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THE STUDY OF ANATOMY BY FROZEN SECTIONS.

BY A. PRIMROSE, M.B., C.M., EDIN.; M.R.C.S. ENG.,

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THE modern teacher of anatomy considers it essential that the student should have at his disposal a series of sections of the human body, in order that he may form an accurate conception of the true relations of the various structures which he discloses during the process of dissection. It is impossible to obtain a comprehensive grasp of this important subject of the medical curriculum without recourse to such sections. This method of study, as already indicated, is of comparatively recent development in the study of the science. Its utility and importance, however, are readily conceded by any one who has examined a series of preparations. It is not

beyond the mark to say that the majority of graduates of medicine practising in Ontario have never had the opportunity of examining sections, and these gentlemen are not exceptional, for it is only within the past few years that sectional anatomy has formed a prominent feature in the instruction given in any medical school. Dissection is, of course, all important, and the study of sections is always supplemental; it is none the less essential. It is impossible to insist too strongly on the necessity for careful and conscientious dissection on the part of the student. The dissecting room is an excellent training school for accuracy of observation and for methodical work. Here, to a great extent, the character of the student is moulded early in his career; and if proper supervision be not exercised, the student is prone to contract slovenly methods of doing his work, which will stick to him throughout his entire course. Above all things, therefore, one must insist upon careful dissection. There seems to be an inclination on the part of some to conclude that dissection is the *only* way of studying anatomy. This ground has been taken by certain teachers abroad, but why they should decry the use of such important accessory methods as thus afforded by the study of sections it is difficult to understand.

This subject is dealt with by Professor Macalister, Professor of Anatomy in the University of Cambridge, in an address delivered recently to the Medical Society of University College, London, on "Methods of Anatomical Study." Professor Macalister is one of the most progressive teachers of anatomy of the day, and of great experience as a teacher. I quote from his paper at considerable length. In considering "the limitations of the utility of dissection" he says, concerning that stage of study in which comparison of the part dissected is made with the same region as shown in frozen sections: "One school of teachers tells us that dissection is the only way to learn anatomy, but there are some things dissection cannot do. It cannot show you the relations of undisturbed parts, which is of the very essence of surgical anatomy. As the name implies, dissection is the art of taking parts asunder; it is essentially analytical. When carried out properly, dissection is the art of removing connective tissue from around parts so that they can be severally seen. The most skilful anatomist, when he opens the body cavities, must displace the viscera in relation to the landmarks, and cannot avoid doing this to such an extent that, like the fallen Humpty Dumpty, all the members of the anatomical societies of Great Britain and Ireland cannot put them back again the way they were before. Here the careful comparison of our dissections with the sections of undisturbed parts comes to our aid. These sections are not mere superfluities—ornamental adjuncts to a dissecting room; they are necessary parts of the teaching apparatus in any properly

equipped school. If sections are not available, properly constructed models of them are the next best thing to help us. In a recently published pamphlet, an eminent anatomist has ridiculed the use of these by saying that the parts as seen in the models do not correspond to the parts as seen in the dissecting room, and he is right; for we see the parts in the anatomy room not as they were, but as our disturbance has made them. Take, for example, the flattened liver, as you see it on the table, and compare it with the liver of the frozen body, or with Steger's* model of it. The former presents a form which the organ could not possibly assume in its normal position when pressed upon, facetted, and moulded by the surrounding viscera and muscles. Take also the pancreas. You know it, as shown in sections or in the model, to be quite a different thing from the long tongue-shaped gland formerly figured in so many text-books. But the liver and pancreas of the model are the organs as they exist in the condition with which the physician has to deal, and it is in these forms that these organs must be known if we are to use to our advantage our anatomical knowledge for clinical purposes. Dissection is the only way of learning structure and details; sectional study is the only way of learning relations."

Our knowledge of the topographical anatomy of the body has been greatly increased since the introduction of this method of studying sections prepared by freezing. The first work of importance done by this method was that by Professor Pirogoff, of St. Petersburg, which led to the publication of his work on the subject in 1859.† Later there appeared the well-known work of Professor Braune, Professor of Anatomy in the University of Leipsic, who published his atlas of "Topographical Anatomy" in 1867-69. Among the earlier publications on this subject, we must rank the work entitled "Frozen Sections of a Child," by Professor Dwight, of Harvard University, which appeared in 1881, and is illustrated by plates of a series of very successful sections made of a child three years of age.

In 1887, there appeared from the Edinburgh school one of the most important of recent contributions to the subject of anatomy in the elaborate and beautifully illustrated monograph by Mr. Johnston Symington, entitled "Topographical Anatomy of the Child."‡ Within the last few years valuable work has been done in the study of frozen sections by a host of investigators. The pioneers in this particular line of study have

*A series of Steger's models are exhibited in the anatomical department of Toronto University. They are reproduced from sections made by Professor His, of Leipsic.

† See Professor Symington's address delivered at Queen's College, Belfast, The Lancet, Nov. 4th, 1893, p. 1108.

‡ Mr. Symington, who was, at the time of publication of his work, lecturer on anatomy in the School of Medicine, Edinburgh, is now professor of anatomy in Queen's College, Belfast.

appeared chiefly in the continental and Edinburgh schools. On the continent Braune and His arethe better known contributors to the subject. Professor Cunninghan, of Dublin, has not merely confined his attention to sections of the human body, but has extended his researches into the field of comparative anatomy, and has contributed to science the result of his study the sectional anatomy of anthropoid apes. The gynecologist and the obstetrician are indebted very greatly to the application of this method in studying the relations of the pelvic viscera ; and here, again, we are greatly indebted to the work done in the Edinburgh school, represented chiefly by Freeland Barbour, Berry Hart, J. W. Ballantyne, and J. C. Webster. The method has also found application which has proved of great value in surgical work. Thus as long ago as 1878 Dr. Garson published * in the *Edinburgh Medical Journal* an article in which he showed that he had proved by means of frozen sections the effect of distension of the bladder and rectum on the prevesical fold of peritoneum. Garson proved conclusively that simultaneous distension of the bladder and rectum raised the bladder and peritoneum out of the pelvic cavity, and permitted suprapubic cystotomy without opening the peritoneal cavity. Garson's original plates were reproduced by me in my paper on "Suprapubic Lithotomy," published in THE CANADIAN PRACTITIONER† in 1889.

The object of the present paper is simply to demonstrate the value of frozen sections as an adjunct to dissection in the study of human anatomy. It has occurred to me that my purpose may best be served by publishing a series of plates reproduced from photographs of a series of sections which have been prepared by me, and are exhibited for the use of the students in the dissecting room of the University of Toronto. Most of these preparations were made by me, with Dr. Starr's assistance, about two years ago, and since that time additions have been made to the collection. The collection represents sections in both vertical and horizontal directions, and affords opportunity for the study of all parts of the human body, including not only visceral anatomy, but also the anatomy of the joints and the epiphyses. It is, of course, possible, in this short paper, to give but a few illustrations, but these will suffice to demonstrate the point. Our method of utilizing these sections is, in the first place, to have them always at hand, so that the student may have the advantage of studying them at any time, and comparing them with his dissection ; and, secondly, we have prepared lantern-slides from photographs, these we throw upon a screen by means of a projection-lantern, and thus we are enabled to demonstrate the sections to large classes of students. The plates illustrating the present paper have been prepared from a series of

* Edinburgh Medical Journal, October, 1878.

† Canadian Practitioner, June 17th, 1889.

most successful photographs taken by Dr. E. E. King. It will be impossible to describe in detail the individual plates, but the reader will recognize the more important structures depicted therein, and will appreciate my contention as to their utility in the study of human anatomy.

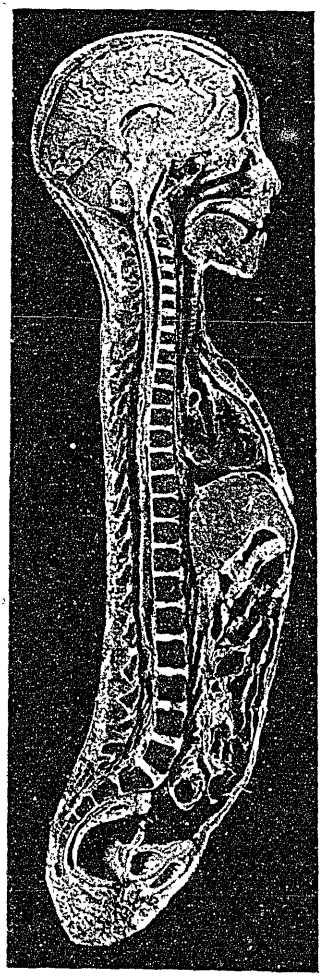

FIG. 1. Vertical mesial section of the body of a girl aged nine years.

A longitudinal section of a girl nine years of age is shown in Fig. 1. The section is a little to the left of the middle line, so that the falx cerebri and the nasal septum have been removed. The normal curves of the spinal column are clearly indicated, although they are not very pronounced. No doubt the fact that the subject lay upon its back whilst being frozen accounts for the comparatively straight spine. The curves of the spine are exaggerated, during life, when the individual is in the erect posture; the weight of the body tends to produce this. On the other hand, when one lies supine the spine becomes comparatively straight, although the curves are by no means wholly obliterated. The sacrum, of course, preserves its well-marked curvature. The spinal canal is opened up, and the cord, divided in longitudinal section, is exhibited with the cauda equina. Note the difference in the degree of obliquity of the individual spinous processes.

The immature condition of the skeleton is shown by (1) the persistence of a line of cartilage between the odontoid process and the body of the axis vertebra; (2) a thin layer of cartilage between the basi-sphenoid and basi-occipital; and (3) the cartilaginous intersections between the component parts of the body of the sternum. The frontal and sphenoidal sinuses are well developed in the skull. The meatuses of the nose are shown, and a mesial section of the tongue, palate, and jaws.

There has been a slice removed from the inner surface of the left cere-

bral hemisphere, and the cavity of the lateral ventricle has been opened up, and presents itself as a crescentic slit about the centre of the brain. The relations of the cord, medulla, cerebellum, and cerebrum are well illustrated. The position of the larynx and trachea is shown. The tip of the epiglottis is on a level with the disc between the second and third cervical vertebræ. The isthmus of the thyroid gland is seen on section in front of the trachea, opposite the lower border of the sixth cervical body. The œsophagus is not observable; it is, of course, flattened, and is, in the greater part of its course, to the left of the mesial line, and there is no definite indication of it in the plate. In the thorax the heart and great vessels are seen, and the diaphragm demonstrates the lower limit of the chest cavity. Immediately below this is the liver. On the under aspect of the liver is observed a small portion of the stomach, and below this the intestine. In the pelvis there is a cavity between the intestines above, the rectum behind, and the uterus and bladder in front. This cavity was filled with a mass of débris, and the peritoneum in the locality was covered with flaky material. The girl had died from typhoid fever, and there had evidently been peritonitis and probably a purulent collection in this locality; possibly this indicates the cause of death, but, unfortunately, the clinical history was not obtainable. The bladder was partially distended. The uterus was, of course, small and infantile in character.

FIG. 2. Horizontal section at the level of the second dorsal vertebra of the body of a girl aged six years.

The remaining plates are representations of a series of transverse sections of a child six years of age. Fig. 2, a transverse section through the body of the second dorsal vertebra, in which the clavicles are split longitudinally. That bone on the left side is seen on section throughout its entire extent, whilst the section was a little lower on the right side, and the lower portion of the bone in its inner half is observed. The extent to which the apices of the lungs extend above the clavicles is indicated, the

lungs appearing on section on each side of the vertebral body. Immediately in front of the vertebral body is seen the trachea, behind which, towards the left side, is the œsophagus, which was not entirely empty at the time of cutting, and presents an irregular outline. The great vessels at the root of the neck are clearly demonstrated in the preparation, but they have not been well reproduced in detail on the plate. It will be observed that the three primary centres of the vertebra have not yet united, the neuro-central sutures being still evident.

Fig. 3 is a section through the fifth dorsal vertebra. This is a most instructive specimen. It is one of those sections which proves a pleasure and satisfaction to a student who has faithfully done his dissection, and

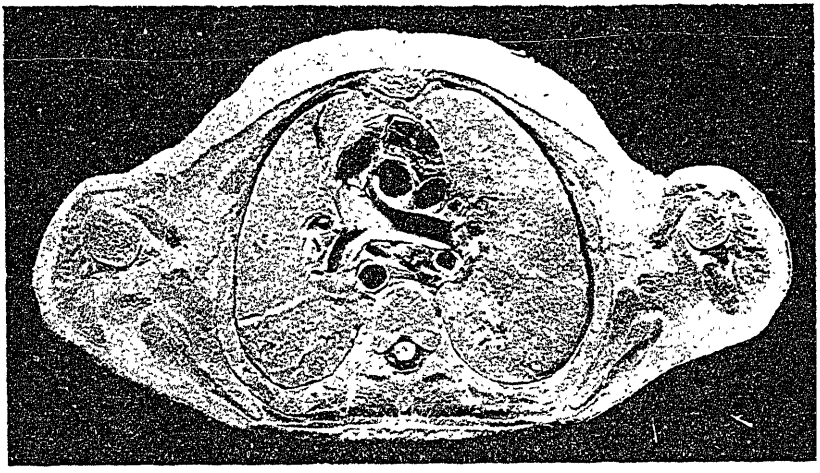

FIG. 3. Horizontal section at the level of the fifth dorsal vertebra.

turns to study the preparation, taking pains to recognize each of the structures which appear in detail. In front of the body of the vertebra, towards the left side, is seen the descending aorta, and lying between this and the vertebra, almost in the middle line, is the œsophagus. On each side the bronchus is seen on section, and in front of these structures the pulmonary artery is beautifully shown as it leaves the right ventricle and divides into the right and left pulmonary arteries. Immediately to the right of the pulmonary artery, before its division, is seen the first part of the aortic arch, and to the right of this again the superior vena cava. A portion of the right icular appendix lies towards the front. The lungs are evident, occupying a position laterally. Lastly, the humerus is divided transversely, and appears at the sides of the section.

