALLPOX.*

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Mr. Chairman and Gentlemen,—Up to the time of the present epidemic quite a number of our medical men had never seen a case of smallpox, even during their college days. The disease has been so rare with us, except in Quebec, that comparatively few ever had to treat a case. The diagnosis of the disease is not always an easy matter, even to those who have had the most extended experience. At the first visit, in the earliest stages of the disease, the most expert diagnosticians are often in doubt; but a careful scrutiny will usually clear up the diagnosis, so that an intelligent medical man should not be excused, after having reasonable opportunity, for saying a case was Cuban itch, elephant itch, Philippine rash, or any other unknown and hitherto unheard of disease. The present epidemic has been in existence on the Continent of North America since 1897, and has prevailed in every State of the Union, in Canada, and in Mexico.

That the disease is smallpox is believed by 75 per cent. of the medical men on the continent, including the most able, the closest observers, and those who have had the greatest experience in smallpox. Dr. McCombie says the difficulties in the diagnosis may be divided into two stages : (1) the difficul-

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ties met with before the characteristic eruption appears; and (2) those which are met with after. Before this characteristic eruption appears, you may have rashes which require careful consideration to enable you to say whether the pending attack is one of smallpox, scarlet fever, measles, erythema, etc.

First of all, I would like to particularly draw your attention to what are styled the initial symptoms of smallpox. These symptoms are of the greatest importance in the diagnosis of smallpox; they are: headache, backache, rigors, loss of appetite, vomiting, malaise, and fever. They are not very numerous, not very hard to remember, and they are often of the greatest importance in forming a correct diagnosis. You have all of these, or the majority of them, present in every case of smallpox during the forty-eight hours immediately preceding the appearance of the characteristic eruption. The length of this initial stage, when these symptoms are present, may vary from two to four days. In the majority of cases it is from two to two and a half days. It is important to keep this always in mind. Isolated cases of death have been recorded in almost all extensive epidemics during this initial stage, before a trace of the characteristic eruption appears.

In smallpox, the rash that looks like scarlet fever is usually most marked on the lower part of the abdomen, in the groins, on the inner side of the thighs, and on the flexor surfaces of the extremities. It is often seen on the sides of the body and in the axillæ.

The difference is, in scarlet fever, the rash appears on the neck and chest, and is rarely first seen on the lower part of the abdomen. In smallpox this rash is rarely very intense; in scarlet fever the rash is a vivid scarlet.

In smallpox, at this early stage, the throat symptoms are not very marked; in scarlet fever the throat symptoms are marked from the beginning.

In smallpox, the backache is pronounced; in scarlet fever, backache is not prominent.

In some hemorrhagic cases of smallpox you have a vivid red rash, involving the whole skin with deep purple or black subcutaneous hemorrhages, similar to those seen in purpura, and instead of the patient complaining of the backache, he complains of violent, extreme pain in the epigastrium. Such cases may be easily mistaken for scarlet fever, especially before the purpuric spots appear. But the throat symptoms are not those of scarlet fever, and you usually have the backache of smallpox, though not always. The prodromal rash of smallpox that resembles measles counterfeits that disease very closely. This rash in smallpox

disappears upon stretching the skin. In measles it does the same. In smallpox it is only slightly, if at all, raised above the level of the skin; in measles it appears to be distinctly raised. (This is an important fact.) In smallpox this rash reaches its height within twenty-four hours, and fades quickly before, or soon after, the appearance of the characteristic eruption of smallpox, on the third day of illness. In measles the rash does not appear until about the fourth day of illness, and it takes about three days to reach its height. In smallpox this rash is not preceded by severe catarrhal symptoms, although you may have suffusion of the conjunctiva. In measles the rash is always preceded by catarrhal symptoms.

In smallpox, backache is a prominent symptom; in measles it is not.

In measles, if you examine the mouth closely, you will discover a number of small raised whitish dots, about the size of a pin's head, generally on a reddened base. They are usually discrete, but occasionally a confluent patch may be seen. They are nearly all located on the mucous membrane opposite the molar teeth, very few of them are opposite the other teeth. They disappear within one or two days after the measle eruption appears. Some of the best authorities say these are seen in every case of measles. You must carefully distinguish between these and the eruption of smallpox in the mouth.

Smallpox spots in the mouth are larger and are distributed generally over the palate, the fauces, the pharyngeal walls, and the tongue, whilst these are smaller, and confined for the most part to the mucous membrane opposite the molar teeth.

Besides scarlet fever and measles, there are many erythemas affecting larger or smaller portions of the skin which may puzzle you; but, in a general way, whenever you find a punctate rash showing in the groins, on the sides of the body, on the lower abdomen, on the inside of the thighs, or in the flexures of the arms and legs, accompanied with the initial symptoms of smallpox, you are justified in expecting smallpox, and temporarily isolating your patient.

In attempting to make an early diagnosis of smallpox, it is important to remember that these pre-eruptive rashes in smallpox are generally met with in adults, whilst measles and scarlet fever are diseases peculiar to childhood. Rashes produced by articles of food, by drugs, together with lichen and rothlen, are easily known by the absence of the initial symptoms of smallpox. In severe cases of influenza the symptoms resemble the initial symptoms of smallpox, but the depression is more complete from the first, whilst the pains behind the eyes and in the

limbs are strongly indicative of la grippe. The absence of fever and headache easily distinguish the pain of lumbago from the backache of smallpox.

The Diagnosis when the Disease has Reached the Papular and Vesicular Stage.—Keep in mind that the prominent initial symptoms of smallpox are : headache, backache, often rigors, loss of appetite, vomiting, malaise, and fever. The duration of these symptoms before the characteristic eruption, is usually forty-eight to sixty hours, although the patient may not have felt right for a few days before these symptoms come on. These initial symptoms are usually as severe in the mild cases as in the serious—as severe in the vaccinated as unvaccinated. The severity of these initial symptoms bears no proportional ratio to the severity of the case which is developing. Whatever modification of the disease may be produced by vaccination does not evince itself until the disease has arrived at the eruptive stage.

In the unvaccinated the characteristic eruption is macular in its earliest stage. These macules soon become papules, and are then hard and raised, within twenty-four hours they have a distinctly shotty feeling, and vesicles may be seen to be beginning to form on them. This characteristic eruption takes from one to three days to come fully out after its appearance—the length of time depending upon the abundance of the eruption. These vesicles, which are seen commencing on the papules at the end of twenty-four hours, continue to increase in size and attain their full size at about the end of the fifth day. They are then round, about the size of a small pea, with a flattened top, and most of them are more or less depressed in the centre. They have a pearly appearance, thought filled with clear serum. The vesicles are not composed of a single cell, but of a number of cells or compartments, and when you push a needle through them, and withdraw it to let the contents out, they do not collapse, but retain their shape, because you only puncture some of the compartments. When the contents become pustular, many of the pustules become round on the top, dome-shaped, instead of flat or depressed. These are the characteristics of smallpox in the unvaccinated.

In the vaccinated, the characteristics are often very much modified, and vary greatly. The initial symptoms are the same. They may be comparatively mild, or they may be violent. Their duration is, as a rule, a little shorter than in the unvaccinated, and their disappearance upon the appearance of the eruption is more complete. The eruption is macular, or papular, at first, and much of it becomes distinctly shotty in a few hours—earlier than in the unvaccinated. This is a marked modification. Vesi-

cles may appear on some of the papules during the first day, increase in size, and reach their full growth on the second or third day, instead of on the fifth, as in the unvaccinated. They may appear in consecutive crops, so that on the same patient you may find the eruption in all the various stages of development—another marked modification. They are round, often small, generally dome-shaped or conical, not flattened or depressed on top; if depressed, that depression is minute. Many medical men have doubted whether the present epidemic was smallpox, simply because the vesicles did not present this depressed appearance. On the face of the patient the vesicles may be irregular in outline, not round. The fluid in the vesicles is at the first clear, but on the second or third day, as they reach full size, it becomes opaque, and many of them abort, as it were, dry up, the contents never becoming pustular, or the eruption may pass rapidly and imperfectly through the several phases of development, producing more or less dwarfed forms. Again, many of the papules never vesicate at all. When they become pustular, many of the pustules merely dry up without bursting, forming brownish crusts, thinner and smaller than those seen on the unvaccinated. The skin not being deeply involved, the scabs fall off sooner and leave merely stains, no pits, and these stains soon disappear. In the vaccinated the mucous membranes are not so often affected as in the unvaccinated. In the vaccinated the course of the disease is more rapid, its duration is shorter than in the unvaccinated ; but you every now and then meet with cases where vaccination has had little modifying effect. Vaccine will take after smallpox, but it is rarely tried.

The Location of the Eruption in Smallpox.—In both the vaccinated and the unvaccinated it is more abundant on the face and the extremities, less so on the body, more abundant on the back than on the chest and abdomen. It is usually present on the palate, the fauces, and the tongue, in direct proportion to its abundance elsewhere.

The Temperature.—The temperature is high in the initial stages, but it begins to fall as the eruption appears, and, as a rule, becomes normal when the eruption is fully out, to increase again when the pustular stage arrives. In severe confluent cases it may never fall under 100 degrees F. It must be admitted that the diagnosis of smallpox in the eruptive stage is often extremely difficult, consequently many mistakes occur. In this eruptive stage it is more often taken for chickenpox than any other. In chickenpox it is extremely rare to have any of the initial symptoms which are characteristic of smallpox.

I repeat these initial symptoms, so as to emphasize them :

they are headache, backache, rigors, loss of appetite, malaise, vomiting, and fever. In some cases of chickenpox, especially in adults, you may have some backache, malaise, and fever for from twelve to forty-eight hours, followed by the eruption, but these cases are most exceptional. Usually the first thing noted is the eruption of vesicles on the body, limbs, or face. The mother usually says the child was perfectly well up to the time the eruption appeared. If you see a case of chickenpox from the first, you will find the eruption at first macular; in an hour or so, papular; and in a few hours, vesicular. Some of the vesicles will have attained full size within twenty-four hours after the first spot was detected. In smallpox they would just be becoming visible in that time. The full-grown vesicle in chickenpox is glistening, not pearl-like. It is dome-shaped, not flattened or depressed. It is transparent, not milky. If you push a needle through it, and allow the contents to escape, it collapses, for it is unilocular, not multilocular, like smallpox. In shape the vesicle may be elongated, elliptical, or circular on the trunk and extremities, whilst on the face and scalp it is irregularly round. A round vesical is the typical shape in smallpox; an elliptical vesicle is the typical shape in chickenpox. On the forearms, the hands, the legs, and the feet, the vesicles are often circular, and smaller than on the body. They may have a more or less shotty feeling, and in these positions look not unlike the vesicles of smallpox, modified by vaccination. In the great majority of cases, typical chickenpox vesicles will be found only on the body, not on the face, or extremities. The distinctive shape or appearance of chickenpox vesicles become less and less, as their location is farther away from the body and nearer to the fingers and toes.

In chickenpox, often within, and at any time, from eight to twenty-four hours after the appearance of the eruption, some of the vesicules have reached their full growth, and are as large as the vesicles of smallpox in the unvaccinated at the end of the fifth day, and larger than on the vaccinated at the end of the third day. If the chickenpox eruption be copious, many of the papules abort, and many of the vesicles do not attain full growth, never becoming larger than a pin's head. In some few cases the vesicles are only partially filled with fluid, are flattened, and are of a dull, white or tallowy color, resembling smallpox very much. But in these cases the location of the eruption is that of chickenpox, not smallpox, and the distinctly elliptical shape of many of the vesicles is clear and distinctive evidence of chickenpox.

Location of the Eruption in Chickenpox.—It is most abundant on the body, less on the face, scalp, thighs, and arms,

and still less so the forearms, hands, legs, and feet; the very opposite of smallpox.

In smallpox you nearly always have one or more papules on the palms of the hands and soles of the feet; rarely or never in chickenpox.

On the palate and fauces the eruption is present in many cases of chickenpox, but it is usually sparse.

Temperature in Chickenpox.—An increase usually occurs at the same time as the eruption, not before it, as in smallpox, and it may or may not fall when the eruption is fully out. Where chickenpox appears in successive crops, you may have a rise with each crop.

The diagnostic points between smallpox and chickenpox are : (1) The presence or absence of the initial symptoms; (2) the location of the eruption; (3) the shape of the vesicles; (4) the rate of growth of the vesicles; (5) the single-celled character of the vesicles in chickenpox as compared with the many-celled character in smallpox.

From what I have said you will see that in smallpox you have the initial symptoms; in chickenpox you rarely have them. That in smallpox the vesicles are more abundant on the face, scalp, and extremities than on the body, and are generally found on palms of hands and soles of the feet. In chickenpox the very reverse is the case, and they are rarely seen on soles of feet or palms of the hands. In chickenpox you rarely have as many vesicles on the face as you have in smallpox, and you often have more on the body than in smallpox. In smallpox the majority of the vesicles are round, circular; in chickenpox they are elongated, elliptical. In chickenpox many of the vesicles attain their full size inside of twenty-four hours. They are then distended with fluid, dome-shaped. They are transparent, and upon puncture with a needle, they collapse. In smallpox they only attain their full size at about the end of the third day in those who have been vaccinated, and at about the end of the fifth day in those who have not been vaccinated. This is a very important point in the differential diagnosis of the two diseases. The smallpox vesicle—I am speaking of a typical one—has a flat top, with a depressed centre. The chickenpox vesicle never has this until after it is ruptured. Its top is round, dome-shaped.

Smallpox prevails at all ages. Chickenpox is rarely seen in adults.

Vaccination does not protect against chickenpox; it does against smallpox. You should never make your diagnosis between chickenpox and smallpox from an examination of the face, arms, hands, and feet, for upon these parts smallpox may closely re-

semble chickenpox, especially in those who have been vaccinated. Always examine the whole eruption, and base your diagnosis upon the well-formed, typical vesicles, not upon the imperfectly-developed or ruptured ones. If you meet with an eruption looking like chickenpox in an unvaccinated child, take the greatest care in your diagonsis, for mistaking a case of smallpox tor one of chickenpox may result in a serious outbreak of smallpox. If you meet an eruption resembling chickenpox in an adult, be careful, as it nearly always turns out to be smallpox.

Confluent smallpox is not infrequently mistaken for measles, and *vice versa*. The physician is misled by the appearance of the eruption on the face, arms, and neck. In confluent smallpox the skin of these parts is often intensely hyperemic, swollen, and studded with raised pink or purple papules, accompanied by suffusion of the conjunctiva. The patient's aspect and the appearance of the eruption are very much like those of measles, but by drawing your finger across the forehead you will easily distinguish the hard, shotty feel of smallpox from the soft, velvety feel of measles.

Syphilitic eruptions, herpes, eczema, impetigo, pemphigus, and acne are all easily distinguished by the absence of the initial symptoms of smallpox and the history of the case.

The difficulties in the diagnosis of smallpox are most marked in cases where eruption is modified by vaccination; but always remember that in smallpox the initial symptoms are almost always present. The headache is one of the most constant of these symptoms, and is usually ascribed to the whole head; but if any particular point is designated, it is usually the forehead. The backache is a no less striking symptom than the headache. They both continue until the outbreak of the eruption. The occurrence of at least some of them is one of the most constant features in smallpox of even the mildest type, and the eruption appears in nearly every case after these symptoms have existed two or three days.

