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THE  
Canadian Practitioner

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A MONTHLY JOURNAL OF MEDICINE AND SURGERY

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VOL. XXI.

JANUARY TO DECEMBER, 1896.

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TORONTO:  
PUBLISHED BY THE BRYANT PRESS  
20 BAY STREET.

7953.

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THE  
CANADIAN PRACTITIONER

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PUBLISHERS:

THE BRYANT PRESS, 20 BAY STREET.

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VOL. XXI.]

JANUARY, 1896.

[No. 1

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## Original Communications.

### THE SURGICAL TREATMENT OF GALLSTONES.

A FURTHER CONTRIBUTION TO THE SURGERY OF THE GALL DUCTS AND  
GALL BLADDER.

By J. F. W. ROSS, M.D. TOR.,

Professor of Gynecology and Abdominal Surgery, Woman's Medical College; Surgeon to  
St. John's Hospital, Toronto General Hospital, and St. Michael's Hospital.

IN THE CANADIAN PRACTITIONER for April, 1894, I recorded several cases of removal of gallstones. In various discussions I have expressed opinions that, in the light of riper experience, may be to some extent modified. The surgery of the gall bladder itself is fairly well established, but the surgery of the ducts is still in process of evolution. In a few years' time we will have the surgery of the gall ducts placed on a sound basis; we will have eliminated errors and have accepted truths. The following are cases operated on since the publication of the former article.



Miss E. Operated on on the 22nd of March, 1894, for the removal of gallstones. (See plate, Fig. A.) The case was previously reported, and, at that time, it was stated that a fistulous opening still remained. The bile flowed when the patient was in the recumbent posture, and ceased flowing when she assumed the erect posture. Bile passed into the bowels, showing that the common duct was pervious. I decided that it was possible to close the fistula without establishing any anastomosis with the bowel. I considered that the intermittence in the flow was due to the fact that when in the erect posture the gall bladder drew down the common duct and influenced its valvular folds in such a way as to permit the onward flow of the bile into the duodenum. Without such evidence as this of the intermittence of the flow, it would have been dangerous to close the external fistulous opening.

On the 14th of January, 1895, ten months after the original operation, assisted by Dr. A. H. Wright, I opened the abdomen to the inner side of the old scar. The bowels were found firmly adherent around the adhesions of the gall bladder to the skin; they were peeled off until the gall bladder itself was freed. The gall bladder was firmly adherent to the edge of the liver. The opening into the gall bladder was enlarged, and the finger introduced to ascertain its condition and determine the presence or absence of another stone. There was no stone present. The opening into the gall bladder was now closed by two rows of suture of fine black silk thread; the continuous suture was used, and the two ends with which it was begun and ended were drawn through the external wound to assist in its subsequent removal. There was no further leakage of bile. Patient made an excellent recovery, and is now in perfect health.

This case demonstrates the fact that a leakage of bile may take place after cholecystotomy, when there is no obstruction in the common duct, and that such leakage may be terminated without resorting to the operation of cholecystenterostomy.

Mrs. C., *æt.* 29, referred by Dr. Hillary, of Aurora, married two years, one child seven months old. When six months' pregnant had a very severe attack of pain at the pit of the stomach; this lasted from two to three hours. Was not jaundiced. After the birth of her child she suffered from another attack; then several attacks followed, each lasting from two to three hours. Was jaundiced on two or three occasions; with the jaundice the discharge from the bowels was light clay-colored and pasty, urine dark colored. Diagnosis of gallstones was made and operation advised. No mass could be felt.

Incision made in the usual inclined position on the right side, gall bladder drawn up into the incision, and, by pinching it together, several small gallstones could be felt. These were very small (see plate, Fig. B),

not larger than the ordinary quarter-grain morphine pills ; they were eight in number, and were removed. Gall bladder was short, barely reaching the incision. A drainage tube was inserted into its cavity. Patient made an excellent recovery, and, in a letter dated Dec. 9th, 1895, the husband says : " My wife is in fine health, and I am ever grateful to you."

Mrs. P., æt. 48, referred by Dr. Stuart, Newmarket, married twenty-four years, has three children. Complains of pain in the right side, often suffers from severe pain ; suffered from the last attack three months ago, was at that time very tender to touch over the abdomen. The pains come on suddenly and without warning. Never jaundiced.

On examination a lump to be felt below the edge of the liver. As the kidney could be felt on the same side, I decided that this was a distended gall bladder. Advised operation.

Operation on Oct. 30th, 1895, at St. John's Hospital, assisted by Dr. Davidson. Made an incision along the edge of the costal cartilage on the right side in the usual position. Found the gall bladder adherent to the liver, and enlarged and thickened. Removed thirty-five stones from the gall bladder and one stone from the cystic duct (see plate, Fig. C). The stone impacted in the cystic duct was firmly fixed, and, owing to the length of the gall bladder, it was very difficult to remove it. By steadying the duct with the stone in it with the fingers of the left hand, and by the use of the scoop passed into the gall bladder, it was finally dislodged. It showed evidence of having been in this position for some time, as it was eroded on its surface. Gall bladder drained. Gall bladder was full of pus. Patient made an uninterrupted recovery, and returned home in good health.

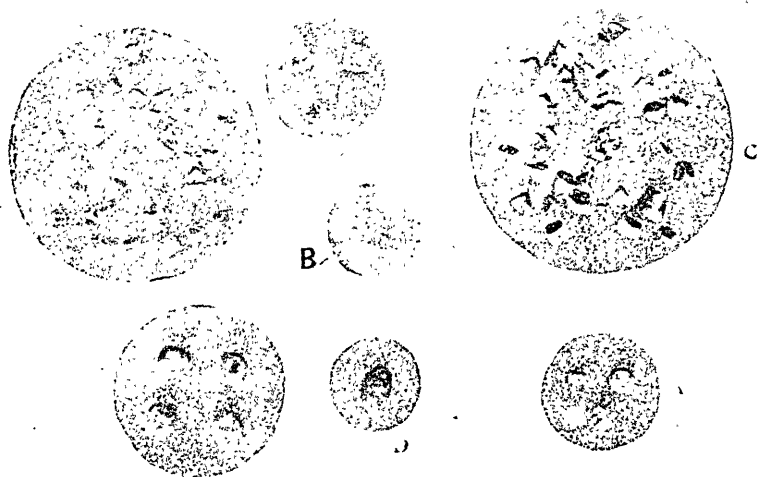
Mrs. S., æt. 60. Mother of three children, last one born twenty five years ago. Four years ago had an attack of severe pain and vomiting, followed by jaundice. The jaundice continued for two weeks. Eleven months ago she suffered again from severe pain and sickness of the stomach ; chills and fever came on. Pains of a spasmodic nature recurred once a week ; stools became pasty and clay-colored at times. Has now suffered from continuous jaundice for two months with high-colored urine and clay-colored motions ; has lost weight, suffered from bleeding at the nose, and suffers intensely from irritation of the skin. An indefinite mass to be felt under the edge of the liver. Diagnosed distended gall bladder ; obstruction of the common bile duct by stone. Advised operation. I decided, owing to the condition of the patient, to drain the gall bladder and relieve the jaundice at the first operation, and, on a subsequent occasion, to return and remove the obstruction. The patient's health was such that no prolonged operation could be thought of, and, owing to the intense and long-continued jaundice, hæmorrhage would necessarily be an element of danger.

On November 6, 1895, at the Toronto General Hospital Pavilion, assisted by Dr. Temple, I performed cholecystotomy, and removed one large gallstone (see plate, Fig. D) from the mouth of the cystic duct. The bleeding was troublesome, and the operation performed with as much despatch as possible. The patient recovered, jaundice disappeared, and her health became greatly improved. Bleeding at the nose and irritation of the skin ceased, but the stools remained clay-colored.

On the 14th of December, 1895, or six weeks after, I made another incision just below the scar of the first one, and opened the abdomen. The omentum was found firmly adherent to the surface of the liver: this was peeled off, and the liver surface bled freely. The duodenum was found adherent to the under surface of the liver, and, after a good deal of difficulty, was separated. Stomach and duodenum were now drawn out on to the abdomen, and a stone was found impacted in the common duct, and the common duct was found lodged in a bed of adhesions. These were separated to a sufficient extent to permit the fingers of the left hand to raise it. A small bladed knife was then inserted after the passage of a purse-string suture around the portion of the duct it was intended to open. The opening was enlarged by stretching with a pair of forceps. A small scoop was then inserted and the stone removed. The stone was broken down and removed in pieces, so as to avoid the necessity of a larger incision. The purse-string suture was now tied, the orifice closed, superficial sutures placed to further insure the complete closure of the opening in the duct. The stomach and omentum were replaced in the abdomen and the wound closed. A drainage tube was placed in the undisturbed and adherent gall bladder to allow of the ready outward flow of bile and minimize the danger of extravasation of this fluid into the peritoneal cavity. The operation was an extremely difficult one, as it was necessary to work so far up under the liver. Operation consumed one hour and fifty five minutes.

As the bile did not flow freely from the tube after the first twenty-four hours, the tube was removed for fear that it might be blocked; it was found open from end to end. For the first few days the bile alternated in its flow, at times escaping through the opening of the gall bladder, and at other times apparently flowing on through the now pervious common duct into the duodenum. The first motion from the bowels still remained clay-colored. They then became streaked with bile, and the bile then passed through without any obstruction. Patient made a very excellent recovery.

There are several questions that arise in the mind of an operator. First, in the presence of profound jaundice, should we proceed to perform what is a difficult and prolonged operation—the removal of a stone



Some gallstones removed by operation, showing different sizes, numbers, and characteristics.

from the common duct? Or, should the operator leave the stone and perform the operation of cholecystenterostomy? Or, should he at first drain the gall bladder and relieve the jaundice, and subsequently either remove the stone or establish an anastomosis?

The condition of the patient when jaundiced is not a favorable one for the performance of an operation in which we depend on strong peritoneal adhesion of two aseptic surfaces. These surfaces should be in the best possible condition, if we desire to insure the success of our operation. It seems to me that it is easy to perform a cholecystenterostomy after cholecystotomy has been performed. In my case, I could much more easily have performed this operation than have done what I did—remove the stone from the common duct. The gall bladder is already fixed to the abdominal wall, its adhesions are left undisturbed, the duodenum is in close proximity to it, and in a few minutes the surface can be approximated by means of a Murphy button.

Another advantage is this, that if the button remains in the gall bladder, as it has done on at least one occasion, it can be readily removed through the fistulous opening previously established into the gall bladder. I believe there are a few cases, in which firm adhesions have been formed, in which it will be wiser to establish an anastomosis than to attempt to remove the stone. These stones are only increased in size by the fresh deposits made upon them by the bile, and if the flow of bile is carried on through another channel, the stones, instead of increasing in size, are liable to disintegrate and diminish. Gallstones that have been lodged for a long time in the common duct are usually soft and pasty. There have been instances in which obstructive jaundice has existed, and after an exploratory incision and considerable fingering about the ducts the jaundice has disappeared. To my mind, this disappearance of the jaundice has been due to the unwitting disturbance of a small undetected stone lodged in the common duct. It is sometimes difficult for a skilled finger to detect the presence of a gallstone in the common duct. Unless the stomach and duodenum are drawn well down, it requires a finger longer than that possessed by most surgeons to palpate the common duct through the incision made an inch below the edge of the costal cartilage on the right side.

In the last case I record I found it necessary to draw a portion of the stomach and colon, as they were intimately adherent to one another, through the opening on to the abdomen, and to protect them by warm clothes, in order to bring the impacted stone into the field of the operation.

Secondly, is a purse string suture, carefully applied, just as we apply the purse string suture before making the incision for the introduction of

the Murphy button, a wise procedure when we intend to incise the common duct? I think it is. It assists us in controlling and drawing forward the duct. Fine but strong thread should be used, and the knot cut short. A row of three Halsted sutures should then be applied to draw the serous covering together over the incision. The incision should be very small, and the stone removed piecemeal; a large stone can be removed through a small incision.

Thirdly, is the danger from hæmorrhage in operations performed upon jaundiced patients a great one? In my experience it is. I found it necessary in one case to reopen the wound and swing each end of the severed rectus muscle in a loop of silkworm gut in order to control the hæmorrhage. The blood oozed from hundreds of points, and could not be controlled in any other way. The patient bled from the nose and gall bladder. The objection to secondary operations is the presence of adhesions left from the first procedure. . . . The annoyance occasioned to the operator at the second operation by these adhesions must be compared to the increased danger from hæmorrhage in the presence of jaundice. As soon as the jaundice has disappeared this danger from hæmorrhage ceases. The adhesions, though troublesome, are not dangerous.

Fourthly, if we cannot close the opening made in a friable common duct, how ought we to proceed? From my own experience, I have found drainage from the front an insufficient protection. Bile will be extravasated, and is likely to produce peritonitis. Drainage should be through the loin, if we intend to empty the post-hepatic pouch.

We have in the abdomen, as every operator who has removed a large collection of ascitic fluid from a very much distended abdomen knows, a pouch behind the liver, and another behind the spleen. I have found it necessary on more than one occasion to pass a sponge above a ridge formed by the peritoneum as it joins the transverse colon, to sponge out a considerable quantity of fluid lodged in this pouch. This fluid finds its readiest exit in a direction backwards and outwards towards the right side. A drainage tube passed in this direction will minimize the danger of extravasation of bile from an unclosed common duct.

# Selected Articles.

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## NEUROTIC VOMITING.

BY ROBERT T. EDES, M.D.,

BOSTON, MASS.

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VOMITING is not a disease or even a symptom of disease of the stomach, nor any proof of the abnormality of its contents. It is a special and complicated reflex, involving the abdominal muscles, the diaphragm, as well as the muscular coat of the stomach, especially its cardiac orifice, with often vasomotor and sensory irradiations having but little to do with the primary object of the act, which is, of course, to empty the organ usually, but not always, at the bottom of the whole disturbance.

It is true that the sensory irritation which sets in motion these varied actions usually comes from the stomach, and that its occurrence must always arouse, as the first thought in diagnosis, a suspicion of something wrong with the viscus or its contents. It is well known, however, that in a considerable minority of cases the act may be provoked by a sensory irritation starting from any one of many points other than the gastric mucous membrane, or sometimes even originating, so far as we can see, in the vomiting-centre of the medulla oblongata itself.

The vomiting of Bright's disease is, perhaps, not the best proof of the correctness of this remark, for it is possible that a portion of the hypothetical poison may be secreted by the walls of the stomach, as has been found to be the case with some metallic irritants, for instance, tartar emetic; so that the act, which is apparently central vomiting, may really be taking its origin in the more common way.

It is, on the other hand, not only possible, but highly probable, that the poison of the uræmia, whatever it may be, exerts its action directly upon the centre itself, as occurs with some other emetics, notably apomorphia.

Instances of this kind of vomiting, or in most persons a condition not going beyond the abortive sensory stage—*i.e.*, nausea—are to be found in

the effects of disgusting sights, sounds and smells. It is probable that in seasickness we have a reflex originating in the semicircular canals of the inner ear, disturbed in their function as organs of equilibrium.

I do not know whether to place here or among the instances of purely cerebral vomiting the case of a former colleague, who used to tell me that he could not read more than ten examination books at a time without making him sick at his stomach.

Slight mechanical irritation of the fauces will often greatly assist or occasionally entirely replace, as an initiatory stimulus to vomiting, the irritation of the stomach. That this is something different from ordinary painful irritation of the same region is shown by the fact that it may be inhibited by bromide of potassium without abolishing the susceptibility to the latter.

One of the most common, most important, and best recognized of the forms of vomiting not immediately attributable to a disorder of the digestive tract is the vomiting of pregnancy, and that occurring at times in connection with other affections of the uterus. It is generally recognized by obstetricians that treatment directed to the uterus and nervous system is more likely to be successful than that based upon the condition of the organ apparently chiefly at fault.

Considering, on the one hand, the ease and frequency with which the single, or occasionally repeated, act of vomiting may take place, and how often its effect is a conservative or beneficial one, it is not strange that it should excite no alarm, but often be looked upon as desirable. It is, however, more to be wondered at that long-continued, obstinate, nervous, or functional vomiting should have received so little attention from systematic writers. In most works on general medicine but little is to be found beyond the mere statement that such a state of things may occur, with, perhaps, a more detailed description of "anorexia nervosa," which, however, is not exactly the same thing, and may be accompanied by little or no vomiting. One hardly finds a hint of its sometimes severe and even fatal results. The obstetricians are, however, better aware that the condition is not of so slight importance.

Ewald, indeed, reports one fatal case, in which, however, he surmises that a tumor may have been present in the medulla, causing, together with the vomiting, an abnormal frequency of the pulse, and the epileptiform convulsions which occurred shortly before death. Beyond this he does not speak as if the prognosis usually *quoad vitam* were really serious, and says that "the general nutrition suffers surprisingly little." This optimistic view is, in by far the larger number of cases, the correct one, but not always so.

Lowenfeld says that "the severest conditions of inanition develop



themselves." This severe form of hysterical vomiting is most frequently met with in pregnancy, and has in single cases led to fatal results. Fortunately, it is generally possible, when the condition of the patient threatens to take a bad turn, to put an end to the vomiting in some way or other." He adds, in a footnote: "Guyot reports a case of hysterical vomiting in a non-pregnant patient lasting eighty-two days, and terminating fatally."

Two erroneous impressions, not, perhaps, distinctly formulated, but facetly received, lie at the bottom of this neglect. One is that, when persistent, vomiting must be dependent upon organic disease, chronic gastritis, ulcer, or carcinoma; the other, that if the absence of chronic disease can be clearly established the case has entirely lost the gravity of its aspect, and the prognosis has become that of other functional disturbances, which, however annoying, do not seriously threaten life.

But neurotic vomiting does not stand, as regards its influence upon the economy, upon the same level as many other neurotic phenomena of similar origin and apparently greater severity. Coma, paralysis, and convulsions make a profound impression upon the lay bystander, but excite comparatively little alarm in the physician who is confident of his diagnosis of the absence of all organic disease. These may rapidly and completely disappear, leaving no permanent ill effects, and without having seriously threatened life. But it is otherwise when a process, in itself just as causeless, so to speak, just as capricious, and, in its earliest effects, as harmless as those which give rise to these more startling symptoms, affects the central organ of nutrition. A commander may look with comparative equanimity upon a raid or skirmish in his front, no matter how vigorous or noisy, when he would feel a well-founded anxiety were it directed upon his line of supplies. If the stomach empties itself thoroughly and inevitably whenever food is put into it, the system is deprived of its support just as surely as when a perfectly healthy organ is being acted on by hypersensitive nerve-centres, when a mucous membrane, rendered over-sensitive by inflammation or a malignant growth, is the starting point of a reflex which in itself is strictly normal and physiological. If the blood fails to receive its peptones, sugar, and fat, it must be just as surely impoverished, whether its loss be on account of the digestive glands having lost their power, or because they have been deprived of material to work upon by a capricious nervous system.

Fortunately in the great majority of cases it is true that the rejection of food is not constant and complete, and enough is retained not only to sustain life, but to justify the remark of Ewald just quoted. If, however, this lucky failure does not take place, then the result is inevitable, and calling a patient hysterical does not enable her to live without food.

There are cases in which no diagnosis of organic disease can be sustained, and in which, moreover, many positive signs of functional disturbance are present, which not only place the patient in a condition of extreme inanition, but may lead to a fatal result.

CASE 1. Mrs. C., aged forty-one years, was seen twice in consultation with Dr. Bragdon, of Dorchester. She had had, for more than a year, persistent vomiting with what she called "fermentation"—that is, vomiting of acid material. There had been, during this time, one or two intermissions. On one occasion some blood of unknown origin had been brought up. The vomiting took place without reference to the time of eating. All sorts of diet had been tried. There were absolutely no cerebral symptoms, and there was no reason to suspect the kidneys. At the second visit the stomach was washed out with a flexible tube, with no result except the return of the water poured down and a little matter tinged with bile.