Fig. 4 represents a section through the ninth dorsal vertebra. It illustrates well the relations of the heart to the lungs within the chest cavity.

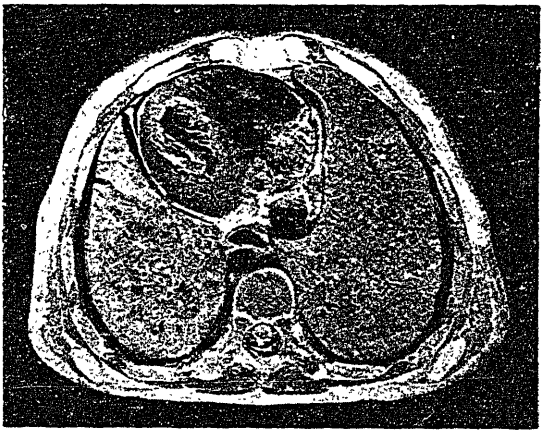

FIG. 4. Horizontal section at the level of the ninth dorsal vertebra.

The cavities of the heart are opened up, and the descending thoracic aorta is evident. The pericardium is clearly demonstrated, and the shape and

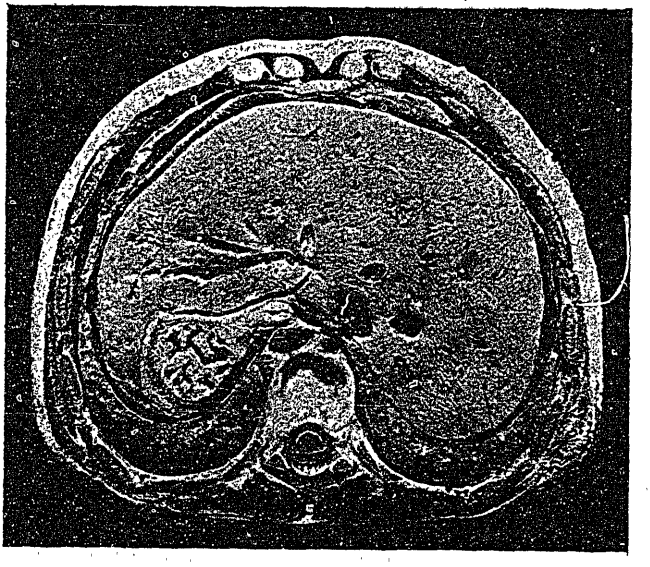

FIG. 5. Horizontal section at the level of the tenth dorsal vertebra.

connections of the lungs in their relation to the heart are well brought out. The cartilaginous inferior angles of the scapulæ are shown, and the ribs are cut obliquely, and appear in the section.

Fig. 5 is another most instructive specimen, and is a revelation to those who have never studied sections. It is through the tenth dorsal vertebra, and illustrates the position of the lungs, diaphragm, liver, and stomach. In many text-books the highest portion of the stomach is described as the œsophageal opening. The section, however, shows that the fundus of the stomach rises under the left dome of the diaphragm to a considerably higher level, and even in this child, in whom the stomach was empty, the fundus ascends higher than the level of the œsophageal extremity; and in the section will be found a section through the œsophagus distinct and separate from the section through the fundus. The aorta appears in the section, and the vena cava is observed almost surrounded by liver substance. The section has passed through the bases of the lungs posteriorly and these are represented as two crescentic structures

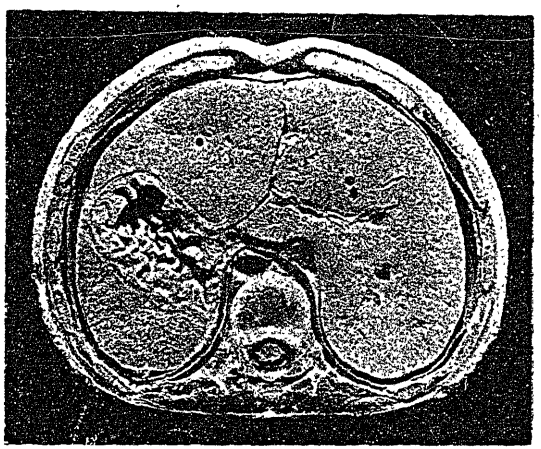

FIG. 6. Horizontal section at the level of the disc between the eleventh and twelfth dorsal vertebræ.

one on each side of the vertebra, separated by the diaphragm from the abdominal viscera.

Fig. 6 represents a section at the level of the disc, between the eleventh and twelfth dorsal vertebræ. The relations of the liver, stomach, and spleen are shown. The stomach is almost empty, and therefore appears in a contracted condition, whilst the liver passes over to the left side of the body, in front of the stomach. I have a section in my possession in which the stomach was much distended at the time of cutting. In it the liver has been pushed towards the right, and does not occupy nearly as large a portion of the section. The extent to which the liver passes to the left depends upon the degree of distension of the stomach. In contraction of the stomach, the left extremity of the liver may even lie between

the diaphragm and the spleen. The aorta and inferior vena cava may be readily recognized. The diaphragm can be traced around the greater part of the section, a portion of it intervenes between the aorta and the vena cava. The section is immediately above the aortic opening in the diaphragm, and considerably below the level of the opening for the vena cava; consequently the section of the aorta appears behind (or above) the diaphragm, whilst the section of the vena cava appears in front (or below) that structure.

Fig. 7 is through the first lumbar vertebra. In it we have the liver, spleen, pancreas, kidneys, and intestine. The relations of all these structures are beautifully brought out. One gets an impression of the intimate relations maintained between these viscera which it is impossible to grasp

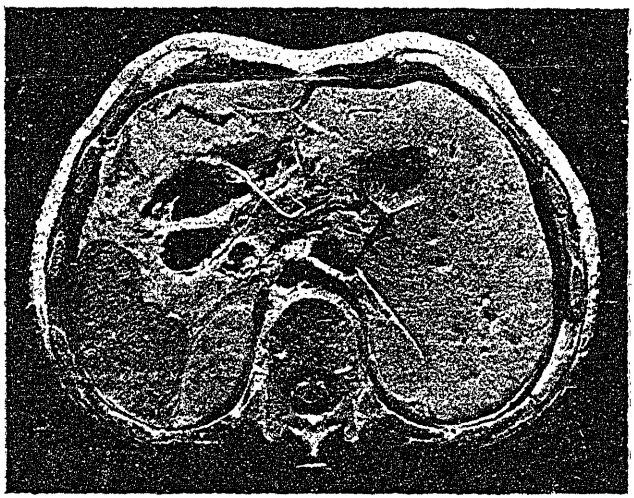

FIG. 7. Horizontal section at the level of the first lumbar vertebra.

by mere dissection. The shape of the liver, as demonstrated in the complete series, is very different from that obtained from the appearance presented by the flattened organ removed from the body and placed upon the dissecting table. This remark applies also to the pancreas. The relation of the spleen to the left kidney and the pancreas, as shown here, is clearly demonstrated, and depicts a close relationship not always described.

Fig. 8, a section through the disc between the second and third lumbar vertebræ. The relations of the kidneys are further shown here, and their parietal connection depicted. The liver appears also in this section, and to the left of the diagram the transverse colon is opened. The aorta is again seen, and portions of the intestine.

Fig. 9. Here the relation of the kidneys at a lower level are brought out. We are now below the level of the liver, and we have here well shown the relation of the kidneys to the ascending and descending colon. The remaining portions of the abdominal cavity are occupied by small

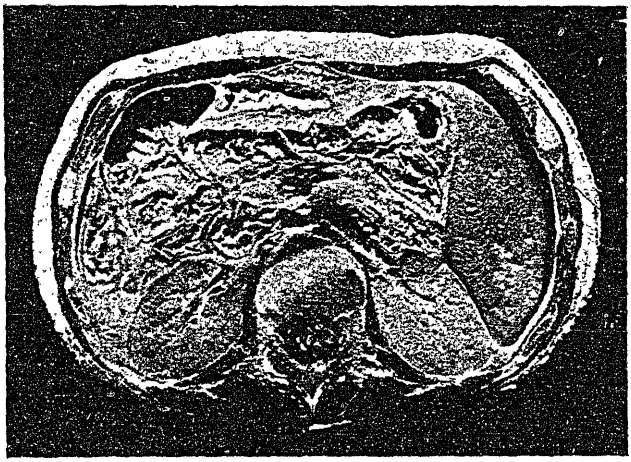

FIG. 8. Horizontal section at the level of the disc between the second and third lumbar vertebræ.

intestines. The section is through the disc, between the third and fourth lumbar vertebræ. The cauda equina is seen occupying the spinal canal.

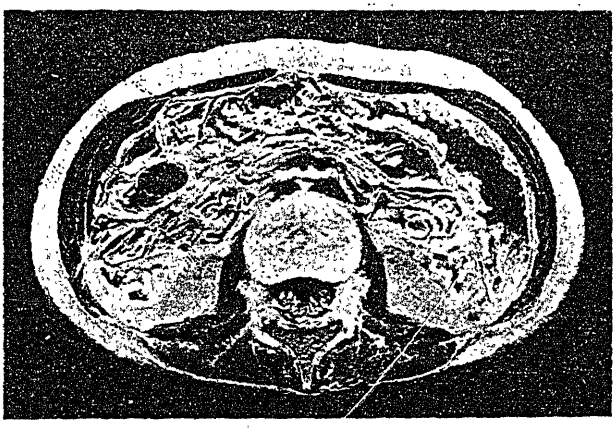

FIG. 9. Horizontal section at the level of the disc between the third and fourth lumbar vertebræ.

Fig. 10 is also an instructive specimen, chiefly useful in illustrating the position of the colon on each side, and the relations here borne to the abdominal parieties. This section is made in the region where lumbar

colotomy is performed. The section is through the body of the fourth lumbar vertebra.

The description I have given of the plates has necessarily been very meagre, but I think it has been sufficient to serve my purpose, and to indicate the advantage obtainable by a systematic study of such preparations. Of course, the actual sections are immensely more valuable than

FIG. 10. Horizontal section at the level of the fourth lumbar vertebra.

the plates, however successful the method of reproduction may be. The details can be much more fully worked out in the study of the actual sections. For instance, one can readily study the individual muscles in such a region, as that about the shoulder-joint and axilla. They are clearly differentiated, and afford a field for most instructive work on the part of the student.

The introduction of the study of frozen sections in the anatomical department of a medical school has become an absolute necessity, and it is a method highly prized by the student who turns to the sections, after his dissection has been completed, with much enthusiasm, and finds the study to be not only profitable, but a source of real pleasure to him.

CHRONIC URETHRAL DISCHARGES: THEIR DIAGNOSIS AND TREATMENT.*

By Edmund E. King, M.D., L.R.C.P. Lond.,

Surgeon to St. Michael's Hospital; Physician to House of Providence and Home for Incurables; Assistant Pathologist, Toronto General Hospital.

GENTLEMEN,—On the above subject I do not expect to be able to tell you anything that has not been told before, but I hope to be able to present to you some facts that, although well known, are by no means widely known. Unfortunately, this subject is sadly neglected, and sometimes even misunderstood, to such an extent that Fenger, in his monograph, says: "We venture to assert boldly that there is no department of general medicine in which such unscientific and routine treatment is adopted as in the case of blenorrhea. A clap syringe of tin, hard rubber, or glass, and a collection of thirty to forty recipes for injections, are the entire armament of the large majority of physicians. Certainty of diagnosis by examination of the pus and urine, the methods of visual examination of the urethra, are usually ignored in the pathology and treatment of gonorrhea."

Therefore we can be prepared for an unusual number of cases which develop into chronic urethritis.

Fenger gives his definition thus: "The acute disease passes through the muco-purulent and muco-terminal stages before recovery ensues. This stage may become permanent, and it is to this protracted symptom-complex, of the terminal stage of acute blenorrhea—that we apply the term chronic blenorrhea"; while Ultzmann defines it as "all cases that exist longer than eight or ten weeks." With these definitions we can be satisfied, on account of the wideness of their scope.

The pathological changes which take place in the urethra are numerous, and, unless they are clearly recognized and well understood, we need not anticipate brilliant results to follow the treatment adopted.

The chronic disease, which we shall alone look at to-night, may be due to a general pathological change of the whole mucous membrane of the

* Read before the Toronto Medical Society.

urethra, or to isolated patches of denuded surface, or granulation; it also may be occasioned by an alteration of the calibre of the tube, such as by Otis called strictures of "large calibre."

The granular form of urethritis was first described by Desormeaux, who regarded it as the sole cause of chronic urethritis, and the productive cause of the "morning drop" and the pus shreds. He was also of the opinion that it existed in the deeper portion of the urethra alone, although we have since discovered that it can exist as well in the anterior portion. The pathological appearances in the granular form resemble very much the granular condition of the conjunctiva, although the color differs in degree. The existence of strictures of large calibre, which are a frequent, if not a universal, cause of chronic urethritis, was first brought to the attention of the profession by Otis, of New York, in 1870, who inaugurated a material change in the treatment of these cases. When the "morning drop" is the principal symptom complained of, the urethra should be examined first for large calibre strictures, then for other pathological changes, previous to forming an opinion as to the cause or curability of the disease. The "morning drop" as a symptom may almost be regarded as pathognomonic of stricture. Sir Henry Thompson, in his work on "Stricture of the Urethra" (page 87), says: "Indeed, the existence of a long-standing or obstinate 'gleet,' as such chronic discharges are termed, should always arouse inquiry for stricture....This symptom has been so prominent that the patient has been treated for gonorrhea during a considerable period without suspicion arising that a stricture existed, which was the sole cause of the trouble." Also, when speaking of a case of stricture, he asserts that "the earliest symptom usually noticed by the patient is a little gleety discharge, almost constantly present in more or less quantity." All gleety discharges and so-called "morning drops" are not necessarily blenorrhagic. Those of a purulent character differ from those of a clear viscid discharge. The latter sometimes come from the prostate of those who have had severe disease, and also from those who indulge in sexual excesses; they should be termed simple urorrhea, arising, as they do, from a hypersecretion of the prostatic and other glands. We should go into details of the patient's action and his thoughts. There can be no doubt about lascivious thoughts and action other than intercourse having a very marked effect upon the patient. We are very often told by the patient that he has had no intercourse for some weeks, but he fails to inform us, unless we cross-question him closely, that he allows himself to be the victim of almost continuous erection. With all erection there is a passive congestion, and if these are continued for a long term there must be more or less of a clear viscid discharge.