In smallpox, modified by vaccination, or by a previous attack, the course of the disease is more rapid, the papules more quickly become vesicles, the vesicles more quickly attain their full size; the vesicles more quickly become cloudy or pustular; the vesicles are smaller, and more or less pointed, not depressed or flattened. They bear little resemblance, except as regard to their round, circular shape, to the larger and clearer vesicles of unmodified smallpox.

In making a diagnosis of smallpox never forget (1) That the initial symptoms are most constant, both in the mild and severe cases, in the vaccinated and unvaccinated; (2) never forget to

examine the whole eruption, paying particular attention to the characteristics of the fully-developed vesicles; (3) because you have one case of smallpox in a house, do not say that a vesicular eruption on another in the same house is the same disease, until certain, for smallpox and chickenpox may run concurrently; (4) do not forget that in smallpox, in vaccinated subjects, the disease is so mild that as soon as the eruption has disappeared, the patient feels well; (5) do not ascribe mild cases to mere digestive disturbances; (6) do not imagine that only general practitioners make mistakes in diagnosis, for even medical superintendents of smallpox hospitals and the cleverest of experts are often puzzled.

Those who say the present epidemic is not smallpox, generally base their opinions on the fact that there is too little pitting, and too few deaths to be quite convincing.

In closing I would just quote to them Osler, who asserts, "Pitting is more common after chickenpox than after varioloid," and Sydenham, who says, "Discrete smallpox rarely pits, and seldom kills." Curschmann says: "From varioloid alone *healthy* adults hardly ever die."

THE ETHICS OF THE MEDICAL PROFESSION.*

By H. P. Elliot, M.D., Morden.

Mr. President and Gentlemen,—Among the sailors there are some things one is not supposed to do until he has travelled once round the globe, or doubled the Horn twice. Likewise, I think a medical man should not read a paper before a society till he has been ten years in practice, or has at least proved himself a shining light in some particular branch of the medical science, which I cannot pretend to have done. Still, the mandate has gone forth from our worthy President, and I must comply, to the best of my ability, with a paper on the "Ethics of the Medical Profession." It is not without some trepidation that I stand here, feeling as I do that at least half the members are my seniors both in age and medical experience. Before entering on the subject itself, we may spend a few moments with the history of ethics.

The true translation of the Greek word ἦθος (ethos) is custom, usage, or character. Ethics, generally speaking, is connected with ontology, or theology, with universal good inclu-

*Read at the meeting of the Southern Medical Association, at Brandon, Man., February 26th, 1902.

sive with human good, with politics and jurisprudence, natural law and psychology. Plato, Aristotle, Pythagoras, Socrates, Democritus, all had their several schools and tenets, but practically got so far as, and agreed that, it was a matter of the "highest law of the universe, to which the wise man will conform towards a divine harmony," and, in a mundane sense, of "civic excellence, with the greatest good towards oneself and the community." That was practically the agreed basis from which they started, but as to the manner of carrying out their principles, these wise men wrote and argued and squabbled; admitted truisms and admitted paradoxes—Socrates even going so far as to force his opponents to admit the ignorance of the real meaning of the terms they used. Following them we find the various schools, including the cynics, the stoics, and epicureans, each with its different tenet regarding the same thing, on to the middle ages, when ethics of life became more or less synonymous with religious excellence, till now it practically means the *method tending towards the greatest good.* Kant, in his "Metaphysics of Ethics," sums it up in one word: "duty."

The question is, What is the greatest good one can find in medical practice? or, in other words, What is the *ideal* regarding our profession, and how can we aim towards that ideal? This is the point I wish to take to-night. The actual rule, or custom, must vary with the country and the community, as, for instance, advertising in Britain is most strongly opposed to professional ethics, whereas here a professional card in a journal is admitted; customs may vary, but I hold that the ideal cannot change. The matter of medical ethics was brought up at the last meeting of the British Medical Association at Cheltenham, and the answer to the question: "What is your opinion of Medical Ethics?" was: "To think and speak of, and to act towards your medical brethren, as you would have them think and speak of, and act towards you." Here we find no hard-and-fast rule of what the medical man shall or shall not do; it simply holds that he shall act as a true man towards his professional brother, rightly taking it for granted that he will do the same towards his patients.

A great difficulty lies in the fact that the practice of medicine is, with most of us, a means of livelihood, whereas, in my opinion, the ideal, though granted impossible, is that medicine should be practised as a science or hobby. In Bellamy's fantastic dream ("Looking Backward"), the doctor, as are all professional men, is maintained by the State. He joins a profession only because he feels called to it and fitted for it. Thus it is not a means of gaining a living, nor of socially elevating himself above his fellows,

for all are equal, but simply because it is his ideal in life. Few of us could follow the profession in such a way, and perhaps it is as well so, for in this world of supply and demand, should the number of adherents to medicine for medicine's sake be great, then others who depend upon it for their bread would suffer. I remember such a case. A retired medical man, with a large private income, used constantly to treat patients in the village for nothing. His argument was, "He saw no harm in it, for he took no fee," but to me it seemed that he got a large share of those who could pay, while the regular medical man of the district got a large share of those who couldn't, or wouldn't. So for the present we must look at the profession of medicine as a means of livelihood, and strive for the highest ideal in it as such. Our duty lies towards ourselves, our brother practitioners, and lastly, towards our patients. I put ourselves first, not from any selfish motive, but with the conviction that the following words of Shakespeare will prove my position :

"This above all,—
To thine ownself be true—and it must follow, as the night the day—
Thou canst not then be false to any man."

Ambition, gentlemen, is a noble sentiment; it is well to climb the ladder of fame, with due reflection on its frailty, but as we climb we must remember that it must be by sterling worth in ourselves, by dint of hard and honest work, that we pass our fellow-creatures, not pull them down to our level, or try to force them below us by casting aspersions on their work, their methods, or their character, nor by stealing their brains. By those means we climb over them, not pass them, using their shoulders and treading on them instead of the ladder, rung by rung. We may take Pope's words to heart :

"Unblemished let me live, or die unknown;
Oh! grant me honest fame, or grant me none."

Then, if we reach the top rung of the ladder of fame, let us not maim or disable those that follow. It is unmanly, and, apart from that, it may be dangerous to us personally, for perhaps there are some who can pull us down, however secure we may feel; and, remember, the higher we are, the farther there is to fall. There is room for all at the top, and if we gain it, let us rather reach down and help another up than try to repel him. It is hard, gentlemen, to come down, but it is infinitely harder to be kept down. The actual success as a crown to ambition is but a poor satisfaction. Longfellow rings true in his "Hyperion" when he says: "The talent of success is nothing more than doing

what you can do well, and doing well what you can do—without a thought of fame."

We are all climbing—some fast, some slowly, some apparently resting on their way to dream, but ofttimes really working out some means of salvation for the community. We are all striving for the same goal, and the ideal is to help one another, to help the noble science which even yet is still in its infancy, and to help ourselves by continued application of our best endeavors to that end. Remember how easy it is with the fickle public opinion to surpass another. Naturally we are not all cast in the same mould, some have a larger quantity of grey matter and a quicker intellect for using it. Naturally, therefore, the more brainy man will surpass the others. I do not mean in that way though, but when, by some little slur on our confrere's work—it need not even be spoken—we are for the moment raised above him in the public mind, and often flatter ourselves that we have gained a step higher. Then I say it is opposed to the true ethics and ideal. Beware, man is generally judged by his worst output, and, as a rule, someone else gets the credit for his best; beware, "the mills of the gods grind slowly, but they grind exceeding small," and, perhaps, some day *you* may be judged by your worst output, with no friend near to help or console you—or someone else may get a step higher on your work. Let us, then, be fair and just and honest amongst ourselves, giving honor where honor is due, glancing over the fault or slip of a professional brother when we see that without our aid he will go down.

And now the ethics of the profession as regards the lay public: What is the highest position we can take regarding them? They must be taught that "The laborer is worthy of his hire." Is it not true that we waste all the greenness and pith of our life in striving for a distinguished slavery, and when such a goal is reached, are there not some amongst us who, but for the sake of the ideal of the profession itself, would think that a humble independence would have been better? There is no reason because we are following a profession, one of the noblest there is, that, on the one hand we should trade our work like common hucksters and charlatans in the open market, or, on the other, that we should be mild philanthropists, dependent on the charity of the public for our bread in return for our work. We have the general responsibilities of life to face just as others in this world, and it seems to me absurd that because our profession demands natural charity, and a kindly mind and spirit, that we should be imposed upon again and again, as we undoubtedly are, in the some way. "The Lord will repay"—there is too much of such sanctimonious hypocrisy, and I see no justice in the idea that a

medical man should lose caste by insisting on receiving his just dues. We get little else; genuine gratitude is most noticeable by its absence, though we often have to take a poor imitation of it, as "payment of account in full to date" (and as long after as we can manage). As to the actual treatment of the patient, we must be true to ourselves and to our opinion; we must be honest. We must make up our mind as to the condition and treatment of our patient, and follow it out—not with a snug, self-satisfied conceit that we cannot be wrong, but with a humble opinion that we are right. Show confidence, but do not be afraid to ask help, do not be too cowardly to refuse it; nor, when help is given by you, seek to use it as a means of personal self-aggrandizement. In our treatment, as in our lives, we must—

"Be bold, be bold, and everywhere be bold,
But not too bold, yet better the excess than the defect,
Better the more than less."

We must treat our cases according to our principles and our experience. Coleridge, to my mind, gives one of the finest similes of that. He says that "Experience is the stern-light of a vessel, illuminating only the path over which we have travelled." Let us, then, not be afraid to speak our experiences, but rather try to shed some light for a possible traveller following in our wake, who may be striving in darkness, amidst broken and troubled waters.

One minute more. Perhaps you expected from the title of this paper an opinion as to the ethics of: "A has a patient; B is called in, in consultation, and differs from A. C is then consulted; B refuses to meet C. What is the position of B to C according to the ethics of the profession?" In my opinion, gentlemen, these are the squabbles of the profession, not the ethics. Theory and practice seldom run hand in hand—often they are totally opposed to one another; it rests with us individually, then, and with the profession as a whole, to make the practice follow as nearly as possible to the theory of the ideal.

"Let us then be what we are, and speak what we think,
And in all things keep ourselves loyal to truth.—*"Evangeline."*

Then in future years, when we cease our labors, we may look back upon the past with pleasure and with no regrets. For ourselves, may we be able to echo the words of Omar Khayyan :

"Death hath no terrors when the life is true ;
'Tis living ill that makes us fear to die—
And I have done my best."

And for our confrere and colleague may we say: "He was my friend—faithful and just to me."

Reports of Societies

TORONTO CLINICAL SOCIETY.

Stated Meeting, March 5th, 1902.

Dr. W. H. B. Aikins in the chair.

Fellows present : Drs. Aikins, Small, Bingham, Bruce, Hamilton, McIlwraith, Thorburn, Hastings, Garratt, C. A. Temple, Greig, Lehman, Anderson, Ryerson, Rudolf, Parsons, Oldright, Wright, and Elliott.

Visitors: Drs. Rogers, Ingersoll; Sutherland, Embro; Bruce Riordan, McGillivray, Hooper, and Bray.

Election of Fellows : Drs. B. Z. Milner and William Goldie.

Presentation of patient by Dr. Garratt. Ten years ago the father of the boy consulted Dr. Reeve for eye trouble, and six years afterwards this boy was born. Up to last July the child had been perfectly healthy, at about which time he was taken with the first convulsion. His left arm is powerless and he has constant twitching in it. There was ptosis and also inability to walk. He was unable to use the left arm or hand at all. In Dr. Garratt's opinion the child was the subject of hereditary syphilis, although he had been born six years after it was present in the father.

TUBAL ABORTION; SPECIMEN. CARCINOMA OF THE RECTUM; SPECIMEN. A CASE OF INTUSSUSCEPTION.

Dr. [illegible] A. Bingham.—The first specimen presented by Dr. Bingham was one of carcinoma of the rectum, which he had operated on in May of '01, by the so-called Kraske method, but which was really a modification, in which the coccyx and lower two or three pieces of the sacrum were remov[illegible]. The case of tubal abortion occurred in a woman of thirty-two years of age. She last menstruated in November, 1901. She was ill at that time for one week, as usual. [illegible]e should have been ill again on December 5th, but passed her time, and on the 13th—eight days after—a whitish discharge, tinged slightly with blood, began. This also contained some small pieces of membrane. She consulted Dr. Bingham on the 24th of December. With the history he diagnosed tubal gestation, unruptured, and advised operation. Dr. Temple confirmed the diagnosis. When Dr. Bingham opened the abdomen he expected to find no blood. He, however, found a large amount of clots in the peritoneal cavity. Looking for the explanation of the blood, he noticed that it was dripping through extremity of the tube, so he believed he had a case of

tubal abortion. The patient had shown no evidence of loss of blood prior to the operation. Case No. 3 occurred in a baby of fourteen months, on January 1st of the present year. There was diarrhea, with tenesmus, but no bloody mucus—absolutely none. On the fourth there were no evacuations at all. In the evening of this day the patient was given an enema, when for the first time a limited amount of bloody mucus was passed. Dr. Bingham saw the child on the fifth, in consultation with Dr. Harrington. Her pulse was weak and thready, and she was retching pretty constantly. Colic was intermittent. The abdomen was distended. The diagnosis was intussusception, and operation advised. There was one very large gangrenous opening in the bowel, showing how rapidly this takes place. The intussuscipiens was the portion which was gangrenous. The cause of this case was a fairly large polypus. The child died of shock some twelve hours after operation.

A CASE OF PERFORATION OF THE BOWEL IN TYPHOID FEVER; OPERATION AND RECOVERY—FOLLOWED BY SUBPHRENIC ABSCESS; OPERATION AND RECOVERY.

Reported by Dr. Herbert A. Bruce.—This case, which was fully reported in the March number of the *Canadian Practitioner and Review* and the *Canada Lancet,* occurred in a young medical practitioner of twenty-eight years of age. It is the first case recorded in Canada of full and complete recovery after operation for perforation in typhoid fever.

AMERICAN ASSOCIATION OF UROLOGISTS.

The American Association of Urologists was organized on February 22, 1902, essentially for the purpose of further development of the study of the urinary organs and their diseases. Although most of the founders of the association are specialists in genito-urinary diseases, membership is not limited to those engaged exclusively in this specialty. Thus gynecologists, who embrace renal and vesical surgery in their work, are among the founders, as are also several gentlemen who devote themselves to the microscopy and chemistry of the urine, as well as a number of practitioners interested in the study of the kidney from a medical standpoint. The association consists of active, corresponding, and honorary members, and is in a great measure modelled upon the plan of the Societe Francaise d'Urologie, modified to suit American circumstances and conditions. Whenever possible, the branch associations throughout the United States, British Possessions, and Spanish America, will hold

their meetings on the same evenings as does the parent association in New York (the first Wednesday in each month). The work of the association is principally clinical, for the demonstration of new methods in the technique of examination and treatment. The annual meeting of the American Association of Urologists will be held on the last day and the day following the annual meeting of the American Medical Association. The officers of the Association are : Ramon Guiteras, M.D., President; William K. Otis, M.D., Vice-President; John Van der Poel, M.D., Treasurer; Ferd. C. Valentine, M.D., Secretary; A. D. Mabie, M.D., Assistant Secretary.