She emaciated and died.

At the autopsy the lungs were found to contain small, cheesy deposits. The heart was small, but otherwise normal. The stomach showed nothing abnormal; the pylorus was unobstructed. The kidneys and other organs were normal.

CASE 2. Miss C., always delicate, and subject to sick headaches. Five years ago a pain began in the right side. Two and a half years ago her health began to break down entirely, with insomnia, headache, and "stomach trouble." Soon after this an enlargement of a Fallopian tube was diagnosticated, and removal of one ovary suggested, but not carried out. Some of the symptoms yielded to treatment, but the pain continued higher up, supposed to be due to old peritonitic adhesions. There were spells of "stomach trouble," in which she was unable to digest or retain anything for five days at a time. In January, 1889, her diary informs us that she was suffering from insomnia, headache, "stomach trouble," and on January 22 speaks of a "sharp, cutting pain in the extreme left side of the stomach" as a "new symptom." During this period she was going to parties and receiving calls in the intervals of distress.

In February "lost ground." She felt that she was not going to get well.

In March a diagnosis of cancer of the stomach and then of gastritis was made. There was obstinate vomiting. She took no food or drink, except from time to time to "rinse out her stomach" by swallowing a glass of water, and then, without an effort, throwing it up again at once.

During this period she once took a little broth and a minute piece of fish, which were thrown up again undigested thirty-six hours afterward.

There were some thirty days preceding her death in which, with the slight exception just noted, no food was taken, except by enema, although she was vomiting in small quantity.

Her mind, during her whole sickness, was perfectly clear until two days before death, when she fell into a mild delirium. I saw her two or three times with Dr. D. W. Prentiss, of Washington. She was then in a state of great emaciation, her condition remaining about as above described. There was never any vomiting of blood. The bowels were regular. The urine contained no albumin, but was highly concentrated, containing, a few days before death, 32 grammes of urea to the litre; but as the quantity per diem was not known, the total daily elimination cannot be given. It was presumably very small.

At the autopsy the body was found much emaciated, but with some fat still remaining in the omentum. The heart and lungs were normal, but contained very little blood.

The stomach contained no tumor and no ulceration. There were some congestion of the vessels and some ecchymosis, undoubtedly originating about the time of death. It was nearly empty, with no large amount of mucus, presenting no extraordinary appearance to the naked eye, the mucus seeming to be intact. This was confirmed so far as naked-eye examination of small pieces removed and hardened went, but the microscopic preparation was delayed a long time, and was finally a failure.

The intestines had faecal contents. In the lower part of the large intestine were white masses, undoubtedly derived from enemata of milk. The liver was normal; the gall-bladder full of dark, thick bile. Pancreas normal. Spleen not enlarged. The kidneys were congested, but otherwise normal.

The right semilunar ganglion was apparently normal in the midst of undefined connective tissue; the left not found.

The uterus was anteflexed, the tubes normal, ovaries flabby, with no corpora lutea. There was no trace of previous inflammation of the uterus, its appendages, or of the peritoneum.

The nomenclature of such cases as these is not altogether a matter of indifference, inasmuch as it may have some influence on the mind of even the practitioner, and, if not very carefully contrived, is likely to lead to harmful misunderstandings between him, his patient, and her friends. Until it is possible to relieve the words "hysterical" and "nervous" from a certain flavor of disapprobation and suspicion which still clings to them, or until we ourselves get rid of the habit of prefixing, at least mentally, the word "only" to these names, they should be used very carefully.

"Hysterical," in the oldest sense of being connected with uterine

disturbances, they may or may not be, and those which are so are probably, as being more amenable to local treatment, not the very severest type. Neither of these two cases seems to have possessed the old-fashioned hysterical disposition. The second, though evidently of an affectionate and emotional character, was calm and cheerful in her bearing, and seldom gave way even to tears.

In neither was uterine disease found, and in the second the traces of a tumor suspected, of dilated tubes, and of uterine disease said to have been cured by electricity, were looked for in vain.

On the other hand, there were no manifestations of the "grand hysteria" of the *Salpêtrière*.

But "hysterical" in the sense of purely functional and neurotic they undoubtedly are in the same sense that joints are "hysterical" in many cases where they are non-usable and painful, and limbs paralyzed and contracted, and the skin when it takes on certain vasomotor conditions simulating eruptive diseases, or the subcutaneous connective tissue when the extremities become blue and swollen, and so on.

It is to be regretted, in the interest of completeness, that the special "stigmata" were not sought for; but the diagnosis, though it might have received some confirmation from their presence, does not depend upon them.

If there is any lesion in such cases, it must be in the brain, and of such a character as not to be seen by processes yet discovered.

The practical point in the diagnosis is, whether or not organic disease be present; and this is to be determined chiefly by an exclusion, as far as possible, of inflammation, malignant disease, and especially of ulcer, being confirmed, perhaps, by the presence of other and distinct signs of the neurotic diathesis. It should be remembered, however, that neither ulcer nor cancer is a protection against the neuroses. In one of these cases the attending physician, a practitioner of large experience and sound judgment, who had studied the case thoroughly and exhausted the resources of medicine and careful feeding, firmly believed in the existence of malignant disease until he actually saw the stomach at the autopsy.

It might be suggested, since no examination of the head was made in this second case, that there was a lesion of the medulla oblongata so circumscribed as to give rise to the symptoms of gastric pain and vomiting, and no other. It can only be said of this hypothesis that such a state of things is conceivable in the abstract, but that no such case has been reported, and it is in the highest degree improbable that even one case should go on to a fatal result without a single other manifestation of cerebral disease; and when two such in the observation of one person are called for to sustain this theory, the probability becomes too small to be considered.

The doubts in diagnosis, which fortunately can never be resolved in the present instance, are illustrated by

CASE 3. Seen in consultation with Dr. J. I. Hildreth. This patient was a delicate-looking, light-complexioned girl, with a distinctly neurotic family tendency, who had worked hard and distinguished herself in her own education and had then become a teacher, besides sharing in family anxieties.

Two years before the present illness she had had a distinct attack of melancholia. With this exception she was well until August, 1892, when, being at the time tired and weak, but resting in the country, she began to vomit. She got better and went to work again, but in December was again taken with vomiting, and was obliged to keep in bed. The vomiting was persistent, and for a long time resisted all treatment. She lost flesh and strength, although she had but little pain. There was no hæmatemesis. A temporary improvement took place in January, following upon the administration of small doses of codeine; but the former condition soon returned and was aggravated, so that not the smallest portion of food could be retained. The tongue became red and dry, the pulse small and rapid, the emaciation extreme, and she presented every appearance of rapidly approaching death by inanition, which for some hours her attending physician supposed to be close at hand.

This, however, seemed to be the turning point. She soon took and retained a small amount of champagne, and, later, milk and lime-water, which latter was increased with considerable rapidity, so that when she entered the Adams Nervine Asylum she was fairly convalescent, and went on to complete recovery, gaining flesh rapidly, and having no symptoms of any special interest except to herself. There was no gastralgia, very little that could be called even dyspepsia, and but slight nervous manifestations, except a good deal of exaggeration and tendency to self-inspection. During the whole time there were no specially hysterical manifestations, and her mind was perfectly clear.

The diagnosis of such cases is obviously the important, and, for an efficient treatment, the fundamental one. It is true that the great majority of cases would of themselves come to a satisfactory conclusion after a greater or less time of any treatment, and, of course, under such as would be directed toward organic disease: that is, so far as the dietetic management is concerned; but the time and anxiety consumed would be greater than if a less careful treatment were supplemented by other measures directed to the nervous condition. Hence the diagnosis, even if it cannot be always absolutely certain, should be made as nearly so as possible.

There is no symptom specially characteristic of functional vomiting. The presence of other neurotic symptoms, either together with, or even

more conclusively if ceasing in order to give way to an attack of obstinate vomiting, would not be proof positive, perhaps, but in the highest degree suspicious.

The absence, during considerable time, of vomiting of blood would be a strong point in favor of a neurosis; but when it is remembered that a moderate hæmorrhage into the stomach may not be thrown up at all, but pass away, possibly unnoticed, by the bowels, we are again left at fault.

On the other hand, repeated vomiting of blood would be more conclusive of organic disease than anything else, except the finding of an epigastric tumor. A single occasion of hæmatemesis, even if copious, is of much less value. Hysterical hæmatemesis is not very rare, and may or may not be a vicarious menstruation. If repeated at regular intervals its purport would at once be evident.

As to the assistance to be gained by an analysis of the stomach contents vomited, or withdrawn by the tube, we find that, unfortunately, the hydrochloric acid is increased in nervous gastralgia as well as in ulcer. Complete absence of free acid has also been seen in cases of nervous dyspepsia, and might obviously lead to the suspicion of cancer. I know of no observation made in a case of exactly the kind described above, that is, where the vomiting is a much more prominent symptom than the pain; but it is possible that a persistent absence of hyperacidity, together with the painless vomiting, would be a significant combination.

Dr. Routh remarked in one of the discussions on the subject that hot drinks increased the pain of ulcer, but repressed that of neuralgia.

Ewald gives an elaborate table of the distinction between nervous gastralgia, gastric ulcer, and gastric cancer, which I forbear to quote, since its value is so heavily discounted in the immediately following remark: "I hope that this table may be of some service in establishing a differential diagnosis. However, sharp as the distinction between the three pictures may appear on paper, we find often enough in practice that just the most important symptoms are absent, or so combined with one another, or so vaguely manifested, that an exact diagnosis cannot possibly be made."

In the third case here reported the physicians who saw it were agreed that the weight of evidence lay upon the side of nervous vomiting, and this view seems to have been confirmed by the rapidity and completeness with which recovery took place after it had once begun. The essential points were chiefly the absence of vomiting of blood and the occurrence of the whole affair as a consistent part of a distinctly neurotic history. If, however, one should choose to affirm, in a similar but less carefully observed case, that bloody stools had already been present but not seen, and that the neurotic symptoms were the consequence of anæmia rather than *vice versa*, it would be difficult to confute him.

Of diseases other than those of the stomach, which might easily present symptom-groups simulating nervous vomiting, there are two which deserve mention, Bright's and intracranial tumor; but the possibility of either of these being associated with persistent vomiting having been recognized and the case investigated from that point of view, the chance of error would be extremely small.

In a case of hysterical anuria the presence of urea in the vomitus would have a value in the diagnosis if any confirmation were needed. Pelvic complications are to be sought for and remedied. In special and favorable cases this may be the end of the matter, as in the vomiting of pregnancy; but local uterine treatment is no more universally successful in this than in other neuroses; so that its failure would prove nothing as to diagnosis.

Dr. Bristow (*Lancet*, June 20, 1895) makes the highly important observation that in some cases the so-called vomiting is in reality regurgitation, and cites the case of a girl who brought up even the smallest quantity of food. He was satisfied that the food swallowed did not reach the stomach, and was arrested at the lower end of the œsophagus. She was cured by a single passage of the tube.

The treatment of neurotic vomiting presents few points of interest, so far as drugs and diet are concerned, from that employed to check vomiting from other causes. Almost any of the medicines called gastric sedatives or antiemetics may prove useful, but nothing is specific.

In the matter of diet, it is perhaps less easy to find some one article which will always be well borne than when the vomiting depends upon organic disease. It is, however, desirable not to make the search too limited, for the appetite may be capricious, and the choice will depend more upon it than upon chemical composition. Any physician can tell queer stories of what patients can and cannot eat, or think they cannot. The hospital patient, who has been carefully fed by the rectum, or on predigested milk or the like dainties, steals his neighbor's fried ham and eggs and thrives thereon. The consumptive's stomach, which has for days rejected the most ingenious and artistic concoctions, quiets down under the indigenous baked bean, only to be again aroused by a delicate and very expensive bean-flour called "Revalenta Arabica." The next effectual sedative is a piece of good so id pound-cake.

Articles of diet called "bland" are by no means more universally acceptable to the sensitive or disgusted palate than a smile of the same character is to the perturbed spirit.

Variety and "little and often" are two good principles to bear in mind; but there is no rule which will not be found to have important exceptions.

The more food preparations of any kind the physician is familiar with, the better. One may be retained when another is rejected, not because it is better, but because it is new.

The most important part of the treatment is by no means the easiest to formulate ; I mean the moral control and psychological stimulus or sedation.

It must combine firmness with kindness, caution with boldness, and the whole with fertility of resource, common sense, and adaptability to the case in hand.

The act of vomiting is, to a certain very limited extent, directly under the control of the will ; but much more completely is it, together with the whole process of digestion, indirectly subject to nervous influence.

How easy is it to disgust a sensitive person with any article of food by some unpleasant detail as to its source, or the method of its preparation ! It is certainly consonant with the views of hysteria held by some theorists that a fixed idea or some incident forgotten as to the ordinary consciousness, but retained in the "subliminal," may be constantly exciting the centres controlling the action of the stomach. In the second of the cases reported, it is more than probable that the idea of the patient that she was not going to get well had a good deal to do with determining the result.

If a patient believes that she must vomit, she will do so. If, on the other hand, there are no nerve-endings in the gastric mucous membrane irritated by inflammation or neoplasm, no cells in the medulla to be compressed or poisoned, assurances that she need not and must not vomit are of more value than bismuth, creosote, or ice. One gentleman proposes to check hysterical vomiting by the simple plan of bringing no basin.

Here, of course, is where the diagnosis is of supreme importance. The physician cannot give those hearty assurances of recovery with convincing vigor, nor exercise the necessary firmness in urging food, if he has a feeling that the patient may at any moment bring him to shame by a hæmorrhage or a perforation, or her confidence be slowly undermined by the gradual development of a growth in the epigastrium.

He can feed her so as not to do harm in either case, and sometimes it may be that this is for a time all, until the diagnosis is established ; and it is not necessarily any imputation upon the diagnostic skill of the practitioner that he may be obliged thus to temporize. It is not, however, until he can cut loose from the very limited bill of fare, and assure his patient that the lactated milk or the malted glucose, to which her faith is pinned, is not her only hold upon life, and that it is time for her to enlarge her diet, that he is really reaping the benefit of a positive diagnosis.



Measures which appeal to the reason or to the imagination as being appropriate to the relief of stomach trouble may have, from the force of suggestion, an efficacy much beyond their intrinsic value. The experience of Kaltenbach,\* Alt, and others shows that by appropriate suggestive treatment the vomiting in the severest cases of hyperemesis can be checked. Kaltenbach and Alt washed out the stomachs of their patients, and then suggested that, since everything harmful had been removed, the vomiting must necessarily cease. This suggestion proved efficacious, and the patients recovered completely. Whether such suggestive treatment would be easier and more effectual with the patient in a condition of hypnosis I do not undertake to say. My belief would be that if it could be made efficacious at all in a non-hypnotized person the effect would be much more durable.

\* Lowenfeld: *Neurasthenie und Hysterie*, p. 436.

## A STUDY OF THE INFECTIOUSNESS OF THE DUST IN THE ADIRONDACK COTTAGE SANITARIUM.

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ASSOCIATED with our increasing knowledge of germ life and the practical application of bacteriology toward solving the causes of disease and tracing back to its fountain-head the source of any infection, there exists among the laity, and also some physicians, an intense fear, sometimes amounting to mania, that they are continually exposing themselves to an invisible danger which is lurking about them in the food they eat, the water they drink, and the air they breathe. The most dreaded nightmare of them all is the fear of becoming infected with the germs of tuberculosis. No one can deny the presence of this danger in a great many places; but oftentimes in the places where popular opinion considers it greatest it is actually less to be dreaded than in other localities where, with the external appearances of refinement and cleanliness, there exist the most favorable conditions for the permanent lodgment of infectious material in the dust.

This fear of infection from tubercular germs has become so general and reached such a climax that the poor tubercular patient, whose mental and physical suffering is already extreme, must carry around with him an added burden of anxiety and care, since people look upon him as a dangerous character in the home or community. It is within the writer's experience that parents have refused to have their children return home lest some other member of the family might be infected; and men have found it difficult to hire flats in New York city or Brooklyn when they wished to make a home for a dying wife or child. In one instance a physician wrote to have his former patient kept in Saranac Lake until she died, as he thought that was the only way of avoiding possible infection for the other members of her family; in the end she was taken home to die in a hospital.

Such heartless actions are due, to a great extent, to the ignorance of people concerning the real dangers of infection, and their lack of knowl-

edge as to how they can be avoided. In their blind ignorance they think to avoid an apparent danger, little dreaming how much more frequent and dangerous are the daily exposures to the same diseases in their social intercourse, travels, and amusements.

For these reasons it has seemed a fitting time to make some experiments on this subject to determine how great the danger of infection is in a large community of consumptives, where all sanitary measures are enforced as regards the care and disinfection of sputa.

Two facts have been positively affirmed by previous experiments : (1) Buildings for consumptives, prisons, private dwellings, and public conveyances do become infected with tubercular germs. (2) A tuberculous patient is absolutely free from the danger of infecting others by contact ; it is the product of their excretions which is the dangerous factor. Destroy these, and the house or home of the consumptive is no longer dangerous.

All investigators have established the first of these two statements, none more thoroughly than Cornet,\* reference to whose work will be made later in this paper.

The second statement has also been repeatedly proven ; but among the laity and also some physicians, it is so dimly comprehended that time will not be lost in quoting some of the investigators and their experiments.

Two Italian investigators, Celli and Guarnieri, found the expired air of tubercular patients free from tubercle bacilli ; and also that air blown by a bellows over and through sputum very rich in bacilli remained free from bacilli.

Fr. Muller,† Sormain and Brugnatelli,‡ Charrin and Karth,§ Cadeac and Malet,|| all found the expired air non-infectious.

For two months Tappeiner¶ had a woman with advanced phthisis cough through an opening into a wooden box in which were two guinea-pigs ; at the end of that time they were killed and found sound.

Cornet\*\* states that the expired air "never and under no conditions contains tubercle bacilli or their spores."

\* Cornet : Die Verbreitung der Tuberkelbacillen ausserhalb des Körpers. Zeitschrift f. Hygiene, B. 5. 1888.

† Fr. Müller : Ueber die diagnostische Bedeutung der Tuberkelbacillen. Würzburg, 1883: Verhandlungen der med. phys. Gesellschaft zu Würzburg, N. F. Bd. viii.

‡ Sormain and Brugnatelli : Studi sperimentali sub bacilo della tubercolosi. 1883.

§ Charrin and Karth : Virulence de la tuberculose suivant les humeurs et les tissus des tuberculeux. Revue de Méd., 1885, No. 8.

¶ Cadeac and Malet : Etude expérimentale de la transmission de la tuberculose par l'air expiré et l'atmosphère. Revue de Méd., 1887, No. 7.

\*\* Tappeiner : Meran zur Frage der Contagiosität der Tuberkeln. Archiv. für Medicin, Bd. xxix. S. 59.

\*\* Cornet : Loco citato.

Since, then, personal contact with a tubercular patient is free from danger, whence is the source of the infectious material? For all practical purposes it is contained in the sputum, which becomes dangerous and capable of infecting when dried and pulverized. In its moist state it is harmless; therefore, if tubercular patients are careless and dirty about their sputum they are dangerous, not alone to themselves, but to all who come in contact with them.

Knowing these facts, and taking pains to make them clear to the patients in the sanitarium, it may well be said, after five years of personal observation, that the rules concerning the care and disinfection of sputum have been, since its inception, and are to-day, most carefully carried out there. Occasionally, a very sick or careless patient does transgress the rules, but this occurs very seldom for such a large institution.

In order to test the efficacy of the system, a complete examination of the group of buildings was made, some of which have been occupied eleven years by consumptives. In every instance dust from the darkest and most likely to be infected spots was taken; for, if infected, the management was most desirous of knowing it.