I intend to confine my remarks more to the diagnostic and therapeu-

tical aspects of the disease, and shall content myself with the foregoing for pathological changes, although these changes must be intimately known before we can appreciate the endoscopic pictures.

A patient who consults us regarding a chronic discharge should always be subjected to a very thorough local examination. The urine should be examined to discover the presence of gonorrheal shreds. These are in themselves of diagnostic importance in determining the extent of surface implicated, but not in locating, as was and is now frequently taught, the site of disease. The patient should be directed to pass urine into two glass vessels; in the first an ounce or two will be sufficient, and, in the second, a like amount will answer. Should the second glass contain clear urine, the discharge arises from the urethra anterior to the bulb, but it will contain some shreds and comma specks if the prostatic urethra be involved. These shreds can readily be distinguished by their large size, and a tendency to immediately fall to the bottom of the vessel, while those composed of mucus will continue to float for some time. They are easily examined under the microscope, and are seen to consist of pus and epithelial cells, or of either separately. They do not exist as such in the urethra, but are formed by the rolling over and over of the sticky discharge during micturition. In all cases of chronic discharge where the shreds are found, no matter how limited in quantity, an examination should be made for gonococci. If the patient contemplate matrimony, and the gonococci are observed, it is the duty of the surgeon to advise against the marriage until a cure be accomplished, on account of the evils that may follow; the gonococci often exist in very minute quantities, but so long as they are present a fresh inoculation may occur at any time. Should the examiner be undecided in regard to their existence, his duty lies in the line of increasing the discharge by injections of nitrate of silver, and again examining for the germs.

We also find a condition in which the urine in the second glass, as well as that in the first, is very cloudy, a sediment, either flocculent or white granular, is formed on standing. The cloudiness often leads to an erroneous diagnosis of vesical catarrh, but when the urine is examined microscopically and chemically we find it to contain phosphate and carbonate of lime, the former amorphous, the latter in wedge-shaped crystals. The urine is feebly acid, neutral, or feebly alkaline, thus increasing the suspicion of cystitis. On adding a few drops of acetic acid, however, the urine clears up and completes the diagnosis of phosphaturea. Now the calibre of the urethra should be tested by means of bulbed sounds, or Otis' urethrameter. If the meatus will admit of a larger size than No. 17 F., the urethrameter had better be employed; its hould be passed as deeply as possible, and expanded to, say, 30 F. or 34 F., then gradually withdrawn

until it comes in contact with some obstruction, when the screw should be lowered till it will allow the passage of the instrument through the stricture. The distance from the meatus to the commencement of the stricture and length of the stricture are to be noted, and the size once more increased to the original. This manœuvre should be continued until the whole urethra has been examined; thus an intimate knowledge will be gained of the calibre of the urethra, and the locality that must be treated. We must bear in mind that the calibre is not uniform throughout, being narrowest in the membranous urethra.

If the meatus be smaller than 17 F., and a bulbed sound of that size passes unobstructed into the deeper urethra, the meatus should be slit to admit 30 F., and a full-sized bulb passed, or the urethrameter used. In a majority of cases the patient will complain that at some particular portion of the urethra a peculiar sensation is caused by the passage of the urine, or even at other times. While the patient's location of this spot may not correspond to the situation of the disease of the urethra, it attracts the attention of the surgeon to the pathological condition which should receive attention. If no stricture be found, we ought to employ some instrument by means of which the interior of the urethra may be investigated by the eye. In this we are far in advance of our confrères of a few years back. They had endoscopes, but their instruments were cumbersome and costly, so that few availed themselves of their advantages, but continued to treat the chronic discharges on the old and time-worn plan.

The optical examination of the urethra was first practised by Bozzini in the early part of this century. His endoscope was carefully constructed, but was looked upon with little favor, and had almost been forgotten when Segalis, in 1826, constructed a very similar apparatus. Next, the English surgeon, Avery, in 1840, constructed an endoscope. Following this several instruments of less notable construction were placed before the profession, those of Malherbe, Espezel, and Cazenave. This brings us to the end of the first half of the century. Then a new series of instruments was introduced by Desormeaux. In 1853 he brought to the notice of the Academy of Medicine in Paris his endoscope, which, though large and clumsy, introduced a new era in the construction of such appliances. Cruise, of Dublin, made, in 1865, a modification of Desormeaux' instrument, and placed it before the profession. The same, with a slight modification, was used by Christopher Heath in the Lock Hospital for some time. These instruments were, in their turn, modified, until 1879, when the electric endoscope was first constructed.

The numerous lights put into this service have been: sun, candle, lamp, calcium, and Drummond, with plane or concave reflectors. A great drawback to the use of these instruments, and one which was not

corrected till some time after the electric apparatus was introduced, was in the fact that the tube which passed into the urethra, and the source of light, had to be detached in making applications to the urethra, thus making the manipulations exceedingly painful and awkward. The light was not thoroughly under the control of the operator, and he could not regulate its intensity, which point alone was a great detriment to the careful study of pathological changes, some of which must be viewed with much stronger lights than others. This can now be regulated from the battery. In the construction of the electric endoscope, as we have it to-day, all these inventions and modifications have been utilized, the result being a simple apparatus, capable of great control of the light.

The one I have now before me is Leiter's modification of Neitz's. It consists of short endoscopic tubes fashioned after Steurer's, at the ocular end of which is applied the easily-handled illuminating apparatus by means of its funnel-shaped end. The illuminating apparatus is connected by two wires with the battery, and consists of an arc lamp, and behind it a fixed concave mirror, which throws the rays of light parallel into the funnel, and through this into the endoscope.

The eye of the observer looks over the rim of the mirror into the funnel, and tampon brush or other instruments are introduced in the same direction.

As a means of making a clear and positive diagnosis in these cases, there is no instrument to take the place of the endoscope. Its use is surrounded by an air of simplicity that is deceptive, but, like the study of ophthalmoscopy, the pathological changes must be known to be recognized. This, of course, requires constant practice and ample material, but when once acquired the results will fully repay for the trouble taken.

The urethra, anterior of the bulb, should be examined first, and to do this the tube is passed through the urethra, along the upper wall, to the membranous portion, and then, withdrawing the obturator, the lighting apparatus is attached, and the examination is begun from behind forward. The field of vision may be obscured by the secretions, mucus, pus, blood, or by the oil used for lubricating the instrument. A cotton-wool applicator should be used to clear the field of vision, without separating the lighting apparatus from the tube. The instrument should be withdrawn, not continuously, as one might suppose, but by short stages, and the field thoroughly examined before proceeding further. This manœuvre may seem a small detail, but changes are wrought in the color of the mucous membrane by the continuous pressure, and occur quickly as the tube is withdrawn.

If the disease be discovered in the portion anterior to the membranous urethra, the more painful operation of examining the deeper urethra may

be unnecessary; but, if not, the instrument should be passed continuously until urine trickles along the pipe. The patient may either lie down or stand for the primary examination, and, should the deeper one be necessary, the patient should be placed in the lithotomy position.

Through the endoscopic tube, we notice that the mucous membrane passes from the rim of the endoscope like a cone or funnel. The color of the mucous membrane is darkish red in the deep urethra, surface smooth and rigid longitudinally. The color changes as we pass outward, and is of a much paler red in the pendulous portion. In chronic urethritis the greater portion of the mucous membrane remains as normal, but there are certain modifications from swelling, inflammation, and granular spots. If the swelling be great, the mucous membrane may even project into the tube. If stricture be present, we lose this funnel-shaped condition of the mucous membrane, and it remains rigid. Various shades, from red to dark-red and bluish-red, are the distinguishing points of the granular condition of the urethra, and the surface shows a velvety roughness. These changes may occupy a large surface, or may appear as small circumscribed patches. Other conditions, such as fungous proliferations, polypi, and ulcerated spots, may also be distinguished.

The simple endoscope, with head mirror to reflect either gas or sunlight, answers a very useful purpose for those who have not the electric apparatus; and, from its simplicity of use and inexpensiveness, I should advise all who treat these diseases to become possessed of one.

Treatment. Internal and local. Of the former, Berkeley Hill says: "For medical treatment I have little benefit from drugs." With this opinion I quite agree. The internal treatment of chronic discharge is a very unsatisfactory way of handling the trouble, and of itself would never cure the disease; it must be treated locally. The actions of the balsams and sandal-wood oil, in the acute stages, is of use only in rendering the urine aseptic and bland. The secreting condition of the urethra is very different in chronic cases where the discharge is small, and not always of specific nature.

If these drugs had no deleterious effect, we could wish for nothing better; but we are aware of the injurious influence upon the kidneys, stomach, and skin, when continued for a lengthened period, not to speak of those isolated cases in which albumaria arises, such as are mentioned by no less authority than the late Robert Ultzmann.

We have recently had a drug—salol—highly extolled for its action in rendering the urine aseptic; at the same time having no deleterious action on the digestive system, and no systemic symptoms resulting from its use. The drug, which is tasteless, is a product of the carbohydrates; but, like all new drugs, has had what might be termed a "run" on

it. It has not entirely disappointed us, however. While in the cases in which it has been used it appears to have given great satisfaction, yet we must not expect too much from its use, although in combination with boracic acid its effect is pronounced.

The local treatment of that portion of the urethra situated anterior to the bulb differs, in many respects, from that of the prostatic portion. The anterior alone being the seat of stricture is, therefore, amenable to the pressure treatment of Otis, while instrumental treatment in the prostatic urethra is likely to do more harm than good by possibly relighting an acute attack. In the anterior urethra the Otis treatment should first be used if any coarctations exist, and should be carried on until No. 27, at the least, is reached, and No. 30 F. should be used, this being the average normal calibre. The slight slitting of the meatus to admit a No. 30 is a very trivial matter, and perfectly painless when cocaine is employed. Should this treatment prove insufficient, then local application through the endoscopic tubes must be tried. For this purpose we use cotton wool on a tampon holder or a camel's hair brush to carry the application. The tube is inserted and withdrawn until the diseased spot is reached, and then the surface is cleaned of any discharges or oil, and the application made. The most frequently used solutions are nitrate of silver, varying from 1 per cent. to 10 per cent.; sulphate of copper, in the same strength; or iodine, pure, 1 gr., potass. iod., 5 grs., and glycerine, 1 drachm. The passage of a large-sized steel sound immediately before these manipulations will greatly lessen the pain of the operation. Suppositories may also be introduced through these tubes. In this region the ordinary clap syringe can be employed to great advantage, great carefulness being exercised in its use. The syringe itself is an important article. It should be perfectly air-tight, preferably of hard rubber, blunt pointed, and capable of holding sufficient to thoroughly distend the urethra. Any of the soothing or astringent lotions can be used.

The treatment of the posterior urethra differs from that of the anterior in many points. The Otis sounds are of little use, and irrigation plays a more important part. The irrigating catheter of Ultzmann is the most convenient; it is seven inches long, has four slits at its vesical and a rubber tube is attached to the extra-vesical end, so that the irrigating syringe may be more readily connected. A marked plate indicates the direction of the curve. With this instrument large quantities of medicated fluids are made to pass over the diseased portion and into the bladder, the point of the instrument being beyond the compressor muscle. After the irrigation the patient is made to empty the bladder thoroughly. Should there exist any bladder insufficiency, the contents should be withdrawn by a soft rubber catheter.

The following solutions can be confidently recommended: Acid car-

bolic 1-500, or potass. permanganate 1-5000 to 1 in 1000. They are best used while warm.

I have had great benefit from the use of iodoform and iodol in these cases when made into suppositories and applied with Ditell's Porte Remedie, an instrument catheter shaped, open at the vesical end, and fitted with an obturator mounted on a connecting rod. The suppositories are made with coca butter, and contain about one grain of either drug.

The instrument that has given me more satisfaction than all the others combined is Keye's deep urethral syringe, both in its original shape, and with my modification. Keye's instrument consists of a shaft, No. 13, about eight inches long, with syringe attached, and wide lateral wings to facilitate its use, and serve as guides to the direction of its curve. I have modified this instrument by adding a bulb to the end with lateral openings. This serves two purposes. It separates all folds of the mucous membrane, applies the medicine more uniformly, and allows of the use of ointments. Keyes uses this almost universally in treating these cases. His solutions consist of nitrate of silver in varying strengths, from a quarter to ten per cent. One to five drops are carefully deposited where required, and allowed to remain. The pain produced is slight, and the changes wrought almost incredible. The use of the solid stick caustic is sometimes, though rarely, called for, and can be applied through the endoscopic tube. It should never be used blindly, and never resorted to until all other measures fail.

The diet of the patient should be well regulated, and wine and malt liquors forbidden, the only wine allowable being claret. The urine should be kept bland and unirritating, and only slightly acid. Blisters and other counter-irritants to perineum are highly spoken of by Milton, and I have frequently had great benefit from their use. They cannot, however, be employed with patients who have to keep on their feet.

In conclusion, gentlemen, I must apologize if my remarks have appeared too elementary in their character. My only excuse is that I am seriously impressed by the subject and its treatment. I venture to hope that these remarks, imperfect though they are, may draw your attention to some points in diagnosis or treatment that have been overlooked, and thus be an aid in managing this most obstinate disease.

Selected Articles.

NON-OPERATIVE TREATMENT OF PERITONITIS.*

By Frederick Treves, F.R.C.S.,

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(Concluded from April issue).