AMERICAN MEDICAL ASSOCIATION.

The Committee on Pathologic Exhibit for the American Medical Association is anxious to secure materials for the coming session at Saratoga, June 10th to 13th, inclusive.

This exhibit was accorded much praise and comment during the sessions at Atlantic City and St. Paul respectively, where were collected valuable exhibits from all parts of the country. The materials included not only pathologic specimens, but the allied fields, bacteriology, hematology, physiology, and biology were well represented.

It would also be desirable to secure exhibits of new apparatus, charts, etc., used by teachers of pathology and physiology in medical colleges.

This exhibit has already become a permanent feature of the annual sessions of the American Medical Association, and the committee is desirous of securing its list of exhibits as early as possible, and to this end asks those having desirable materials to communicate with any member of the committee.

To contribute to the value of the work, it is suggested that as far as possible each contributor select materials illustrative of one classification, and by such specialization enhance the usefulness of the display.

Those lending their materials may feel assured that good care will be given their exhibits while in the hands of the committee, and due credit will be given in the published reports.

Very respectfully,

F. M. JEFFRIES, 214 E. 34th St., New York City.
W. A. EVANS, 103 State St., Suite 1403, Chicago, Ill.
ROGER G. PERKINS, West. Res. Med. School, Cleveland, O.

Committee on Pathologic Exhibit, American Medical Associa'n.

Physicians' Library

Essentials of Obstetrics. By CHARLES JEWETT, A.M., M.D. ScD., Professor of Obstetrics and Gynecology in the Long Island College Hospital and Obstetrician and Gynecologist to the Hospital; Fellow of the British Gynecological Society; Ex-President of the New York Obstetrical Society, etc. Assisted by Harold F. Jewett, M.D. Illustrated by 80 wood cuts and 5 colored plates. New York and Philadelphia: Lea Brothers & Co. 1901.

The author states in the preface of this work that it is his aim to place the essential facts and principles of obstetrics within easy grasp of the student. He believes that a student will make the most progress in the study of obstetrics if he first obtain a knowledge of the principles by studying a work such as this before attempting the reading of a more elaborate book. With such an object in view, we most heartily commend the purpose of the work, as a pupil in any branch of learning must first master its elements.

His arrangement of the subject matter and the illustrations are such as will make the book a valuable guide in following the didactic and practical teaching of a college course.

In the present edition much has been re-written and new matter added, so as to make the work thoroughly up-to-date.

The American Year-Book of Medicine and Surgery for 1902. A Yearly Digest of Scientific Progress and Authoritative Opinion in all branches of Medicine and Surgery, drawn from journals, monographs, and text-books of the leading American and foreign authors and investigators. Arranged, with critical editorial comments, by eminent American specialists, under the editorial charge of GEORGE M. GOULD, A.M., M.D. In two volumes—Volume I., including General Medicine, octavo, 700 pages, illustrated; Volume II., General Surgery, octavo, 684 pages, illustrated. Philadelphia and London: W. B. Saunders & Co. 1902. Canadian agents: J. A. Carveth & Co., Toronto, Ont. Per volume: Cloth, $3.00, net; half morocco, $3.75, net.

The plan of issuing the Year-Book in two volumes, inaugurated two years ago, met with such general favor with the profession that the publishers have decided to follow the same plan

with all succeeding issues. Each volume is complete in itself, and the work is sold either separately or in sets.

The contents of these volumes, critically selected from leading journals, monographs, and text-books, is much more than a compilation of data. The extracts are carefully edited and commented upon by eminent specialists, the reader thus obtaining, not only a yearly digest of scientific progress and authoritative opinion in all branches of medicine and surgery, but also the invaluable annotations and criticisms of the editors, all leaders in their several specialities. As usual, this issue of the Year-Book is not lacking in its illustrative feature ; for, besides a large number of text-cuts, the Surgery volume contains five, and the Medicine volume four, full-page inserts. In every way the Year-Book of 1902 fully upholds, if it does not strengthen, the reputation won by its predecessors.

A Laboratory Course in Bacteriology. For the use of Medical, Agricultural, and Industrial Students. By FREDERIC P. GORHAM, A.M., Associate Professor of Biology, Brown University Bacteriologist, Health Department, Providence, R.I. With 97 illustrations. Price, $1.25. Philadelphia : W. A. Saunders & Co. Canadian agents: J. A. Carveth & Co., Toronto. 1901.

This is a small work of 192 pages, prepared as a laboratory course for beginners in bacteriology. Directions are given to the student as to what he should do and what he should look for. The most elementary facts are first considered, and then more complex ones are taken up. The author believes that bacteriology can only be successfully taught in the laboratory, and therefore has incorporated very little text in the work. The book should serve a very useful purpose.

Clinical Hematology. A Practical Guide to the Examination of the Blood with Reference to Diagnosis. By JOHN C. DA COSTA, Jr., M.D., Assistant Demonstrator of Clinical Medicine, Jefferson Medical College; Hematologist to the German Hospital, etc. Containing 9 full-page colored plates, 3 charts, and 48 other illustrations. Octavo, 450 pages. Philadelphia : P. Blakiston's Son & Co., Publishers, 1012 Walnut Street. Canadian agents : Chandler & Massey, Toronto. 1901. Price, $5.00, net.

The rapid growth and development of hematology during the last few years has made this division of medical science one

which no medical man can afford to disregard. Unfortunately, there are only a few diseases—leukemia, malaria fevers, relapsing fever, and filariasis—in which examination of the blood gives pathognomic characters, but there are a large number of affections in which blood examinations are essential or helpful in making a diagnosis.

The book before us is designed as a practical guide to the examination of the blood and to interpret the blood report according to its true value as a clinical sign, neither exploiting it as a panacea for every diagnostic ill, nor belittling it because of its failure consistently to give the sought-for clue in every instance.

The author describes in detail the methods of examination likely to prove useful in every-day practice, in the hope of thus exemplifying for the novice the essentials of blood-counting, staining, and other means of investigation. The author's aim has evidently been to write a book suitable alike to both students and practitioners, rigidly accurate, but at the same time neither elaborate nor difficult to master, and in this effort we think he has been very successful.

A Treatise on the Acute, Infectious Exanthemata. Including Variola, Rubeola, Scarlatina, Rubella, Varicella, and Vaccinia, with especial reference to Diagnosis and Treatment. By WILLIAM THOMAS CORLETT, M.D., L.R.C.P.Lond., Professor of Dermatology and Syphology in Western Reserve University; Physician for Diseases of the Skin to Lakeside Hospital; Consulting Dermatologist to Charity Hospital, St. Alexis Hospital, and the City Hospital, Cleveland; Member of the American Dermatological Association and the Dermatological Society of Great Britain and Ireland. Illustrated by 12 colored plates, 28 half-tone plates from life, and 2 engravings. Pages viii.-392. Size, 6 1-4 by 9 1-4 inches. Sold only by subscription. Price, extra cloth, $4.00 net, delivered. Philadelphia : F. A. Davis Company, Publishers, 1914-16 Cherry Street.

The exanthemata form a group of diseases which should be familiar to every young graduate in medicine, and yet, as a rule, on account of their infectious character, very little opportunity is given for undergraduates to become practically acquainted with the characters of these diseases. The author tells us that he himself felt the need of a work such as this when he was young in the practice of medicine. The present time is oppor-

tune for the appearance of a work on this important group of diseases, as the widespread distribution of smallpox has made the study of the exanthemata of much greater interest of late.

The author has endeavored to render the text as complete as is consistent with brevity, and at the same time to give a clear exposition of the subject. He has greatly enhanced the value of the work by the excellent illustrations. The book deserves a good reception fr .. the medical profession.

Laryngeal Phthisis, or Consumption of the Throat. By RICHARD LUKE, F.R.C.S., Surgeon Laryngologist, North London Hospital for Consumption, etc. Surgeon, Metropolitan Ear and Throat Hospital, etc. With 26 illustrations, twenty-one of which are colored. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. Canadian agents: Chandler & Massey, Toronto. 1901. Price, $2.00.

The importance of this subject, and the immense value of proper treatment of laryngeal phthisis are sufficient reasons for the preparation of this work. The book is written by a specialist on the subject, who has had a large experience in the treatment of diseases of the throat. It is the local treatment which is considered in this book, as internal medication is entirely omitted as coming under the province of the general practitioner, and being fully discussed in works on general medicine.

The illustrations are excellent, and were all drawn from patients in the North London Hospital for Consumption.

Modern Obstetrics—General and Operative. W. A. NEWMAN DORLAND, A.M., M.D., Assistant Demonstrator of Obstetrics, University of Pennsylvania; Associate in Gynecology, Philadelphia Polyclinic. Second edition, re-written and greatly enlarged. Handsome octavo, 797 pages, with 201 illustrations. Philadelphia and London: W. B. Saunders & Co. 1901. Canadian agents: J. A. Carveth & Co., Toronto. Cloth, $4.00 net.

The first edition of this book was received with almost unanimous expressions of approval by the medical profession. In the revised editions it has been re-written and very greatly enlarged, so that it now forms a complete text-book of obstetrics, along the lines that make the original edition so useful. A number of entirely new sections have been added, including chapters on the

surgical treatment of puerperal sepsis, and the role of the liver in the production of puerperal eclampsia. Especial attention is given to the more recent pathology of obstetric conditions, as well as to the physiology and hygiene of pregnancy and labor; a more accurate elaboration of the mechanism of labor has been adopted. By new illustrations the text has been elucidated, and the science of modern obstetrics is presented in an instructive and eminently acceptable form.

The Diagnosis of Nervous and Mental Diseases. By HOWELL T. PERSHING, M.Sc., M.D., Professor of Nervous and Mental Diseases in the University of Denver; Neurologist to St. Luke's Hospital; Consultant in Nervous and Mental Diseases to the Araphoe County Hospital; Member of the American Neurological Association. Illustrated. Philadelphia : P. Blakiston's Son & Co., 1012 Walnut Street. Canadian agents : Chandler & Massey, Limited, Toronto. 1901. Price, cloth, $1.25 net.

This book is intended to be an adjunct to a complete treatise on diseases of the nervous system, and as such it appears to us to be admirably constructed.

The first part of the work is devoted to how to examine a patient for diseases of the nervous system. The value of the clinical history, the general appearance of the patient, the condition of the reflexes, senses of taste and smell, examination of the mental condition, eye and ear, are all considered. Following this are sections devoted to the recognition of organic disease, the principles of localization, the signs of hysteria and neurasthenia. Then follow a series of tables arranged according to the form of a botanical key. These will, no doubt, prove of great value to the busy practitioner. We can highly commend this work to the medical profession.

The Diseases of the Respiratory Organs, Acute and Chronic. Arranged in two parts. By WILLIAM F. WAUGH, A.M. M.D., Professor of Practice and Clinical Medicine, Illinois Medical College, etc. Chicago: G. P. Englehard & Company. 1901.

The author of this work states "that the treatment of acute affections of the respiratory organs has progressed far beyond

that given in the text-books on practice," and for this reason he was led to prepare this work. Most of the new material has appeared in the numerous periodicals, so that the reader will have the advantage of the author's views on some of the recent therapeutic measures employed in this field of medicine.

The author holds a peculiar conception of the role played in acute inflammations by the vasomotor nerves. He believes that the future of scientific therapeutics lies in the study of such pathologic states, and the influence of drugs upon them. He thinks that this knowledge would enable one to attack a disease before it has become fixed in the tissues. The theory is, no doubt, interesting, but it can hardly be considered compatible with the science of medicine.

Saunders' Question Compends—Essentials of Physiology. Prepared especially for Students of Medicine, and arranged with questions following each chapter. By SIDNEY P. BUDGETT, M.D., Professor of Physiology, Medical Department of Washington University, St. Louis. 16mo volume of 233 pages, illustrated. Philadelphia and London : W. B. Saunders & Company. Canadian agents : J. A. Carveth & Co. 1901. Cloth, $1.00, net.

This is another addition to Saunders' excellent Question Compend Series. It is intended for the use of students in conjunction with a larger work on physiology. The author has been very careful in making the book contain all the essential principles of physiology. The book should prove of great value to medical students.

A Text-Book of Pharmacology. Including Therapeutics, Materia Medica, Pharmacy, Prescription Writing, Toxicology, etc. By TOROLD SOLLMAN, M.D. Assistant Professor of Pharmacology and Materia Medica, Western Reserve University, Cleveland, Ohio. Royal octavo volume of 880 pages, fully illustrated. Philadelphia and London : W. B. Saunders & Co. 1901. Canadian agents : J. A. Carveth & Co., Toronto. Cloth, $3 75 net.

This is a thoroughly modern work. The book contains the most recent advancements along pharmacological lines, and the drugs are so grouped that the student must base his therapy upon a physiological basis, provided the mode of action of the drug

is known. The author gives instructions for experimental work on animals and in the chemistry of drugs. Although the study of Pharmacology comprises the principal subject of the book, still the important subjects of pharmacy, prescription writing, incompatibles, toxicology, and therapeutics receive due attention. The analytical index and dose-table are particularly useful. Taken altogether, it is an admirable book.

Outlines of Physiology. By EDWARD GROVES JONES, M.D., Lecturer on Physical Diagnosis in the Atlanta College of Physicians and Surgeons, and Professor of Physiology in the Dental Department of the Same. 107 illustrations ; 442 pages. P. Blakiston's Son & Co., Philadelphia. 1901. Canadian agents: Chandler & Massey, Limited, Toronto.

Although this work is small in size, still it contains all the essential facts of modern physiology, as related to the practice of medicine. In the preparation of the work brevity has been made a prime consideration, theories being avoided, and conclusions, on account of its small size, recorded without argument. We can scarcely recommend this book as a text-book for medical students; nevertheless, a student may become well grounded in physiology by studying it alone. The proper field of usefulness of this book is for medical students commencing the study of physiology.

A System of Physiologic Therapeutics. A Practical Exposition of the Methods, Other Than Drug-Giving, Useful in the Prevention of Disease and in the Treatment of the sick. Edited by SOLOMON SOLIS COHEN, A.M., M.D., Professor of Medicine and Therapeutics in the Philadelphia Polyclinic, etc. Vols. III. and IV. Climatology—Health Resorts—Mineral Springs. By F. PARKES WEBER, M.A., M.D., F.R.C.P. (London), Physician to the German Hospital, Dalton, etc. With the collaboration for America of GUY HINSDALE, A.M., M.D., Secretary of the American Climatological Association, etc. Philadelphia: P. Blakiston's Son & Co. Canadian agents: Chandler & Massey, Limited, Toronto. 1901.