The experiments were done at Dr. Trudeau's request and under his supervision at the Saranac Laboratory for the Study of Tuberculosis. They were arranged in two groups, the details of which were as follows: First group of four buildings consisted of the main building (parlor, sitting-room, and public library); the infirmary, where all the acutely sick are sent; the "Red Cottage," which was the oldest on the grounds, and the "Penfold," the most recently built cottage. One square yard of dust from each of these buildings was collected and inoculated into ten guinea pigs. Second group consisted of thirteen cottages, from each of which half a square yard of dust was taken and inoculated into three guinea pigs; thus the second batch of pigs received proportionately a larger quantity of dust than the first.

The technique was as follows: Sterilized cotton swabs moistened with sterilized water were used to collect the dust from the walls, backs of pictures, and darkest corners of the rooms; 1 to 2 c.c. more of sterilized water was added to cleanse the cotton of the dust. The swabs were then squeezed in a piece of coarse, sterilized gauze, and an equal share of the whole dust, suspended in water, inoculated into each guinea pig; all inoculations were made into the abdominal walls, extraperitoneal. Save for any infections in the dust, all other sources of contamination were excluded by thorough antiseptic precautions.

The animals were kept from one to three months and then killed. Any enlarged glands or suspicious areas were carefully examined for tubercle bacilli, and the diagnosis of tuberculosis only made when these were

found. In the painstaking details of these prolonged experiments, the writer wishes to express the appreciation of the assistance given him by Dr. S. W. Hewetson, who aided him materially in the work.

The results are shown in the following table, which is arranged under the same heading as in Cornet's work, in order to compare the results:

Places.	Number of Animals.	Of which Died of		Died of Infectious Diseases.		Remainder Sound.	Am't of Dust Used.
		Tuberculosis.	Other Infectious Diseases.	All Told.	In percentage to Inoculat'd Animals.		
Main Building: Parlor, Sitting Room and Library.	10	0	1	1	10	0	1
Infirmary	10	0	3	3	30	7	1
Red Cottage	10	5	0	5	50	5	1
Penfold	10	0	0	0	0	10	1
Loomis	3	0	0	0	0	3	$\frac{1}{2}$
McAlpin	3	0	0	0	0	3	$\frac{1}{2}$
First Stokes	3	0	0	0	0	3	$\frac{1}{2}$
Second Stokes	3	0	0	0	0	3	$\frac{1}{2}$
Green	4	0	0	0	0	4	$\frac{1}{2}$
Lea	3	0	0	0	0	3	$\frac{1}{2}$
Spruce	3	0	0	0	0	3	$\frac{1}{2}$
Trudeau	3	0	0	0	0	3	$\frac{1}{2}$
Pine	3	0	0	0	0	3	$\frac{1}{2}$
Sunshine	3	0	0	0	0	3	$\frac{1}{2}$
Schiff	3	0	0	0	0	3	$\frac{1}{2}$
Dodge	3	0	0	0	0	3	$\frac{1}{2}$
Strauss	3	0	0	0	0	3	$\frac{1}{2}$
Outbuilding	1	0	0	0	0	1	$\frac{1}{4}$
Thus of.....	81	5	4	9	11.11	77	

In all, 81 pigs were inoculated with from 2 to 3 c.c. of sterilized water with the dust in suspension; of these only 4, or 4.9 per cent., died of other infectious diseases on the third to sixth day, and 5 of tuberculosis. These five constituted just one-half of the number of pigs inoculated with the dust from the "Red Cottage," a small cottage holding two patients, always occupied by the sickest men, one of whom had been complained of by his room-mate for spitting around the cottage. The five pigs lived sixty days, were then killed, and although tuberculosis was present in the omentum, spleen, liver, and lungs, they were well nourished and strong, apparently showing a diminished virulency of the infecting germs.

The infection of this cottage demonstrates two things: First, how easily a patient by carelessness and disobedience of rules (probably due to his very weak, sickly condition) may render a cottage dangerous to himself as well as to others; second, that the technique of the experiment was faultless.

It brings out, however, in stronger contrast, the successful results of the experiment as a whole, since sixteen buildings out of seventeen, inhabited by consumptives for so long a period as ten years, were absolutely free from infectious material. This is the more striking when we consider

the great vitality and virulence of the tubercle bacilli, Stone\* having proven by inoculation of rabbits that dried sputum, after the lapse of thirteen years, was capable of inducing tuberculosis.

With this array of negative results, a most conclusive proof is given that a body of consumptives need not infect the houses they occupy when their excretions are destroyed. To attain this end it requires that each new patient should be carefully instructed concerning the disposal of his sputum, and close supervision of them all be maintained.

Then each patient feels that he endangers himself as well as the others by not obeying the rules ; if anyone becomes careless in the matter it is quickly reported to the medical authority by one or more members of the sanitarium, everyone appreciating fully the grave consequences of possibly infecting the cottages or public rooms.

The methods used are to burn all cuspidors daily, and the Japanese napkins as soon after using as possible ; never to expectorate except into the large sanitary cuspidors when about the main buildings, or the small individual hand cuspidors. Paper napkins are used in the infirmary in hæmorrhage cases, or where patients are too feeble to get up on their elbows so as to spit into the cuspidor ; these are used but once, then placed in a pasteboard receptacle, and the whole thing burned several times a day. During the greater portion of the year fires are burning in every cottage, and the patients burn everything in the stove or fireplace.

In summer, a barrel with some moist sawdust in the bottom is placed in an outbuilding, and the cuspidors and napkins are carried to this barrel, which is saturated with kerosene and burned three times a week. One-fourth of a square yard of dust from this building was inoculated into one guinea pig, which remained healthy. A properly constructed crematory is much needed, but too costly at present to build. The cuspidors used are made by Seabury & Johnson, and of two sizes : one, the hand cuspidor, for individual use, and the other, a much larger size, for the piazzas and public rooms. The latter are placed in covered wooden boxes about four feet from the floor ; these are easily taken down and cleansed. By this arrangement patients cannot spit at a cuspidor from a distance, and the mass of sputum is not blown over the edges of the cuspidor by the wind, as happened at first when uncovered cuspidors were placed upon the floors.

It is, perhaps, too much to suppose that all particles of infectious materials are thus destroyed ; where seventy to eighty small hand cuspidors are in daily use, there may be some slight soiling of a stand or the linen covers on which the cuspidors are placed ; also in coughing some small

\* A. K. Stone : *American Journal of the Medical Sciences*, March, 1891.

masses of sputum may be violently expelled. These sources of contamination must be small, and are fraught with less danger by frequently washing the tin frames for the cuspidors, and the cottage plan of housing patients, thereby avoiding the evils of overcrowding.

Besides the destruction of the sputum, other factors equally important have served as auxiliary means of keeping the cottages free from infection, not alone with tubercle bacilli, but also other germs: these are the construction of the cottages, which are built so as to insure thorough ventilation; the immense volume of air space allotted to each patient: this is secured by large openings from the various bedrooms into the sitting-room, which communicates with the outside air by transoms opening above the piazza roofs; the smooth, hardwood wainscoating, 7 to 8 feet high, around the whole cottage, permitting of thorough cleansing with soap and water; the absence of wall-papers, the upper walls and ceilings being heavily sized and then painted, rendering these also easily cleansed; the plain, simple furnishings—iron hospital beds, rugs, and hardwood floors, and as few tapestries as possible; lastly, the large area of window surface, allowing the sun's rays and strong light free access to all parts of the cottage. Added clinical proof of the non-infectious character of the dust may be deduced from the fact that not one of the twenty to twenty-five attendants has ever developed tuberculosis; and also that no patient who was admitted suffering from pulmonary disease without the bacilli being present ever subsequently developed them.

How do these results compare with those of other experimenters?

Heron\* inoculated one hundred guinea pigs with dust taken from various sources in the City of London Hospital for Diseases of the Chest. In the greater number of experiments "a piece of dust was introduced into the subperitoneal tissue"; in some a solution of dust in sterilized water was injected into the pigs. Twenty-six pigs, 26 per cent., died of "either intense inflammation spreading from site of inoculation or septicæmia." Of the remaining seventy-four, two pigs (both inoculated with dust in solution), or 2.7 per cent., died of tuberculosis. The dust in each case came from "the tower of the hospital, which acts as up-cast shaft," and was dark and unventilated. It would seem as though the implantation of a piece of dust was too small to place too great reliance on negative results.

Cornet†, seven years ago, gave us the following table:

\* G. A. Heron: *The Relation of Dust in Hospitals to Tuberculous Infection*. *Lancet*, No. 1,67 January 6, 1894.

† Cornet: *loc. citato*.

Places.	Number of Animals inoculated.	Of These Died of		Died of Infectious Diseases		Remained Sound.
		Tuberculosis.	Other Infectious Diseases.	All Told.	In Percentage to Inoculat'd Animals.	
In seven hospitals .....	94	20	52	72	76.6	22
In three insane asylums .....	33	3	16	19	57.5	14
In two prisons .....	14	0	6	6	42	8
Inhalation rooms .....	4	2	0	2	50	2
Dwellings of private tubercular patients .....	170	34	91	125	73.5	25
Polyclinic orphan asylum, etc. ....	28	0	14	14	50	14
Surgical wards .....	8	0	1	1	12.5	7
Streets and hygienic institute .....	41	0	16	16	39	25
Streets alone .....					55	
Thus of .....	392	59	196	255	65.5	137

In the hospitals 47.6 per cent. of the pigs not dying of acute infection developed tuberculosis ; in private dwellings, 43.6 per cent. ; in insane asylums, 17.6 per cent.

M. Kirchner,\* in examining the garrison lazaret of one of the army stations, experimented on forty-two pigs by inoculation with dust suspended in bouillon or implantation of dust-infected sponge in abdomen. Twenty-six, or 61.9 per cent., died from the operation and infection of the wound. Sixteen, or 38.1 per cent., remained alive. One of the sixteen developed tuberculosis.

The writer secured the dust from a large city hospital out of the wards occupied by male and female tubercular patients. From male ward were inoculated three pigs with one-half square yard of dust. From female ward were inoculated three pigs with one-half square yard of dust. From female ward were again inoculated three pigs with little less than one-half square yard of dust. Of male ward pigs, one died ; of female (first lot), all three died ; of second lot, one died of an intense cellular inflammation much resembling a malignant oedema. All these died on the first to third day after inoculation. The four living pigs were killed in sixty days, and one of those inoculated with dust from female ward had well advanced tuberculosis ; thus, twenty-five per cent. of the pigs remaining alive developed tuberculosis, while 55.5 per cent. died of acute infection, some of which might have developed tuberculosis. In these wards the beds were carbolized once a week, the floors washed daily and scrubbed twice a week, the walls rekalsomined every six weeks, and Seabury & Johnson's cuspidors used, which were changed twice a day. In the female wards, however, long pieces of cheese-cloth were given to the sickest and weakest patients, which were used as a roll to spit into, and would last a patient

\* M. Kirchner: Einige Untersuchungen von Staub auf Tuberkelbacillen. Zeitschrift f. Hyg. u. Inf. Krank, B. 19, S. 153, 1895.



from four to eight hours. This, in all probability, was the source of infection.

A close perusal of these results shows that the careful disinfection of the sputum has been productive of good results, but not yet fully satisfactory, since in each experiment the dust has been infected with tubercle bacilli. Of far more importance, however, is the fact that the dust was infected to such a virulent degree with other germs; to-day we know how much more serious are the cases of tuberculosis with mixed infection than are those of simple tuberculosis. That the latter may quickly be changed into the former when patients must live in an atmosphere laden with infectious germs is scarcely to be wondered at, inasmuch as, according to the above experimenters, three hundred and sixteen out of five hundred and forty-three inoculated pigs (or 58.1 per cent.) were killed by some form of infectious disease, the germs of which were contained in the dust.

Mixed infection is a most important factor in relation to a tubercular patient's condition, whether this arise from without by inhaling the germs of a heavily infected atmosphere, or is the result of an inflammatory process in the lungs. To it may be attributed the sudden and rapid changes for the worse in patients, who were doing well under proper climatic surroundings, after a sojourn of two to four weeks in a large city.

May not the condition of "hospitalism" met with among the internes of the large hospital, and so frequently the precursor of tuberculosis, also be due to the same cause?

A few words concerning the best means of disinfecting sputum. Fire is unquestionably the very best disinfectant, but patented cuspidors are expensive; in place of these any cheap material, old pieces of linen, Japanese napkins, or even pieces of newspapers, can be used. If such are made use of, *they never should be used but once*; then, after being placed in some suitable receptacle, should all be burned together. In a word, nothing into which a patient has expectorated should ever be handled again, and should not be allowed to dry. M. Kirchner\* has shown, by inoculation experiments, that sterilization for one-half hour is a thoroughly efficacious disinfectant.

Dry heat (100° C.), however, must be applied for several hours (Schill and Fisher). † The same experimenters give their conclusions concerning the disinfecting powers of various antiseptics, as follows: Sublimate solutions cannot be considered suitable for disinfection of masses of tubercu-

\* M. Kirchner: Ueber die Nothwendigkeit u die beste Art des sputums-disinfection hei Lungentuberculose. Zeitschrift f. Hyg. u. Inf. Krank. Leipzig, 1892, xii., 249.

† Schill and Fisher: Ueber die Disinfection des Auswurfes der Phthisiker. Mittheilungen aus dem Kaiserlichen Gensundheitsamte, Bd. ii., S. 133, 1884.

lar sputum. Absolute alcohol gives indifferent results. Equal parts of a five per cent. carbolic acid solution and the amount of daily sputum will destroy with certainty the tubercle bacilli and spores in the sputum.

Delepine and Ransome\* have shown, by inoculation experiments, that solutions of chlorinated lime, 1 to 10 and 1 to 100, will satisfactorily disinfect the walls of infected rooms, or bed linen and clothing that has been infected.

It is to be hoped that formaline will prove an efficient disinfectant, owing to its easy applicability and its non-corrosive action upon metals. The most powerful and, at the same time, freely obtainable agents are the sun's rays and diffused daylight. They can be used by everybody, and have been proven to be the most efficient disinfectant known.

It has been the writer's aim to enlighten the public mind concerning the freedom from danger of contact with tubercular patients, where the necessary sanitary precautions are taken to destroy all sputum. This is shown by the positive proof that, with the exception of one cottage where cause for infection was discovered, all the cottages, the infirmary, and public sitting-rooms of a community of eighty tubercular patients, were found free from tubercular infected dust.

Since Koch's discovery of the tubercle bacillus, and the subsequent proof that it alone is the cause of the widespread contagion of tuberculosis, the enforced improved hygienic laws and the dissemination of the knowledge of successful preventive measures have been productive of good results, as shown by the mortality tables of various countries, viz. : In New York State the mortality in 1889 was 120 per 1,000, whereas in 1894 it was only 108.46 per 1,000.

Much more can and will be accomplished within the next few years by education of the public and preventive legal measures ; along with our efforts, however, to prevent those who are tuberculous from infecting their fellow-men, let us, at the same time, look out for their well-being, and try to save the lives of many of them. How better can we accomplish this than by patterning after the sanitarium, where sunlight, fresh air, good food, and out-of-door life, with separate cottages for each group of four or five patients, allow them the best chance of recovery ?

On the question of comfort, on the question of pure air, free from all germs of disease, on the question of economy, on the question of hygiene, and, finally, on the whole question of humanitarian principles, how much better off is the lingering consumptive in the open country or in the mountains than he who is cooped up within four walls of a city hospital, with a measured cubic foot of air-space, spending his days and nights in an atmosphere artificially ventilated with air that is already contaminated.

\* Delepine and Ransome : A Report on the Disinfection of Tubercle-infected Houses. *British Medical Journal*, No. 1,781, p. 349, February 16, 1895.

# Progress of Medicine.

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## MEDICINE

IN CHARGE OF

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### INDICATIONS FOR OPERATIVE INTERFERENCE IN GALL BLADDER.

(1) In cases of repeated attacks of biliary colic, apparently due to gallstones, which, not yielding to medical treatment, are wearing out the patient's strength. (2) In perforation from ulceration. (3) When there is suppuration in the neighborhood of the gall bladder set up by gallstones. (4) In empyema of the gall bladder, which is usually accompanied by peritonitis. (5) In dropsy of the gall bladder. (6) In obstructive jaundice, when there is reason to think that the common duct is occluded by gallstones.—*Medical Record*.

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### MULTIPLE WARTS OF FACE.

Sulphuris sublim..... 5 scr.  
Glycerini..... 1½ scr.  
Ac. acet..... 2½ scr.

S.: Apply locally to each wart. The warts dry up and then drop off. The treatment may be continued for several days.—Koposi, in *Medical Record*.

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### DIAGNOSIS OF THE PNEUMONIC FORM OF ACUTE PULMONARY TUBERCULOSIS.

Drs. A. Frankel and G. Troje state this to be a rare form of the disease. It may begin with a chill, as croupous pneumonia, or be more insidious, or with a series of lesser chills. The fever soon becomes atypical, more

or less remittent or intermittent, which latter sign is a certain diagnostic point to distinguish it from croupous pneumonia. Some patients present labial herpes. The pulse is always moderate, and respiration less disturbed than one would expect from the lesions. Instead of dyspnoea and cyanosis, there is an increasing paleness of the skin and mucous membranes. On auscultation, signs of considerable infiltration of even a whole lobe, thus simulating a croupous pneumonia. Besides pronounced bronchial respiration, extensive crepitation is observed. The most posterior portions of the lung, and generally the lowest lobe, are the favorite sites of predilection. During the course of the disease, the dullness may clear up without signifying an actual resolution, for râles are still present. A complete or partial resolution may at times occur. The expectoration is characteristic of pneumonia in the majority of cases; tenacious, clear, and translucent; in a few cases it is rust-colored, while in others it presented a grass-green coloration, which Traube states to be characteristic; hæmoptysis may also be present. Tubercle bacilli are found in the majority. Albuminuria is very rare. Ehrlich's diazo-reaction is both of diagnostic and prognostic importance; it was very pronounced in all the fatal cases, but was absent in those that recovered. Delirium was observed now and then, even in non alcoholics. Where the affections begin acutely and the expectoration is lacking or pneumonic, and no bacilli can be demonstrated; diagnosis is impossible. If it last for some time, then the following points will be of value: Lack of a typical or final crisis, frequent absence of dyspnoea and cyanosis, together with the early pallidity, the green color of the expectoration, and the presence of tubercle bacilli. The diazo-reaction in the urine from the commencement; rapid loss of strength and emaciation. The prognosis is very unfavorable.—*New York Medical Times.*

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#### TREATMENT OF ADVANCED CASES OF PHTHISIS.

Dr. Otis summarizes the therapeutic agents which are best calculated to alleviate the lingering sufferings of the last stage of phthisis. He calls attention to the frequent presence of sepsis, and holds that all treatment in these cases must be symptomatic. The diminished lung capacity necessitates an airy room, in which sunlight is required as a tonic anti-septic. Feeding is a difficult question; in bad cases there must be frequent administration of easily or partially digested food. Pepsin, charcoal, and bismuth tablets may be of much service. Malt and creosote, with cod-liver oil in the absence of fever, should be given, and alcohol is to be used freely. Fever should not be treated unless causing unpleasant symptoms: inunction of guaiacol reduces the temperature very effectually, but is severely depressant. Rest in bed, with light nourishment and a

glass of cognac half an hour or so before the expected rise, has a favorable effect on the temperature. Antipyretics (of which phenacetin and sodium salicylate appear the best) should be employed, if at all, to prevent the rise of temperature rather than to lower it after it has risen. Sweating is best controlled by agaracin in doses of  $\frac{1}{12}$  grain and upward; it is free from the after-effects of atropine. The distressing cough is due partly to the presence of material in cavities, partly to the irritability of the mucous membranes of the upper air-passages. That from the latter cause can be much alleviated, as Dettweiler has pointed out, by establishing a habit of self-restraint in the patient. Medicinally, codeia in one per cent. solution is the best agent. The morning paroxysm of coughing is necessary for expectoration of the products accumulated during the night; it can be shortened, and, at the same time, made easy and effectual, by administering a glass of some warm alkaline drink with a little brandy or rum in it. Cough from catarrh of the upper air-passages is often relieved by local applications. Vomiting may result from digestive disturbances or laryngeal irritation, and will require different treatment in each case. The various pains from which the patients suffer are best relieved by painting equal parts of glycerine and guaiacol over the affected area. Pleuritic pain at the base of the chest should be treated by strapping, as suggested by Roberts. Diarrhœa, when septic, indicates salicylic acid or naphthol; when due to tuberculous ulceration, opium and bismuth, with an astringent; this form requires careful dieting with peptonoids or peptonized milk. Hæmoptysis calls for the same treatment as in early cases; Darenberg recommends the application of ice to the testicles or vulva for five minutes twice a day. Insomnia may be relieved by light nourishment or a little stimulant at bedtime; if these fail, trional or chloralamid are the most satisfactory hypnotics. Œdema of the lower extremities can only be alleviated by position, gentle friction with alcohol and water, and wrapping the limbs in cotton-wool. The mouth and lips should be cleaned with an alkaline wash. The anæmia calls for iron whenever it can be borne. For the cardiac debility strychnine is invaluable.—*The British Medical Journal*.