THESE are represented by incision and drainage, with or without irrigation. This treatment must be considered, as it applies to peritonitis, under two entirely different aspects. In one series of cases there is vigorous, well-defined inflammation, the local symptoms are marked, pus is produced and may be considerable in amount, and the exudation is more or less clearly localized. Examples under this heading are afforded by peritonitis started by mischief in the vermiform appendix, by many forms of peritonitis within the pelvis and in the subphrenic region, and by certain cases of limited inflammation following upon injury or perforation. In the other series of cases the peritonitis is diffused, the constitutional symptoms are more prominent than the local ones, the changes in the serous membrane—so far as evidence of inflammation is concerned—are comparatively slight, and are out of proportion to the general disturbance. This form is illustrated by cases in which there is a general septic intoxication starting from the peritoneum, by peritonitis due to perforation, or following after strangulated hernia or enteritis, by puerperal peritonitis, and by examples of genuine peritonitis following operations upon the abdomen. In the first series of cases surgical interference by incision and drainage ranks with the procedure of evacuating a large abscess. In the second series the cut into the abdomen and the subsequent flushing out or drainage are to be compared with the washing out of the stomach after an active poison has been swallowed. In the one case the body has to be rid of the products of a robust and possibly limited inflammation; in the other case an attempt has to be made to remove from a cavity a poison which has already wrought no little harm. The operation, in the latter

*Abstract from Lettsomian Lectures on Peritonitis, delivered before the Medical Society of London, January, 1894.

instance, is directed not so much against an inflammatory outbreak as against a progressive poisoning.

The operative treatment of suppurative peritonitis, especially when the effusion is localized, has been remarkably successful. Records of the operation extend back into the eighteenth century, and all that modern surgery can lay claim to is the application of the treatment with greater boldness, with greater frequency, and with infinitely less delay.

The operative treatment of general diffused non-tuberculous peritonitis has, so far, no record to boast of, and little progress to chronicle. I am doubtful if a single human life has been saved by surgical interference in a genuine case of peritoneal toxemia. Surgical treatment has been most discouraging in acute peritonitis following upon gangrenous hernia, upon operation, and upon puerperal infection. It has met with but little better results in cases of perforation, in which the serous inflammation has been well established. The somewhat imposing lists of cases of success after laparotomy for acute suppurative peritonitis afford sorry matter for congratulation when submitted to a careful scrutiny. The following may be cited as illustrative of this:

Krecke gives a list of 119 cases of generalized purulent peritonitis treated by operation, and attended with only 68 deaths. In 18 instances the cause of the peritonitis was unknown, and in 36 cases it was due to trouble in the appendix, and it is among these 54 examples that the greater number of the successes are to be found. All the cases of peritonitis associated with hernia or with perforation of the stomach died.

Steinthal gives a list of 20 cases of perforative peritonitis treated by operation. There were 10 recoveries, but in no fewer than 7 of these cases the pus was encapsuled, and was apparently dependent upon perityphlitis; at least it is stated that in 11 cases out of the 20 the perforation was in the appendix. Some of the cases are remarkable enough, but they are not examples of that form of generalized peritonitis which is usually associated with perforation.

Kaiser has collected 30 cases of operation in perforative peritonitis, with 11 recoveries. In 5 of the examples of cure the locality of the perforation was unknown.

Korti, after pointing out the fallacy of statistics, and the fact that the successful cases are probably all reported, while the failures are commonly left in obscurity, gives a list of 40 consecutive cases operated upon by Mikulicz, Kronlein, and himself, for purulent peritonitis. Out of this number there are 11 recoveries, and these include no fewer than 7 cases of perityphlitis.

Kriege gives a case of perforation of the stomach, which was treated successfully by an operation carried out twenty-four hours after the viscus

was supposed to have given away, but in this instance there was no peritonitis. He incidentally alludes to six other recorded cases, all of which ended in death.

Some very excellent results have attended early operation for injury of the bowel and other abdominal viscera, but these results cannot justly be considered in connection with laparotomy for fully established peritonitis.

As to the actual mode of operating adapted for the different varieties of peritonitis, I would venture to draw attention to the following points. In all cases it is to be assumed that the skin over the operation area is cleansed and prepared in a suitable way, and that the surgeon adopts those measures which students, in their examination papers, are so fond of describing as "strict antiseptic precautions."

In cases of localized purulent peritonitis, an incision should be made into the collection by the most direct route. When the pus has escaped, a rubber drainage tube of suitable size, and with stiff fenestrated walls, should be passed to the bottom of the cavity. A dressing of some absorbent material, such as Tillmann's paper, sal alembroth, or cyanide gauze, is then applied. I have seen no advantage attend either the fuller evacuation of the pus by squeezing, or the immediate irrigation of the cavity, and I am confident that distinct harm may be done by scraping the wall of the enclosure, by persistent searching for a diseased appendix or other cause of the trouble, and by stuffing the exposed space with a considerable quantity of gauze. At the end of twenty-four or thirty-six hours the irrigation of the cavity may be commenced and continued twice daily, and now and then a little iodoform emulsion may be introduced.

In some examples of perityphlitis a well encapsuled collection of pus is not exposed, but the knife enters into an ill-defined district containing a variable quantity of thin, greenish, and often offensive matter, which appears to saturate the tissues. In such circumstances I have been in the habit of using a drain composed of strips of iodoform gauze, which are carefully introduced into the lowest accessible recesses of the region.

In cases of generalized peritonitis, the procedure adopted must obviously depend upon the cause and degree of the trouble. If the exudation be serous, it will suffice if the fluid be evacuated, if the peritoneal cavity be gently dried in its most dependent parts by means of gauze sponges, and if the abdomen be closed without drainage.

When the exudation is sero-purulent or purulent, it is, in many cases, desirable that the cavity be irrigated. The fluid which appears to be best suited for this purpose is a sterile 0.6 per cent. salt solution made warm. The details of irrigation will be discussed later on. After the washing, the depths of the peritoneal cavity are dried, so far as is possible, with sponges; iodoform powder is (except in children) dusted over the portion of the

serous membrane most involved, a long rubber fenestrated drainage tube may then be introduced, and the abdominal wound closed. Any treatment directed against the cause of the peritonitis will be independent of these measures. In the treatment of the ascitic forms of tuberculous peritonitis, the best results have followed simple incision without either irrigation or drainage. The use of the rubber drainage tube is apt to be followed by an obstinate sinus.

There are cases in which the peritonitis is more plastic in character. The intestines are found to be matted together with grayish lymph, which may be present in considerable quantity. The breaking down of these adhesions causes no little amount of bleeding, and such a step is evidently destructive of a certain desirable process of repair. Still, in order to search for the cause of the peritonitis, assuming such search to be indicated, and to set free an amount of exudation which is imprisoned between the attached coils, this freeing of adhesions must be at a certain, very limited, extent carried out. There will probably be a sero-purulent exudation in the belly cavity, and the gentlest movements of the fingers among the recently attached intestines will set free more fluid, which will be probably less opaque. A clump of adherent intestines will often cover and protect a perforation, and the ubiquitous lymph will many times close such an opening with more speed and security than are provided by any system of suturing. As the surgeon, therefore, reaches what appears to be the starting point of the peritonitis, he must proceed with the utmost caution, and be not only prepared, but rather inclined to leave the actual *fons et origo mali* undemonstrated. The main purpose of the operation is to allow a noxious exudation to escape, and, if possible, to free the peritoneum of the cause of its trouble. In the class of cases now under discussion, a perforation will be very often the starting point of the peritonitis; the lapse of time and the plastic character of the inflammation afford evidence that the perforation is, for the time being, closed. If the operator can rid the serous cavity of the effects of the perforation, he may very often leave the breach itself to be dealt with by natural means.

The wisdom of doing no more than is necessary, or as little as is obvious, is well illustrated by these cases. It is a very striking fact that some of the best results in the treatment of perforative peritonitis have been obtained in instances in which the exact site of the perforation was never ascertained. In Kaiser's statistics, already alluded to, there were 6 such examples, and of these 5 recovered. In this form of peritonitis a liberal dusting of the serous membrane with iodoform should be carried out (except in cases in children). Drainage is seldom required, and, when employed, is best provided for by strips of iodoform gauze passed among the intestinal coils to the necessary depth. Irrigation is certainly not

suited to this class of case. Gauze mops, or sponges in holders, form the best means of clearing the peritoneum under the circumstances named.

It only remains to consider what means may be taken during the performance of an abdominal section to prevent the onset of peritonitis, and to discuss the two vexed questions of irrigation and drainage. "The Modern Laparotomy," as Doderlein presumes to call it in a recent elaborate paper, is a procedure which has evidently not yet reached the stage of recognized formulæ, nor attained to the position of a stereotyped process.

A perusal of the numerous writings upon the *technique* of the operation leaves an impression that the opening of the abdomen is still regarded with an almost superstitious awe, and is still approached by many with a fussy and meaningless ceremonial, that elaboration of detail may be carried to a degree which is merely fatuous, but that, although surgeons differ greatly in their methods, they differ but little in their results.

An infinitely elaborate *technique* is no substitute for lack of skill in operating, and the power of the human body to resist the effects of injury is not capable of unlimited extension by artificial means.

It is needful, in the first place, that the operation room should be surgically clean, that the patient should be clean, and that the operator should be clean. The attaining of this end appears to be as satisfactorily accomplished by the charwoman, the laundress, and the nail-brush, as by complex chemical processes. There seems to be no imperative need that the operation chamber should be capable of being washed out in the same manner as the interior of a cup, nor do results show that it should be so constructed as to be convertible into a vacuum, or so ventilated as to admit only a stream of sterilized air. The skin over the abdomen can be prepared by a liberal scrubbing with soap and water, followed by washing with ether, and the final application of a carbolic compress, which is applied some hours before the time fixed for the laparotomy.

Ligatures and catgut are, I think, best kept in an ethereal solution of corrosive sublimate. They can be dipped into sterilized water just before they are used.

The methods of rendering instruments surgically clean are legion. I adopt the practice of placing them in a 1 in 20 carbolic solution for fifteen minutes previous to the operation. Just before they are used, the solution is diluted with sterilized water until it represents 1 in 80 or 1 in 100 in strength. To take an instrument direct from a strong carbolic solution and use it within the abdomen is to bring a caustic and damaging irritant into contact with the peritoneum, inasmuch as some of the solution must drop from the knife or forceps so employed.

Gauze sponges do fairly well for the peritoneum if properly prepared. They are best left to soak for some time in a 1 in 20 carbolic solution,

which is very freely diluted with boiled water just before the sponges are passed through the roller. Ordinary sponges in holders are better adapted for the depths of the cavity. As they are not readily cleaned after use, they are burnt as soon as they have been once employed. This disposes of many uncertainties.

It is obvious that the less the peritoneum is touched, stretched, rubbed, and handled the better. Now and then it may be desirable to repair, with a continuous suture, any rent made in its surface.

I have tried every method of closing an abdominal wound of which I have had any knowledge. I believe the best plan is to steady and straighten the wound edges with blunt hooks while the needle is being passed, to sew up the peritoneum with a continuous suture of fine silk, and to close the rest of the parietal wound with a single row of silkworm gut sutures which embrace all the soft parts, excepting the serous membrane, and which are passed by means of straight needles.

Any damaged surface of peritoneum should be well dusted with iodoform, and into the ragged cavity left after the removal of an adherent kidney or a sessile tumor a liberal quantity of the same powder may be introduced. I have reported certain cases which encourage the impression that some security against peritonitis is to be obtained by the free use of iodoform within the abdominal cavity. Iodoform should, however, not be used in the case of children, as it is very apt, in them, to produce symptoms of poisoning.

It is needless to say that the peritoneal sac should be left as dry and as clean as possible; that all bleeding should be carefully arrested, and all clots, pus, cyst fluid, and the like, should be thoroughly removed. It is possible, however, that these ends may be attained at too great a cost, and that the "toilet of the peritoneum" may become a very uncouth and barbaric process. Within certain limits, I believe it is often less injurious to leave some blood clot in the abdominal cavity than to persist in an obstinate determination to remove it at any sacrifice.

An ounce or so of cyst fluid in the peritoneal sac would, I think, do less harm than an attempt to complete the toilet of the peritoneum as carried out by a mechanically conscientious man. This toilet is often a Brobdingnagian affair, and, when strong antiseptics and countless sponges are employed, it degenerates into mere violence, and is rather of the nature of an assault. If the infinitely tender character of the peritoneum be held in mind, this toilet—as sometimes practised—is comparable to the removal of a foreign body from the eye by means of a scrubbing brush and plenty of washing soda.

IRRIGATION.

Mere blood is better removed from the peritoneal cavity by sponging than by irrigation. If the operation area be well circumscribed by

sponges, if the shoulders be raised so that blood will reach the more dependent tracts, and if a sponge be introduced into the pelvis at an early stage of the procedure, there is little trouble with blood clot. Coagulated blood is certainly very much more easily and certainly removed by means of gauze sponges than by a stream of water. The same observations apply to what may be termed healthy cyst contents, to fluid from hydatids, to bile, and to matter escaping from the stomach or intestine. With careful plugging and a watchful use of sponges a widespread extravasation is uncommon. If it does take place, the gauze can usually reach it. Irrigation would possibly have the effect of spreading the noxious fluid—as, for example, intestinal matters—over a still wider area. It may be said, therefore, that, if certain precautions be taken, the cleansing of the peritoneal sac may be best and most safely accomplished by dry sponging.

If there be a considerable outpouring of such a material as putrid pus, or if there be a copious escape of gut contents, as from the giving way of a distended bowel above a point of obstruction, then it may be better that the whole peritoneal cavity be irrigated. In such a case the amount of the extravasated fluid and its wide distribution would render its complete removal by sponging difficult.