At the present time the subject of climatology should be familiar with every physician, and should receive a great deal more attention than it has hitherto received, at least in this coun-

try. The subject is by no means an easy one, as there are many things to be considered in selecting a health resort. The constitution of the patient, the disease, the season of the year, the selection of a dwelling, the journey, the climate, etc., are all to be taken into consideration, and all of these factors have been well handled in the two volumes before us. Vol. III. deals with the physics, physiology, and general therapeutics of climate, and contains an excellent description of the health resorts of Europe and the British Islands. The subject of ocean voyages as a factor in the treatment of disease is also ably considered. The first part of Vol. IV. is devoted to the health resorts of Africa, Asia, Australia, and America, while the latter part treats of mineral springs and special therapeutics. Both books are thoroughly scientific and practical, and reflect great credit on the authors.

Progressive Medicine, Vol. IV., 1901. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia; assisted by H. R. M. SANDIS, M.A. Lea Brothers & Co., Philadelphia and New York. 1901.

This quarterly volume is one of the most useful medical works for a physician, as it furnishes an excellent review of medical progress in the various departments of medicine. The contributors are all authorities of the highest standing. Dr. Max Einhorn writes the sections on Diseases of the Digestive Tract; Dr. Wilbur T. Belfield on Genito-Urinary Diseases; Dr. Joseph C. Bloodgood, on Anesthetics, Fractures, Dislocations, Amputations, etc.; Dr. John R. Bradford, on Diseases of the Kidneys; Dr. Albert P. Brubaker, on Physiology; Dr. Henry P. Baker, on Hygiene; and Dr. E. W. Thornton, on Therapeutics.

NEW BOOKS RECEIVED.

A VERY timely *Treatise of Smallpox*, to sell at $3.00, is announced for publication early in April, by J. B. Lippincott Company. It is written by Dr. George Henry Fox, Professor of Dermatology in the College of Physicians and Surgeons, New

York City, with the collaboration of Drs. S. Dana Hubbard, Sigmund Pollitzer, and John H. Huddleston, all of whom are officials of the Health Department of New York City, and have had unusual opportunities for the study and treatment of this disease during the present epidemic. The work is to be in atlas form, similar to Fox's Photographic Atlas of Skin Diseases, published by the same house. A strong feature of the work will be its illustrations, reproduced from recent photographs, the major portion of which will be so colored as to give a very faithful representation of typical cases of variole in the successive stages of the disease, also unusual phases of variola, vaccinia, varicella, and diseases with which smallpox is liable to be confounded. These illustrations number thirty-seven, and will be grouped into ten colored plates, 9 1-2 by 10 1-4 inches, and six black-and-white photographic plates. The names of Dr. Fox and his associates assure the excellence of the work, in which will be described the symptoms, course of the disease, characteristic point of diagnosis, and most approved methods of treatment.

A Practical Manual of Insanity. For the Student and General Practitioner. By DANIEL D. BROWER, A.M., M.D., LL.D., Professor of Nervous and Mental Diseases in Rush Medical College, in affiliation with the University of Chicago, and in the Post-Graduate Medical School, Chicago; and Henry M. Bannister, A.M., M.D., formerly Senior Assistant Physician, Illinois Eastern Hospital for the Insane. Handsome octavo of 426 pages, with a large number of full-page inserts. Philadelphia and London: W. B. Saunders & Company. 1902. Canadian agents: J. A. Carveth & Co., Toronto. Price, cloth, $3.00 net.

Genito-Urinary Diseases and Syphilis. For Students and Practitioners. By HENRY H. MORTON, M.D., Clinical Professor of Genito-Urinary Diseases in the Long Island College Hospital; Genito-Urinary Surgeon to the Long Island College, and King's County Hospitals, and the Polhemus Memorial Clinic, etc. Illustrated with half-tones and full-page color plates. Pages xii.-372, size 9 1-2 by 7 inches. Price, extra, cloth, $3.00 net, delivered. Philadelphia : F. A. Davis Company, Publishers, 1,914-16 Cherry Street.

Progressive Medicine, Vol. I., 1902. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson

Medical College of Philadelphia. Octavo, handsomely bound in cloth, 452 pages, 5 illustrations. Per volume, $2.50, by express prepaid to any address. Per annum, in four cloth-bound volumes, $10.00. Lea Brothers & Co., Philadelphia and New York.

Morphinism and Narcomania from Opium, Cocaine, Ether, Chloral, Chloroform, and other Narcotic Drugs. Also the Etiology, Treatment, and Medico-legal Relations. By T. D. CROTHERS, M.D., Superintendent of Walnut Lodge Hospital, Conn.; Professor of Mental and Nervous Diseases, New York School of Clinical Medicine, etc. Handsome 12mo of 351 pages. Philadelphia and London: W. B. Saunders & Co. 1902. Canadian agents: J. A. Carveth & Co., Toronto. Price, cloth, $2.00 net.

The International Medical Annual, 1902. A Year-Book of Treatment and Practitioners' Index. Price, $3.00. Publishers, E. B. Treat & Co., New York.

Syphilis, a Symposium. Contributions by Seventeen Distinguished Authorities. Price, $1.00. Publishers, E. B. Treat & Co., New York.

THE MUCOUS MEMBRANE OF THE GASTRO-INTESTINAL TRACT AS A PORTAL OF ENTRANCE OF PYOGENIC INFECTION.

In order to determine whether the uninjured gastro-intestinal tract permits the invasion of micro-organisms, M. Bail (*Langenbeck's Archives,* Vol. LXII., p. 369) introduced streptococci into the stomach of animals through a stomach tube, thereby avoiding infection of the pharynx. Of forty animals so treated, ten withstood the infection, thirteen died of intestinal catarrh, ten of other diseases. Seven received a general infection, and from the peritoneal fluid, liver, and spleen the streptococci were isolated. Cultures of the same were also obtained from the small intestine, never from the stomach, very seldom from the large intestine. In five out of the seven animals Bail could satisfy himself by microscopic examination that various parts of the small intestine were the portal of entrance of the infection, for while the tonsils, stomach and large intestine were free, the streptococci were abundant between and under the epithelium, in the capillaries and lymph-vessels of the submucosa of the small intestine. For the success of the experiment the use of highly virulent material is essential, but small doses are sufficient.—*Maryland Medical Journal.*

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FAVUS AND TRACHOMA IN CANADIAN IMMIGRANTS.

Robert Watchorn, United States Special Immigrant Inspector, in charge of all immigrant inspectors at Canadian border points—and there are fifty such inspectors—according to the *Montreal Star,* makes some startling statements in an interview published in that journal in March last. According to him the United States Government found itself unable to prevent the admission of undesirable persons, in spite of the strict inspection carried out at United States ports, because many such returned by a Canadian line, after being sent back to Europe, and slipped over the border from this country. The evil had become so great that it was felt necessary to establish an office and permanent board of inspection in Montreal, before which intending settlers in the United States are asked to appear, and a certificate granted or refused according to the pleasure and judgment of the members of the board, one of whom is a medical man. They seem to have a busy time. In 1901, 25,000 such persons landed in Canada on their way to United States points. They do not appear, on the whole, to be a very desirable lot, because, according to Mr. Watchorn, from September to March, a period of six months, five hundred aspirants for American citizenship have been rejected at Montreal, and an equal number at the various other border points where inspection is carried on. The causes for rejection of these one thousand individuals, which means about one in twelve of the total number landed, is given as mental,

moral, financial, or physical unfitness to enter the United States, but a large number of such, while not welcomed, are apparently permitted to remain in Canada. The most astonishing part of his statement, however, is that 98 per cent. of this great number are rejected because found to be suffering from contagious diseases, principally favus and trachoma. We can scarcely believe this possible, but, if true, we may soon count upon favus becoming a common disease in this country. Many rejected are children, whose parents are paupers, and a large proportion of such will likely find their way into children's homes. Trachoma will increase with their advent. If the facts are as stated in the *Star*, it is surprising that more general attention has not been called to it. The United States officials have no power on Canadian soil to compel the return of persons rejected by them.

CONDUCT OF OUR PROVINCIAL ASYLUMS.

It seems unfortunate that the term "asylum," which has been used for generations, and which is associated in the minds of many with an idea not far removed from that conveyed by "mad house," should still be applied in Ontario to describe an institution for the treatment of the insane. In this particular instance there is undoubtedly something in a name. To those compelled to place under restraint some relative or friend, there is an association in the term asylum from which most people shrink; the mental picture produced by the word is a place of restraint—of imprisonment. It may be only a weakness in human nature, but most of us would rather see one of our friends removed to a "Hospital for the Treatment of the Insane," or to a "Home for the Treatment of the Feeble-minded," rather than to "An Asylum for the Insane," or "An Asylum for Idiots," even though we knew that the institutions were the same, and only described by different terms. Such is in accordance with usage in most other countries, and has, aside from the sentimental value, a practical one, in that it conveys to the mind the point that the essential use of such a place is to afford treatment, and that restriction is only a secondary, although necessary, consideration. There can be no doubt that as a result of the reluctance of many people, on account of the supposed stigma, to allow relatives suffering from mental diseases to be removed from their homes, and, in addition, the difficulty often experienced in securing admission for such to the asylums, a considerable number of persons forfeit the possibility of cure. The attention drawn to the fact

by Dr. McKinnon, at the Ontario Medical Association, that vexatious and unnecessary delay often followed application for admission to these institutions, has already been followed by marked improvement in this respect, and, we believe, that the change in the description of the institutions would also materially aid, by removing prejudice, in securing early treatment of these unfortunates. The primary idea always present in the conduct of such institutions should be, and we believe is, treatment of the mental condition of the patient, both with the idea of restoring to *him* the greatest of all gifts—his reason—and at the same time tending to reduce the insane population of these institutions, which is unfortunately constantly increasing, and proving a very considerable charge upon the public funds. Efficient treatment of such patients necessarily presupposes, upon the part of those placed in authority, a thorough knowledge of mental diseases, and such knowledge is not intuitive, and can only be acquired by long and patient study. We know, although the laity probably does not, that the ordinary medical man's information concerning the treatment of mental affections is very slight, and no branch of medicine should be so completely in the hands of specialists. In view of this we believe it right to protest against the tendency—it might almost be spoken of, as the rule—to make the office of superintendent of an asylum a political office. Three such vacancies have, in the past year, been filled by men who make no pretence of having any special knowledge which they can bring to bear to aid them in the enormous responsibilities assumed. We do not desire in the slightest to reflect upon the gentlemen so appointed. They are all creditable members of their profession. But we do say, that the system which allows such appointments is distinctly bad. It is a wrong perpetrated upon men who have spent years in subordinate positions in the asylums, who, in the ordinary course of events, might reasonably hope for promotion, and some at least of whom, both from practical knowledge of the duties involved, and from long and intelligent devotion to the study of mental diseases, might reasonably demand such. It is a wrong against the tax-payers, who might expect, under the most efficient conditions, an insane population less than under the present; and, finally, it is a wrong against the unfortunate inmates of such institutions, for it must be evident that if there be anything in the treatment of mental diseases, the more intelligent such treatment, and the better qualified the physician directing it, the better the results obtained.

MANITOBA MEDICAL ASSOCIATION.

We must congratulate the profession in Manitoba upon the practical unanimity displayed by its members in the formation of an association for mutual aid and defence. They have set a good example to the other Provinces, and have taken the best way of awakening the public to the value of their services by insisting upon fair remuneration for work done. The world is unlikely to value a man higher than his estimate of himself.

Editorial Notes

THE SOCIAL EVIL.

The problem of evil, as an abstract question, has never been solved; and the control of evil, as a practical question, is still far from solution. In spite of these obvious facts, it is the imperative duty of mankind to combat evil unceasingly and to minimize its effects. To do this with anything like success requires a knowledge of the conditions of evil. Too many of our would-be reformers have a mere academic knowledge of sin; they denounce it, but they do not know it. If they did know it, and had a greater measure of common sense, they would probably cease to scold and declaim against it; and would do their little share in a practical way in trying to mitigate its effects.

Of all the moral evils in this world the social evil is the worst, and probably the one least susceptible to eradication. Those moralists who will not recognize this last-mentioned fact, are academic moralists. In demanding the impossible they often oppose the only things possible. The progress of ethics was never yet along such lines, for ethics is only practical conduct.

The Committee of Fifteen, of New York, has published its report on the Social Evil. The book is a most interesting one and a most disappointing one. Any reader who has seen even a little corner of this world, must feel when he lays the book down that the Committee has offered no solution of the social evil. For this we do not blame the Committee. In fact, we do not see how it could well have written a different report from what it has. To expect these fifteen eminent and respectable gentlemen to make a report on the social evil for public miscellaneous reading, and to write it differently than they have, or to make any more practical suggestions than they have, would be to expect them to compromise themselves in the opinion of a large and influential portion of the community. The whole idea of solving such a problem in such a way is of course imprac-

tical, and the members of the Committee probably recognize this fact themselves.

What the Committee has done, however, and what it deserves thanks for doing, is to present a very readable statement of the case. To this extent, we believe, the book will do good. As a historical statement it is especially good, for it is clear and concise, and shows the conditions of prostitution in many countries in ancient and modern times. Such information is especially needed by some of our reformers.

The Committee presents a strong case against the regulation of prostitution. It believes that regulation does not regulate. Apart from all moral considerations, this is a severe indictment. But the discussion of regulation can be only futile in this country, where there is an overwhelming popular sentiment against it. In the present state of the public conscience the thing is inconceivable in our best American cities.

The best recommendation made by the Committee is for larger accommodations for venereal cases in our hospitals. It is a crying shame that these cases are so poorly housed. After all, as physicians, we may be allowed to hope that the age of sanitary science is coming, and that, when prostitution and the control of the venereal diseases are approached more frankly from the sanitary standpoint, a partial solution of the social evil may be reached. But that time is not yet.—*Phil. Med. Jour.*

THE DEATH OF CHRISTIAN FENGER.

In the death from pneumonia of Christian Fenger, which took place Friday, March 7th, the medical profession, not only of America, but of the whole world, has suffered a distinct loss. Next to the elder Gross, he probably did more to advance surgical pathology than any other one man in this country. The West particularly owes him a lasting debt for what he has done to further surgical science and practice in that part of the country.

His writings show the thinker and the careful, painstaking student that he was. Probably his greatest work was done in the surgery of the kidney and common bile duct. Much of the conservative treatment of kidney and ureteral conditions practised by American surgeons can be traced to Fenger.

Christian Fenger was born in Copenhagen, Denmark, November 3rd, 1840. While still a student, in 1864, he served as surgeon in the war between Denmark and Germany. In 1867 he graduated, and for two years was an assistant in Wilhelm Mayer's Ear Clinic in Copenhagen. He also enjoyed an extensive experience in military surgery during the Franco-German

war. In 1877 he came to America, and, settling in Chicago, rapidly rose to eminence. In 1895 he was Vice-President of the American Surgical Association, and at the time of his death he was the President of the Chicago Medical Society and Clinical Professor of Surgery in the Rush Medical College.

One of the honors of which he was proudest was the decoration of the Knight of the Danish Flag, conferred by Christian IX. of Denmark.—*Phil. Med. Jour.*

WILLIAM BEAUMONT.