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#### TYPHOID FEVER.

The author concludes that (1) the antiseptic treatment is a rational one; (2) guaiacol is a safe remedy, and prevents the toxin-poisoning of the later stages; (3) it will lower the temperature when applied externally; (4) the typhoid patients do better by keeping the bowels acting up to a certain point, rather than checking them, and will derive comfort and benefit from daily douching of the large intestine with warm or cold water.—Hall, in *Medical Record*

# OBSTETRICS

IN CHARGE OF

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## INTRAUTERINE INJECTIONS OF GLYCERIN FOR THE INDUCTION OF LABOR.

Again we are warned as to the dangers arising from intrauterine injections of glycerin for the induction of labor. Dr. B. M. Hypes, St. Louis, in a paper read before the American Association of Obstetricians and Gynæcologists, September, 1895 (*American Journal of Obstetrics*), reports cases in his own practice, and also in the practice of others, where fatal results followed Pelzei's method. The glycerin, under such circumstances, affects especially the kidneys and the blood, causing nephritis and decomposition of the red blood corpuscles. Apart from the dangers, the method is very uncertain in effects. Within the last two years we have referred to this method a number of times. First, we recommended it with considerable confidence; afterwards, we expressed doubts as to its efficacy; now, we advise our readers not to adopt it at all, on account of the grave dangers accompanying it.

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## ECLAMPSIA IN MOTHER AND CHILD.

An interesting case of this rare condition is reported from Schauta's clinic in Vienna by Woyer (*Centralblatt für Gynakologie*, 1895, No. 13). The patient was a primipara, and was admitted to the hospital partially comatose and suffering from eclamptic convulsions. Labor was hastened by an elastic dilator, and the child delivered by version; it was asphyxiated, but was resuscitated. The mother made a gradual recovery, and left the hospital two weeks afterward. Five hours after birth the child was taken with eclampsia, accompanied by tracheal râles and impaired respiration. The pulse rose to 144. In all, the child had four convul-

sions at intervals of an hour or two, and died cyanotic with heart failure after the fourth. The post-mortem examination showed acute œdema of the lungs as the only lesion present. Bacteriological examination of the various organs and examination of the urine found in the child's bladder gave negative results. The few cases of infantile eclampsia on record have ended fatally.—*American Journal of the Medical Sciences.*

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#### THE TREATMENT OF ECLAMPSIA.

Zweifel (*Centralblatt für Gynakologie*, 1895, Nos. 46, 47, 48) details at considerable length the various plans employed at the women's clinic at Leipsic in the treatment of eclampsia, together with the results secured. This experience leads to the following conclusions: When the convulsions set in during labor, this is to be terminated in narcosis as speedily as possible. Should the cervix be softened, but the external os not dilated, dilatation should be carefully effected with the aid of distensible rubber bags, or, at most, small incisions may be made. If, however, the cervix is not obliterated, although the os will admit a finger, rubber bags should be employed; longer incisions will now be required. Should the convulsions continue after the uterus has been emptied and hæmorrhage not have been excessive, free venesection may be practised, especially if the arterial tension be high. Under the latter condition blood may be withdrawn even before labor, if the cervix be unyielding. Nothing is to be given the narcotized patient to swallow; fluid may be introduced into the stomach through the tube; lavage is to be practised when digestive disturbance exists. Either chloroform or ether may be employed to induce narcosis. The most rigid asepsis is to be observed throughout, as infection may be responsible for a continuance of the attacks.—*Medical News.*

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#### A CASE IN WHICH A CONVULSION OCCURRED IN A HEALTHY WOMAN DURING THE ADMINISTRATION OF CHLOROFORM.

We so frequently see notes of cases of death during the administration of an anæsthetic that it is well to place on record all cases where any events of an unusual character occur, whether followed by death or not, since it is only by the accumulation of such cases that we can arrive at the truth as to the relative danger or safety of the various anæsthetics. In this case the chloroform used was manufactured by Messrs. Duncan & Flockhart, and some from the same bottle has been used by me, both before and since, without any unusual results.

Mrs. M., aged about 34, a primipara, went into labor about 2 p.m. on October 13. The presentation was vertex, position r.o.p.; the cervix was very rigid, and dilatation of the os, in consequence, slow, in spite of the

administration at various times of opium and chloral hydrate. There was a great deal of vomiting. At about 2 p.m. on October 14 the os was almost fully dilated, but after the membranes had been ruptured the pains became feeble, so that little progress was made. Between 3 and 4 p.m. I commenced to administer chloroform, with the intention of applying forceps. She took the anæsthetic very quietly, and all went well for the first few minutes, when suddenly clonic spasms of the face and limbs came on, the pupils being widely dilated and not reacting to light. The clonic spasms passed into tonic, and as the chloroform was pushed further these in their turn passed off. As soon as she was deeply narcotized the forceps were applied to the head, and delivery of a large, healthy child effected in about ten or fifteen minutes. There were no further convulsions. The puerperium was normal, and she made a good recovery.

A few hours after delivery the urine was drawn off with a catheter, and was found not to contain any trace of albumen, its specific gravity being 1025. I found on inquiry that she had always been quite healthy, and that she had never before had any convulsion, nor suffered from any nervous disorder; she was not at all nervous or excited during the prolonged first stage of labor, and showed no symptoms of hysteria. Her heart was found to be quite healthy and normal, except for the slight hypertrophy of the left ventricle usually found in the later stages of pregnancy.

In the *British Medical Journal* of October 19 is an account of a death under chloroform where a clonic spasm preceded death; and this frequently appears to be the case. Here, however, a convulsion occurred in a perfectly healthy woman, apparently as the result of the administration of the chloroform, and yet no untoward result followed.—*G. Owen C. Mackness, M.D., in British Medical Journal.*

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#### EXAMINATION OF VIRGINES INTACTÆ.

The bimanual examination of *virgines intactæ* should always assume the form of a recto-abdominal palpation. There is no need in these cases of a vaginal examination; the finger in the rectum will teach us all we wish to know concerning uterus, tubes, and ovaries. The only difficulty to be overcome is to identify the cervix; a little practice will enable us to master this detail.—*Edebohls.*



# SURGERY

IN CHARGE OF

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## ENLARGED PROSTATE.

Reginald Harrison has recently published a paper\* in which he discusses the subject of the pathology of enlarged or hypertrophied prostate. He regards senile enlargement of this organ as an example of a muscular hypertrophy analogous to other similar kinds of overgrowth, and arising out of the muscular functions in which the part is unceasingly engaged. The prostate is described as "a muscle containing a tolerably large proportion of glandular or secreting tissue embedded in it." Its function relative to the sexual act is "in supplying a vehicle which enables the fecundating fluid to act with greater certainty over a larger area, whilst at the same time it supplies a muscular buttress against which the ejaculatory muscles of the urethra may advantageously act in the emission of semen." This is the view expressed by Dr. Hanfield Jones and accepted by Mr. Harrison. The description of the prostate as resembling a Spanish chestnut in shape conveys an erroneous impression; in life its muscle fibres are really spread out in a funnel-shaped manner, so as to furnish a contractile support for the bladder and its varying contents. The enlarged prostate also exhibits a persistence of this funnel-shape. The incision in the prostate in lithotomy, though limited, absolutely destroys, until repair takes place, the capability of the cone-shaped muscle to hold fluid; hence the absolute incontinence of urine which for some days follows such an operation. In some instances permanent incontinence of urine follows lateral lithotomy, apparently in consequence of the fact that complete division of the prostatic circumference has been made by too free an incision. Incontinence of urine in boys may be associated with an arrest in development of the prostate. After removal of the prostate for malignant disease control over the bladder is lost.

\* British Medical Journal, 1895, Vol. 2, p. 1605.

Whilst a considerable proportion of elderly males develop enlarged prostate, only a minority suffer from any ill-effects upon the urinary apparatus. The process of hypertrophy involves no structural substitution, or the importation of any foreign tissue to the part other than those degenerations such as fibrous, to which the human body is liable. In the study of instances of enlarged prostate in the post-mortem room, it is impossible not to be struck by the coincident changes that are taking place in the adjacent parts. For some reason or other there is a concentration of hypertrophied tissue in the form of buttresses or supports about the perpendicular axis of urine pressure at the base of the viscus. This is seen in the development of the inter-urethral bar, the growth of the prostate, the gradual approximation and consolidation of these two structures, and the restriction of the natural trigonal area. Assuming that from any cause, such as long retention of urine, habit, position of the body, or the debility connected with advancing years, the floor of the bladder sinks lower within the pelvis relatively to the prostate, so as to offer some difficulty in expelling the lost portion of urine, the effect will be frequently repeated efforts in all the muscles immediately adjacent to a part of the bladder, which, by reason of its connections and structure, has but little power of contracting. It is suggested that in this way quantity is substituted for quality, and that as age advances structural deterioration and incapacity are, in a measure, provided against by superabundant tissue. Although hypertrophy usually includes the entire gland, the posterior segment, or that in relation with the rectum, is principally involved. This part was originally described by Sir Everard Home in 1806 as the third lobe; subsequently Sir Henry Thompson showed that it had no independent or isolated existence. When this part is imperfectly or not at all developed, as is sometimes the case, it is interesting to notice that the inter-urethral bar may be hypertrophied independently; and this provision is made by a buttress of this kind for the support of the posterior wall of the bladder.

Mr. Harrison considers the inability to empty the bladder in connection with early forms of prostatic enlargement to be due, not to atony or paresis of the bladder, but to a sinking or tendency to prolapse of the posterior wall. During life we are able to convince ourselves of this by examination through the rectum and by the use of the catheter. The bladder alters its position relative to the pelvic outlet during life; as age advances, the bladder sinks more and more within the pelvis. In this way eventually a prominence is sometimes given to the floor of the prostate, which is due, not in the first instance to the development of more prostatic tissue, but to the subsidence of the posterior wall of the bladder. This mode of forming a prostatic bar is considered by Mr. Harrison to be the

initial lesion in hypertrophic processes which follow in the prostate. The glandular element of the prostate is apt to be overestimated in importance; the prostate is rather described as "essentially a muscular organ." The fact, however, that it does contain gland tissue is in no way opposed to the view adopted by Mr. Harrison as to the circumstances under which the conglomerate growth is called into existence. The gland tissue is of a degenerated character in hypertrophied prostate.

Recently it has been stated that the operation of complete castration is likely to prove of service in connection particularly with the treatment of the more advanced forms of prostatic obstruction. Still more recently it has been held that subcutaneous ligature of the vessels of the cord, bringing about atrophy of the testis, has also led to similar changes in the prostate. Shrinkage of the prostate has followed other measures than castration; the puncture of the bladder in the perinæum, with continuous drainage for six weeks, has brought it about; and in a patient aged 82 this operation and treatment brought about considerable diminution of the size of the prostate and restored normal micturition, which existed until the patient's death eight years after. Atrophy of the gland follows impartation of scar tissue into its interior: a condition which exists upon any extensive incision for removal of a large stone. This only occurs in instances in which small portions of the prostate have been removed.

The views advanced relative to the pathology of the prostate by Mr. Harrison are not, he thinks, at variance with the shrinkage of the prostate following upon castration; it is not necessary to prove that the testicle is essentially or exclusively a genital *gland* in order to understand the shrinkage that follows castration. That it secretes in association with the genital act no one will deny. That some atrophy must follow extinction of this function by removing the testicles is equally clear and logical.

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#### SKIN BRIDGING IN INGUINAL COLOTOMY.

A method of insuring free exit of fæces from the upper opening of the bowel after inguinal colotomy was described a short time ago by Mr. Bidwell, of the West London Hospital, and recently referred to by Mr. C. H. Golding-Bird in *The British Medical Journal*. The method consists in bringing the upper lip of the skin wound through an opening made in the meso-sigmoid, and attaching it to the lower lip of the wound, by which manœuvre the bowel comes to be placed across a bridge of skin, in lieu of one of glass or rubber, as employed by some surgeons. The operation is rapid. The bowel need have no sutures inserted into it; and if the length of the skin incision is properly calculated, nothing more than the one suture to fasten the bridge of skin is necessary.

## GUNSHOT WOUND OF ABDOMEN.

The following case is reported by William H. Simmonds, M.D., in the *Medical Record*, to show what good results may follow immediate operation under favorable circumstances :

Michael M——, æt. 15, was shot with a 22-calibre rifle, April 27, 1895. Some three hours after the accident he was seen by me at the Bangor General Hospital, and at once operated upon. The bullet had entered about an inch above and to the left of the navel, and on the abdomen being opened was found to have passed through the edge of the left lobe of the liver and then through the stomach. Bleeding was going on from a vein near the greater curvature, and there were clots in the abdominal cavity. These were removed, the bleeding point tied, the wounds in the stomach occluded with Lembert suture, the intestines withdrawn and thoroughly searched for other punctures, finding none. The wound was sutured in layers, the boy put to bed, and discharged well May 16. Convalescence was quite uneventful, no rise in temperature occurring.

## TREATMENT OF CORD IN HERNIAL OPERATIONS.

The problem is to close durably a rent in the abdominal wall and to provide for the safe transmission of the spermatic cord. The cord is the first cause of the hernia and the ultimate obstacle to its cure. If we could ignore the cord, the solution of the problem would be comparatively easy. The larger the cord the greater the liability to a recurrence of the hernia. The size of the cord depends chiefly upon the veins. Then why not reduce the size of the cord by excising such veins as may be superfluous? By this procedure the cord may usually be reduced to less than one-third, and sometimes to one-fifth or one-sixth, of its original size. Two quite distinct sets of veins accompany the vas deferens. When the tunica vaginalis propria funiculi spermatici has been divided and the elements of the cord are gently spread out by the fingers, the larger superfluous bundle of veins lies at some distance from the vas deferens. A few delicate veins hug the vas deferens closely. The veins which we designate as "superfluous" are those which I regularly excise in operations for varicocele. We have not thus far seen atrophy of the testicle follow excision of these veins. Our cases have been observed with especial reference to this point. I think that there can be little doubt as to the advisability of reducing the size of the cord by excising these veins when they form a large bundle. —Halsted, in the *Medical Record*.

# PÆDIATRICS AND ORTHOPÆDICS

IN CHARGE OF

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## A CASE OF ERYSIPELAS NEONATORUM TREATED BY ANTISTREPTOCOCCIC SERUM.

The male child of Mrs. B., aged three weeks, presented on October 4th, 1895, dusky redness spreading downwards from the umbilicus over the hypogastric and iliac regions, buttocks, and upper part of the thigh. The redness also involved the penis and scrotum, which were very much swollen. Above the pubes the skin was of a purplish red color, and pitted deeply on pressure. The umbilicus was not yet healed. The child was very ill, and refused the breast. The temperature was 102°F., the pulse 150. I gave an injection of 6 c.cm. of Ruffer and Robertson's antistreptococcic serum between the shoulders.

On October 5th the temperature was 101.2°F. The child was taking the breast, and looked better. The redness had not extended, had lost its defined margin, and the skin was not so tense. The scrotum was more swollen. Another injection of 6 c.cm. was given.

On October 6th the redness was fading, patches of normal color appearing in affected area. The temperature was 100° F., and the general condition of the child much better.

On October 8th the child was doing well, but a fresh patch of redness had appeared on the left thigh, and the scrotum was sloughing in one place. The temperature was normal. A further injection of 5 c.cm. serum was given.

October 13th. Since the last note all has gone well, and were it not for the slough on the scrotum the child would be quite well. The slough is about the size of half a crown, and is separating nicely. It involved the whole thickness of the skin and subcutaneous tissues. The slough separ-

ated on October 19th, leaving a granulating surface with healing margins. The ulcer left by the separation of the slough had healed on October 26th, and the child is now quite well.

*Remarks.* In the practice of the Plaistow Maternity Charity I have seen a fair number of cases of erysipelas neonatorum, but I have never seen one recover when the disease was so far advanced as in this case. I am convinced that the child's recovery is due to the antistreptococcic serum. No other treatment of any kind was adopted—Ernest A. T. Steele, L.R.C.P., M.R.C.S., in *British Medical Journal*.

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#### COMMON SALT FOR RINGWORM.

Noticing the fact that children suffering from tinea tonsurans speedily improve if sent to the seaside, F. J. Reilly (*British Medical Journal*, Nov. 23) recommends common salt in the treatment of ringworm. He treated three successive cases in this way, and describes the result in each case as marvellous. A cure was effected in less than four weeks. A strong solution of sodium chloride was applied to the scalp for five nights, washing it off the following morning with boracic solution.

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#### A NOVEL APPLICATION OF TENDON GRAFTING.

In the *Medical Record*, October 26, 1895, Milliken describes a new operation for deformity following infantile paralysis, and reports a case in which a healthy muscle was made to do the work of one which was completely paralyzed, without in any way interfering with its own function. The patient was a boy, nine years of age, who for seven years had been lame, in consequence of "dropping," together with extreme valgus of the right foot. The author, having made out that this condition was due solely to paralysis of the tibialis anticus, performed the following operation: An incision one inch and a half in length was made, extending from just below the annular ligament obliquely over the tendons of the extensor proprius pollicis and tibialis anticus. The sheath of each tendon was carefully opened for a distance of about an inch. The tendons were then split with a small fascia knife, and an inch flap partially detached from each. The flap from the tibialis anticus was left attached to the distal, whilst that from the extensor of the great toe was attached at its proximal or muscular end. The cut surfaces of the flaps were adjusted and sutured with three fine kangaroo tendons. This operation proved successful, as the patient, it is asserted, is now quite an expert on roller skates, walks without a limp, and can adduct the foot to almost the normal extent.

## A CASE OF SPINA BIFIDA OCCURRING IN THE CERVICAL REGION.

In the *British Medical Journal*, November 30, Edwards gives the following report of spina bifida in an unusual position. The tumor was noticed at birth, situated on the back of the neck, and about the size of a Tangerine orange, slightly constricted at the base and depressed at its summit. The skin covering the tumor was normal, and plentifully covered with hair at the base, but became thinner as it spread over its surface, and at the apex was thin, glistening, and bluish-white in color, and much wrinkled; the tumor could be emptied of its contents by pressure. The child died twelve hours after its birth. During its short period of life it had (the nurse informed me) several fits. On post-mortem examination the following conditions were found: The tumor communicated with the skull by passing through the foramen magnum and an opening in the neural arch of the atlas. The foramen magnum did not appear to be unusually dilated, the neural arches and formation of all the other cervical vertebræ being normal; neither was there any abnormality of the occipital bone, the torcular Herophili and the sinuses being complete. Spina bifida of the lumbo-sacral region is fairly common, but becomes rarer the higher the situation. In the Museum of the Royal College of Surgeons, amongst the specimens of the malformations, there is a specimen of a ligatured spina bifida occurring at the sixth and seventh cervical vertebræ.