This irrigation is best conducted by the following means: The fluid used is a sterile 0.6 per cent. salt solution at blood heat. It is introduced at low pressure, but in a wide stream. The irrigating tube is of soft rubber, and may have a diameter of three-quarters of an inch. The tube itself is introduced into the belly cavity. The flow through it can be regulated by a clip. Any form of rigid nozzle is to be most strongly condemned. The solution should flow gently into the abdomen. The peritoneal cavity is to be flooded, and not to be scoured out with a violent stream of water, which hisses and rushes from a vulcanite nozzle as from a miniature firehose. When the belly cavity is quite full of fluid, the surgeon's hand, which is already in position, is moved to and fro among the intestines with great gentleness. The coils of bowel are thus rinsed. By a movement of the hand, and by pressure here and there, the fluid overflows from the wound and is replaced by the steady stream. As the water which escapes becomes clear, the upper end of the operation table is raised so that the shoulders are much elevated, and then little has to be done but to wash out the most dependent parts, including, especially, the pelvis, and to allow the upper parts to drain. Finally, what fluid remains in the pelvis is removed with sponges, and a sponge in a holder is retained in the bottom of the pelvis during the introduction of the stitches, and only withdrawn at the last moment.

In the actual process of irrigation it is important that the temperature of the fluid be constant, that the abdomen be never over-distended, and

that the stream be not directed against the diaphragm. If these precautions be neglected, alarming dyspnea and even asphyxia may take place If the shoulders be well raised, as already advised, these respiratory complications are less likely to occur. Polaillon has observed three cases of cessation of respiration in the human subject during irrigation.

Many surgeons have written of late on the subject of irrigation, and the general bias of these communications is very strongly against irrigation. Fluids of all kinds have been used, such as solutions of carbolic acid, of corrosive sublimate, of boric acid, and of salicylic acid. The two last named are the most in favor. Many operators employ boiled water, and not a few a weak preparation of alcohol. It is evident that whatever fluid is employed, it cannot be used as a germicide, and that all that can be aimed at is a solution which is sterile and non-irritating.

It has been urged that irrigation serves to spread the infective material, which it is required to remove, over a wider area, and that it seriously diminishes the resisting power of the peritoneum. Reichel strongly insists upon the latter objection. He found that in artificially produced peritonitis in dogs he was never able to ward off death in any case in which it was to be assumed that the animal, if left alone, would die. He introduced fecal matter into a dog's peritoneum, and, having closed the wound, he reopened it after a while and employed irrigation in some cases and sponging in others. He found neither method entirely successful in cleansing the serous cavity, but was convinced that sponging was the more efficient of the two. Even when from ten to fifteen litres of fluid was used, a quantity of infective matter was still found to have been left behind. He irrigated the healthy peritoneum in certain animals with boiled water. All the animals so treated recovered, but some were ill for a long time, and some had urgent dyspnea. These simple irrigations produced a blood-stained exudation in the peritoneal sac, and many minute hemorrhages into the intestinal portion of the membrane.

Lauenstein, on the other hand, considers that irrigation is theoretically better than sponging, although he acknowledges that in practice he has not found the procedure attended with good results. He thinks that as much damage may be done to the peritoneum by determined sponging as by the irrigator, and in this he is no doubt right.

Into the peritoneal cavity of three corpses Polchen introduced some fecal matter fifteen minutes after death. He employed immediate irrigation, and found that the material adherent to the bowel after the operation was sterile. When flushing is employed, so much fluid remains behind that some sponging becomes necessary. Other things being equal, irrigation involves more time than the mopping out of the serous sac. Stuehlen is among the comparatively few recent writers who consider that irrigation can efficiently cleanse the peritoneum.

Kinscherf has carried out a series of experiments which add an additional feature to this subject. He points out that a considerable quantity of fluid may be absorbed by the blood during irrigation, and that the amount may be such that the absorptive power of the peritoneum may be reduced to *nil*. He repeated Delpet's experiments, and irrigated the abdominal cavity of an animal for ten to twenty minutes with a six per cent. solution. He then introduced more sulphate of strychnin, which was sufficient to produce tetanus in a control animal of the same weight. No effect followed. Kinscherf used a 1 in 2,000 corrosive sublimate solution after the flushing process, and found that no symptoms of poisoning followed, although toxic phenomena were always produced when irrigation had not been previously carried out.

It is, of course, a matter of question how far experiments such as these can be used as arguments *ad hominem*, but of the unsatisfactory results which have followed upon the indiscriminate use of irrigation after operations in man there can be no doubt. In not a few instances it would certainly appear that irrigation has hastened death.

DRAINAGE.

It will be allowed by most that drainage is necessary, when either an actually noxious material is left in the peritoneal cavity, or when it is assumed that an extensive effusion will follow upon the laparotomy. Considerable differences of opinion must exist as to what constitutes, either in substance or in amount, a noxious material, and also to what extent a possible effusion is to be met by drainage. There seems little to commend the employment of a glass drainage tube passed into the fundus of Douglas' pouch. I have ceased to use this appliance, and it would not appear that it is used with any frequency by the majority of those who are much concerned in abdominal operations.

A stout rubber drainage tube of large size and well fenestrated, passed into the midst of the area which is the most disturbed, appears in most cases to answer all reasonable purposes. It is not suited to tuberculous cases, and has in many instances been followed by an obstinate sinus. In any case, the sooner the tube can be removed the better. It must be assumed that the surgeon has no objection, after the operation, to frequent, and, perhaps, extensive, changes in the patient's position, for the purpose of assisting the process of drainage. I have myself seen no harm arise from a liberal fulfilment of this object. In certain instances, some of which I have already indicated, a gauze drain appears to be better adapted for the case than a rubber one. This drain is simply composed of a long strand of iodoform gauze about an inch and a half wide and some five to six layers thick. It appears to have been first advocated by Bardenheuer. In a case of purulent peritonitis, Jalaguier has passed

these strands of gauze in all directions among the intestinal coils from the diaphragm to the pelvis, with good result. A like proceeding in like cases is advocated by Steinthal. The great objections to the iodoform drains are these: They may induce symptoms of poisoning if very extensively employed; they are most difficult to remove unless there be a free discharge, and their use is apt to be followed by ventral hernia. Iodoform tampons used to close a breach in the peritoneum which cannot be closed by sutures involve much distress in their removal, and, if left in for a few days, may become quite covered in with lymph. If retained long enough to ensure a complete occlusion of the peritoneal cavity, their removal is not so difficult, but a hernia is almost inevitable. The so-called Mikulicz drain is an open bag of iodoform gauze, which is stuffed with strips of the same material. It is used when an actual cavity has to be drained, and the size of the tampon is often alarming. The bag is slowly evacuated, piece by piece, after the first forty-eight hours, and by the fifth or sixth day it is empty, and the gauze sheet itself is then removed. The cases must be few which call for the employment of this formidable tampon.

Some surgeons, either to supplement or to replace drainage, allow the wound to gape, or support it merely by a few quite loose sutures. This measure has been especially advocated in the treatment of perforative or purulent peritonitis.

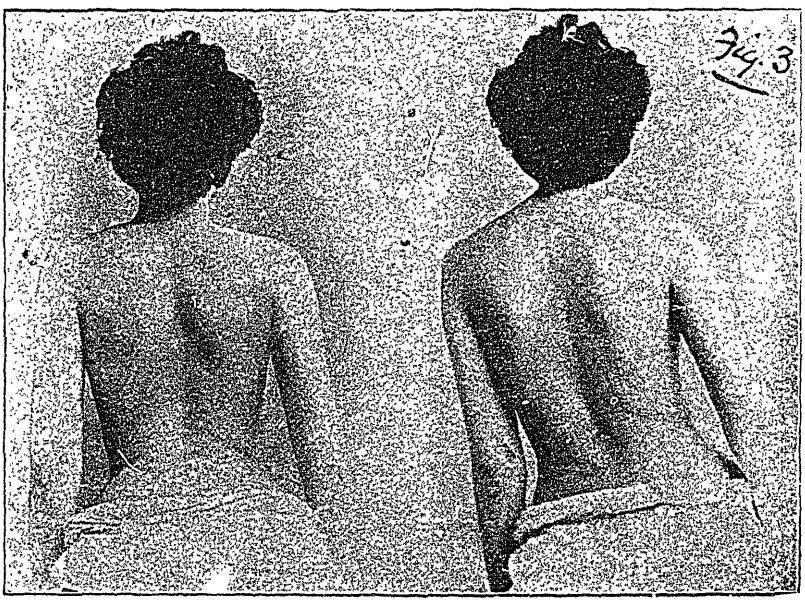
In conclusion, it only remains to be said that the surgical treatment of peritonitis has not yet reached a position which is either satisfactory or secure. There has been lack of boldness in the measures used, and little sense of discouragement at the results obtained. Surgical enterprise has been directed against effects and against damage done rather than against causes and the beginnings of evil. The surgeon holds the same position in regard to peritonitis which was held some thirty years ago in regard to wounds and more accessible forms of inflammation. At that time he dealt only with the consequences of pathological wrongdoing, just as now he concerns himself with the prevention of troubles which he has learnt to control. Peritonitis will be more successfully treated when measures can be directed against the sowing of the wind rather than, as now, against the curbing of the whirlwind.—*British Medical Journal.*

Clinical Notes.

CASES IN PRACTICE.

By B. E. McKenzie, B.A., M.D.

CASE 3. Lateral curvature of the spine. (Fig. 3.) M.P., female, æt. 22, student. For several years there had been an increasingly awkward carriage, both when standing and walking. The right hip had



been observed to project in a very marked degree, pain in the spine had been much complained of, and some weakness and pain in the left leg. Plaster jackets had been worn for several months, on the supposition that there was caries of the lumbar vertebræ; and she had been confined to bed with extension as treatment for hip disease.

Examination revealed a very marked but very pliable curve, as seen in Fig. 3 A, but no evidence of Pott's disease or of any affection of hip joint. Measurement from anterior superior spines of ilia showed no difference in length of lower limbs; but measuring from the crests of ilia, the left was found one inch lower than the right. This obliquity of the pelvis was accompanied by a corresponding obliquity of the base of sacrum, and an unusual form of curve, resulting from allowing the whole body to settle down toward the lower side.

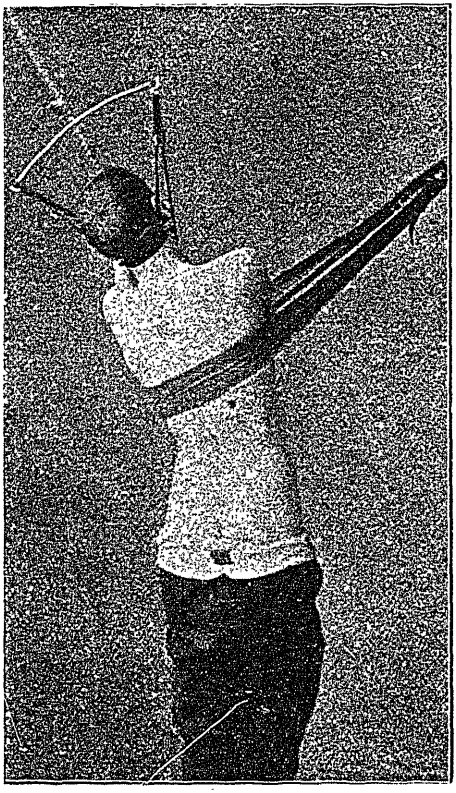


FIG. 4.

Treatment in this case consisted in having one inch of cork worn under left shoe, and exercises given daily for several months in a class with others similarly affected, having for their object the rectification of habits that tended toward asymmetry, whether in standing, sitting, or in movement.

In the latter part of this treatment it is necessary to have the hearty

co-operation of the patient, if success is to attend one's efforts. By working such cases together in a small class, one is made to stimulate another, and thus the individual patients are a mutual help.

Fig. 4 shows an additional method of dealing with these cases when the curve is not pliable, but very stiff. In this case, the patient suspends himself by pulling with his hands a rope passing over a pulley attached to a beam above, and having its other end connected with straps passing under the chin and occiput. At the same time the surgeon makes lateral traction by passing a girth around the body, having attached to it a rope passing over another pulley, making traction so as to cause pressure in

FIG. 5.

the line of an oblique diameter of the chest, the greatest force being employed so as to lessen both the lateral curve and the rotation of the vertebræ.

This latter method is employed only in cases where the curvature cannot be much lessened by the voluntary effort of the patient when duly instructed. There are a great many cases, especially in young girls, who can, when properly instructed and practised, make the spine almost or entirely straight by their own efforts. These are the cases which give the most satisfactory results through physical training.

CASE 4. Necrosis of shaft of tibia and anchylosis of knee in angular position.

W. B., æt. 15, good family history, thin and pale. Walks with

crutches, right leg flexed and retained at an angle of 135°. From knee to ankle along the anterior and inner surface there are about twenty sinuses leading to rough bone; the leg and foot are much enlarged and discolored, portions being quite livid. The leg cannot be extended beyond 135°, but there is no evidence of disease at either ankle or knee joint. (Fig. 5.)

Had ivy-poisoning five years ago, and pus having formed an incision was made. Leg grew worse, but no further operation was performed.

Feb. 17th, 1893. Operation: An incision was made from epiphysis to epiphysis along the anterior and inner aspect of the tibia, extending through the periosteum, which was lifted up and turned aside. An opening was chiseled through the new bone which had formed, extending the whole length of the shaft, and a sequestrum eight inches in length, and still showing the cylinder and medullary canal of the shaft, was removed. A large amount of débris was taken away by the curette, but it was found impossible to get a clean wound. It was carefully washed with boiled water and packed with iodoform gauze. The edges were brought together and sutured, leaving openings at the ends of the incision. His temperature, which, before operation, had reached 101° F., rose only once above 100° F. Dressing was done in six days, the packing being removed, and the wound washed with peroxide of hydrogen. Similar dressings were continued, being applied about once in three days.

Though it was thought that operation would be necessary to extend the leg, yet not wishing to operate on the knee while the septic wound of the leg was still present a MacIntyre splint was employed and force applied, by which extension was made so that the flexion at the knee was gradually lessened. When the leg became nearly straight a Thomas knee splint was employed, so that he could walk about without crutches.

Aug. 22. There are only two small sinuses, health is excellent, and he has grown stout and strong. Dismissed, still walking with the Thomas splint.