By the courtesy of the *Physician and Surgeon,* we are able to print on another page of this issue a picture of the handsome monument which has recently been erected to the memory of Dr. William Beaumont, near Fort Mackinac, in Michigan. The name of Beaumont will always be an illustrious one in the annals of American medical science. By reason of the experiments and observations which he made on Alexis St. Martin, his work has long since become classical, and has placed him among that comparatively small group of professional men who have become immortal for the rare and unique service which they have rendered to their kind.

The story of Alexis St. Martin need not be repeated here. He was the Canadian voyageur who sustained a musket-shot wound which left him with a fistulous opening into the stomach. With rare judgment and unconquerable persistence Beaumont studied through this opening the action of the gastric juice. The interesting story has often been published, but never with more detail than in the Beaumont Memorial number of the *Physician and Surgeon,* published in December, 1900. The Upper Peninsula Medical Society of Michigan has honored itself and conferred a favor on the whole profession by erecting this appropriate monument.—*Phil. Med. Jour.*

THE ABSENCE OF THE FRONTAL SINUS.

The article in this issue by Dr. Philip, on the use of "The X-ray in Determining the Limits of the Frontal Sinus," is a contribution to a subject that apparently needs more elucidation. The possibility of there being no frontal sinus at all in the adult seems not to have been always duly emphasized, as witness two recent articles in a leading medical journal that discuss operations in this region. In one of the two its occasional absence on one side is merely mentioned, in the other this possibility seems to have been entirely neglected. In 240 European crania Logan Turner found one or both sinuses absent in 41, or 17 per cent., and both were absent in 18 of these, or 7.5 per cent., of the whole

number. The great majority of these instances were in British skulls, but a still larger proportion of these anomalies is indicated in certain other races, notably the Australians, in 30 per cent. of whom both sinuses were wanting. The clinical importance of the condition and the desirability of any means whereby a more accurate knowledge of their existence can be obtained, are obvious. It is not always possible to accurately diagnose the affections of the region, or perhaps one would better say that mistakes in diagnosis are possible. Such a mistake would be all the more unfortunate if it led to an operation for opening a cavity that did not exist with the risk of wounding the dura or injuring the brain. Yet this appears to be possible in an appreciable percentage of cases.—*Jour. Am. Med. Ass'n.*

THE CANADIAN MEDICAL ASSOCIATION.

The next annual meeting of the Canadian Medical Association will be held in Montreal, on the 16th, 17th, and 18th of September, 1902, under the Presidency of Dr. Francis J. Shepherd, of that city. The Local Secretary is Dr. C. F. Martin, 33 Durocher Street, Montreal; the General Secretary, Dr. George Elliott, 129 John Street, Toronto. Professor William Osler will deliver the Address in Medicine, and Dr. John Stewart, Halifax, N.S., the Address in Surgery. Any members of the association or of the profession in Canada contemplating contributing papers or demonstrations should send notice of their intention to either the Local or General Secretary as soon as convenient.

News Items

DR. A. DIXON WAGNER died at Cornwall, Ont., on February 13th, at the age of fifty-three years.

DR. H. B. ANDERSON, Editor of the *Canada Lancet,* is spending a month in the New York hospitals.

SMALLPOX is decreasing in Montreal. There were only ten houses under quarantine at the end of March.

DR. THEODORE BOLDUC. Montreal, ex-house surgeon of the Notre Dame Hospital, died suddenly March 20th, aged twenty-six years.

DR. HARVEY MCNAUGHT, Trinity, '97, who has been practising in California, has been visiting friends in Toronto for the past six weeks.

DR. CHARLES B. SHUTTLEWORTH, Toronto, Trinity Medical College, has been admitted to membership in the Royal College of Surgeons, England.

DR. F. H. THOMPSON, of Seattle, Wash., died recently of typhoid fever. He was a son of a prominent citizen of Toronto, and was a graduate of Trinity Medical College.

A BROCKVILLE nurse, on the 22nd of March, accidentally partook of a solution of bichloride of mercury, in mistake for a solution of magnesium sulphate. Death occurred five hours later.

THE monthly report of the Ontario Board of Health shows a considerable decrease in deaths from consumption over the same month in the previous year. In 1902 it was 177; in 1901 it was 238.

DR. DON J. ARMOUR, a son of Chief Justice Armour, has been appointed Senior Assistant Surgeon at Belgrave Hospital for Children, London, England. He will also continue his duties as Senior Assistant Demonstrator of Anatomy at University College, London.

THE Corporation of McGill University, which two years ago established a six years' course in Arts and Medicine, has recently extended the privilege to the students in Applied Science. In the third year in Applied Science, under this arrangement, the student will attend lectures in the Faculty of Medicine, if he so elect, taking the subjects of anatomy, physics, and histology. In the fourth year, the medical studies will embrace anatomy, physiology, histology, pharmacology, and medical chemistry. The fifth and sixth years will be devoted to medical studies entirely. At the end of the fourth year the degree of B. Sc. will be conferred; at the end of the sixth year, M.D., C.M.

JOSEPH J. KINYOUN, M.D., Ph.D., late surgeon of the Marine Hospital Service, and Director of the Hygienic Laboratory at Washington, has assumed the directorship of the Biological Laboratories of the H. K. Mulford Company, Glenolden, Pa. Dr. Kinyoun has not only served the Government by being delegated special representative to the International Medical Congresses, by being late surgeon of the United States Marine Hospital Service, and director of the Hygienic Laboratory at Washington, but also by representing the Government on several occasions in the investigation of the progress of serum organotherapy and infectious diseases at home and abroad, in Berlin and Paris, particularly, Europe in general, and Japan. Of necessity his

work carried him to and in contact with Profs. Koch, Behring, Pasteur, and Roux, under whom he has received special instructions, and enjoyed the advantages of the study of bacteriology and allied subjects ; this, together with the natural tendency of his talents, that of original bacteriological research, peculiarly fits him for the office he now assumes. The H. K. Mulford Company are to be congratulated for having secured the services of Dr. Kinyoun as director of their biological laboratories, and it is fair to predict the high standard of the Mulford biological products will be still further advanced.

Obituary

DR. W. S. MUIR, TRURO, N.S.

It is a distinct pain to us to have to publish the obituary of Dr. W. S. Muir, of Truro, Nova Scotia. This great, noble-hearted man has passed away from us, in the prime of life, if not full of years, at least full of honors. It is doubtful if any other practitioner in the Dominion of Canada had such a host of friends as "Bill" Muir. He died from appendicitis, after but three days' illness; and his demise is a very great loss indeed to the medical profession throughout this Dominion. The late Dr. Muir was born in Truro in 1853. He was graduated from the Halifax Medical College and from Dalhousie University in 1874. He has always been a man active in medical society work. In 1887 he was first elected secretary of the Nova Scotia Medical Society, a position which he held up to the time of his death. Last year he was president of the Maritime Medical Association. For many years Dr. Muir has been a leading member and worker for the Canadian Medical Association. When that association met at Banff, in 1890, Dr. Muir was elected local secretary for Nova Scotia; and vice-president in 1894. Since then he has been a member of most of the prominent committees, and was always an untiring and energetic worker at the association meetings for anything which would tend to benefit the medical profession. He was at the time of his death Examiner in Materia Medica and Therapeutics at Dalhousie and King's Colleges, and was also an Examiner for the College of Physicians and Surgeons of Nova Scotia. The place of Dr. Muir will be difficult to fill, for he was genial and kindly, ever ready and willing, always able and energetic. His, indeed, was a jovial nature, a strong, robust, manly manhood.

Selected Abstracts

NOTE ON ENEMA RASHES.

The fact (Dr. Charles Bolton, *London Clin. Jour.*, Jan. 1st, 1902, p. 176) that the administration of anemas is frequently followed by rashes, has for a long time been recognized, and a very generally accepted explanation of their occurrence is that they are of toxic origin, the water of the enema dissolving certain substances from the feces, which are absorbed by the intestinal mucous membrane.

In a general hospital these rashes are of especial importance on account of their diagnosis from certain other rashes with which they may be confounded, as (1) Infectious diseases—scarlet fever, German measles; (2) Drug rashes—mercury, belladonna, boracic acid; (3) Septic rashes; (4) Serum rashes—diphtheria antitoxin, antistreptococcic serum. It is, therefore, of great advantage to be acquainted with any facts which may throw light upon their prevention.

Having been informed by a nurse that in the hospital where she was trained soft soap was used for making the enemas, and that enema rashes were never seen, I determined to put this suggestion to the test, thinking that the *kind* of soap used might influence the occurrence of enema rashes, which might possibly be of the nature of drug rashes.

In January, 1901, I ordered soft soap to be used for making the enemas in half of the medical and surgical wards of the hospital, and hard yellow soap in the remaining half of the wards. This order continued in force for six months.

During this period a total of 903 enemas was given to 500 patients; of these 407 soft soap enemas being given to 234 patients, and 496 hard soap enemas being given to 266 patients. In the latter series seventeen rashes resulted, but in the former series I did not find a single rash. Enemas of pure water were not used, as it was considered that if soft soap enemas did not cause a rash, neither would water alone.

Three hundred of the patients received only one enema each, the remaining 200 having from two to six each, and a few of the more chronic patients from twelve to fourteen each.

Of the seventeen rashes never more than one occurred in the same person, and when more than one enema was given the rash followed the first, second, third, or fourth, but not the latter ones. In one case, after a patient had received several soft soap enemas, the mistake of giving him a hard soap enema was made, and a rash resulted. Calculating from the number of hard soap enemas

employed, the percentage of rashes is about 3 1-2. If the percentage of rashes be calculated from the number of patients who received these enemas, it amounts to about 6. These percentages, of course, are of relatively little value on account of the extremely limited nature of this investigation.

The medical and surgical diseases from which the patients were suffering had apparently no influence on the rashes, and the same remark may be made concerning the aperient employed. This was usually given the night before the administration of the enema, and consisted either of calomel, castor oil, or house medicine.

All the rashes appeared on the day following the injection, and their duration was from one to three days. They consisted in each case of fine, thickly-sown papules, which either give rise to a coarsely punctate appearance or fused together into well-defined patches, mixed with areas of simple erythema. In one case urticarial wheals were present. In some cases the whole body was more or less uniformly covered; in others the rash was chiefly apparent on the buttocks and extensor surfaces of the limbs or on the trunk, especially at the sides.

It is not the object of this article to enter into an accurate description of enema rashes, or to discuss their diagnosis, but simply to point out the fact that no rashes whatever were apparent after the use of enemas made with soft soap. If the small number of cases mentioned in this paper does not justify the absolute assertion that soft soap enemas are not followed by rashes, it undoubtedly shows that these rashes are less frequent when soft soap instead of hard is employed for the manufacture of the injections.—*The Post-Graduate.*

PREVENTION OF STITCH ABSCESS.

Maylard (*Annals of Surgery*, January, 1902) holds that in the practice of modern operative surgery there are two, and probably only two, precautions where doubt must always exist as to the certainty on which a perfectly aseptic result may be expected. These two precautions deal with (1) the condition of the surgeon's hands, and (2) the condition of the parts to be operated upon; or, in other words, the state of the skin and deeper tissues. Convinced by the results of experiments that infective micro-organisms are derived from the sudoriferous and sebaceous glands of the surgeon's hands the author advocates a precaution founded on the physiological basis of exciting these glands of the skin to act freely before the commencement of the operation. In the method described in this paper the hands are submerged for

from five to ten minutes in water as hot as can be conveniently borne. The soddened surface epithelium having been removed by massage of the hands under water and the use of ordinary soap, the hands are finally rinsed in warm carbolic lotion (1 to 40). In the preparation of the operator's hands "soaking," it is tersely asserted, "is better than soaping." The author's method of sterilizing the skin and deeper tissues of the patient is based on the fact that it is possible to salivate a patient by the inunction of the surface of the abdomen with mercurial ointment. Such a result proves that the agent applied is carried by natural channels —certainly the lymphatics—so as to produce an effect upon a comparatively distant region elsewhere. So long as the agent is kept in contact with the skin, so long will these channels be engaged in transmitting it to other parts. It is inferred that when an operation is performed on parts whose lymphatics contain such a potent bactericidal agent as mercury, this should not only prove destructive to any micro-organisms with which it might come into direct contact, but its presence should still further render the normal tissue unfit for the multiplication and development of these bodies. The author describes fully his method of prolonged application of lanolene-oleate of mercury ointment to the skin over the seat of operation, and states that, according to the results of careful scientific and clinical investigation, whilst chemical examination failed to afford any positive information, bacteriological investigation proved a material diminution in the number of micro-organisms, and the records of actual practice afforded incontestable proof of the value of the method.—*British Medical Journal.*

A RARE SEXUAL ANOMALY.

Dr. Edward Bowe (*Clinical Reporter,* January, 1902) reported recently the case of a farmer, twenty-seven years of age, who had always enjoyed good health, but since the development of puberty had been embarrassed by the following rare condition: Although he was possessed of an intense sexual desire, with erections firm, persistent, and complete, try as he might he had never lost one drop of semen, or experienced a sexual orgasm. The sensation that he experienced during the sexual act was that of increasing sexual desire and pleasure with the sensation of approaching ejaculation and emission, but it never reached the climax, nor did he experience the phenomena of the completed sexual act.

The author considers this not a functional but an organic disorder, due to occlusion of the ejaculatory duct near the urethral

orifice. His reasons for this diagnosis were the sensations experienced during the sexual act, the sensation of approaching ejaculation and orgasm being the same as in the normal sexual act. The phenomena of ejaculation, he says, began in the testes and progressed along the vasa deferentia; hence occurred the sensation that accompanied the normal sexual act, but as the seminal fluid never escaped into the urethra, the reactive phenomena of the completed sexual act were not present. It was the reabsorption of so highly a vitalizing secretion as the seminal fluid that was responsible for the excellent condition of the patient's general health, and his persistent sexual stamina. This condition might, the author says, occur as a sequela of gonorrhea, but as a congenital condition he is unable to find a single case recorded in the literature at his disposal.—*Medical Age.*

TREATMENT OF FEBRILE DELIRIUM TREMENS BY THE COLD BATH.

It is well known that febrile delirium tremens has an extremely grave prognosis, at least 50 per cent. dying. It has been supposed that some toxic infection is the cause of this condition, symptom, as is done in other cases, by the direct application of and it has therefore been suggested that we might treat the pyrexic cold. Salvant has recently collected a series of such cases (*These de Paris,* 1901) in which he employed this form of treatment with remarkable success. The following is his method: In the first place, every case in which the temperature rises above 39 degrees C. ought to be so treated. The temperature of the baths may be 18 degrees, provided the cardiovascular system of the patient will stand it. Should this not be the case, or if any tendency to collapse be manifested, the initial temperament may be 28 degrees, or 25 degrees, and then gradually lowered. So soon as the patient has been immersed it is well to give warm and stimulating drinks, while at the same time the head is douched continuously with water taken from the bath. The bath ought to last from five to ten minutes, and should the pulse remain good it may be prolonged from fifteen to twenty at most, but baths of this duration should be reserved for those cases in which the temperature has been exceeded 40 degrees C. According to some, it is a good plan to give frequent baths, even as many as three every hour, rather than to prolong each individual bath. It should be continued until the temperature comes down and delirium disappears. It is laid down as a most important rule that these baths should be carried out under the personal supervision of the medical man himself, who

should carefully watch the pulse, for it must be recognized that the sedative effect does not show itself until the patient is almost reduced to a condition of collapse. On being removed from the bath, he must be put into a warm bed, and abundance of hot and stimulating, but non-alcoholic, drinks administered. These favor diuresis and renal elimination. After the attack, it still remains to treat the patient during convalescence, which in itself requires considerable care. In those cases where the temperature does not exceed 30 degrees C., tepid baths (25 degrees) may be used. The contraindications for cold baths are grave cardiac disease, endo-pericarditis, myocarditis, and in all cases that are incapable of reaction. Thus old people and the subjects of arterio-sclerosis, interstitial nephritis, are not good subjects for this method of treatment.—*British Medical Journal.*

THE TREATMENT OF INVOLUNTARY MICTURITION IN CHILDREN.