## DERMOID OF THE TESTIS.

The following description of a dermoid tumor, exhibited at the London Pathological Society by Jackson Clarke, appears in the report of the society's proceedings (*British Medical Journal*, November 30, 1895): "A right testis containing a dermoid cyst as large as a hen's egg. The cyst is everywhere surrounded by the tunica albuginea. Its cavity is almost entirely occupied by a large intracystic projection which springs from the neighborhood of the hilum; the remaining cleft-like space within the cyst is filled with hairs and sebaceous matter. The central part of the intracystic projection contains bone and cartilage. The microscope shows the cyst to be lined with skin provided with pilo-sebaceous follicles, sweat glands, etc. No trace of the tubular structure of the testis could be found in the loose areolar tissue which separated the outer walls of the cyst from the tunica albuginea, though the vas deferens and blood vessels are normal." The condition was a rare one, only one other case being recorded in the society's Transactions, namely, by D'Arcy Power. The opinions of Lannelongue, Jacobson, Bland Sutton, and others were briefly discussed. As to diagnosis, cystic sarcomata occurring in infancy were alone likely to

give even a superficial resemblance to the condition in question. When the cyst occupied the interior of the testis, the treatment was that practised by Giles in this case.

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#### ANTISEPTICS IN OINTMENT.

(*Chemist and Druggist*, November, 1895.) Professor Koch, having found that carbolic oil possesses no antiseptic properties, the question of value of such agents when combined with ointment bases becomes of importance. Dr. E. Breslauer has undertaken to solve this problem by a series of very interesting and exact experiments, combining the various antiseptics, as carbolic acid, resorcin, corrosive sublimate, silver nitrate, boric and salicylic acids with various ointment bases and testing the bactericidal properties of the mixture. He found that in those bases which contain no water, as petrolatum, simple ointments, etc., very little or no antiseptic action is found, except with the mercury salts; while with hydrous-lanoline and cold cream, which contain a considerable proportion of water, a decided action was manifested. The failure of the action with anhydrous bases is not attributed to loss or alteration of the active constituents, but to the non-miscibility of oil and fats with the discharges from wounds and other secretions containing disease germs. Glycerine ointments act somewhat better, but are still inferior to bases containing water in considerable proportion, as cold cream. The cream seems to bring about that close contact between the bacteria and the antiseptic agent which results in the destruction of the former.—*Yale Medical Journal*.



# PATHOLOGY AND BACTERIOLOGY

IN CHARGE OF

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AND

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ASSISTED BY

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## PLEOMORPHISM IN THE BACILLUS TUBERCULOSIS.

Up to date (Dr. Hayo Burns, *Cults. fur Bact. und Parasit.*, June 22, 1895) Mafucci, Klein, Metschnikoff, Fischel, Nocard, and Roux have investigated the occasional occurrence of certain atypical forms found in pure cultures of tubercle bacilli. Usually, bacilli derived from tuberculosis in fowls were used, since they grew more readily and more abundantly than those found in human tuberculosis, with which they were, nevertheless, at one time considered identical. In 1892, however, Mafucci concluded that the bacilli from these two sources represented two distinct species, noting as one chief difference that very tendency to pleomorphism which had been found so frequently in the cultures from fowl tuberculosis. In the present article, Dr. Burns, on the other hand, describes experiments with human tuberculosis resulting in a complete demonstration of the occurrence of pleomorphism in this organism also. The cultures from which his preparations were made originated undoubtedly from human tuberculosis. They were, at the time of examination, five or six months old, and had never been subjected to a temperature higher than 37.5° C. Drying out had been prevented by the use of rubber caps. Their gross appearance was perfectly typical. The microscopic preparations were made in the ordinary way, carbol-fuchsin being used as the stain, 20 per cent. nitric acid, followed by alcohol as the decolorizer. Dr. Burns found a complete series of transition forms, from the ordinary small

slightly curved rod containing clear spaces usually accepted as "normal" to highly complex forms composed of a main stem, having offshoots springing from them, which themselves again might bear secondary offshoots. Following the lead of Metschnikoff, Fischel, and Mafucci, he considered this branching as real, and not merely apparent, in which he was supported by Prof. Graf, to whom he referred his specimens for examination. By countless experiments he showed that this pleomorphism was not dependent on any degeneration process due to old age (up to two and a half years), or to drying out of the media. He looked upon the branching as quite similar to that found in *cladotrix*, a genus of bacteria belonging to a group generally recognized as distinctly pleomorphic. Hence the relation of the bacillus tuberculosis to *cladotrix* is strongly suggested.

Dr. Burns regards the branching as characteristic of the saprophytic growth of the germ, since in the animal body it is never found. The much more frequent occurrence of branching in bacilli from fowl tuberculosis he explains on the hypothesis that in human tubercle the bacillus has become accustomed to a parasitic life, and that although still capable of saprophytic existence, as demonstrated by its growth on artificial media, yet it does not return readily to its proper saprophytic form. On the other hand, the higher temperature of fowls prevents the same completeness of adaptation to a parasitic existence, so that a return to the saprophytic form occurs readily.

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#### ETIOLOGY OF OZÆNA.

Abel has just published an extensive paper upon the etiology of ozæna, in which, in addition to a very complete account of the literature to date, he gives the result of extensive investigations of his own. His results are summed up as follows :

(1) There is in the nose a characteristic disease process (*ozæna rhinitis atrophicans bacillaris*), which begins with the appearance of small isolated patches of tough muco-purulent secretion, which dry quickly on the surface. The patch may increase more and more until it occupies extensive areas of the nasal mucous membrane.

(2) With the spread of the mass changes occur in the mucous membrane. Whether these appear first as an hypertrophy, then an atrophy, is not certain ; at any rate hypertrophy occurs, whilst atrophy of the mucous membrane and also the turbinate bones is the final result of the process (hence the name *rhinitis atrophicans*).

(3) In a certain number of cases a decomposition of the crust sets in, which is made evident by the unpleasant fœtor. This fœtor is an inconstant and secondary symptom.

(4) The disease may spread to the naso-pharynx, or may occasionally begin there. It may further spread to the sinus, to the middle ear, larynx, and trachea. In these localizations it begins always with the formation of the same small centre of secretion described above.

(5) The disease is infectious. The most important evidence for this is that in patients with diseased nasal mucosa new secondary centres may arise in other parts some distance from the primary lesions, *e.g.*, in the trachea and larynx.

(6) The cause of the ozæna process is the bacillus mucosus ozænae, which resembles closely the pneumo-bacillus (Friedlander's), but can always be differentiated from it by certain marked characters. This bacillus is found in every stage of the process, always in the characteristic secretion. It appears never to penetrate the mucosa itself. It is found in no other affection of the nose. With the healing of the ozæna it disappears.

(7) The experiment of infecting a healthy nose with a pure culture of this bacillus with the result of producing the first stage of ozæna has been tried successfully, thus proving its etiological importance.

(8) The atrophy of the mucosa which occurs in the course of ozæna is to be considered as partly due to the action of the poisonous metabolic products of the bacillus, and partly to the pressure exerted by the crusts and the keratized epithelium.

(9) The fœtid decomposition of the secretion is not caused by the bacillus mucosus, but by other micro-organisms which require to be more closely studied, and which may be considered secondary infections. On account of the differences in these secondary infections, we can explain why fœtor occurs in some cases, but not in others.—*Zeitschrift für Hygiene und Infectious Krankheiten*, Bd. xxi., Heft. 1.

# HYGIENE AND PUBLIC HEALTH

IN CHARGE OF

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AND

E. HERBERT ADAMS, M.D., D.D.S.

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## DIPHTHERIA IN ITALY.

The author presents an interesting statistical study of diphtheria in Italy for the years 1887 to 1892 inclusive. During that period the number of deaths fell from 24,637 to 13,434, the smallest number being 12,284 in 1890. The disease is very unevenly distributed throughout the peninsula, the mortality ranging from 1.8 per 10,000 in the marshes to 15.8 per 10,000 in the province of Basilicata. The mortality in the country districts is much higher than that in the cities. As regards seasons, the disease prevails especially in the winter, the mortality figures for the four seasons being as follows : Winter, 10,945 ; spring, 9,293 ; summer, 7,315 ; autumn, 8,320. The greatest number of deaths occurred in children between one and five years of age, the preponderance of males over females being very slight.—Achille Sclavo in *Gazzetta degli Ospedali edette Cliniche*, October 20, 1894.

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## TUBERCULOSIS IN NEW YORK CATTLE.

Binghamton, N.Y., December 26.—A special to *The Leader* from Deposit says : The State inspectors have condemned forty-nine head of fine Jersey cattle, the property of the Hon. Alvin Devereaux, of Chestnut Grove Farm. The cows were killed to-day. The inspectors were at the farm Tuesday, and found that nearly the whole dairy was suffering from tuberculosis.

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DR. GIBIER'S Pasteur Institute in New York, which has \$6,000 a year from the State, in aid of its invaluable work in decreasing the sum of human agony and terror from hydrophobia in the United States, has

recently been enabled to extend its scope by the establishment of an experimental station outside the city. Two hundred acres of land are purchased, and cottages, stables, and experimenting laboratories will be erected. The land will be stocked with cows, horses, sheep, mules, and goats, which will be bred with a view to the production of antitoxin for the prevention of cancer, diphtheria, etc. The land purchased is in Rockland county, N.Y., near Tuxedo, thirty-five miles from the city. The station, which will be known as "Pasteur," will cost over \$100,000 when completed.

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#### EASY STERILIZATION OF MILK.

Dr. A. Seibert, of New York, made thirty experiments with milk filtered through cotton. No cream is lost by the process, only germs and filth saved from use. Where plain milk gave 3,800 to 200,000 germs on culture plates, the filtered specimen would show only one-quarter that number. Filtration is found to be almost as good as sterilization.

[If the above is correct it will be of great advantage, since sterilized milk is not so good a food as milk not sterilized.]

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#### THE TREATMENT OF DIPHTHERIA WITH THE ANTITOXIN.

A recent meeting of the Berlin Society for Internal Medicine, Eulenburg (*Deutsche medicinische Wochenschrift*, 1895, No. 29, p. 472) made a preliminary report of the results of a collective investigation as to the results of the treatment of diphtheria with the antitoxin. Of 10,240 cases, 5,790 were treated with the antitoxin, with a mortality of  $9\frac{1}{2}$  per cent., while 4,450 were treated without the antitoxin, with a mortality of 14.7 per cent.—*Medical News*.

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A LAW has been passed in Pennsylvania creating a state board of undertakers in the cities of the first, second, and third classes. The law requires systematic examinations, registrations, and licenses for all entering the business of burying the dead. All applicants for licenses must be examined by the board, and found to be possessed of good moral character, skill, and knowledge of sanitation, preservation of the dead, disinfecting the body of the deceased persons, the apartment, clothing, and bedding, in case of death from infection or contagious diseases. All persons receiving a license from the state board of undertakers shall register at the office of the board of health at the city in which it is proposed to carry on business.

## OPHTHALMIA · NEONATORUM.

This disease is received by the child either in the interval from the time of the rupture of the amnion to expulsion from the vulva, or after delivery, by touching its eyes with unclean hands. The questions arising are, shall we render the vaginal secretions innocuous by universal irrigation, or by the selection of suspected cases; or shall we inject each infant's eyes following delivery, or treat the infection on its appearance? Prophylaxis in the mother is the ideal. Irrigation is not, however, free from disadvantage. Therefore, it is not fair to make the innocent suffer, unless the sacrifice is much less than the benefit. A healthy woman will not affect the infant's eyes. My custom is to irrigate with a warm bichloride solution of 1.3500 when the mother has leucorrhœa, gonorrhœa, or any ulcer, abscess, or abrasion. This is done in the stage of labor, and is repeated every four hours in prolonged labors, using an antiseptic oil composed of olive oil, 95 per cent., and oil of cassia, 5 per cent.; as an offset to the chief evil of irrigation—the washing out of the mucus secreted in labor. Children born of women so treated do not need injection of nitrate of silver, but should have the eyes washed with soft cotton dipped in a boracic acid solution. If we are in doubt as to a patient, it is the least evil to employ the vaginal irrigation. In cases of gonorrhœa, the child's eyes should be treated after Credé's method, in addition to the irrigation of the mother.—*Archives of Pediatrics*.

## ASEXUALIZATION OF CRIMINALS FOR THE PREVENTION OF SEXUAL CRIME.

Dr. F. L. Sim, of Memphis, Tenn., in an able paper read before the Tennessee Medical Society, presents some strong arguments in favor of the sterilization of certain criminals for the curtailment of the crime of rape. He justly says that executions partake of a spirit of revenge, and engender criminal instincts in some, and fan the flame in others; that innocent lives have been thus sacrificed by the fallibility of witnesses; that other more humane and scientific punishments can be substituted that will convey a sufficient object lesson; the taking of life is more than the demands of society render necessary. These sentiments cannot be too widely disseminated in any civilized community.

## THE PREVENTION OF INSANITY.

The address of the president of the Psychological Section of the British Medical Association dealt with the prevention of insanity. Typhus is as rare as the plague, cholera is kept at bay, typhoid is becoming rarer and rarer, smallpox is under control, and the tubercle bacillus is being circum-

vented with hygienic precautions ; yet insanity and neurotic conditions increase rapidly in ratio to the population wherever the torch of civilization is burning. The orator on this occasion seemed to have no remedy to propose other than an intelligent, natural selection. His suggestions are on the lines of Doctor Raycraft's utterances on Darwinism and race progress, who, speaking of natural selection in preserving the race, says : " If we attempt to do away with its selective influence, namely, the elimination of the weak and the preservation of the strong, we must supply this selective influence by something else, or the race will tend to deteriorate. As selection is the race-changer, we must replace selection by the microbe, by the selection of human forethought." Doctor Blandford devotes his attention to indicating in what the selection of human forethought must consist. Heredity is maintained to be the principal factor in the etiology of the disease. Doctor B. W. Richardson has given it as his opinion that anything like continuous transmission of insanity comes through the male line and not the female. " I take it," he said, " that, really and truly, all taints come from the primitive man—all changes that are hereditary—and that it is impossible to suppose them originally from the woman." This the orator doubted. It is rare one sex has greater transmissive power than the other. The only remedy proposed was restriction of the marriage relation, and prohibition of offspring to those whose family histories revealed inherited taint.—*The Physician and Surgeon.*

## Editorials.

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### MEDICAL REFORM.

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AT the recent meeting of the Provincial Board of Health, held in Belleville, Dr. Bryce, the secretary, read an interesting paper, in which he strongly advised certain medical reforms. He expressed a decided opinion that it would be better to have one medical health officer for each county, instead of one for each municipality. He considered that such a change would promote both efficiency and economy in the public service. He showed that the amount spent at present by the government to maintain municipal health organizations was entirely inadequate, especially under the present system; but thought the change which he proposed would enable health officers in various parts of Ontario to do much more efficient and economical work without any increase of the government grant. The paper has been circulated through the province, and the various county councils have been asked by circular to consider the question.

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### THE CIGARETTE HABIT.

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WE are told that all devotees of the cigarette inhale it, draw the smoke into the trachea, and probably, in many cases, into the first division of the bronchial tubes. Dr. J. C. Mulhall, of St. Louis, in an address read before the American Laryngological Association, and published in the *New York Medical Record*, says that the idea that the smoke of the cigarette, when inhaled, passes into the air vessels of the lungs is a popular delusion.

We have consulted some members of the profession in Toronto who smoke cigarettes, and find they agree with Dr. Mulhall in saying that the smoke from the cigarette is not, as a rule, drawn past the trachea, and the smoke does but little harm as an irritant to the mucous membrane of air passages, but that it may aggravate pathological conditions already present. A large proportion of nicotine, however, is absorbed during an inhalation, because there is a large surface to absorb; and though but little of the



poison is contained in a cigarette, a greater proportion is absorbed than when the smoke is simply drawn into the mouth and at once blown out. Inhalation of cigar or tobacco smoke is accompanied by much more danger than in that of cigarette smoke. Dr. Mulhall expresses a decided opinion that cigarettes do not contain other poisons besides nicotine, although many have expressed their opinion that other noxious elements may be found in certain brands.

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### IMPROVEMENT OF THE PHYSIQUE BEFORE BIRTH.

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IN an editorial on this subject, the *New York Medical Journal* refers to certain remarks by M. Pinard on what he calls "intrauterine puericulture." It seems that "refuges for pregnant women" have been established in Paris, where abandoned women are admitted and cared for. The result has been a disappearance of the majority of the grave symptoms formerly observed in those who applied for medical treatment. M. Pinard had made a careful comparison of the results on the children of the women in the refuges and the children of women who did their ordinary work up to the time of labor, and found that the average weight of the children of women who had been in one of the refuges during pregnancy, or the greater part of it, was eight pounds; that of the children of the women who had been in the refuge for ten days before labor was six and a half pounds; while that of the children of women who had worked up to the time of labor was six pounds.

With reference to the duration of pregnancy, under varying circumstances, he found: Among 1,000 women who had worked up to the time of their confinement, 280 days had elapsed between the last period of menstruation and confinement in 482 cases, from 270 to 280 days in 279 cases, and less than 270 days in 239 cases. In 1,000 women who had lived in the refuge during their pregnancy, 280 days or more had elapsed in 660 cases, from 270 to 280 days in 214 cases, and less than 270 days in 126 cases.

As M. Pinard says, these figures speak for themselves, and show that women who are well housed and well cared for have longer periods of gestation, and better developed children, than their less fortunate sisters. In a country like France, where all male children born in ordinary maternity hospitals and refuges are expected to become soldiers, the development of a "strong population" is very important, and any aids in that direction generally receive the careful attention of the government. There are two of these refuges now in Paris, and Pinard would like to see the number increased.

## MEDICAL MEN AS EXPERT WITNESSES.

OF late the public has had a more than usually large number of opportunities of seeing medical men occupying the witness box as expert witnesses, and the spectacle has not always been edifying. We do not wish to be understood as harshly criticizing our brethren, but simply to make a plain statement of facts, and suggest something in the way of remedy. The subject has been brought up time and again, but as yet to no purpose. No move has been made by anyone—although everybody admits and deplores the existence of the evil—to put things into the shape in which they ought to be.

The statement which we make now is the shortest and baldest consistent with clearness, and we hope that many will find time to use it as a text, and let us hear in future issues what the profession thinks of the situation, and how it proposes to remedy it, if remedy be needful.

(1) The medical expert of to-day, in this country at least, is a paid witness, whose services are at the disposal of whichever side comes to him first with a large enough fee in the hand. No doubt there are some who examine into the merits of a case before accepting a fee, and refuse their services if they believe right to be against them. This, however, is not the general course. The reason that things are in this shape is that, whilst called an "expert," the medical man is not treated as such; instead of being asked to determine certain points coming within his special ken as medical, he is asked to help to defend certain theories which are possibly quite wrong, and help to break down others, even though obviously correct.

(2) Medical men acting as expert witnesses are expected, when more than one has been engaged by the same side, to consult together and determine beforehand what line they will take, the object being, not that truth may be thereby brought out, but that there may be no conflict of opinions in the witness box. Even Crown advocates desire this to be done. It is certainly not impossible to hold consultations in a fair way; but experience shows that the tendency is bad, with the witness in the position he holds at present, and even appearance of evil ought to be avoided.

(3) In many cases the evidence which a medical witness is about to give is deliberately canvassed by counsel, in order to ascertain whether or not it will give support to certain theories, and it may happen that new theories have to be built, or the witness excluded from the box. Suppose that a medical man is asked by the Crown officers to sit in court and listen to certain evidence, for the purpose of helping to determine whether an attempt at poisoning has been made, and concludes that some points

brought out favor innocence, ought he to allow himself to be "hushed," being paid his fee, *and not called as a witness?* Such cases have occurred.