April, 1894. Photograph shows condition at this time (Fig. 6). Leg is about three-fourths inch short, foot and ankle still large, and motion at ankle rather less than half the normal. Motion at knee is normal. Wearing cork under right boot, he is very little lame.

Progress of Medicine.

MEDICINE

IN CHARGE OF

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Mitral Stenosis and Pregnancy.

Dr. H. B. Allyn, in an article on "Mitral Stenosis and Pregnancy" in the *University Medical Magazine*, says: The most prominent and most common symptoms of mitral stenosis in pregnancy are pulmonary cough, dyspnea, and pulmonary congestion, with bronchitis. They appear usually after the fourth month of pregnancy, and increase in intensity as pregnancy advances. The symptoms may resemble those of acute pulmonary tuberculosis, especially when hemoptysis exists. A pregnant woman with mitral stenosis is never free from danger. Dilatation of the right heart is increasingly liable to occur after the fifth month of pregnancy. Sudden acute dilatation may occur at any time from a sudden strain; also acute endocarditis or pericarditis is a possibility. The earlier failing compensation manifests itself, the greater the danger. Pulmonary symptoms appearing first at the sixth or seventh month of pregnancy are of much less grave augury than the same symptoms appearing at the second or third month.

A woman with mitral stenosis which exhibits marked symptoms ought not to marry, and, if married, she should not become pregnant. Unfortunately, they both marry and become pregnant. In a few cases pregnancy may be passed with no disturbance beyond cough and breathlessness on exertion. Such patients may never apply for treatment. They require nothing but rest and protection against overstrain of the heart during pregnancy. After delivery bleeding should be encouraged, ergot never given, and the patient kept carefully in a recumbent posture for two weeks to allow any existing dilatation or tendency thereto to be overcome by hypertrophy.

In cases presenting more decided symptoms the treatment will vary somewhat, depending upon the period of pregnancy at which they appear, and their severity.

If bronchitis and a tendency to pulmonary stasis appear as early as the second or third month, the outlook is grave. The object should be to carry the patient safely until the child becomes viable, and then induce premature labor. Cardiac tonics will be required; digitalis, strophanthus, coffeine, strychnine, and alcohol are especially useful. Berry Hart regards strophanthus as much better than digitalis; it acts probably upon the right as well as the left heart. When heart tonics have to be given over a long period, I believe better results are secured if they are given for four or six weeks continuously, and then stopped for an equal period, or substituted by others. Digitalis particularly has seemed to me more effective when administered intermittently.

If the pulmonary trouble advance to the stage of edema, with orthopnea and hemoptysis, in spite of the treatment just indicated, then the patient should be purged with calomel, turpentine stupes applied to the bases of the lungs posteriorly, and dry cups over the precordia. The object of these measures is to carry off a certain amount of fluid by the intestines and kidneys, and so relieve the edematous lung, and, at the same time, to withdraw to the surface blood from the lungs and heart, and relieve their engorgement. It may be proper to add, by the way, that in such sudden conditions of the body absorption from the stomach is slow and uncertain, and often strychnine hypodermically is much more effective than when given by the mouth. If improvement follow this treatment, the question of inducing premature labor should be considered seriously. In many cases miscarriage or premature labor takes place spontaneously, most probably as a result of hemorrhage separating the placenta. This is nature's method of getting rid of the cause of the cardiac embarrassment, and is an indication, it seems to me, that labor should be induced when dangerous pulmonary symptoms persist in spite of suitable treatment.

Before labor is induced, or when at any time the pulmonary and right heart engorgement becomes still worse, particularly when there are constant orthopnea, cyanosis, edema of the feet and legs, an irregular pulse, and weak second pulmonary heart sound, blood-letting should be practised. This may be done best by venesection, sufficient blood being withdrawn from the arm to relieve the laboring heart. Relief will be manifest by lessening of oppression, disappearance of cyanosis, and the extremely anxious, weary expression of the face, and by less difficulty in breathing. Lessening of pulmonary edema will be shown by increase of fremitus and of respiratory murmur, lessening of dullness on percussion, and by the râles of edema becoming fewer and drier. If the patient objects to vene-

section, leeches may be applied over the liver or in the epigastrium. Sometimes a copious hemoptysis or epistaxis may obviate temporarily the necessity for further blood-letting.

My attention was first directed to the value of blood-letting in cardiac disease by a case that happened when I was resident physician at Girard College. A boy suffering with mitral regurgitation and dilated heart, with general anasarca and cyanosis, was daily expected to die. His case was looked upon as hopeless. Copious and repeated epistaxis occurred spontaneously, however, and from that time the boy began to recover. The heart hypertrophied, and with a big ox-heart he was dismissed to his section. I have seen him run and jump as though he had no heart disease.

There is no doubt as to the great value of blood-letting in suitable cases. It relieves the engorged right heart, and by lessening the volume of blood upon which it must contract permits of compensatory hypertrophy. The value of loss of blood is shown practically by the statistics already quoted—hemorrhage in some form occurring in eighteen of the thirty-seven favorable cases, and in only eight of the fatal cases.

I have suggested blood-letting before inducing labor because it is immediately after labor that the dilated, overstrained right ventricle and auricle are liable to be paralyzed by the reflux of blood squeezed from the uterine sinuses. It seems wise, therefore, to relieve them beforehand, and to place them in a better condition to withstand the inevitable strain. There is the added reason for venesection before labor that after labor in these cases hemorrhage from the uterus is rarely considerable. Of course the same argument applies to labor at full time, if the symptoms are grave enough.

During labor chloroform should be administered if the pains are severe, and to prevent the severe bearing-down pains of the final stage. Delivery should be with forceps in severe cases.

After labor, the special danger that menaces the patient is sudden paralysis of the heart from overdistension of the dilated and weakened right auricle and ventricle. This condition has been insisted upon especially by Dr. D. Berry Hart. Moreover, the patient, even though she pass through labor safely, is liable afterwards to sudden pulmonary edema. The treatment for this is the same as that already pointed out. It should be anticipated, if possible, and every precaution taken to prevent any sudden strain upon the heart, such as sitting up in bed, or any unnecessary motion. No ergot, quinine, or any other remedy calculated to lessen post-partum bleeding should be administered. On the contrary, bleeding should be encouraged. The patient should not be left alone a moment during the first day or two after confinement, and the physician should always be within call. Sudden severe edema should be met with appro-

priate treatment, and especially venesection. Danger continues for at least three weeks after delivery. The patient during all this time should be guarded against any strain or sudden shock, should remain in bed, and in a recumbent posture, if breathing is possible in that position.

The Physical Diagnosis of Gallstone Colic.

Gerhardt (*Deutsche medicinische Wochenschrift*, 1893, No. 46) gives the physical signs of this trouble as follows: In the beginning, even before there is any pain, there is a palpable tumor in the region of the gall bladder which disappears as the stone passes into the intestine; the walls of the gall bladder fall quickly together, and a slight rubbing together of its walls can be felt; the attack ends with this sign, though the pain does not always end; sometimes a diastolic, rubbing sound is heard in the region of the gall bladder, which disappears with the ending of the attack. After a prolonged attack a friction remains in the region of the gall bladder which can be felt, but can be better heard with a stethoscope. During the course of a severe attack the liver increases in size, and can be felt below the margin of the ribs. One can exclude gallstones when no stone is found in the feces, when there is no friction in the region of the gall bladder, and, finally, when the gall bladder itself is not increased in size.

Prevention of Tuberculosis.

Vickery (*Boston Medical and Surgical Journal*, January 4, 1894), in a paper on the above subject, first calls attention to the mortality of phthisis, which remains practically the same as it was years ago. He thinks that our enthusiasm over the discovery of the *cause* of tuberculosis has caused us to lose sight of the hereditary and acquired predisposition to the disease. "Even weeds must have soil to grow in." Granting, however, the importance of climate and heredity, possibly no one doubts that the *complete destruction* of the bacillus tuberculosis would eradicate the disease. Raw milk from tuberculous cows may occasionally cause the disease, though the flesh of such animals, if inspected, is harmless. The main source of danger lies in the sputa and the pus of tuberculous sores. These may become dry and spread through the air.

Behrens sums up the necessary means for its prevention as follows: (1) The public should be enlightened; (2) sputa in public places should be minimized or rendered innocuous; (3) the streets should not be allowed to be dusty; (4) clothing and houses should be disinfected; (5) there should be public hospitals for the tuberculous; (6) tuberculous patients should not follow avocations that may endanger others; (7) tuberculosis

in cattle should be under control of the government. A corollary to these rules is the report to the Board of Health of cases of tuberculosis.

Bowditch (*Ibid.*) believes that environment is a great factor in the causation of tuberculosis. He believes that tenements should not be tolerated in cities. Children should be taught in school of the danger of spitting in houses and in the street. He believes we must be cautious about declaring tuberculosis to be as contagious as smallpox and scarlet fever. It is an infectious disease, but not to the same degree as the others, and the conditions are very different. It would have a depressing effect on patients with incipient phthisis to be treated as though they had a highly contagious disease. He always directs his patients not to use handkerchiefs, but to use cloths or paper cups which can be immediately burned. White (*Ibid.*) believes that tuberculosis of the integument can very readily cause tuberculosis of internal organs either in the patient or his friends. He believes tuberculosis should be put in the same category as leprosy. If the same methods were applied, it would soon be eradicated. Olis (*Ibid.*) believes that, considering the varied means of contagion, it is wonderful any of us escape. He believes one of the great needs is hospitals under state or national care where consumptives can be treated. Greenleaf (*Ibid.*) uses lintine cut in squares for the reception of the sputa. This is rolled in wads and placed in a paper bag, the whole being burned upon the first opportunity. He suggests that these napkins be used by all patients who are compelled to expectorate much. Bowditch (*Ibid.*) wished to impress his views as to the reporting of cases to the boards of health. "With caution and with rational methods, I believe an immense deal of good can be done, but we should keep within bounds." He believes it nonsense to class tuberculosis with scarlet fever and smallpox.

Diagnosis of Typhoid Fever.

Dr. Abraztsow, of Kiew, at the meeting of the Fifth Congress of Russian Physicians called attention to the value of palpitation of the ileum and mesenteric ganglia in the diagnosis and prognosis of typhoid fever (*Universal Medical Journal*). For the past four years he had observed, in examining the right iliac fossa in cases of typhoid fever, that in sixty per cent. of the cases an intestinal loop could be felt beyond the cecum, about the size of the index finger, of varying consistence, and at the level of which pain and gurgling were localized. This loop, situated at the base of the right iliac fossa, is from six to eight centimetres in length directly obliquely from above below, from within outward, its upper end being in relation with the internal part of the exterior surface of the cecum, its lower end near the outer edge of the right abdominal muscle. A hori-

zontal line from one antero-superior iliac spine will divide this loop in two equal parts seven centimetres from the right iliac spine. Autopsy verified the author's belief that this loop was none other than the terminal point of the ileum where it joined the cecum; and clinical observation has shown that the larger and more painful this loop, the graver the prognosis of the case. The author has also observed, at the base of the abdominal cavity in the region bounded by the external edge of the right muscle on the inside and the internal edge of the ascending colon on the outside, several mesenteric ganglia of the size of a plumb or nut. These also indicate a grave prognosis. After examining several hundred patients, Abraztsow feels warranted in declaring these two signs to be of the greatest value in the diagnosis and prognosis of the disease, although their absence does not exclude typhoid fever. They are also of value in the differential diagnosis between typhoid fever and the typhoid forms of acute tuberculosis. In palpating the ileum, the right hand is held perpendicularly to Poupart's ligament, seven centimetres from the antero-superior spine of the ileum, at the point where the intestinal loop meets this line. The palpation should be made with delicacy, in order to avoid contraction of the muscles of the abdominal wall. To find the mesenteric ganglia, the fingers of the right hand are placed near the external border of the right abdominal muscle parallel with the umbilicus, carefully palpating the left half of the lumbar vertebral region, below and outside the right abdominal muscle; the angle formed by the ileum and the colon will show the hypertrophied ganglia of the mesentery. As the palpation of these points is often rendered difficult by the sensitiveness and swollen condition of the large intestine, it will be seen that the greatest delicacy of touch is required.

Treatment of Biliary Calculi.

In an article on the treatment of biliary calculi, Dr. Henri Mennier recommends these remedies for prevention of the formation of calculi, as well as for the treatment of complications dependent upon the presence of biliary concretions. These are: Calomel, salol, and salicylate of soda.

Calomel acts, above all, on the intestines, and it is not necessary to repeat the dose.

Salol may be administered in large doses for some days. It is indicated even when there is complete obstruction of the biliary passage.

Salicylate of soda, an antiseptic and cholagogue, ought to be prescribed in cases of complete obstruction of the canal, and in hepatic colic.

THERAPEUTICS

IN CHARGE OF

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INFANT FEEDING.

An infant should double its weight in six months, and treble it in a year, if its nutrition is in every way satisfactory. The weighing and measuring should be conducted monthly, and the practical point is this: If a child does not increase at the rate of one pound a month during the first year of life, and twelve ounces a month during the second year, its nutrition is not satisfactory. If a child does not grow nearly three-quarters of an inch every month during the first year of life, and half an inch a month during the second year of life, it is not satisfactory. The latter is, of course, not of the same importance as the former. A nurse should cease nursing if the result does not come near to this proportion with regard to increase of weight. Clearly, premature children would not be so large, though they should increase at the same ratio.—Percy Boulton in *British Medical Journal.*

THE ADVANTAGES OF PENTAL.

Phillips (*Zeutsch. fur Kinder.*), judging from an experience of 1,000 narcoses in the Kaiser Friedrick Hospital, Berlin, makes the following statements concerning the advantages of pental over chloroform:

(1) More rapid narcosis.

(2) Absence of or shorter period of excitement.

(3) Quick recovery.

(4) Absence of after effects such as are common with chloroform.

(5) Cyanosis rarely appears, and is then due to tonic contraction of diaphragm and glottis.

Europhen.