G. Frank Lydston (*Pediatrics,* January 15th, 1902) says that the urethral sound is one of the most valuable measures for the treatment of a large proportion of cases of involuntary micturition in children. It acts in three ways: First, by blunting the sensibility of the nervous supply of the vesical neck, thus correcting hyperesthesia; secondly, by decongesting the mucous membrane of the deep urethra, *i.e.,* the vesical neck; thirdly, in cases of a purely neurotic type it stimulates the relaxed sphincter vesicæ to contract, and, so to speak, exercises it. The resentment which the muscle offers to the entrance of the sound produces a stimulation of nutrition of the muscle, increases its bulk, and adds to its tonicity, thus enabling it to resist with more success the egress of urine. Many otherwise obstinate cases are cured very rapidly by systematic sounding. All sources of reflex irritation should be relieved ; the prepuce, if phimosed and redundant, should be removed, and all adhesions separated; the meatus, if narrow, should be cut. Carunculæ of the urethra and preputio-clitordal adhesions may demand attention in female children.

Next to the sound, the most efficacious method of treatment in the purely neurotic cases is the injection of strychnine beside the spinal column in the lumbar region. The dosage is of course to be in proportion to the age of the child, but as a single daily dose is given, a larger quantity can be administered than where it is given internally three times daily. The injection should be made deeply into the substance of the erector spinæ muscle, and as close to the spinal column as possible. In several instances in the author's

experience a cure has resulted from a short course of these injections. In one instance, the case of a girl twelve years of age, the daughter of a physician, cure resulted from the succession of three injections in the lumbar spine of 1-15 of a grain of sulphate of strychnine.

Where vesical catarrh is a factor in the cases, and especially in cases where the urine is alkaline or neutral, urotropin is often of value in connection with the usual local measures for the correction of the condition.—*Medical Age.*

BACTERIOLOGY OF OPHTHALMIA NEONATORUM.

Groenouw (*Archiv fur Ophthalmologie,* LII. 1) has made a study of one hundred cases of ophthalmia neonatorum of all grades of severity, coming to the following conclusions:

1. The conjunctivitis of newborn children is caused by a variety of micro-organisms both in severe and mild cases, such as the gonococcus, 41 per cent.; pneumococcus of Fraenkel, 5 per cent.; staphylococcus pyogenes aureus, 4 per cent.; streptococcus, 2 per cent.; micrococcus luteus, 1 per cent., and bacterium coli, 7 per cent.

2. Although severe cases are usually to be ascribed to the gonococcus, in some such cases no gonococci are found.

3. In some exceptional cases the gonococcus causes a simple catarrhal conjunctivitis, but blennorrhea caused by gonococci is apt to run a more severe course than in cases where no gonococci can be demonstrated.

4. Corneal ulcers occurred in the series of cases under study only when the gonococcus was present, but they were sometimes associated with the mild type, as well as in the severe forms of inflammation.

5. The gonococcus is easily detected in cover glass preparations, no other cocci losing their color by Gram's method. Culture is not necessary to prove its presence, results of culture being, in fact, more uncertain than those obtained by examination of cover glass preparations alone. (This last statement seems doubtful to the abstracter.)

6. If gonococci are not found either before the beginning of treatment or some time after the use of an antiseptic, the prognosis in most cases is absolutely good.

7. Gonococci are found in the conjunctival sac weeks after the cessation of the discharge, and therefore treatment should persist long after suppuration has ceased.

8. In 40 per cent. of the cases under study, mostly very mild

in character, no pathogenic germ was isolated in sufficient number to be described as the cause of the conjunctivitis. (These cases were probably catarrhal in type, and not what is ordinarily classified as ophthalmia neonatorum by American authors.)

9. The relatively great frequency of the colon bacillus, 7 per cent., points plainly to infection, direct or indirect, from the perineum, since this germ is rarely found in the conjunctival sac of older persons.—*Medical Review of Reviews.*

LEAD COLIC AND APPENDICITIS.

BERNARD, in an important monograph on lead colic (*These de Paris,* 1901) points out that there is often some difficulty in the diagnosis of lead colic from appendicitis, and *vice versa.* In many instances it may be impossible when first called to a case to decide which is in reality the lesion present. The writer refers to a case recorded by Florand, in which the appendix was amputated on account of certain abdominal symptoms suggestive of appendicitis. The following year the patient suffered an attack of an exactly similar nature, and then it was found that he was the subject of lead colic. The inference is that the previous attack was of a similar nature. The author is of opinion that cases presenting symptoms which might be explained on either hypothesis should be safely put to bed and watched, for in twenty-four hours the diagnosis ought to be cleared up. Absence of pain in McBurney's point, the absence of fulness and resistence in the appendicial area, the course of the temperature, and the appearance and character of vomiting should point to a correct diagnosis. The most awkward cases to deal with are those in which there is a distinct history of plumbism, but who actually do suffer from appendicitis due to the most usual cause. There are cases recorded which began as a typical lead colic, and ended fatally some days later with perforated appendicitis. The question is asked if by any chance plumbism might not of itself be the cause of appendicitis.—*British Medical Journal.*

SMALLPOX AND PREGNANCY.

At the November meeting of the Societe d'Obstetrique de Paris there was some discussion about the influence of smallpox and other infectious disorders on pregnancy and the fetus. Boissard, in relation to a case where the prevalent disease seems to have affected ovum, remarked that the fact would demonstrate clinically Charrier's experimental researches, which proved that

toxins played a share in the development of malformations and monstrosities. The case in question was reported by Schwab. A young woman suffered from severe confluent smallpox in the fifth month of her fourth pregnancy. She had borne two children, both living, and had once aborted at the fourth month. She was quite free from any morbid taint. At term she was delivered with the aid of the forceps of a child weighing nearly eight pounds; there was a small red cicatrix on its back, slightly depressed. The placenta was normal. The child's head showed no sign of disease or malformation. When the child was a month old, the mother found that its cap would not fit, and soon it was clear that its head was enlarging. When two months old, the child was vaccinated without success. Schwab examined the head, and found that it was clearly hydrocephalic. There was slight exophthalmos, but no motor or sensory lesion. In two months the circumference of the cranium increased rapidly. Schwab performed paracentesis three times with an injection of liquor vaseline holding 1 per cent. of iodine, but the enlargement was increasing when the case was reported, the circumference being at that date eleven inches. The evidence at to the hydrocephalus being due to the smallpox from which the mother suffered was not conclusive, as hydrocephalus is not rare when the mother has had no complications during pregnancy, still it is quite possible in this case that the infectious disorder caused intracranial mischief. The fetus bore a scar at birth, and was incapable of inoculation with vaccine two months later.—*British Medical Journal.*

THE PREVENTION OF LACERATION OF THE PERINEUM IN LABOR.

G. B. Twitchell (*N. Y. Med. Jour.*, Dec. 28) regards a certain number of perineal tears as unavoidable, but many may be prevented by proper care. It is of primary importance to keep in the vagina a lubricant to facilitate the normal extension. The natural lubricant should be preserved. Digital examination removes a great deal of the lubricant and gets the perineum ready for a tear. The vast majority of digital examinations made during labor are without reason. External palpation should be practised more. Delaying a precipitate labor by chloroform will save the perineum in some cases. In a protracted labor the extraction of the head with the forceps applied before the vagina becomes bruised and dry, will prevent many lacerations, especially as the head can be extracted between pains. M. A. Walker thinks that in many cases it is necessary to retard delivery long enough to allow the pressure of the presenting part to soften and stretch the

outlet. Both subjective and objective measures are useful; subjective, such as the mother's refraining from the use of voluntary muscles; objective, as pressure applied by the accoucher directly to the presenting part, retarding its progress and directing its advance through the axis of the outlet. An anesthetic may be required toward the end of the second stage, chiefly for its property of preventing voluntary and lessening involuntary muscular contraction in case of endangered perineum. J. L. Andrews says the whole subject of prevention of perineal laceration may be summed up in a few words, by (1) patiently and persistently endeavoring to bring the longest diameter of the presenting part in relation with the longest diameter of the outlet, and (2) by securing perfect dilatation of the soft parts. Proper position of the patient is important and he insists that, whatever the position, the vulva must be thoroughly accessible to sight and touch. An intelligent use of chloroform or ether, and the proper use of the forceps, are important helps. Many lacerations of the perineum are caused by the passage of the shoulders. These are much less excusable than head lacerations. If undue haste is avoided, and the head lifted upward, one shoulder will be behind the symphysis, while the other is safely borne over the perineum.—*International Medical Journal.*

THE INCOMES OF PHYSICIANS.

Dr. A. K. Steele, in a paper read before the Chicago Medical Society, states that there is an unusual amount of ignorance both on the part of the public and of the profession regarding the incomes of physicians. Professional incomes are greatly overestimated. The income of the average physician in Chicago varies from $1,500 to $3,000 per annum; office specialists—eye, ear, nose and throat—average $3,000 to $6.000; consulting physicians, $5,000 to $15,000; six leading physicians, $15,000 to $35,000; six leading surgeons, $20,000 to $60,000; six leading gynecologists, $10,000 to $20,000; six leading office specialists, $10,000 to $15,000; average surgeons, $3,000 to $10,000. The practitioners in Chicago whose income from practice exceeds $30,000 per annum can be counted on the fingers of one hand, and probably not more than a score exceed $20,000 per annum. The $2.00 to $3.00 visit, the $5.00 to $25.00 consultation, the $18.00 to $30.00 case of obstetrics, and the larger fees provided for operative work, do not insure large incomes for many in the profession. The expenses of a physician keep pace with his increasing business, so that the opportunity for accumulating wealth is not easy.—*Courier of Medicine.*

Special Selections

CHOLELITHIASIS, CHOLECYSTITIS AND CHOLANGITIS.

By William H. Thomson, M.D., LL.D., New York.
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I.—Cholelithiasis.

We often gain a good deal in the investigation of pathological subjects by following up the contrasts between conditions which in some respects seem to be similar. Thus, stone in the gall-bladder and stone in the urinary bladder are both concretions formed in a hollow viscus, and with both it is the same mechanical obstacles to the outflow which have to be relieved when we are obliged to resort to surgery. The concretions themselves also begin as a rule with a small nucleus precipitated from the fluid contents of the viscus, and then grow by the accretion of further deposits from the same source. From this on, however, all resemblance ceases and the contrasts begin. Thus, calculi may be present in numbers in the gall-bladder for an indefinite period without causing any symptoms whatever. A patient once came to my office from Baltimore to consult me about dull pains which she had in her right side, accompanied with chills. Palpation through the fleshy abdominal walls was rather difficult, but led me to suspect the existence of an inflamed and distended gall-bladder. I directed that a blood examination be made, and, finding marked hyperleucocytosis, I advised her to return to Baltimore at once, and consult my friend, Professor Howard Kelly, about having an exploratory operation performed. This Dr. Kelly did without delay, and found a gall-bladder ready to burst with the seventy-six gall-stones, which he removed at the operation. How long they had been forming there could not be guessed, but if instead of seventy-six only six calculi had lain in the urinary bladder, there would not have been an hour of freedom from distress from their earliest formation. According to Kehr, gall-stones occasion no symptoms in ninety-five per cent. of all cases in which they occur. Now, this one contrast is sufficient to indicate that the gall-bladder and the urinary bladder are neither filled nor emptied in the same way, and this difference of itself must have a material bearing on the genesis of their respective derangements.

There is little resemblance also between the two morbid conditions in the elements of clinical diagnosis. A urinary calculus

causes pain always, especially at the end of micturition, and gives rise to significant appearances in the urine. It can also be looked for with the cystoscope, or touched with a sound. A biliary calculus gives no clue in the bile, because we cannot inspect the bile, nor can we see into the gall-bladder or feel around in its cavity.

It is, however, when we come to the origin of the calculi in either case, and their composition, that the greatest contrasts are met with. As regards the etiology of cholelithiasis, much progress has been made of late years, and we especially owe to Professor Naunyn, of Strassburg, the demonstration of some of the most important facts connected with this subject. The first of these is that, in contrast with urinary calculi, general constitutional conditions have little to do with the tendency to their formation. Nothing like a uric-acid diathesis or derangements such as those which cause oxaluria or phosphatic deposits precede the formation of gall-stones. Instead, they arise wholly from local causes and changes in the biliary passages themselves affecting the bile after it is secreted, as the following considerations show.

The bile itself is a secretion about equal in daily amount to the urine, that is, from two to three pints, but of such low specific gravity that it contains only from 1 to 2 per cent. of solids. It is secreted by the liver cells, under such low pressure that it almost resembles a simple leakage, so that the slight obstruction caused by a catarrhal swelling of the mucous membrane of the biliary passages may suffice to cause jaundice. During active digestion it flows uninterruptedly along the hepatic bile-ducts directly into the intestine and not into the gall-bladder, this flow being much aided by the contraction of the diaphragm in active respiration. In the intervals of digestion, and particularly during the repose of sleep, the biliary outlet is closed by the sphincter-like contraction of the muscular wall of the duodenum, and the bile then flows into the gall-bladder instead. In proportion, therefore, to the slow digestion, and to the sedentary habits of many persons, the bile accumulates in the gall-bladder and becomes there more concentrated. But, however concentrated it may be, there is no danger of the formation of a gall-stone so long as the normal constituents of bile are held in solution. These constituents are certain salts, of which the most important are calcium salts, then the bile pigment, then cholesterin, and, lastly, a mucoid secretion which, however, is not mucin, but a complex nucleoproteid. Now, the first step in the formation of a calculus is the precipitation of the calcium by a combination of the calcium with the bile pigment. This forms, as a rule, a small, hard,

dark concretion, around which, in the gall-bladder, there is soon deposited layer upon layer of cholesterin, which substance forms much the larger bulk of most gall-stones. The practical question, therefore, is, "What first leads to the precipitation of the calcium and the bile pigment? and then, How does cholesterin form around this nucleus in such abundance, out of all proportion to its quantity in normal bile?