(4) The fact that medical experts are put into the witness box and subjected to examination in the ordinary way is, in many instances, detrimental to justice. The occasions upon which medical men are called to the witness box are, so far as any one man is concerned, comparatively few; moreover, the matters upon which they are interrogated are often of such a character that definite, exact answers cannot be given; consequently, when attacked in cross-examination, as often happens, with a savageness born of the fixed idea of overturning the evidence, true or not true, it is not to be wondered at that they (medical witnesses) become nervous and make bad witnesses, or even break down. It is a difficult thing, at best, to make a statement in medical matters that shall be absolutely correct and fair, and, at the same time, quite understandable by laymen. The difficulty is greatly enhanced by the determination of counsel to prevent the answering of questions in the way desired by the witness, lest his client may suffer. Incomplete and distorted answers are thus put upon record, and utterly unfair use made of them.

So much as a short statement of the position of the medical expert witness, and some of the disadvantages under which he labors.

Referring to statement first, "The medical expert is a paid witness," etc., we believe, of course, that the laborer is worthy of his hire; but surely such a system as ours takes away much from the value of the testimony given. The very statement that one is a *paid witness* sounds ugly, and, as a matter of fact, it is now commonly stated amongst the laity and legal profession that according to the fee will be the swearing. Some way of paying should be devised which will remove this idea.

Then, with reference to consultation, no doubt it is not only proper, but highly useful, provided the position of the witness be the correct one, viz., an assistant judge; but, as things are at present, not only is the result doubtful, but the intention is distinctly bad. This is true of consultation between witnesses, and also of consultation between counsel and witness.

Lastly, as to the giving of evidence, we hold very strongly that the present method is highly detrimental to justice. A fair-minded and truthful witness, having quietly considered a case in his library, with all assistance requisite to a correct judgment at hand, solemnly, under oath, states the result of his deliberation. But this is not allowed to have its due effect. Counsel then takes the witness in hand and attempts, not to disprove what has been said, but to make the jury believe something quite different, and that by means of a presumably truthful witness who has already sworn as to what he believed. When all is done the witness may have been bullied

and made a fool of, but his first statement is still his opinion, and very likely a good opinion, although to the jury he may have appeared to desert it.

The remedy for all of this seems to us to be simple. It has often before been suggested. It is this: Expert witnesses ought to be judges' assistants, not bought evidence manufacturers. When expert medical knowledge is required, a judge should have the power (in consultation with counsel) to name a number of reputable and well-known medical men as members of a consulting board, to whom he can submit certain questions for answer, or whom he may ask to attend court to hear certain parts of evidence. These consultants should give a written statement to the judge to be used by him in instructing the jury.

# Meetings of Medical Societies.

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## TORONTO CLINICAL SOCIETY.

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THE twenty-sixth regular meeting of this society was held in St. George's Hall, December 11th, 1895, President Dr. J. E. Graham in the chair.

Fellows present: Drs. King, MacFarlane, Cook, Walker, Trow, Anderson, Leslie, W. H. Oldright, Meyers, Aikins, Harrington, Macdonald, Stevenson, Ryerson.

Dr. Edmund E. King read a paper on

### ORCHIDECTOMY IN ENLARGED PROSTATE.

The reader said that he had operated on five cases. The first case died from pneumonia on the third day. In the second case there was improvement within twenty-four hours, which continued. The third case got well. The fourth, he would refer to later in the paper. The fifth underwent removal of a portion of the vas deferens, and was doing well. He said no satisfactory explanation had been given as to why this operation benefited these cases, but statistics proved that it did. As to the removal of a portion of the vas, in one case it had proved unsatisfactory, but in the other the result remained to be seen. The reader then gave a description of the structure and the functions of the prostate. He then gave the various theories that are and have been held as to the causation of enlargement of the prostate.

CASE 4. Patient, aged 65, second wife living, well up till about five years ago. About that time he began to suffer severe pain in both testicles when the bladder was distended. It disappeared after micturition. He was especially troublesome at night. The urine flowed copiously at intervals. Was treated by a physician for a time for diabetes, although he was not told that there was any sugar in the urine. He suffered from constipation, and had attacks of nausea. The urine passed invariably after the bowels would move. About two years ago he began to suffer from pain in the end of the penis, and over the pubic region. There was

a stinging pain at the neck of the bladder at the end of micturition for three or four minutes. He never suffered from retention. Could not retain more than half an ounce frequently. The patient was referred to the reader in September, 1895. There was no odor to the urine, and the amount of residual urine was small. Water was drawn when the catheter was introduced 10½ inches. He advised removal of a section of the vas. Removed 2½ inches from each vas. Examined the portions removed, and demonstrated their patency. Patient was not allowed to urinate for two days. Following this he urinated every three to five hours, as compared with every one to two hours before the operation. The testicles atrophied considerably, and became soft and flabby. Left the hospital in twelve days. He reported continued improvement for four weeks, when the pain manifested itself again, and frequency of urination became more marked. In November patient said he was able to have complete intercourse with ejaculation. Returned for treatment just three months after his first visit. Urine healthy: flowed at ten inches. The prostate was much smaller, and appeared tender in the centre. Patient had to rise four or five times during the night. Delay in starting the stream was marked. Endoscopic examination showed the bladder to be in a healthy condition. The testicles were unequal in size, the left having developed to the size it was before the operation. On incising the vasi were found to be intact. A second operation was performed, and improvement took place immediately, and continued up to the present time, patient passing urine every seven or eight hours without any distress.

Dr. D. C. Meyers presented a patient who had been under treatment by him for some time for

#### ATROPHY OF THE MUSCLES OF THE RIGHT HIP,

which condition had dated back to an exposure to a draught eight years before.

Dr. MacFarlane pointed out that the symptoms corresponded to those of morbus coxæ.

Dr. King asked if the legs had been measured. There was apparent shortening on the affected side.

Dr. Graham thought the cause of the condition was in the hip joint.

Dr. Meyers said he had considered hip-joint disease when he first saw the cause. But from the history of the case, the slowness of the onset of the symptoms and the improvement under present treatment, he had excluded that form of trouble. He related the history of a peculiar case of progressive muscular atrophy that had come under his observation, to which this case bore more resemblance than to anything else.

Dr. J. E. Graham read clinical notes of some

PNEUMONIC CASES.

The first was in an alcoholic, aged 28, who had a typical attack, but severe, the crisis occurring on the ninth day. No special treatment was given, except digitalis, at the time of the crisis. The number of white corpuscles dropped from twenty to sixteen thousand, pointing to a favorable prognosis.

The second case followed measles in a child aged 12, and was marked by muttering and delirium. The stools were ochre-colored. The pupils were dilated and inactive. Albumen, granular and hyaline casts, were found in the urine. Temperature reached 105°; pulse, 120; respirations, 26. Examination of the lungs negative for several days, when both apices were affected. White cells, 2,000. Post-mortem showed consolidation of both lungs; kidneys showing marked signs of parenchymatous nephritis. The patches of Peyer were elevated, showing the presence of enteric fever as well.

The third case was due to the staphylococcus, whose original focus was a wound of the finger, inflicted by a dirty knife blade. The post-mortem showed the kidneys to be large, softened, and disintegrated.

Dr. MacFarlane, who had opened an abscess which had formed at the ankle, discussed the surgical aspects of the case.

The meeting then adjourned.

THE 28th regular meeting of the Clinical Society was held in St. George's Hall, January 8, Dr. J. E. Graham presiding.

Members present: Bingham, Murray, Macdonald, McDonagh, Cameron, Britton, Scadding, Temple, Grasett, Spencer, Primrose, Graham, and Brown.

RADICAL CURE FOR HERNIA.

Dr. Primrose showed a patient who had been operated upon by him for the radical cure of inguinal hernia. (Report will appear in THE PRACTITIONER.)

Dr. Grasett, in discussing the paper, spoke very highly of Halstead's method of operating, and said that in this case a similar operation might have been done.

Dr. Temple described an operation for the radical cure, in which he had assisted Dr. Ross. A prior operation had proved unsatisfactory, on account of the patient's indiscretion in getting up to go to the closet on the day following the operation. The operation he described was very similar to the one Dr. Primrose had performed.

## GUNSHOT WOUND OF ABDOMEN.

Dr. Grasett reported a case of gunshot wound of abdomen. Patient, young man, aged 17, who on the 9th of September, while cleaning a revolver, discharged a 22-calibre ball into his abdomen, the missile passing through a double flap of the trousers and two shirts. It passed through the abdominal wall, downward and outward,  $3\frac{1}{2}$  inches from the umbilicus. There was no hæmorrhage; he did not become unconscious, and was able to call for assistance. In two or three minutes the bowels moved. He was little shocked. The treatment adopted was the expectant. For a few days blood appeared in the urine. The patient suffered more or less from vomiting and pain in the abdomen. After a few days there was a certain amount of abdominal distension, and considerable pain over the region of the left kidney. The temperature reached as high as  $102\frac{1}{2}^{\circ}$ . Three small doses of calomel were given, followed by a saline. The temperature dropped to about normal, but the vomiting continued for some days. After six weeks all symptoms of the peritonitis disappeared, hæmaturia lasting only four or five days at the first. Dr. Grasett inclined to think that the bullet had entered the abdomen, but had not passed through the intestine, and lodged in the kidney. He referred to the literature of the subject.

Dr. Macdonald thought it possible that the bullet might not have entered the abdominal cavity, but reached the kidney by pursuing an erratic path. He drew attention to the difference in the projectile force of bullets of the same size.

Dr. Spencer believed that the bullet had entered the abdominal cavity and lodged in the kidney. Had it passed through the intestine, he thought more shock would have been produced. The bullet had probably penetrated the mesentery.

Dr. Primrose said that it was impossible for the bullet to reach the kidney without passing through the abdominal cavity, and he considered that it must necessarily have passed through the intestines.

Dr. Bingham called attention to the indications for operating in these cases, viz., meteorism, hæmorrhage, protrusion of the omentum, etc.

Dr. Graham drew attention to the very tortuous course bullets often took.

## ECTOPIC GESTATION.

Dr. Temple presented a specimen of ectopic gestation, and related the history of the case. The woman was aged 24, mother of four children, the youngest being eight months old. On the 20th of November, 1895, she expected to menstruate. That morning, on going to the kitchen, she fell into a faint, which lasted an hour. Her medical attendant, on being



called, sent her to bed, as she felt very poorly. There was a bloody discharge from the vagina. In three weeks she was admitted to the hospital, and on examination a cyst was found in the left pelvis. The speaker considered it a case of ectopic gestation, with rupture, and advised operation. It was found that the cyst had ruptured into the left broad ligament.

#### HYDROCEPHALUS.

Dr. Bingham reported two cases of spinal drainage for hydrocephalus. The first was in a child twelve months old, whom he had been called to attend for an attack of convulsions. The child was very irritable and had strabismus. He tapped in the lumbar region, withdrawing four ounces of fluid. The symptoms disappeared. On reappearance of symptoms, this procedure was repeated five times during the following three weeks with relief each time. The patient eventually died, however.

Second case was in a child two years and a half old, with a neurotic family history; similar treatment. Relieved condition for a time, but upon a return of the symptoms continuous drainage was resorted to; but owing to the difficulty of securing proved antisepsis the patient succumbed.

Dr. Primrose drew attention to the pathology of the condition of supporting the ill-nourished bones of the skull, and at the same time exerting pressure to promote absorption. These, however, had not given satisfactory results.

The meeting then adjourned.

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#### PATHOLOGICAL SOCIETY OF TORONTO.

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THE second regular meeting of the Pathological Society of Toronto was held November 30, 1895, in the Biological building. The president, Dr. Carveth, in the chair.

#### ECTOPIC GESTATION.

Dr. Nichol presented a Fallopian tube, dilated, and containing blood clot and foetal membranes, representing the remains of a condition of tubal pregnancy, which he had recognized and removed before rupture. He explained the arrest of the ovum in the tube by reference to a previous "inflammation" following a second confinement, which he considered to have been septic salpingitis, and which had resulted in thickening, kinking, and strictures, or to desquamation of the ciliated epithelium, combined with interference with the peristalsis of the tube by the adhesions which were found at the operation, resulting from the same inflammation.

## ACUTE ENDOCARDITIS.

In the absence of Dr. John Caven, Dr. Hill presented a heart showing the lesions of acute endocarditis, with perforation of the anterior flap of the mitral valve, in a boy of 13 years. The valves showed the lesions of an old endocarditis, of which there had been, however, no history. The staphylococcus pyogenes aureus had been isolated from the affected valves. Some discussion followed as to the mode of infection, the theory of embolism of the vessels of the valves having been referred to.

## PUS IN THE MIDDLE EAR.

Dr. Anderson presented the petrous portion of a temporal bone, showing pus on the middle ear. It was obtained from a female subject of 41 years. The history of the case was not known further than that maniacal symptoms, followed by depression and coma, had been observed before death. The organs showed only the usual signs of septicæmia. The pia mater of the brain was congested. In the pus, diplococci and bacilli were found.

## GANGRENE OF ARM.

Dr. R. J. Wilson presented the forearm of a boy 4 years of age, amputated for gangrene of the hand. The boy had fallen and broken his humerus just above the elbow. The extended limb had been bandaged from fingers to shoulder, and then flexed and bandaged to a splint without any padding. A third bandage had been applied over the second.

Dr. Primrose quoted a similar case, and a general discussion followed.

## OLD AND RECENT MITRAL DISEASE.

Dr. Amyot then presented a heart, of which the following is his description :

Heart enlarged. Wall of left ventricle hypertrophied. Right ventricle dilated and its wall hypertrophied.

Chordæ tendinæ of mitral valve gone. Cusps thickened and shrunken, forming mere bands adhering at each end, leaving a button-hole opening 3 cm. long. On the auricular aspect of the valve a number of cauliflower excrescences, evidence of a recent endocarditis.

All these cusps of the tricuspid valve adherent to one another at their edges, making a funnel-like opening not more than two-thirds the normal size. The free edges are slightly thickened. May not the condition of this valve indicate foetal endocarditis?

Dr. Reeve presented the following case of

## DOUBLE ORBITAL CELLULITIS.

May 2, 1895. The patient, an artisan, aged 50, had worked until five days previously, when he was seized with la grippe (?) and came under the

care of Dr. Tyrrell, with whom he was seen at 5 p.m. There had been some pain in the left orbit for several days and some swelling of the lids on the left side, especially towards the inner canthus, which seemed due to a developing dacryocystitis. May 2, there was marked inflammation of orbit (left), and the right was also involved; and the patient was wandering. When seen in consultation at 5 p.m. he was practically comatose. There was a brawny swelling of eyelids, most on left side, moderate prominence of right eye, marked symptoms of left forcing lids apart. Slight chemosis, and both globes directed straight forward. Pupils large and insensitive; great turgescence and tortuosity of retinal veins and œdema of retina. At 8 p.m. patient in General Hospital; right hemiplegia and left facial paralysis were present. The accessory sinuses of the nose were explored and deep incisions into orbits made, with negative results. Death occurred about midnight. The post-mortem showed infective thrombosis of the ophthalmic veins, cavernous sinuses, and left internal jugular. The brain and membrane were healthy, and no lesion was found to account for the paralysis. The ethmoidal and sphenoidal sinuses were normal. A purulent focus was found in the left lung.

Remarks :

Orbital cellulitis, excluding trauma and ophthalmitis, is due, as a rule, to thrombosis of the cavernous sinuses, or to inflammation, etc., of the accessory sinuses of the nose; and the punctures and explorations were made with a view to give vent to any possible collections of pus, relieve pressure, etc., and establish diagnosis. A fatal result is almost invariable with double orbital cellulitis. The case seems sufficiently grave to warrant presentation, and is also given to show one of the grave possibilities of influenza, la grippe, etc. Septic pneumonia secondary to infective thrombosis of the lateral sinus and jugular from otitis is not very uncommon. In this instance the pulmonary lesion was doubtless the initial one, though, of course, there may have been some latent localized mischief which was rendered active by the last illness. There may have been some extravasation in the Pons to account for the paralysis, which escaped notice.

Dr. Reeve also referred to a case of

DOUBLE PURULENT CONJUNCTIVITIS

with ulceration of cornea, the source of infection being a discharge per vaginam occurring after parturition. The virulence of the inflammation and the apparent absence of any constitutional signs of absorption, etc., due to retained secundines, led to an examination of the secretions. Dr. Hill, who made the bacteriological examination, found the gonococci present, and thus the etiology and diagnosis, etc., were made clear.

The society then adjourned.

THE third regular meeting was held in the Biological Department, east wing, Saturday, January 5, at 8.30 p.m.; the president, Dr. Carveth, in the chair. The programme presented was as follows :

Dr. Edmund E. King read a paper on

ANGEIO-CAVERNOSA,

exhibiting the photograph of a case from which a large tumor had been removed from the right eyebrow. The section shows the growth to be a true cavernous angioma. [The case will be published in THE PRACTITIONER.]

*Discussion.* Dr. Peters referred to the probability of such angiomatous growths being congenital in all cases, and pointed out the analogy between such conditions and varicocele. Spencer, of London, has demonstrated, in connection with the almost constant development of the latter on the left side, that the scrotal veins of the fœtus on the left side are almost constantly larger than on the right.

In reply, Dr. King considered varices in any part of the body as congenital in origin.

Dr. Amyot presented a specimen of

RHINOLITH, WITH BUTTON FOR NUCLEUS.

Button was pushed into nose when patient was four years of age. Interference with breathing on one side ever since; susceptibility to inflammation, at least change of temperature; secretions fœtid and irritating; did not know cause until button was removed; on examination previous to removal the concretion gave the appearance of a sequestrum from nasal septum. Several little pieces of concretion, buried in mucous membrane; bleeding only slight; no necrosis of bone; weight of concretion and nucleus, 33 grains; slowly soluble in nitric acid, with evolution of gas.

Dr. Thorburn also presented a specimen of rhinolith; weight, 122 grains. Nucleus may have been a knife point broken off during a previous operation. No symptoms, except occasionally offensive breath.

Dr. Amyot presented a specimen of

LARYNX (CUT-THROAT).

Two cuts made. The first extended through half of the thyroid cartilage, just above the false cords. The second was one-third inch above this, and only clipped off the most prominent part of the upper border of thyroid cartilage, severing completely the epiglottis; outer wound stitched; lived a week; outer wound had nearly healed; he had improved every way; had been fed all this time by the rectum; twenty-four hours before death was given egg and milk; he choked some; died from acute inspiration

pneumonia which extended in every direction. Pus extended up and down muscular septa. Right thyroid gland was slightly enlarged.

*Discussion.* Dr. John Caven referred to certain recent statements of authorities on physiology tending to show that the accepted view of the functions of the epiglottis might have to be modified. Stewart and MacCormick examined the epiglottis of a patient suffering from cancer, with perforation, which allowed the action of the epiglottis to be observed during deglutition. They found that it lay forward on the tongue.

Dr. Peters said that in the horse, at least, the epiglottis must be back over the rima glottidis during deglutition, since it rises above the soft palate, and would not, therefore, pass forward so as to lie on the tongue.

Dr. Peters presented specimens of

URINARY CALCULI REMOVED AFTER DEATH FROM THE BLADDER OF A  
BULL.

The specimens (which are from the Ontario Veterinary College) consist of an enormous number of calculi—probably 5,000—varying in size from a hen's egg to a pin's head. The largest one is somewhat tuberculated, and has evidently been formed by the adherence by crystallization of a large number of the smaller stones. Some of the medium-sized stones—those about the size of hazel-nuts—have curious shapes, as if they had occupied sacculi in the bladder wall.

Many of the smaller individuals ( $\frac{1}{3}$  to  $\frac{1}{2}$  inches) present somewhat concave facets, often to the number of 8 or 10 or 16 on a single stone. There is only one stone, about  $\frac{1}{3}$  inch in diameter, which is a perfect sphere. Some of the remainder are quite smooth, and of more or less rounded or oval shape, while others are rough and tuberculated upon the surface, as if not having been at all subjected to attrition. All the stones are white, with a slight tinge of yellow, and have a crystalline, translucent appearance.