Dr. Ullman (*Internat. Klin. Rundschau*), after using europhen for over two years in the treatment of chancres, syphilitic ulceration, wounds, burns, etc., concludes that it is the best substitute for iodoform. It is without odor and toxic effects. Its usefulness probably depends upon the large percentage of iodine it contains, and its adhesive property, in consequence of which it forms a covering for the surfaces to which it is applied.

The Action of Trional.

Trional, or dicthylsulphomethylethylmethane, has been used for insomnia—good results have been had in a melancholic subject, in mania, and in several cases of senile dementia; also in cerebral syphilis, on account of intense headache, where other hypnotics have been without effect.

It has no action on the heart (an advantage over chloral). It has been useful in heart symptoms in epileptics. It has not been useful in paralysis agitans. Beyond its hypnotic powers, it has had no effect on the circulation, digestive or respiratory functions. No albuminuria or blood is found in the urine.

Posology. For a first dose. Trional should be given in two-gram doses for continued use. One gram per day is sufficient.

Mode of employment. After taking a dose of trional, it should be followed by hot drinks to favor absorption.

There is no danger of poisoning, as is shown by an attempt at suicide by taking eight grams, where, after some vomiting, deep sleep followed, with perfectly normal pulse and respiration. Some retention of urine was a temporary feature, but the excretion soon became normal. In conclusion, trional is a useful hypnotic—sometimes unreliable—but innocuous. —*The Times and Register.*

Bromide of Potassium Poisoning.

Dr. Greenless (*Quarterly Journal of Inebriety*, Vol. xvi., No. 1) has recently published several cases of poisoning from this source. The first case was an epileptic, who took 75 grains a day for three weeks, when stupor, coma, and extreme prostration and death followed. The *post mortem* showed intense congestion of the meninges. In another case, an epileptic, the same amount of bromide of potassium—75 grains a day—was given, and in ten days coma and death followed. Both the brain and meninges were congested, and the kidneys were in the advanced stage of cirrhosis. The other cases were less prominent, and clearly from bromid-

ism that was the result of long use of the drug. In some cases of inebriety larger doses of bromide produce stupor and prostration, from which recovery is slow, and followed by continued prostration. It is an error to suppose that the bromides are harmless. In certain cases they are capable of causing very serious results, and should be used only for a short time in large doses. We have yet to learn many things concerning this very commonly used drug.—*Therapeutic Gazette.*

Nitrate of Strychnine in Alcoholism.

From the results obtained in twenty-five cases we can learn that, simultaneously with the use of this remedy, the craving for alcohol in inebriates diminishes, and in a few days is completely gone, and, through the withdrawal of the poisonous beverages and the tonic effects of the strychnine, there is a more or less rapid restoration to sound physical health and of the mental powers; but, as most of those treated have relapsed within from one to eleven months, the inhibiting power of the remedy is not permanent, and, while it temporarily relieves the distressing and overwhelming craving for more stimulant, and promotes a return to normal health, in which condition the patients may continue to remain, yet they still lack the necessary will power to enable them to avoid the dangers which they know will precipitate a return to their previous enslaved and degraded condition. So that, while it is fully within the power of medical science to restore these patients to temporary health, strychnine does not—as, doubtless, no drug treatment ever will—prevent the possibility of further relapses, although we can always depend on it to arrest what would be a prolonged debauch if its aid is early resorted to. That weakened will power is a result of a prolonged use of alcohol is generally conceded, as is the fact that the tendency to alcoholism is, in a large percentage of cases, inherited, and it is often, as dipsomania, one of the manifestations of insanity; that a definite series of pathological conditions follows the continued indulgence in alcohol, differing only in degree in the case of the milder methyl to the powerful effects of amyl alcohol, the nervous system showing the earliest and most marked disturbance, although every organ and tissue in the body eventually suffers. These and many other facts have led neurologists to place alcoholism as a distinct disease among the neuroses.

Before rational and effective measures can be adopted for the proper management of inebriety, we must have correct opinions in regard to the physiological actions of alcohol and the pathology of the disease; otherwise we must trust to the empirical results of experience.

The chief action of alcohol, then, is to paralyze the vaso-motor system, dilating the arteries. Strychnine, besides exalting the excitability of the

spinal cord and probably the motor centres in the brain, stimulates the vaso-motor centres, contracting the arterioles, as well as being one of the most efficient heart tonics, through its stimulating effects on the cardiac ganglia.

While we have in strychnine a true antagonist to the action of alcohol, and one that will counteract its effects, the inebriate still requires aid which can scarcely be expected of drugs; he needs the mental and will power to overcome his acquired or inherited tendency to resort to narcotics. This must come from treatment which seeks first to restore all the abnormal conditions of the patient, whether due to alcohol or otherwise; then strict abstinence must be maintained, the patient being aided by moral suasion, the diversion of continual employment, and the education of the mental and moral faculties to a higher status; even the influence of hypnotic suggestion may be applied in suitable cases, as has been done recently with a fair measure of success; and, where these means fail, then institutions where voluntary and enforced detention can be secured, and where all the present known means can be most successfully applied, must be the only hope of restoring the unfortunate subjects of narcomania.—*Therapeutic Gazette.*

Bismuth Subgallate in Fermentative Dyspepsia.

Dr. A. Flint, in the New York *Medical Journal:*

After stating that salicin has frequently proved of great benefit in functional dyspepsia with flatulence, the author reports that he lately employed bismuth subgallate, which seems to be much more efficient. He administers 5 grains (0.3 gme.) of this medicament, either before or after each meal. He first employed this remedy in a case of dyspepsia of eleven years' standing, and found its action so favorable that he began to prescribe it very largely, and, as the results were invariably satisfactory, he says that he continues to use it almost daily.

He gives a detailed account of the case above alluded to, and sums up the prompt and favorable results in other cases as follows: A case of alcoholism of twenty years' standing, with habitual dyspepsia for the last five or six years, was almost instantly relieved by bismuth subgallate; the flatulence and distress disappeared in twenty-four hours, and did not return, except in a very mild degree, when they were usually relieved by a single dose. While under other treatment for alcoholism, this condition was relieved. The patient has taken no alcohol for several weeks, and has no craving for it. A case of dyspepsia of four years' standing, with a chronic diarrhea, was entirely relieved in five days by the use of the bismuth subgallate alone. A case of dyspepsia of more than thirty years' standing was

promptly relieved by bismuth subgallate alone. In this case, every few weeks the trouble returns, and is relieved by two or three doses.

The author has been in the habit of prescribing the bismuth subgallate in capsules containing 5 grains (30 ctg.) each, but, of late, gives it in the form of tablets. In this latter form it is more convenient, and seems to act more favorably.—*Medical Review.*

The Acid Treatment of Jaundice.

Dr. M. Alivia, of Viterbo, at the recent meeting of the International Medical Congress at Rome, read a paper on this subject. He based his treatment principally upon the fact that there is present in jaundice a general diminution of acidity in all the fluids of the body. The contents of the stomach show generally an alkaline or neutral reaction, and contains very little, if any, hydrochloric acid. The urine is often alkaline, and contains more chlorides and aromatic products, but less urea, than normal urine. The acids of the bile are reduced, which occurrence probably depends upon stasis of bile in the liver. Under acid treatment the stomach contents and urine soon regain their normal reaction, while the chlorides and aromatic compounds are reduced, with a corresponding increase in the quantity of urea.

OBSTETRICS

IN CHARGE OF

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On the Value of Mechanical Dilation of the Os in Obstetrics.

At the Congress of the German Gynecological Society, held in May last at Breslau, Duhrssen discussed the value of Maurer's method of dilation. This consists, first, in introducing into the womb a colpeurynter or hydrostatic dilator, which can be distended to the size of a fetal head, which it requires about three-quarters of a litre of water to accomplish; and, secondly, in making moderate but continuous traction upon this dilator until it is drawn into the vagina. Duhrssen proposed to himself to determine whether this method is, under normal conditions, efficacious in quickly dilating the closed cervix, so as to render possible the extraction of a child at term. Also whether this method acts in a manner analogous to ordinary physiological dilation, and whether it involves danger to the mother or the child.

He experimented in twenty-two cases, and reaches the conclusion that Maurer's method affords a means of rapidly opening up a cervix which is imperfectly dilated, or even undilated, and that this does not involve any risk, and that it can be carried out to a degree sufficient to prevent the cervix opposing anything more than a very slight resistance to the extraction of a child at term. To apply the method the os must admit at least one finger, which it usually does in the case of multiparæ. But, if necessary, this amount of dilation can be secured by means of ordinary dilating sounds.

In four of Duhrssen's cases, where the os admitted but one finger, sufficient dilation was obtained in a few minutes to permit version and extraction, and the patients did well. In ten cases the os admitted two or three fingers. In one of these the method did not succeed at once, and "automatic traction" was obtained by fixing on the stretch the rubber tube of the colpeurynter. There was also a similar difficulty in another case, where there was a flat, rickety pelvis. There was one maternal death,

which occurred in an eclamptic patient who had retained placenta and post-partum hemorrhage, but the fatal result did not seem to be due to the employment of this method. In the eight remaining cases automatic traction was employed until active uterine contraction was set up and the fetus expelled into the vagina, as happened in five instances, or else until the os was sufficiently dilated to permit easy extraction. Of these eight cases one was delivered by natural efforts, six by version, and one by forceps. Duhrssen thinks that after the instrument is introduced it is better to rupture the membranes, lest there should be caused a change of presentation or undue distension of the uterus. Slight tears of the cervix were noted in five cases. "When every antiseptic precaution is used, this method involves no danger to the mother." It would seem that the infant may run some risk when the placenta is situated very low down, because the distension of the lower segment of the womb may cause partial separation of the placenta, but in such a case sufficient dilation is secured for rapid extraction.

The method is indicated, says the author—

(1) When it is necessary to produce premature labor. It sometimes succeeds with remarkable rapidity, and is specially applicable to eclampsia.

(2) In heart disease, when a rapid termination of labor is necessary.

(3) In placenta previa. The membranes are first ruptured. If that is not sufficient the colpeurynter is introduced, and filled with three-quarters litre of water, and submitted to continuous traction. Sometimes the expulsion of the colpeurynter is followed immediately by the birth of the infant. If not, and hemorrhage recurs, version and extraction may be performed at once.

(4) In cases where there is premature rupture of the membranes and imperfect dilation owing to pelvic contraction or faulty position of the fetus.

(5) In cases where, when the os is still undilated, the life of the mother or child is threatened.

(6) In cases where after the rupture of the membrane there is uterine inertia. Here the introduction of the colpeurynter and automatic traction will produce vigorous uterine action.

This method has an advantage over combined version, because when the well-distended colpeurynter has passed the os, we can be sure that the cervix will oppose no serious obstacle to the extraction of the child.—*Ann. de Gynécol. et d'Obstét.*, September, 1893.—*Medical Chronicle.*

Kraurosis Vulvæ.

Martin, of Berlin (*Centralbl. f. Gynak.*, No. 13, 1894) adds three cases to the five described by Orthmann four years ago. In one of the three,

carcinomatous nodules were detected in the kraurotic tissue. In six out of the entire eight, the cure was effected by the operation devised by Martin himself in 1887, one healed after therapeutic measures had overcome the characteristic stenosis of the vulva, and one case refused treatment. Kraurosis seems to be a peculiar histological atrophy of the vulvar tissues, perhaps similar to the leucoplasic patches on mucous membrane described by Schwimmer. Martin does not agree with Sanger that kraurosis is a progressive presenile or senile atrophy of the vulva with pachydermia. The disease cannot be traced to any venereal or microbian influence. It may occur in young or old, virgins or multiparæ. The earliest stage of the disease at least is inflammatory. A feeling of tenseness is more frequent than itching. As fissures develop, irritation results, with consequent neurotic and other evil symptoms. The diagnosis depends less on the disappearance of the pigment in the parts than on the shrinking of the tissues, first in the posterior commissure and labia minora, and lastly in the clitoris and labia majora. An active discussion on the very uncertain dermatological nature of the disease followed the reading of Martin's communication.—*British Medical Journal.*

The Treatment of Rupture of the Uterus.

Merz (*Archiv. fur Gynakologie*, Bd. xlv., Heft 2) describes two cases of rupture of the uterus which came under his observation, and tabulates all the hitherto published cases, giving an analytical review of them. In fifty-four cases celiotomy was performed with 48.1 per cent. recovery. He arrives at the following conclusions:

(1) If only the trunk and extremities of the fetus have escaped into the abdominal cavity, and the head lies over the pelvis, the woman should be delivered *per vias naturales*, either with the forceps or by perforation and craniotractor.

(2) If the head of the fetus or the whole body has escaped into the abdominal cavity, version and extraction, as frequently advised, should not be attempted, but celiotomy should be done at once, and the fetus delivered through the abdominal incision.

(3) In the latter case the rupture should be carefully sutured.

(4) If the woman has been delivered *per vias naturales*, and the conditions are very favorable, celiotomy and suture of the rupture should follow the birth immediately.

(5) If the conditions are not favorable, then drainage with iodoform gauze without irrigation should be employed.

(6) If the uterus is markedly degenerated, or if septic endometritis has developed, a Porro operation should be done.—*University Medical Magazine.*

Treatment of Vomiting of Pregnancy.

Lutaud (*Revue Obstetricale et Gynécologique*, February, 1894) states that vomiting of pregnancy is best treated by cocaine. The action of this drug is often strengthened by combining it with antipyrin. Thus the following prescription:

℞.—Chlorohydrate of cocaine, gr. iss.;
Antipyrin, gr. xvi.;
Distilled water, ℥iv.

Sig.—One teaspoonful every half-hour until vomiting ceases.

If the stomach will not tolerate this quantity of liquid, ten drops of a one and a half or two per cent. solution of cocaine are administered, repeated at one or two-hour intervals.

At times the application of cocaine to the os is extremely valuable. The following prescription may be used:

℞.—Hydrochlorate of cocaine, gr. xvi.;
Extract of belladonna, gr. iv.;
Vaseline, ℥ss.