Normally the calcium and the bilirubin, or bile pigment, are kept in solution in the bile by the presence of the bile salts, especially the glycocholate of sodium. A deficiency of this salt, therefore, may have some effect in promoting the precipitation, but an observation of Naunyn's makes it certain that the commonest cause of the formation of calcium-bilirubin concretions is the addition to the bile of an albuminous constituent. He found that the addition of egg albumin at once led to the precipitation of calcium-bilirubin from bile, and hence, in every catarrh of the mucous membrane of the bile-ducts and of the gall-bladder, we have just the source of an abundant supply of an albuminous ingredient, which would cause the throwing down of such a precipitate. These small, hard concretions, therefore, are often found in the bile-ducts within the liver itself, and it is easy to see how some thus formed might afterward flow with the bile into the gall-bladder and become the nuclei there of gall-stones. It is important to note, however, that when such a concretion gets impacted in the common duct it then grows *in situ* by the precipitation of more bilirubin-calcium so as ultimately to become a large calculus with relatively little cholesterin. As it grows, it produces wide distention of the duct, with a continuing process of inflammation about it which further promotes the addition of bilirubin to the original calculus. In the gall-bladder itself the concretions grow mainly by accretion of cholesterin, and the source of this ingredient is not far to seek.

Cholesterin is found in abundance wherever degeneration of cells is going on. It is, therefore, present in every catarrhal discharge from a mucous membrane, as in the sputum of bronchitis and of phthisis. It constitutes about 7 per cent. of the solid constituents of pus, and in the cavities of dilated bronchi in bronchiectasis it sometimes accumulates in a fashion resembling its collections in the gall-bladder. While it is always present in small amount in normal bile, so soon as a catarrhal condition of the gall-bladder sets in, the cholesterin can be seen in discrete drops in the degenerated epithelial cells of the mucous membrane, which set it free to adhere to other similar drops, and if any acid is present it quickly solidifies into cholesterin crystals. Naunyn, therefore, is of opinion that sometimes soft gall-stones, composed

mainly of cholesterin, may form in a few days or even a few hours. Generally, however, they form slowly and they grow by addition of both cholesterin and bilirubin-calcium, thus making the different varieties of gall-stones, according to the proportion of their respective ingredients. The important deduction, therefore, follows that the components of gall-stones are not derived from the liver itself, but are locally generated by a local derangement of the mucous membrane of the biliary passages and of the gall-bladder.

We come now to the last question connected with this process. How does catarrh of the bile passages and of the gall-bladder come about ? It is evident, in the first place, that whatever tends to cause a stasis in the flow of the bile from the liver itself will cause both an accumulation of bile in the gall-bladder and its subsequent concentration in that viscus. Many experimental observations show that the active contraction of the diaphragm, conjoined with that of the abdominal muscles, greatly aids in the flow of the bile, and hence nothing so tends to produce biliary stasis as sedentary life and habits. Gall-stones, therefore, are five times as frequent in women as in men, and for the same reason they increase with the advance in years, being found in fully 25 per cent. of all persons over sixty years of age. The effect of laxity of the abdominal walls is illustrated by the greater frequency in women who have borne many children. So also congestion of the liver from valvular diseases of the heart predisposes to the same result. But, however concentrated the bile may become from any of these influences, something else is necessary to set up the initial catarrh which completes the process. If the mucous membrane remains healthy, the bile will remain sterile, and no gall-stones be formed, however long it may remain in the gall-bladder. Here, therefore, we have one analogy to conditions occurring in the urinary bladder. An enlarged prostate may lead to the retention for indefinite periods of residual urine in an over-distended bladder, which has lost the power wholly to empty itself, but no cystitis occurs till the unlucky entrance of micro-organisms, brought in by a catheter, starts the whole subsequent mischief. So it is that our modern progress in the pathology of cholelithiasis has demonstrated that gall-tones are the direct results of infection. Everything else may be contributory, but it is the entrance into the biliary passages of micro-organisms which is the efficient cause, as it is due to them that catarrh of the mucous membrane is set up. The degree of this catarrh will then depend, on the one hand, upon the antecedent lowering of the nutrition of the epithelial cells by prolonged portal stasis, and, on the other, on the specific viru-

lence of the invading micro-organism. According to this latter factor, we may have either a chronic inflammation with few symptoms till some sudden impaction happens, or a violent outbreak of a rapidly fatal cholecystitis with cholangitis.

Much the most common of these bacterial invaders, as we might expect, is the Bacillus coli communis entering from the intestine, either directly as micro-organisms ascend the ureter from the bladder and cause pyelitis, or by some roundabout route through the blood. In some cases clumps of these bacilli seem to be themselves the nuclei of gall-stones, as Professor Welch has obtained living colon bacilli from the centre of gall-stones. This micro-organism seems able, under certain conditions, to travel everywhere over the body. Enteritis from any cause, especially if ulcerative, may allow it to pass through the lesion in the intestinal wall into the circulation, and set up pyrogenic inflammation in the most distant localities, for it has frequently been found in peritonitis, pleuritis, empyema, otitis, and meningitis. I think that one symptom in disease, namely, rigor, is more common as an attendant on infection by this bacillus than by any other micro-organism except that of malaria, and on that account its chills are often mistaken for ague. Thus, I have been repeatedly called in consultation in cases of typhoid fever on account of severe attacks of rigors coming on suddenly in the fourth week or later, after convalescence had seemed to begin, and in which the patient appeared to be threatened with fatal collapse. In my first case of the kind, in a young woman, the attacks came on at regular intervals of a week, and she died in the fifth attack. Two other patients, both young men, in cases apparently quite as severe, nevertheless, recovered, but lately I was called five times to a lady, sixty-five years old, who had no fewer than thirteen of these rigors, after the last of which she sank, in the seventh week of her disease. Early in my visits I suggested that a bacteriological examination of her urine be made, and the report was that it contained the Bacillus coli communis in enormous numbers. It is the same bacterium also which is now most generally held to be the cause of the rigors of urinary fever. A severe rigor followed by urinary suppression after operations on the bladder is now no longer ascribed to reflex nervous disturbance, but, as Guyon, Rovesing, Moullin, and others have shown, is the result of microbic infection, Guyon and his school maintaining that it is always the colon bacillus which is the offending agent. Considering, therefore, how frequently this bacterium has to do with the genesis of the catarrh which leads to the formation of gall-stones, the "hepatic chills" which so commonly attend attacks of biliary colic may reasonably

be ascribed to the toxine produced by this organism. I have often, therefore, relied upon this symptom as diagnostic of a calculus as the cause of a pain in the region of the liver, as well as for distinguishing jaundice due to impaction of a calculus from jaundice due to other causes.

Another bacterium has also been proved to initiate colelithiasis by its entrance into the gall-bladder, and that is the typhoid bacillus. As far back as 1829 Louis drew attention to the frequency with which the gall-bladder was affected in typhoid fever, and now it has been shown that this bacillus involves this viscus in the great majority of at least the fatal cases. Thus Pratt, in thirty autopsies, found the typhoid bacillus in the gall-bladder in twenty-one, and Chiari in nineteen out of twenty-one. It is also extraordinary how long the typhoid bacillus may remain in the gall-bladder after the fever has ceased, and then set a cholecystitis or an attack of gall-stones. Thus Pratt, in the article referred to, quotes a case reported by Miller, in which the typhoid bacillus was isolated from the bile in the gall-bladder seven years after the fever. Van Dungern reports a case fourteen years after, and Druba one seventeen years, while Dufort reports nineteen cases of gall-stones in which the first attack followed typhoid, in twelve of them within six months. Cushing, in a review of cases of cholecystitis associated with gall-stones which were operated upon at the Johns Hopkins Hospital, found ten out of thirty-one gave a previous history of typhoid fever. Biliary calculi have also been produced experimentally in the gall-bladder in animals by the injection of typhoid bacilli by Gilbert, Fournier, and Richardson. I have no doubt that the number of gall-stones following typhoid fever will be oftener reported now that the attention of the profession is drawn to the subject, as they can be easier noted in private practice than in hospitals, owing to the hospital cases being soon lost sight of. I have myself lately had a case of a first attack of gall-stones in a lady about three months after the fever.

Diagnosis.—The diagnosis in a case of cholelithiasis may be easy enough, or it may be one of the most difficult to make out of any of the disorders in the abdomen, which is saying a good deal. Moreover, different from a stone in the urinary bladder, it is not enough to make the diagnosis of a calculus, but we must be further able to form an opinion of what else is going on as a result of the local trouble, because ordinarily we can wait as we see fit with a urinary calculus without immediate danger to life, while with a biliary calculus we may soon find ourselves under as much responsibility of decision as in any case of appendicitis. Thus, a man was admitted to the hospital a month ago from whom it

was difficult to obtain any satisfactory account of the beginning of his illness, or any statement that he had suffered from symptoms of gall-stones. He was often delirious and had a dry tongue, and a low fever simulating typhoid. He was very little jaundiced, and his most marked symptom was a tenderness on palpation at the epigastrium. An indistinct swelling could be made out in the region of the gall-bladder, but owing to muscular rigidity it was difficult to map out its extent. The blood-count showed a decided hyperleucocytosis, whereupon I had him transferred to my colleague, Dr. Brewer, for immediate operation. While he was struggling as he was going under ether, his gall-bladder burst through a gangrenous patch in its wall, but with all that he was speedily relieved from danger and made an uninterrupted recovery.

Hence, as in his case, we may have as a result of cholelithiasis general septicemia set in with ulceration of the gall-bladder and ducts, permitting, if not interfering with, the escape of the calculi into the adjoining parts, or leading to a rapidly fatal general peritonitis, or to abscess of the liver, or to slower processes causing extensive adhesions of the gall-bladder to the liver and intestines, until the symptoms due to these complications may wholly obscure the original ones first caused by the gall-stones. With the great majority, however, there will be a history of preceding attacks of biliary colic, as well as other prodromic symptoms which it is important to note as elements in the early diagnosis, so that we can the better appreciate the significance of those progressive developments which indicate that the time has come for medicine to give place to surgery.

Pain.—As regards the attacks, pain is the earliest symptom, and, as is always the case, pain is a symptom which repay study more than any other. In all typical cases it is very sudden, and this of itself disproves the view of Kehr and other recent writers that biliary colic is not due to the passage of a calculus from the gall-bladder through the narrow ducts to the intestine, but that it is always due to an inflammation of the gall-bladder. No other inflammatory pain that can be cited is so sudden in its onset or so quickly severe. In fact, it may kill outright, as occurred in a case of an acquaintance of mine. While it is true that inflammation may quickly follow in the parts behind the impaction, as inflammation always follows the sudden closure of any tube, *e.g.*, a bronchus, yet a biliary colic in its pain is exactly of the same nature as the colic caused by a calculus impacted in a ureter, and certainly that is not due to inflammation of either ureter or kidney. Moreover, it has all the characteristics of stretching pains, which are different from those of either inflammatory pains, pressure pains, or neuralgic pains.

Pains caused by a part being put on a sudden stretch, as by calculi in tubes or by severe sprains, always produce immediate faintness and nausea, which the other forms of pain do not. It is always paroxysmal, while true inflammatory pains rarely are so. In an inflammatory pain the patient keeps his hands at a respectful distance from the infected part. With the onset of an hepatic colic the patient grabs the side as forcibly as he does with a lead colic or a limb with the lightning neuralgia of tabes, and it is not till the subsequent inflammation sets in that he objects to manipulation. The site of the pain also is all-important to make out, and here, as in all pains, particular attention is to be paid to the gesture of the patient when asked to show where his pain is, for few can describe their pains well, and if severe they will say "it is all over," but if asked to show just where they first felt it, their fingers tell the story better than their words. I have been struck with this even in cases where from subsequent complications the area of pain was widely extended, yet the patients somewhat unconsciously begin with pointing to the first site of the pain and then pass to other regions.

If the pain is due to a calculus in the cystic duct, its site is to the right of the rectus muscle, just below the free border of the ninth rib; if the calculus has passed farther on, into the common duct, a painful point on pressure is found from an inch and a half to two inches to the right of the umbilicus. Not only do nausea and belching of wind come on with the pain, but often vomiting also, and sweat breaks out on the forehead, a characteristic of all severe stretching pains. Besides its primary site, the radiations of this pain are characteristic. The patient's hand passes to the right horizontally round to the back, and then up between the shoulder blades, and sometimes he complains of pain on the top of the right shoulder, but this rarely at the beginning of his attack. This contrasts with the pain of lead colic, in which the patient works his hand around the umbilicus, but does not pass it to the back, or the pain of renal colic, in which the hand goes at once to the back and then quickly down the side and to the front down to the groin, using the border of the hand to describe the downward course of the pain, and not the fingers, as he does in hepatic colic. In the latter he often uses the thumb to locate the pain in the back, as in spinal pain from aneurysm. Now, it is important to note that so long as these paroxysmal pains continue to recur, they mean impacted calculus only, and the occurrence of a chill or rigor with them is another diagnostic sign of gall-stone as the cause of the pain. It is when a change occurs in the character of the pain to a distinctly inflammatory type that we

have cause for apprehension, and that is when local tenderness to pressure commences, and its area progressively increases along with increasing rigidity of the overlying muscles. Other symptoms, however, will then be superadded, to which I shall soon refer.

There are, however, several forms of pain which sometimes resemble hepatic colic enough to have their points of difference mentioned. Thus, I saw a case recently in consultation in which the attending physician made the serious mistake of supposing that the pains were due to gall-stones simply from their location. He ought to have known that gall-stones did not occur in a boy ten years of age, and that both the patient's backache and the shooting pains over the region of the liver were due to Pott's disease of the spine. The pain of gastric ulcer, and still more of duodenal ulcer, occasionally seems like those from gall-stones, but careful local examination will show tenderness on palpation with rigidity in the epigastrium rather than in the region of the gall-bladder, and, what is more, very commonly there is a distinct local throbbing or pulsation which is absent in hepatic colic. The time of the pain commonly differs, for the gastric pain rarely comes on first in the night, as hepatic colic often does, and the gastric pain usually has some relation to an habitual interval after taking food. Hepatic colic, however, occasionally does seem to be excited by eating, but as a rule the pain of gastric ulcer is felt more toward the left of the median line, and terminates with a painful point to the left of the spinal column, between the tenth and twelfth dorsal vertebræ, while that of gall-stones passes to the right. Occasionally displacement of the right kidney occurs in a woman with relaxed abdominal walls, causing sudden pains, faintness, and gastric disturbance which may be mistaken for an attack of gall-stones, especially as a tumor may then be also felt in the neighborhood of the gall-bladder. Percussion over the swelling will be dull if the swelling is due to a distended gall-bladder, because that would be in the front of the colon, and will be resonant if it is due to a displaced kidney, because the kidney lies behind the colon. Moreover, the kidney can be pushed upward and backward as a distended gall-bladder cannot. With the restoration of a prolapsed kidney the pain soon subsides.*

On the other hand, some cases of gastralgia are quite difficult to distinguish from biliary colic, and give rise to more uncertainty of diagnosis than any other pains. While they may differ

* In a few cases of prolapsed kidney it pulls on the duodenum by means of bands of the peritoneum, which cause constriction of the gut opposite the opening of the gall-duct and obscure the diagnosis by causing jaundice.

widely in their causation, yet they go by the general name of gastralgia, though it is not always certain whether their seat is in the stomach or not. They have, in common with hepatic colic, the suddenness and severity of onset, and often the vomiting and nausea as well. In one case of a medical friend of mine I diagnosticated the attacks as malarial. They were extremely severe, but as they were distinctly periodical, I prescribed drachm doses of the fluid extract of ergot, which promptly relieved him after quinine had wholly failed. Hemmeter speaks of these malarial gastralgias as of frequent occurrence among fishermen and sportsmen who spend much time on the shores of the Chesapeake Bay in Maryland, and I had a patient who often went duck-shooting in that region attacked with similar symptoms. In another instance, a physician consulted me recently for severe attacks of pain in the hepatic region, which began about the middle of last August, coming on about 5 p.m. and lasting through the night, with great prostration and vomiting, his pulse dropping down from 60 to 40. These pains occurring every other night for about three weeks, he then consulted me and I recommended him to have his blood examined, which was done, and the *Plasmodium malariae* was found abundantly present. I prescribed ergot, and at first it arrested his tertian nocturnal pains completely, but afterward they recurred, whereupon I prescribed paregoric with quinine.*

He then passed an interval of a week without any pain, but at the end of that time he had a very severe attack, with paroxysmal pains and a temperature of 101 to 102 degrees F., accompanied with white scybalous passages. These pains I diagnosticated as due to gall-stone, and put him on my treatment for the same, after which he soon recovered, and he writes to me that for the past two weeks he had been in excellent health. Now, here we seem to have had both malarial "gastralgia" and gall-stone colic in succession, the clinical distinction between them being definite periodic tendency of onset in the former and not in the latter.