In consistence they are hard and brittle, the fractured surface having a distinctly crystalline appearance, with striæ radiating from the centre. They are of uniform consistence throughout, the only approach to lamination being a slight difference in the quality of the white color, as though some parts were slightly denser than others.

The history of the case is very imperfect, but it is known that the animal had severe and painful symptoms during life, frequently passed stones, and finally died of exhaustion.

Chemical examination shows the stones to be pure ammonio-magnesian phosphate (triple phosphate), without a trace of lime—even so much as would yield a spectrum.

The purity of the stone is the more remarkable, as lime is almost a

constant ingredient of the calculi of the herbiæ, usually in the form of the carbonate.

#### CARCINOMA.

Dr. C. M. Foster: J. G., æt. 63 years, under treatment for about two months, during which time the symptoms did not clearly indicate the nature of the disease from which he was suffering, although the progressive emaciation and cachectic appearance led to the diagnosis of carcinoma or tuberculosis.

The post-mortem examination was made four hours after death by Dr. Carveth and myself.

The stomach was found the seat of carcinoma, the liver and pancreas containing secondary deposits, the former being freely studded with them.

There were numerous adhesions between the different organs involved in the new growth, and also a great deal of matting together of the lymphatic glands and connective tissue in the immediate neighborhood. No further carcinomatous deposits were found.

The apex of each lung gave abundant evidence of old tubercular disease, the substance of the lung containing numerous calcareous deposits, and the surface puckered with cicatricial tissue; while many firm bands of adhesion stretched across the upper part of each pleural cavity.

#### SPECIMENS OF CARCINOMA.

A. McPhedran: The specimens presented are from a man aged about 57, a laborer. Good previous history. Began to ail some nine months before his death. He complained of some pain after eating, beginning about half an hour after taking food, and lasting less than an hour. He vomited only rarely. There was craving for food, and much thirst. On entrance into the Toronto General Hospital, he was much emaciated. At the left costal margin was a little fullness, which increased and descended with deep inspiration. Induration was palpable. Examination of stomach contents after he had breakfast gave no reaction to Heffernan's test, and none for free HCl. Death occurred from progressive asthenia.

Post-mortem by Dr. John Caven: Rigor mortis, *nil*—great emaciation—section—fat, *nil*—muscle greatly reduced in bulk.

*Lungs.*: Left one shows old adhesions on posterior surface of apex; weight, 12 ozs. Right, anterior apical adhesions; great hypostasis; weight, 27 ozs.

Both lungs show emphysema and considerable pigmentation.

*Heart.* Milk spots over both the right auricle and right ventricle. The heart is small—weight,  $5\frac{1}{2}$  ozs.; coronaries very prominent; marked brown atrophy. Just below the diaphragm an enlarged and indurated

gland is seen projecting into the pericardium, close to the entrance of the vena cava. Slight atheroma of aorta.

*Spleen.* Closely attached to left kidney, weighs  $2\frac{1}{2}$  ozs.

*Kidneys.* The left one shows a small cyst; capsule adherent, but does not tear the substance on stripping; left suprarenal intact.

*Liver.* Pigmentation; interstitial fibrosis; at one spot on the surface of the liver there is a small nodule about twice the size of a pin's head; it is composed of dense fibrous tissue; the liver capsule dips under this nodule.

The gall bladder is distended, but there is no obstruction in the common duct.

*Pancreas.* Free.

*Glands.* The retroperitoneal were involved.

*Mesentery.* Numerous cancerous nodules were found throughout the mesentery. The nodules were situated between the two folds of peritoneum forming the mesentery, and were attached to the posterior walls of the intestine, involving all its coats, except the mucosa.

A similar nodule was found in the mesentery of the vermiform appendix, near to its extremity (which was cystic). This nodule had so compressed the appendix as to obliterate its lumen.

*Esophagus.* Greatly thickened.

*Stomach.* Was greatly contracted on account of a growth occupying its middle third; more prominent on the lesser than on the greater curvature, and forming a dense, tight ring. The growth was nearer to the pylorus than the cardia. The tip of the little finger could be admitted through the ring. The pylorus was free. The growth was about  $1\frac{1}{2}$  inches in its maximum thickness, and about three inches in extent. The stomach, behind the growth, was much thickened and slightly dilated, and contained a little coffee-ground fluid.

*Bladder.* Under the peritoneal covering were found several cancerous nodules.

Dr. H. H. Oldright's specimens of carcinoma of the liver were then presented.

Dr. Anderson also read his notes of cases of carcinoma, and presented specimens.

(1) Patient, an old lady, æt. 73; had been ill one year. Extreme cachexia developed before death. Autopsy showed carcinoma of the liver, which was greatly enlarged, weighing 7 lbs. 5 oz., and had nodules scattered throughout its substance. Microscopic examination showed it to be of scirrhus variety. The condition in the liver was probably secondary. As autopsy was hurriedly made in a private house, the primary focus was not discovered. Stomach and intestines were not involved.

(2) Specimen of carcinoma of the head of the pancreas: it had produced extreme jaundice. It was of scirrhus variety.

(3) Carcinoma, involving the duodenum and the head of the pancreas, and extending to the under surface of the right lobe of the liver above, was adherent to the transverse colon below. It had also ulcerated from without inwards through the posterior wall of the stomach, near the pylorus. The pylorus was not involved, and the stomach showed no hypertrophy or dilatation. It is difficult to say whether the disease was primary in the duodenum or pancreas, as both were greatly involved, but it was probably advanced to a greater extent in the former. The patient had been ill one and a half years. Cachexia gradually developed. Microscopic examination showed it to be scirrhus in variety.

(4) Angeio-sarcoma of the liver, apparently primary. The piece of tissue from which the section was made came away with the trochar that had been introduced into the left lobe of the liver during an exploratory operation. Histologically, it consists mostly of round cells, rather large, with vesicular nuclei, and with a vascular stroma running between the individual cells. In places the cells were arranged in columns on either side of the capillary walls, in places assuming somewhat of an alveolar arrangement. Many of the cells were in process of karyokinesis, indicating rapid proliferation. In places the cells approached in appearance and arrangement hepatic cells.

(5) The tissue is very vascular, in many places the capillaries being distended with blood. The patient is still living—over three weeks since the operation—but is failing. There is no clinical evidence of involvement of any other organ. While angeio-sarcoma is a very rare primary condition in the liver, the present case presents the histological characters of that form of disease, and time will tell if it will also present the clinical history.

*Discussion.* Dr. Graham had seen Dr. Foster's patient on two occasions. A very careful examination was made, and nothing definite could be found. A fullness of the upper part of the abdomen and a slight feeling of induration below the liver were all that could be made out.

The case of carcinoma of the head of the pancreas presented by Dr. Anderson had a very interesting history.

The patient had for some years suffered from biliary colic. Severe pain in region of liver, followed by jaundice. The last illness did not differ much from the previous attack, except that the pain was not so severe and the jaundice was of longer duration. It was also noticed that there was greater loss of flesh and strength in this than in any previous attack.

HAIRY PIGMENTED MOLE REMOVED FROM THE FACE OF A CHILD AGED EIGHT.

Dr. A. Primrose: The mole was ovoid in shape, and about the size of a twenty-five-cent piece. It was congenital, and its removal was indicated



because of the deformity it caused on the cheek, and because it seemed to be taking on active growth and was increasing in size. Under the microscope the specimen exhibited numerous hair follicles, and a considerable amount of pigment in the Malpighian layer of the skin. There was also an undue development of round cells in the tissue about the hair follicles.

Moles are of interest in consequence of their relation to melanosis. Mr. Jonathan Hutchison\* has made some observations on this point, and refers to the frequent occurrence of melanotic sarcoma in the lymphatic glands originating from such pigmented growths. Thus he refers to a case occurring in the London Hospital in which an elderly man presented himself with a large mass in the groin; the patient was himself unaware of a small black mole on the foot which had originated it. Another case came under his care in a man, between 60 and 70 years of age, who had a glandular mass in Scarpa's triangle as big as a fish. It had been growing for a few months only. After a search a little black mole not so big as a split pea was found at the root of one of his toes, the presence of which had not been previously suspected. Mr. Hutchison was of opinion that this had become melanotic, although it had not shown any tendency to grow. The author further points out the curious fact with regard to moles which take on melanosis, that they may originate gland masses of very rapid growth and produce widely disseminated disease, without themselves growing at all; and not infrequently they remain so small that their possessor never recognizes their existence.

Mr. Hutchison is of opinion that senility favors the growth of congenital moles, and thus old people often find out moles of whose existence they had not previously been aware.

Dr. Primrose also presented a specimen of

#### OSSIFICATION IN THE TENDON OF THE ILIO-PSOAS MUSCLE.

This specimen was found in a male (colored) subject of apparently about eighty years of age, in the dissecting room of the University of Toronto. It consisted of a mass of bone, four inches in length and three-quarters of an inch in diameter, developed in the tendon of the psoas muscle; passing down to, but quite detached from, the lesser trochanter of the right femur. The subject presented also extensive osteophytic growths about many of the joints of the body, creating a widespread condition of arthritis deformans; this was particularly marked in the vertebral column, where numerous osteophytes occurred from the bodies of the vertebræ.

This condition of ossification in the tendon of the psoas constitutes the exostosis apophytica of Virchow. It is to be regarded, however, as a

\*Archives of Surgery, Vol. II., p. 220.

true osteoma. Fleischer\* described an osteoma of the tendon of the iliopsoas muscle in which he found the Haversian canals and medullary tissue arranged in the same typical manner as in bone. The bone production was traced to the connective tissue. According to Fleischer, the connective tissue at the seat of the tumor formation becomes more vascular, and presents active tissue proliferation, and is transformed into hyaline masses, in the interior of which bone cells appear. The hyaline lumps become coalescent and undergo calcification; osteoblasts then become active in the further development of bone. Senn† points out that we must make a distinction between calcification and ossification of connective tissue. "The production of bone is carried on in the embryo by a distinct and specific part of the mesoblast, resulting in the formation of the skeleton and the growth of bone, and the production of new bone can take place only from a matrix of cells derived from the osseous system. The displacement of osteogenic matrixis into the surrounding tissues is as liable to occur as the displacement of matrixis of epiblastic or hypoblastic tissues."

Osteomata have been described in muscle as well as in tendon; also in the lungs, the brain-membranes, the parotid gland, the skin (rarely), and in some other situations.‡

*Discussion.* Dr. W. Oldright referred to a case of melanotic wart which recurred after removal, and considered complete excision of such the only safe treatment.

Dr. H. H. Oldright's paper on "Carcinoma of Color and Liver" was postponed until the next meeting.

The presentation of the specimens of Drs. Graham, McKinnon, and Hill was also deferred to a later date.

The society then adjourned.

\* Quoted by Senn in his work on "The Pathology of Surgical Treatment of Tumors."

† Ibid.

‡ Zeigler's Pathology, section vi., p. 203.

## Book Reviews.

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Baily & Fairchild Co., of New York, take pleasure in announcing to the medical profession the establishment of the "Doctor's Story Series," to be issued quarterly at \$2 a year, 50 cents a number. Each number will consist of a complete work of fiction by medical authors. Only such works as are of established value will be reproduced in this popular form. King's "Stories of a Country Doctor" will be issued January, 1896, to be followed in March by Dr. Phillips' wonderful novel, "Miskel," and later by a new novel now in preparation by the same author.

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A TREATISE ON NERVOUS AND MENTAL DISEASES. For Students and Practitioners of Medicine. By Landon Carter Gray, A.M., M.D., Professor of Nervous and Mental Diseases in New York Polyclinic, Visiting Physician to St. Mary's Hospital, Neurologist to the Hospital for Ruptured and Crippled, etc., etc. Second edition, revised and enlarged, 72 illustrations and 3 colored plates. 733 pages. Cloth. Philadelphia: Lea Brothers & Co.

That a second edition of a work is demanded within so short a time as three years is of itself an evidence of its popularity. The above work has been rewritten and the illustrations much revised, and with considerable improvement. The omission of the bibliographical references can be excused; the material which occupies the space more than repays for it. The colored plates add materially as aids to the text. The work is good.

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DACOSTA'S MEDICAL DIAGNOSIS. By J. M. DaCosta, M.D., LL.D., President of the College of Physicians, Philadelphia, Emeritus Professor of Medicine, Jefferson Medical College, Philadelphia; Physician to the Philadelphia Hospital, etc. Eighth edition, revised and enlarged. Illustrated with engravings on wood. Lippincott Co., Philadelphia. Pp. 1104. Cloth.

This extensive work on physical diagnosis, now so well known, is devoted chiefly to practical medicine, and is designed to be a help to students and young graduates in the interpretation of symptoms and discrimination of disease. The eighth edition is very complete. It contains many wood-cuts of temperature charts, pulse curves, etc. Whatever of bacteriological interest appears to be established as valuable for diagnostic purposes has been incorporated.

THE INTERNATIONAL MEDICAL ANNUAL, 1896. A complete work of reference for medical practitioners. The conjoint authorship of thirty-nine distinguished American, British, and continental authorities.

Mr. E. B. Treat, publisher, New York, announces that he has in press for early publication the fourteenth yearly issue of the *Medical Annual*. The volume for 1896 will contain, as have the previous issues, a review of therapeutics for the year, together with descriptive articles on the new remedies, with clinical indications for their use; a dictionary of new treatment, giving a complete index of diseases and showing the latest methods of treatment, both medical and surgical, in a series of specially prepared articles and reviews from the pens of thirty-nine eminent members of the profession, on subjects with which their names are especially associated. The volume is copiously illustrated by colored plates and photographic reproduction in black and white.

THE PRINCIPLES AND PRACTICE OF MEDICINE: Designed for the use of practitioners and students of medicine. By William Osler, M.D., Fellow of the Royal College of Physicians, London; Professor of Medicine in the Johns Hopkins University, and Physician-in-Chief to the Johns Hopkins Hospital, Baltimore; formerly Professor of the Institutes of Medicine, McGill University, Montreal; and Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia. New York: D. Appleton & Co., 1896.

The second edition of this popular text-book is now on the market. It has been thoroughly revised, and in part rewritten. The chapter on treatment of enteric fever includes a paragraph devoted to the consideration of the eliminative and antiseptic treatment as advocated by Thistle and others. The author's well-known predilection for the cold bath perhaps explains the meagre reference to the *newer* treatment. Instead of a statement of the views advanced by the advocates of the plan, we have at once a hostile criticism. To say that the presence of Eberth's bacillus in the intestinal contents throughout forms the basis of eliminative treatment shows a somewhat crude appreciation of the various features embraced in the theory of elimination, as applied to this disease. Coming from so close a reasoner as the gifted author, it suggests, too, that he may not have obtained the knowledge of the principles involved in this treatment at first hand. The objection that the organism must suffer if deprived of the services of bacteria which normally flourish in the intestine is surely not urged seriously. The bacillus coli communis is considered by many to be responsible for a fair portion of toxæmia.

In Section II. the articles on gout and diabetes have been largely rewritten and extended. Leukoplakia and eczema of the tongue have found a place in this edition. A new section has been added on affections of the mesentery, and under disease of the liver a description of the dislocations and deformities of that organ.

In the articles on Addison's disease, and exophthalmic goitre and myxœdema, will be found references to the new investigations.

It is surprising how the author has managed to incorporate anything of value that has transpired almost up to the date of publication.

We heartily recommend this as a text-book for students and a necessity for practitioners.

THE PATHOLOGY AND SURGICAL TREATMENT OF TUMORS. By Nicholas Senn, M.D., Ph.D., LL.D., Professor of Practice of Surgery and Clinical Surgery, Rush Medical College; Professor of Surgery, Chicago Poly-clinic; Attending Surgeon to Presbyterian Hospital, etc., etc. Illustrated by 575 engravings, including full-page colored plates. Subscription, only \$6, cloth; \$7, morocco. Philadelphia: W. B. Saunders.

We can recommend the above work very highly to the profession. The pathology of tumors is treated in a very elaborate manner. The author, as in previous publications, shows his bias to German authorities. This, we consider, is hardly fair, because there are other workers whose opinions have weight. The part of the work devoted to the operations is incomplete in description and unnecessarily abbreviated. For instance, in the operation of colotomy, according to the author, there is one, and only one, operation mentioned—Maydl's—and it is so described that one would have to be well acquainted with the operation of colotomy to successfully complete it from the description given. There are other operations, in which a bridge is used to form the spur, that many prefer and a majority use.

The chapter on Osteoma is very complete, and goes minutely into the question of the origin of bone tumors. The opening chapter on origin and nature of tumors, anatomy and biology, etc., etc., in fact, the first 135 pages, which treat of the origin and development, chemical aspects, pathological significance, etc., are most admirable and well worth the price of the work.

Every working surgeon should have the book at hand.

We believe that the subject of treatment should be elaborated in some instances, though. We would like to call Dr. Senn's attention to an error on page 451, where Sutton is credited with the observation made by Bell: "If the tumor is cut out, not cut into." It is only a minor matter, but may as well be put right.

We could elaborate further on the advantages of the work, but space does not permit. Mr. Saunders has been very lavish in illustrating the work, and we can commend a large number of the illustrations as being as good as any we have ever seen. The presswork, paper, and binding are first-class, as the work of this firm usually is.

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THE MEDICAL DIGEST, 1840-90, AND APPENDIX TO MEDICAL DIGEST, 1891-95. By Richard Neale, M.D., London. Publishers, Ledger, Smith & Co., London.

We have received the third edition of this very valuable "busy practitioner's vade-mecum," which represents four daily hours of honest work, conscientiously continued during forty consecutive years (*British Medical Journal*), and an appendix to the digest which brings the work up to August, 1895. To those who have the last edition this appendix will probably be considered an actual necessity. To those who do not possess the work, we offer a strong recommendation to procure it as soon as possible. The price of the appendix is ten and sixpence; the price of the whole work, 1840 to 1895, is eighteen and sixpence. The following abstract of a review in the *Practitioner* (English), July, 1891, contains a good description of the character and scope of the work:

"The indefatigable author of this invaluable book of reference has once, more laid the profession under a great obligation, by preparing a new 'jubilee' edition, bringing the references up to the beginning of the present year. Since its first appearance as a volume of the New Sydenham Society's series, in 1877, it has daily grown in favor with busy men, and now it may with truth be described as indispensable to all who in their practice find it wise and prudent to avail themselves of the accumulated experience of the century, in matters of diagnosis and of treatment. As the long series of medical journals lengthens upon our shelves, we often find ourselves perplexed and disheartened at the tedious disinterring process that has to be performed before we can come on some half-remembered article that might throw light upon a present difficulty. The periodical indexes furnished with most journals become themselves so numerous that they hardly abridge the toil of reference. It is here that Dr. Neale becomes a priceless guide and helper. This work is a digest, as well as an index, and often saves, by its pregnant hints, a visit to the shelves or to the medical library. For, as we have already remarked on a previous edition, the 'Digest' *is in itself often sufficient for our needs*. In the most concise form he tells us what suggestions have been made, *what remedies have been found useful*, what complications have occurred in the commoner, as well as the rarer, cases that occur in practice. Over twenty serials have been included in his plan; and the simple, yet certain, method by which their essential matter is extracted and tabulated deserves the highest praise, and the warm thanks of all Dr. Neale's professional brethren. The compact form of the work, its clear type, and its excellent arrangement, render it one of the cheapest works on the doctor's table."

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**MATERIA MEDICA AND THERAPEUTICS.** A practical treatise with especial reference to the clinical application of drugs. By John V. Shoemaker, A.M., M.D., LL.D., Professor of Materia Medica, Pharmacology, Therapeutics, and Clinical Medicine, and Clinical Professor of Diseases of the Skin in the Medico-Chirurgical College of Philadelphia; Physician to the Medico-Chirurgical Hospital, Philadelphia, etc., etc. Third edition, thoroughly revised. Reset with new type and printed from new electrotype plates. Royal octavo, pages ix., 1108. Extra cloth, \$5.50 net; sheep, \$6.50 net. Philadelphia: The F. A. Davis Co., publishers, 1914 and 1916 Cherry street, and for sale by their Canadian agents, A. P. Watts & Co., 10 College street, Toronto.

This work, which has been received with great favor by graduates and undergraduates in medicine in the United States, is not as well known as it should be to the Canadian medical profession. The author has been very careful in making the book up to date in all points. Clinical experience, which we noticed only a few months ago recorded in medical journals, will be found compiled in this work. The book is divided into three parts. Part I. occupies about seventy-five pages, and includes a short outline of the pharmacy and materia medica of drugs, prescription writing, and classification of drugs under different therapeutic heads.

Part II. contains nearly 800 pages, and is devoted to the study of drugs conveniently arranged in alphabetical order. We note, with pleasure, articles on the most recently discovered compounds, such as salophen, formalin, tan-

ingen, bromphenol, chlorphenol, tolysal, tropococaine, etc. Much additional matter has been added to the articles on such drugs as acetanilide, antipyrin, creosote, hydrogen dioxide, trional, etc. Each drug is described as to its properties, preparations, physiological action, including toxicology and therapeutical application. Numerous illustrative formulæ and hints are given, showing the most eligible form of administration. The sections on animal extracts, secretions, or juices, and antitoxines, will be found to contain the most recent applications of these remedies.

The third part of the work contains about 250 pages, and deals with remedial measures other than drugs, and is the most complete account of these remedies that we have seen in a work of this kind. The following subjects are described: Electrotherapy, kinesitherapy, massage and rest cure, pneumotherapy, hydrotherapy and balneology, climatotherapy, psychotherapy, metallothrapy and suggestion, or hypnotism, diet in disease, mineral springs, effects of heat and cold, light and darkness, music, etc.; various therapeutic methods, such as acupuncture, transfusion, suspension in spinal disease, enteroclysis, etc. All these forces and agents play an important part in therapeutics, and often cure where drugs fail. Formerly Parts II. and III. were published in a volume separately from Part I. We think the author has made an improvement in the work in having it published under one cover, and that the book, taken as a whole, is one of the best treatises on therapeutic agents that we have seen.

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#### "THE JOURNAL OF EXPERIMENTAL MEDICINE."

In January, 1896, will appear the first number of *The Journal of Experimental Medicine*, a periodical devoted to original investigations in physiology, pathology, bacteriology, pharmacology, physiological chemistry, hygiene, and medicine. The journal is to be devoted exclusively to the publication of articles containing the results of original work in physiology, bacteriology, pathology, and the other sciences mentioned. Especial care will be taken to supply good illustrations whenever needed.

That the journal will be of high character and truly representative of scientific medicine in this country is assured by the character of those whose co-operation has been secured. It is believed that the interest in scientific medicine in this country, and the desire both here and abroad to find readily accessible the publications of American contributors to the medical sciences, will secure a large list of subscribers for the support of the journal.

Dr. William H. Welch, Professor of Pathology in the Johns Hopkins University, is to be the editor of the new journal, and with him will co-operate a board of twelve associate editors as follows:

*For Physiology.*—H. P. Bowditch, M.D., Professor of Physiology, Harvard University; R. H. Chittenden, Ph.D., Professor of Physiological Chemistry, Yale University; W. H. Howell, M.D., Ph.D., Professor of Physiology, Johns Hopkins University.

*For Pathology.*—J. George Adami, M.D., F.R.C.S., Professor of Pathology, McGill University; W. T. Councilman, M.D., Professor of Pathological

Anatomy, Harvard University ; T. Mitchell Prudden, M.D., Professor of Pathology, Columbia College.

*For Pharmacology.*—John J. Abel, M.D., Professor of Pharmacology, Johns Hopkins University ; Arthur R. Cushny, M.D., Professor of Materia Medica and Therapeutics, University of Michigan ; H. C. Wood, M.D., Professor of Materia Medica, Pharmacology, and Therapeutics, University of Pennsylvania.

*For Medicine.*—R. H. Fitz, M.D., Professor of the Theory and Practice of Physic, Harvard University ; William Osler, M.D., F.R.C.P., Professor of Medicine, Johns Hopkins University ; William Pepper, M.D., Professor of the Theory and Practice of Medicine, etc., University of Pennsylvania ; and a long list of collaborators.

The journal will appear in, at least, four numbers during the year, and, doubtless, oftener. Whenever sufficient material is ready a number of the journal will be issued. A volume of six to seven hundred pages will be published annually, with many plates and diagrams. Papers for publication may be sent to the editor, Dr. William H. Welch, 935 St. Paul street, Baltimore, or to any one of the associate editors in the department to which the paper belongs. The subscription price will be \$5.00 per volume. Subscriptions may be sent to the publishers, Messrs. D. Appleton & Co., New York, or to Mr. N. Murray, Johns Hopkins University, Baltimore.



## Medical Items.

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WE are informed that the long-looked-for and much-overdue annual announcement of the College of Physicians and Surgeons, with Report of Proceedings, is off the press. We have not yet received a copy; it has not yet been distributed. We wonder if the publishers will saddle the country with the cost of distributing the same? If they try, what argument could be advanced? Surely not as a supplement to a free distribution journal, one that is now being carried through the mails free, contrary to the postal laws?

DR. W. A. PARKYN, of Chicago, was in Toronto during Christmas week.

THE Chicago College of Physicians and Surgeons will amalgamate with the University of Illinois.

PROFESSOR STRUTHFRS has been elected president of the Royal College of Surgeons of Edinburgh.

DR. CHARLES W. PURDY, of Chicago, spent a few days in Toronto in the latter part of December.

DR. F. N. G. STARR, of Toronto, has removed from 394 Markham street to 471 College street, corner of Markham.

*The Medical News* has removed its home from Philadelphia to New York, and has been placed in the hands of a new editor—Dr. J. Riddle Goffe.

*The Medical Record* says the retirement of Dr. George M. Gould from the editorship of the *Medical News* is a great loss to medical journalism in America.

SIR JOSEPH LISTER has been elected president of the Royal Society in the place of Lord Kelvin. This is considered a very high honor by British scientists. Sir Benjamin Brodie is the only surgeon who has previously occupied this position.

IF they paid their bills, it would cost the people of the United States twenty-five million dollars a year to be born, three hundred million dollars per annum to be married, seventy-five million dollars annually to be buried, and nine hundred million dollars to get drunk.

DR. JOHN P. SHAW, who has been practising in East Toronto for nearly ten years, having decided to take an extended trip to New York and Great Britain, was invited by his fellow-citizens of "Little York" to attend a banquet in Warner's Hotel last month. The attendance was large, and the "boys" gave the doctor a good and kind send-off.

EMINENT SPECIALIST—Yes, madam, your husband is suffering from temporary aberration, due to overwork. The form of his mania is quite common.

Wife—Yes, he insists that he is a millionaire.

Eminent specialist—And wants to pay me \$500 for my advice. We'll have to humor him, you know.—*Collier's Weekly*.

DOCTORS ARE SOLDIERS.—A proper movement has been undertaken in France, where it is proposed to place the widows of medical men who die during an epidemic, while engaged in their professional duties, upon the same footing as widows of officers who die upon the battlefield, with the intention of obtaining for the one the same compensation as that provided for the other—*Medical News*.

THE *American Medical Review*, edited by Dr. Daniel Lewis, president of the New York State Board of Health, and published by The R. N. Plummer Company, 106-108 Fulton street, New York, has issued its first number bearing date January, 1896. It is a beautiful specimen of magazine printing, and its contents bear the stamp of experienced editorial management. It is occupying a unique field in the medical literature, similar to that of the *Review of Reviews* in its relation to general literature. If this medical review of reviews keeps itself within its original limitations, it is certain to meet with the favor of the medical profession.

SURGEON-COLONEL W. TAYLOR, M.D., the principal medical officer of the South-Eastern Military District, delivered a lecture at Aldershot on "The Medico-Military Arrangements of the Japanese Army in the Field." The lecturer declared that the regimental medical organization of the Japanese army was far superior to our own. The medical arrangements for saving life on the battlefield were perfect, no expense being considered too great to save a Japanese soldier's life. The bravery of the medical department was astonishing; he himself had seen a stretcher-bearer company attending to their work in a perfect storm of bullets, and they had cleared a line of fire of eighty killed and wounded in about twenty minutes, having first rendered aid, and before sending the wounded back to the field hospitals in the rear. A discussion followed the lecture, in which Sir William Butler and many other officers took part, and all agreed that the British army had much to learn from the Japanese army.

TYPHOID IN RELATION TO DRINKING WATER.—The Indian authorities, who, according to an Indian correspondent, have introduced the Pasteur filters at Dum-Dum and are contemplating their introduction generally in cantonments with the view of prevention of typhoid, were, it is understood, much influenced by the testimony of the French Minister of War, General Zurlinden, that their use at the French stations has enormously diminished the typhoid mortality in the French army, in most instances practically removing it. A further striking proof of what pure water will do in the abolition of typhoid is furnished by the mortality returns for the Parisian suburb of St. Ouen. Three years ago, in 1892, the water supplied to this district was of distinctly question-

able quality, and during the twelve months there were recorded twenty-four deaths from typhoid fever, this, it is stated, being the average for the previous ten years. Proper arrangements for filtering the water being, however, established, deaths from typhoid fell to six in 1893, two in 1894, whilst during the year just ended only one death from this disease was recorded.—*British Medical Journal*.

**ANTISEPTICS IN BEVERAGES.**—A recent decision which Mr. de Rutzen gave in the case heard at the Westminster Police Court, London, Eng., is one of considerable importance, owing to the influence it must inevitably have on the administration of the Food and Drugs Act. It was shown that a British wine contained 26.6 grains per gallon of salicylic acid. It was stated in defence that the drug was used as a preservative, and in a quantity so small that it could not be injurious to health. Evidence to the effect that even in small doses the drug might be injurious was given by Dr. Corfield (the Medical Officer of Health), and Mr. Cassal (the Public Analyst) for St. George's. The magistrate, however, accepted the evidence to the contrary effect, and held that the addition was not injurious to health, and seemed to imply that such addition, if made in quantities designed merely to obtain an antiseptic action, and not to increase bulk or conceal inferior quality, would prevent conviction under the Act. We believe that Dr. Corfield, in saying that the long-continued use of small doses of this powerful drug may be injurious to health, has on his side the support of medical experience and opinion. The decision is greatly to be regretted in the interests of the public health, more especially as it offers a new excuse to vendors who may wish to add various drugs to their foods and beverages "for antiseptic purposes."—*British Medical Journal*.

**THE ASHANTI EXPEDITION.**—In the arrangements for medical supplies provision has been made for 35,000 cases of sickness. The term "cases of sickness" refers to daily returns, and embraces a man placed on the sick list for treatment one day and taken off the next. In the former Ashanti war there were eighty-one deaths from disease and loss in action, with 2,587 officers and men of the European force under Sir Garnet (now Lord) Wolseley. After leaving the country there was a mortality of 3 per cent. on the strength disembarked. Tents on this side of Prahsu, it is thought, will not be necessary, as huts can be utilized for housing the troops at the various rest camps. Beyond Prahsu *tentes d'abri* will, it is stated, probably be employed. The daily ration scale is set down as 1½ lb. each of fresh meat and bread or biscuit; if preserved meat is used, 1 lb.; preserved potatoes, 1 oz.; sugar, 3 oz.; tea, ½ oz.; cocoa paste, 1 oz.; dried onions or compressed vegetables, 1 oz.; salt, ½ oz.; pepper, 1-36 oz. In the matter of bread and meat, the scale is the same as in the last war, but the tea ration is ¼ oz. less, the cocoa paste being additional. Surgeon-Colonel Taylor, principal medical officer of the expeditionary force, has visited Aldershot and inspected the whole of the officers, non-commissioned officers, and men of the medical staff corps who are proceeding on service to the west coast of Africa. The bearer company drilled in good style. All ranks paraded in service uniform and equipments, and looked fit for the work they will be called on to perform. Among the stores

which the *Loanda* carried when she left Liverpool on Saturday, November 30th, for the Gold Coast, were a number of Pasteur filters for the provision of pure water for the troops. These filters had previously been tested by Surgeon-Colonel Taylor and Surgeon-Lieutenant Pratt, and a detachment of the men has been instructed in their method of working. They are capable of providing altogether 6,000 gallons of germ-free water daily. Filters of a similar kind are to be fitted to the hospital ship *Coromandel*.—*British Medical Journal*.

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MUSCÆ VOLITANTES.—Following the example of Dr. Gowers in the Bowman Lecture of the present year in studying one set of subjective visual sensations, Dr. George M. Gould, of Philadelphia, in a recent number of the *Medical News*, gives us a classification of muscæ volitantes, with a minute description of his own muscæ and of their behavior under varying physiological states of the eye, and then proceeds to deduce some laws governing the phenomena of muscæ, and their bearing on the economy of the eye. Muscæ are either peripheral, originating in the globe including the optic nerve, or central, originating in the cerebral centres, or a combination of the two. He suggests the use of the word "phoses" for light sensations of whatever kind or color of a positive nature, and "aphoses" for absence or interruption of light sensations, such as scotomata or shadows. Speaking of peripheraphoses, the subdivision under which ordinary muscæ volitantes come, the author concludes that the fluid in which these bodies float is contained in a chamber situated just behind the lens, which he calls the aquo-vitreous chamber; the constant downward movement of the muscæ, when seen subjectively, locates this chamber in front of the vertical equator of the eye. The aquo-vitreous chamber plays the important part in the nutrition of the eye of acting as a drainage chamber to the vitreous body for the excretion of the débris of vitreous katabolic change; the fluid contained in it also acts as a lubricant to the movements of accommodation in equalizing and distributing pressure. Further, the author thinks it not unreasonable to suppose that pathological conditions in the fluid may originate pathological conditions in the lens and disturbances in its nutrition, and may be an important factor in the etiology of cataract. Other pathological conditions of this chamber and its contents may lead to a clogging of the sieve of the lens ligament, and so act as the ultimate cause of glaucoma. Myotics like eserine and pilocarpin increase glandular, osmotic, and secretory activity, while mydriatics correspondingly lessen these processes; although an increase in the amount of aquo-vitreous fluid would seem to increase intraocular pressure, it would also lessen its viscosity, and reduce the clogging of the filtration membrane of the ligament, and consequently the intraocular tension. The author is of opinion that no one has given a satisfactory reason for the uncertain action of iridectomy in curing glaucoma; according to the theory here proposed removal of a portion of the iris only acts by increasing the porosity of the filtering membrane, but it is not suggested how this is brought about. The author admits that his theory has a very small basis of facts to support it. Before accepting it as a working hypothesis some anatomical proof of the existence of the aquo-vitreous chamber is required; with

modern histological methods by the making of frozen sections of recently excised eyes, or of eyes hardened in formol, such a chamber should be capable of easy demonstration if it exists. Further, by the researches of Priestley Smith and Treacher Collins, our knowledge of glaucoma has been so far advanced that we are able to explain some of the phenomena of the disease, such as the occasional failure of iridectomy, without recourse to a somewhat fanciful theory.—*British Medical Journal*.

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DR. JAMESON.—Nothing in the present crisis is more remarkable than that, through the general voice of national lamentation that has gone up about this miserable business in the Transvaal, the note of personal regard and even admiration for the man who has been the leader in it has made itself loudly heard. Hard things are being said of others; of Dr. Jameson the bulk of his countrymen simply refuse to believe that his misguided action was prompted by any other thought than the wish to save those whom he deemed it his duty, at all risks, to rescue from what he considered to be a position of imminent and deadly peril. This tenderness for a man who in the eye of international law is a freebooter, and who has committed the kind of mistake which Napoleon described as worse than a crime, will easily be understood by those who knew him before he had any thought of forsaking the peaceful career of medicine to follow in the footsteps of Cortes and Pizarro. As several more or less inaccurate accounts of Dr. Jameson's early career have appeared in the general press, the following particulars may not be without interest. He is now just 43 years of age. Though Scotch by birth, as far as his medical education is concerned he belongs wholly to University College. He entered that school in 1870, became a Member of the Royal College of Surgeons in 1875, and graduated as M.B. and B.S. in the University of London in the same year. He took the degree of Doctor of Medicine in 1877. His career as a student was a distinguished one, and he held the posts of house-surgeon under the late Professor John Marshall, and of house-physician under Sir Russell Reynolds. He was afterwards appointed Resident Medical Officer to University College Hospital, but his period of office was interrupted by a voyage of some months to the United States, where he went in charge of a patient, and was cut short by the fact of a good opening for practice presenting itself at Kimberley. As an example of his energy of character, it may be mentioned that within a day or two of the offer reaching him he began to prepare himself for his new life by taking riding lessons at the Albany Street Barracks. His subsequent career is known of all men. As a young man Dr. Jameson gave evidence of the same personal magnetism which has so endeared him to all sorts and conditions of men. To his intimates among his fellow-students he was "Jimmy," as he is now "Dr. Jim" all over South Africa. He was a man of the most generous instincts. If impulsive, there was nothing ignoble about him. There was no taint of selfishness in his nature, and he was simply incapable of anything like meanness or deceit. No one who knew Jameson, as men know each other in the unrestrained intimacy of fellow-studentship, could for a moment believe that he would consciously have lent himself to any act of treachery or dis-

loyalty. His professional brethren are still proud of him, and assuredly will not condemn him unheard.—*British Medical Journal*.

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## OBITUARY.

KENNETH N. FENWICK, M.A., M.D., M.R.C.S. ENG.—Dr. Kenneth Fenwick, of Kingston, is dead. It was this simple item of news in the morning daily papers of Canada, this 22nd day of January, which caused a sad shock to the medical profession of our Dominion. The circumstances surrounding his illness and death were exceedingly sad. A young, strong, able, active surgeon succumbs to a foe that he has been nobly fighting for many years—septicæmia. Dr. Fenwick operated on a child suffering from septic peritonitis, Thursday, January 16, and, unfortunately, cut his finger slightly during the operation. Certain precautions were taken to prevent evil results, and no fears were entertained until the evening of the 20th, when the condition of the hand and arm was found to be very serious. The symptoms became worse from hour to hour, the arm became gangrenous, the whole system was profoundly affected by the virulent strength of the poison, and the patient sank rapidly until the night of the 21st, when he died at 11 o'clock.

Dr. Fenwick was a specimen of our best sort of Canadian physicians, a prodigious worker, a skilful obstetrician and gynæcologist, a good general practitioner, a faithful and generous friend to the sick and afflicted, a man that this province could ill afford to lose. He received his degree of M.A. from Queen's University in 1871, M.D. in 1874, and passed the examination for membership of the Royal College of Surgeons in 1875. After returning from England he commenced practice in Kingston, and soon forged to the front. He was for a time Professor of Institutes of Medicine in the Royal College of Physicians and Surgeons of Kingston; but some years ago was appointed Professor of Obstetrics and Gynæcology in the same institution. His work in this department was highly creditable to himself, and greatly appreciated by his students.

To the profession at large he was known as a public-spirited man, and an active worker in medical societies, especially the Canadian and Ontario Medical Associations. It will be remembered that he took a deep interest in the last meeting of the Canadian Medical Association, held in Kingston, August, 1895, and did much work in making the necessary arrangements. His tremendous zeal and energy did much towards making the meeting a pronounced success. He was the author of an excellent manual of obstetrics, gynæcology, and pædiatrics, which was published in 1889. This, as he told us in his preface, was really a syllabus of his sessional lectures, and intended for medical students—especially his own class. He also published many papers in Canadian and American medical journals. By his death our profession has lost one of her most worthy sons, and our country has lost one of her best citizens.

DR. DANIEL E. BROOKE.—Dr. Brooke was found dead in a room in Windsor, December 28, 1895. He graduated in 1879, and practised in New Hamburg for ten years. About six years ago he went to Windsor, and soon acquired a large and lucrative practice. The remains were buried in Chatham, where his parents and sisters reside.