Some cases of gastralgia are very obscure as to their origin and nature, but I fully agree with Hemmeter that the diagnosis of "idiopathic" gastralgia is not to be made until the most careful examination fails to find some organic lesion existing, such as gastric ulcer, gastritis, hyperacidity, omental hernia, and the like. The commonest organic change to cause such pains is some form of cicatricial adhesion of the stomach or duodenum to surrounding parts, set up in the first instance by a perigastritis following

* See my article on "The Treatment of Cuban Malarial Fever with Camphorated Tincture of Opium."

ulcer of the stomach, or from ulceration occurring in connection with gall-stones. Therefore, a history of former symptoms of gastric ulcer or of gall-stones is a valuable aid to diagnosis. The location of the pain, therefore, is the same as in cholelithiasis, but the clinical accompaniments are different. Though the pains are often excruciating and frequently paroxysmal from peristalsis in stomach or intestine pulling on the adhesions, yet their chief characteristic is their permanence, for they may last for years, though they rarely leave the sufferer for a week. With all that, the patients do not waste or become cachetic, as they would if the pain was due to carcinoma, nor are the pains aggravated by taking food, as they would be if the original gastric ulcer was still open. I have also seen cicatricial adhesions following syphilitic gummata in the left lobe of liver cause like symptoms of pain. There are cases, however, of gastralgia, especially in women, which seem to be due to a pure neurosis and in which the attacks come on so suddenly and without warning that for a while we may have to remain in doubt whether they are cases of biliary colic or not. The chief distinguishing marks are the predominance of nervous antecedents in such patients, many being of a pronounced hysterical type, and the long-continued efforts of the patients during the attacks to turn upon or to double up on the painful part, which they soon cease to do in hepatic colic from the early supervention of local tenderness.

The gastric crises of tabes may resemble biliary colic in the pain and the accompanying vomiting, and, as they sometimes precede all other developments of tabes, their nature may not be suspected. The persistent vomiting and total absence of tenderness on pressure in spite of the continuance of gastric symptoms should lead to examination for other signs of tabes, which usually are readily found.

The sequence of events which end in a calculus, leaving its resting place in the gall-bladder and becoming impacted in a bile-duct, with the consequent pain, is probably, first, an irritable sensitiveness of the walls of the bladder induced by catarrh. While in this state a fresh influx of bile regurgitating from the common duct distends it so as to produce expulsive contractions which dislodge a calculus first into the neck of the bladder and then on into the cystic duct, where it may stick, or else be further pushed on by peristaltic action into the common duct. This may account for the great frequency of the first attacks of biliary colic occurring at night, when the flow of bile is greatest into the gall-bladder, as above mentioned. But as surgeons usually do not see the patients until both cholecystitis and pericholecystitis have also supervened, the theory that biliary colic is due wholly

to inflammation of the gall-bladder is owing to the later date of their clinical observation.

Tumor.—The impression is a common one that when a calculus plugs the outlet of the gall-bladder, the viscus must soon become distended and form a tumor which can be felt. The unconscious influence on the mind of the case of the other bladder, the urinary, which must fill up if its outlet is closed, doubtless has much to do with producing this conception, but the facts are that in common-duct obstruction the reverse usually happens. Thus, Courvoisier found the gall-bladder contracted in fifty-three cases of common-duct obstruction and distended in only seventeen. We should remember that the gall-bladder is both filled and emptied like a bottle, through one neck. That neck ends in a short tube, which is soon joined by another tube, the hepatic duct, which conducts all the bile which is secreted. Plug the first tube, or the cystic duct, and nothing can get either in or out that way. Plug the second, or hepatic, duct, and no bile can then pass back into the bladder, while the bladder may still be able to empty what it has past the obstruction in the common duct. With the first, or the cystic, duct closed, the gall-bladder may fill up and become greatly distended, but ordinarily not with bile. A watery fluid instead is secreted from its walls, much as if it were a closed cyst, and on drawing this off it is frequently found to contain but little admixture of biliary ingredients. So long as it remains uninfected, it is striking how little pain or disturbance this tumor causes, though it may grow to a great size and reach the pelvis or even cross the median line to the left. That it is a distended gall-bladder may be first inferred by the general rule in abdominal tumors that they spring from the region where no free border can be felt. In this case, that is above, for it seems to be continuous with the liver, and, unless bound by adhesions, descends plainly with inspiration. Its lower portion is often easily movable and wider than its attachment. Usually it gives the sensation of being smooth and rounded, and of containing fluid, but sometimes it may seem solid. On the other hand, a gall-bladder tumor which is painful and sensitive to manipulation has then a significance of its own, for it means that there is cholecystitis, and all its other accompaniments must then be carefully investigated.

Jaundice.—In fully one-half of the cases of trouble from gall-stones there is no jaundice. Thus, in all cases in which the impaction is in the cystic duct alone there will be no jaundice. In order for jaundice to be caused by gall-stones, they have to pass through the cystic duct into the common duct, and then the jaundice will depend for its continuance and degree on the behaviour

of the calculus. If it is much delayed in its passage, shortly after the pain and inflammation which it has occasioned, the conjunctivæ become yellow, then the loose folds of the face, and then the trunk of the body. In florid or swarthy complexions the skin of the trunk may show the discoloration better than the face, and at all times jaundice requires daylight for its detection. At first the urine becomes dark, but often clears up before the skin does. Jaundice from gall-stones has a varying significance, according to whether it is transient, intermittent, or permanent. If transient, it means that the obstruction has been in some way removed; if intermittent with similar intermittent attacks of pain, chills, and fever, it is generally the result of distention of the common duct, which allows the gall-stone to float back in the duct and thus allow the bile to pass, until like a ball-valve it descends and again plugs the outlet; if the jaundice is permanent, it means fixed impaction, the commonest seat of which is at the sphincter in the wall of the duodenum. There may then be deep jaundice with neither colic nor pain, but the history of a preceding attack of colic suffices to distinguish this from jaundice due to other causes. But in some cases it is curious how slight the previous attack of pain may have been, though the obstructing calculus afterward proves to be quite large, so that we must be particular in questioning for the very earliest symptoms ere we exclude gall-stones as the cause of the icterus. In general, we may say that in favor of the icterus being due to gall-stones would be the constant or intermittent presence of bile in the feces; also a jaundice which comes and goes. This is a valuable sign, for all other causes of jaundice, even catarrhal jaundice, either occur, as a rule, but once, or change but little when once developed. In jaundice due to calculus, the rule is that the liver is but slightly enlarged, if at all, and likewise the gall-bladder is not commonly distended. Jaundice caused by tumor pressure also is not generally accompanied with chills and rigors as in the case of calculus. The jaundice which marks most cases of acute yellow atrophy of the liver generally begins like a catarrhal jaundice, with none of the initial clinical symptoms of calculus impaction.

Fever.—A rise of temperature is a symptom of much importance when it occurs in cholelithiasis, and becomes more serious in proportion to its continuousness. As septic chills are of toxic origin, so does the fever which follows imply absorption into the general circulation of toxines from inflamed or ulcerated biliary passages. In many cases of obstruction of the common duct by a movable calculus, the chills are followed by a transient rise to 101 or 102 degrees F., and this soon afterwards subsides. Should the fever persist, whether with or without jaundice, and

signs of local inflammatory conditions develop, with tenderness to pressure and rigidity of the overlying muscles, we should not then neglect having the blood examined to determine the presence of hyperleucocytosis. I regard this procedure as one of our most important modern aids to diagnosis. I have repeatedly found it of the most timely service in indicating the danger of delay, where there were reasons for suspecting suppurative processes in connection with the biliary passages, yet the exact nature of the local trouble was uncertain. Should the febrile condition be also accompanied by repeated sweats, pus formation becomes still more probable, but these signs do not tell us certainly where the pus is, for it may be collected in one or more abscesses, or be diffused, as in suppurative cholangitis, as we shall see in discussing the indications for surgical measures.

The repeated irritation of the liver by biliary calculi is very prone to disturb gastric digestion as well. The symptoms then are of a subacute gastritis, causing a painful uneasiness after meals, with tenderness at the epigastrium and with a more or less constant sense of distention. Hyperacidity is quite common. In proportion to the continued hepatic derangement, especially when fever is a frequent symptom, the general nutrition suffers, and if jaundice also persists, emaciation becomes pronounced. A vicious circle sometimes seems to be present, of hepatic irritation causing gastric derangement, and this in turn, with its acid fermentation of the ingesta, increasing the inflammatory condition in the biliary passages. Careful attention to the attendant dyspepsia is therefore a leading indication in the treatment of cholelithiasis.

Now, all these symptoms of cholelithiasis which we have been reviewing may be present, either severally or conjoined, and yet not be due to cholelithiasis in any form. We have already enumerated the cases in which this is true of the symptom pain, but the same may be said of the other symptoms, tumor, jaundice, and fever.

Thus, tumors may be found occupying the anatomical area of the gall-bladder and ducts, accompanied with intense jaundice, and occasionally with pain, rigors and fever. The presence of these last symptoms may make the differential diagnosis very difficult, for, as remarked above, new growths which cause biliary obstruction and jaundice, as a rule, are painless and afebrile. If, therefore, we find a persistent jaundice coexisting with a palpable hard, and especially a nodular tumor, we have good reason to diagnosticate obstruction by a neoplasm as the cause of the jaundice. But cancer of the liver sometimes causes suppurative inflammation, as in a hospital case of mine, in which, with antece-

dent symptoms only of hepatic abscess, with fever, sweats, etc., a large collection of pus first flowed on operation, but in a week afterward the discharge contained both bile flowing from a communication with the gall-bladder and milk taken into the stomach from a hole in the adherent pylorus, each due to an ulcerating carcinoma. Tumors of the head of the pancreas are particularly deceptive, for they almost inevitably cause jaundice, while hepatic cancer is accompanied with jaundice in only about half the cases. I once had a man in my wards who came in deeply jaundiced, and with a large, painless, smooth tumor, of the size of a cocoanut, evidently containing fluid, and just like a distended gall-bladder, except that it was bisected longitudinally by the median line. Two days afterward sugar appeared in his urine, and I made the diagnosis of a pancreatic cyst. He was operated upon by my colleague, Dr. McBurney, and the cyst was successfully drained, the gall-bladder then appearing distended behind it. In every case of the kind, therefore, it is not the present but the past which gives us the most probable clues to the truth of the case. The present symptoms may be consistent with more than one condition, but a careful investigation into the beginnings will often illustrate the advantages of the clinical rule that you cannot be too particular in your questions about the first signs. Thus, with neoplasms, pain is rarely the first symptom, and still more rarely is it of a colicky kind. Tumor is often the first symptom, with jaundice long afterward.

Carcinoma of the gall-bladder, or of the biliary passages, when it occurs, seems to be definitely related to the local antecedent irritation by gall-stones. Thus, Bodrowski found gall-stones present in every one of forty cases, and Courvoirsier in seventy-four out of eighty-four. In the bile ducts, the commonest seat of carcinoma is at the outlet of the duodenum, which is also the commonest place for permanent impaction. So far as they go, these facts support the theory of the infective nature of cancer. The experiments of Orth and Wyssokovitsch show that traumatic lesions produced anywhere will cause a local predisposition to infective processes, and this is confirmed by Meltzer and Cheesman, who showed that slight wounds inflicted on various viscera such as the mucous membrane of the uterus, became afterward almost the sole seats in the body for the development of bacteria injected in the first instance into a vein of the ear. The products of chronic inflammation, therefore, caused by gall-stones, instead of degenerating into cancer, as was once thought, may simply have afforded the best nidus for a subsequent malignant infection, just as sarcoma likewise too often follows traumatism to be merely a coincidence.—*N. Y. Med. Jour.*

THE RELATION BETWEEN DIABETES INSIPIDUS AND MELLITUS.

Kuhn publishes the record of a case (*Munch, med. Woch.*, January 21st, 1902) from which he argues that an intimate relationship between the two forms of diabetes exists. The patient was a woman, fifty-eight years of age. She was treated in the hospital, in 1899, for empyema following pneumonia. In 1900 (July) she was again admitted into the hospital, and suffered an amputation of the left breast for a scirrhous cancer. Subsequently, on two occasions, small portions of infiltrated skin were removed. About the beginning of 1901 she complained of excessive thirst and polyuria. She was admitted into the hospital at the end of February on account of these symptoms. The urine had a specific gravity varying between 1002 and 1004, contained no sugar, and was passed in daily quantities varying between 175 and 245 ounces. The diagnosis of diabetes insipidus was then made. She did not improve under treatment. In April she was considerably wasted. The heart was natural, but the beat somewhat rapid (100). She passed about 310 ounces of urine, with a specific gravity of 1006, and no sugar; no albumen, but some indican. On May 3rd she passed 357 ounces of urine (the maximum amount). There was at this time some pyrexia. The quantity of fluid taken in was less than the quantity of urine secreted. A little later the quantity of urine became almost suddenly less and glycosuria appeared. Her general condition rapidly became worse. She slept a great deal, was not clear-minded when awake, and the pyrexia continued. She died on May 28th. The necropsy revealed recurrence of the cancer in the scar of the breast, cancer of various lymphatic glands, cancer of the suprarenal glands, atrophy of the pancreas, small growths in the kidneys, with fatty degeneration (metamorphosis) of the cortex, and growths in the liver. The uterus was absent, and the left ovary and tube, as well as the vagina, which ended in a *cul-de-sac*, alone remained. The patient had denied that any further operation had been performed, but probably the uterus and right appendages had been removed for a new growth, in spite of this statement. Kuhn considers that the change during the last few days of life of the diabetes insipidus into diabetes mellitus is a proof of the close relationship of the two diseases.—*British Medical Journal.*