Cotin's method of dilating the os with the finger sometimes causes immediate cessation of vomiting. Occasional success will follow Routh's procedure, which consists in exposing the uterine neck by means of a speculum and painting with tincture of iodine. In cases of moderate severity, the following mixture will be found serviceable:

℞.—Tincture of iodine, ℥ii.;
Chloroform, ℥ii.

Sig.—Five drops night and morning at meal times, taken in Seltzer water.—*Therapeutic Gazette.*

Concerning the Treatment of Abortion.

Eckstein (*Prager medicinische Wochenschrift*, Nos. 17 and 18, 1892), as assistant in Martin's clinic, has had opportunity to study sixty cases of abortion treated by Martin's principles in his private clinic in Berlin. He attaches the greatest importance in the currettage of the uterus to the thorough emptying of the tubal angles, as remains of placenta or portions of membranes are especially liable to be attached there. In nearly all the cases Eckstein followed a manual or instrumental emptying of the uterus with currettage, by the idea that an imperfect separation of the decidua and a consequent endometritis is thereby to be prevented. The results of this method were very satisfactory. From his experience he deducts the following:

(1) The instrumental method of the treatment of abortion is the only rational one.

(2) The recognition of the cause of bleeding from the uterus is of the greatest importance, and therefore in every uterine hemorrhage a careful examination should be made.

(3) Ergot and similar drugs should only be used when the uterus is empty.

(4) If abortion is in progress, tamponnade of the vagina is only indicated when there is no dilatation of the os uteri.

(5) When the dilatation of the os is sufficient, the emptying of the uterus, in spontaneous abortion, is indicated.

(6) In large embryos, from the fifth month on, one conducts the abortion as in labor at term.

(7) In abortion attended with fever and the decomposition of the product, the uterus should be emptied of its contents as quickly as possible.

(8) A thorough curettage of the endometrium should follow every emptying of the uterus in abortion.—*University Medical Magazine.*

GYNECOLOGY

IN CHARGE OF

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THE EARLY TREATMENT OF CARCINOMA UTERI.

The large number of hopeless cancer cases constantly applying to me for relief have induced me for the past three years to adopt certain stringent rules with regard to my own patients, which I have taught for the same period in my lectures at the Johns Hopkins Hospital.

The end in view is twofold—first, by treating cervices liable to become cancerous, and thus prevent the formation of this neoplasm; and, secondly, to detect cancer of the cervix at a sufficiently early date to successfully eradicate the disease.

(1) It is the duty of the obstetrician to see each patient at his office from two to three months after her confinement, and there to examine and make a careful record of the condition of the pelvic structures, stating accurately what lesions have been produced by the confinement.

(2) Cervical lacerations should be certainly described, noting the position and depth of the tear and the appearance of the lips. Lacerations require no treatment when the lips are thin, uninfiltrated, and lie together. Thick, infiltrated, and everted lips associated with cervical catarrh call for depletory treatment followed by repair of the laceration.

(3) Every woman who has passed thirty-five years of age and has borne a child should have this examination made without delay by a competent physician, and if the cervical lips do not appear perfectly sound she should be kept under observation and examined at intervals of from six to eight months.

(4) Every woman over thirty-five, with a cervical tear, should be examined at least once a year for ten years, or longer, if the appearance of the lacerated area is not perfectly healthy.

(5) These rules apply with special force to patients whose family history shows a marked inclination to cancerous diseases.

If these rules are conscientiously observed, there is not a shadow of doubt but that thousands of lives would be saved yearly in this country alone by timely interference with a disease so markedly local and accessible in its origin.

I feel that while we are searching for a cure for cancer, the line of progress in the immediate future for the gynecologist is clearly in the direction of prophylaxis and anticipation, either preventing or discovering the malady in its earliest stages.—*New York Medical Journal.*

SURGERY

IN CHARGE OF

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GRAFTING.

In a recent clinic, McBurney, speaking of Thiersch's method of grafting, says: "One of the most interesting features of this method of grafting is that the grafts do not unite as well if taken from the body of another person. It is very difficult to account for this, but it shows how mysterious are the conditions concerned in this process of grafting. I have had this experience in a case where, on account of the delicate health of the patient, I was forced to rely upon grafts obtained from another person. I took grafts from the leg of a young girl and applied them to the back of her brother, as I did not think it advisable to subject him to the necessary traumatism. Although the sister was a stout and healthy girl, all the grafts melted away in a few weeks. The boy, however, remained in the hospital, and improved so much in health that the next time I covered the defect on his back with skin removed from his thigh, with the result that every graft united. I have heard the same statement made by other operators, and yet I have never had any explanation of this phenomenon, except the general one that our own tissues are more suitable for grafts than those of another.

"Another interesting feature is the fact—although this is not universally admitted—that the grafts behave very much better under moist treatment than under the dry. I am so much impressed with the necessity of keeping up moisture in the management of grafts that I never allow them to become dry inside of thirteen or fourteen days. Some surgeons have told me that they get good results from the dry dressing. This is not my experience, however. In order to keep up moisture, as soon as the grafts are in position they are covered with delicate rubber tissue to prevent

evaporation and desiccation. The materials lying outside are kept moist with the same saline solution we use during the operation. The rubber tissue is put on in the form of shingles, so that the fluid may enter through the interstices and keep the grafted surface moist.

"I have seen another feature in this grafting process which is very satisfactory, and that is the hemostatic power of the graft. In operating without a constricting band, after you shave off the granulations you will see a a certain amount of hemorrhage. If you immediately arrest the bleeding and lay on the graft, you will note an entire cessation of hemorrhage, if the surface is absolutely smooth. It seems as though the smooth surface of the graft, when applied to the smooth surface of the wound, closes up the mouths of the vessels, and thereby produces a cessation of the hemorrhage."—*International Journal of Surgery.*

JAMAICA DOGWOOD IN THE VOMITING OF PREGNANCY, AND THAT OF FOLLOWING THE TAKING OF ETHER AND CHLOROFORM.

For some years past I have been using Jamaica dogwood *(Pyscidia erythrina)* in the vomiting of pregnancy, and with the greatest satisfaction.

In the more extreme cases in which the vomiting or retching is almost constant, independent of the taking of food, the remedy is best given as an enema in three or four ounces of boiled starch. With a view to increasing the action of the dogwood, I have been combining with it the bromide of sodium or ammonium, giving half a drachm of the ext. pyscidiæ ery. fl. (P., D. & Co.) and twenty grains of the bromide every three or four hours.

Where the stomach will retain the remedies a somewhat smaller dose will answer by the mouth, but usually the administration by the rectum is more satisfactory.

After the second or third day an injection in the morning, and another in the evening, not only secures relief from the nausea, but brings about a return of the appetite, so that the patient is enabled to take and retain the more digestible solid foods. Some little time ago, while preparing to operate for the fourth time upon a woman suffering from a vesico-vaginal fistula—my three former attempts to close the opening having failed through three days and three nights of almost constant vomiting and retching—I recalled my experience with dogwood in the vomiting of pregnancy, and determined to give it a trial. After the operation—commenced under chloroform, and continued under ether—the vomiting started as before, the nurse administered the dogwood mixture, and after the next hour we had no nausea; the self-retaining catheter, which, after the first two days, could not be tolerated before, gave but little discomfort, and perfect union was restored.

I have since used the dogwood in a number of cases, so far without disappointment. Several times, the mixture being withheld too long, nausea has developed, but only to give way upon the administration of another enema.

While my cases have been few in number, the effect has been so promptly satisfactory that I am led to hope that the experience of others may correspond with mine, and that in a fair proportion of cases this serious drawback to the administration of the pulmonary anesthetics, ether and chloroform, may be eliminated.

Surgical Thoughts on Appendicitis.

In the May issue of the *Annals of Surgery*, Dr. J. D. Rushmore presents the results of his observations in appendicitis. He takes exception to the position sometimes taken by physicians, and says it is by many in the profession looked upon as a medical disease, unless or until it has reached an operative age, when it becomes surgical. The physician is even on record as saying to the surgeon: "When I want you I'll let you know, and I want you to come ready to operate." This puts the surgeon in a position in relation to the case that he will not shirk, indeed, but one that he does not desire. He would like to decide whether he is to operate, and when—if the responsibility of the treatment comes on him, as it must if he does the operation. I think a good deal of importance should be attached to combating this claim made by many physicians.

The surgical nature of appendicitis would seem to be proved by the suppurative process, by the ulceration and gangrene, and general septic inflammation of the peritoneum, all of which are more or less common in half the cases, and possibly in every case; and still more by the fact that the diagnosis is largely chirurgical—is made so largely by the hand; and, finally, by the treatment, which is in so large a percentage of cases operative. Nor does the fact that many cases have recovered without operation take the disease out of the list of surgical affections. To do our very best, it would seem reasonable that the surgeon should see the case at the earliest possible moment, and not be called upon so late that the best he can do is, after all, but the second best. If our experiences, medical and surgical, are to yield the results for which we hope, the surgeon and physician must start on the same basis, and this manifestly is not the case if the surgeon is brought into contact with his patient two or three days later than the physician. Already in consultations a comparison is being instituted between the medical and operative treatment of appendicitis on the above basis. We must decline to accept the inferences drawn from such an unfair comparison. Let us adhere to the position taken in our most modern surgical

writings, that appendicitis is a surgical disease from the beginning; our comparisons must be made on the basis of connection with the case from the start. And any one who assumes the responsibility of treatment ought to feel that he is doing surgical work just as he would in undertaking the treatment of a fracture.

A fallacy, but one that ought to be quickly dispelled after operating on a few cases of appendicitis, is expressed in speaking of the first day that the patient complains of pain as the first day of the disease. With about as much propriety might we speak of that as the first day of the disease when a typhoid ulcer perforates the intestine. Here an ulceration, always present in typhoid, but not to be located by the touch or pressure of the finger, has been steadily eating its way into the intestinal wall for two, three, or four weeks, when suddenly, and often without any symptoms to indicate its development, perforation takes place, and the patient is in collapse. The comparison, I think, is a fair one, and the local conditions often the same. What we recognize, I believe, in appendicitis is peritonitis, and not the ulceration in the mucous membrane, which has been going on for a longer or shorter time; and instead of seeing the case on its first day, we are really seeing it, in the majority of acute cases, near its last day. This thought has made me much less willing to temporize with these patients than formerly.

An ulcerative process has been the starting point in my own cases, rather than a gangrenous one. In the cases seen late a destructive inflammation has produced such ravages as to render it impossible to determine the character of the initial lesion.

Impressed with the importance of the views thus far expressed, I have felt the necessity for an early and exact diagnosis. To make an exact diagnosis late in the disease is easy, and to make an early probable diagnosis is not difficult; but to make it at the same time early and exact is, in some cases, impossible, without the aid of an exploratory incision.

The symptom on which I have relied, and the one without which I confess myself unable to make a diagnosis, is the tenderness—the "McBurney point"—never absent in my own personal experience, and never thus far making me mistaken in my diagnosis. The other symptoms have, many of them, been such as are associated with other abdominal disease; but some of great value in confirming me in the diagnosis, such as the sudden onset of the disease, the tension of the muscles, the ill-defined tumor, constipation, the facial expression, the rigid position of the body maintained in moving. The other symptoms I have learned to depend on less, but recognize their value; such symptoms as nausea and vomiting, pain, the temperature and pulse, chills and sweating, and the evidences obtained by rectal examination. The value of these symptoms,

however, has depended very much on the stage of the disease. Those cases that have been seen very early, and have been marked by the sudden onset of severe pain with even moderate fever and tenderness at the McBurney point, and usually vomiting, have proved to be cases of appendicitis, whatever else they may have simulated before the operation. Later on, the abdominal wall has been rigid, but not so under an anesthetic; the tumor present was easily felt with the patient anesthetized, the pulse becoming hard and irritable. Rectal examination I have not made of late, because it has not helped me to a diagnosis where I have made it. The temperature, as indicated by the thermometer, has been of almost no value.

As to the treatment, I may say that, in those cases that I have seen lately, when a well-marked abscess cavity has been present, I have been satisfied to evacuate the pus, wash out, and pack the cavity with iodoform gauze, without making much search for the appendix. Sometimes I have removed the sloughed appendix with forceps, and also small fecal concretions. The cases that I have been able to see or to treat very early have had a catgut or silk ligature applied without invasion of the stump, the abdominal wound stitched up, and primary union has taken place. The large proportion of cases operated upon have been seen from the third to the fifth or sixth day. This has seemed to me the most undesirable time to operate, on account of the liability to cause the very thing we operate to avoid, namely, infection of the peritoneum, and, exercising all the care possible to wall off the abscess cavity from the general abdominal cavity, the pus will often pass out of our reach before we can remove it all, and the danger of infection is increased when we remove the appendix, and in doing so break up adhesions that have kept the pus circumscribed. In this third class of cases I have used a catgut or silk ligature to the base of the appendix, and should imagine that it would be a difficult thing to invert the stump on account of the thickened condition of its walls, a condition which has not been present in the operations very early. In cases operated on during this stage I have had some difficulty, without manipulating the intestines more than seemed wise, to recognize the colon. I have depended less on the appearance to the eye than on the thickness of the walls under the finger, the additional thickness furnished by the longitudinal bands, and by the shortness of the mesentery that holds the colon back when traction was made upon it. The tags of fatty tissue have not always been recognizable to the eye or the touch. The cavities have been packed with iodoform gauze, and, when possible, left undisturbed for five days.

His conclusions are that:

(1) Appendicitis is a surgical disease from its beginning.

(2) Its diagnosis is usually not difficult.

(3) In doubtful cases exploratory laparotomy is justifiable.

(4) Appendicectomy, all things considered, offers the best chance, immediate and remote, for the patient.

(5) The operation should be done at the earliest possible moment.

On a Case of Fatal Hematemesis.

I was consulted about ten years ago by a middle-aged member of our own profession on account of extensive tertiary ulceration on his foot and leg. He had suffered from syphilis twenty years previously. He was very pale, and had been liable to vomiting of blood. His liver was not much enlarged, but could be distinctly felt to be hard and nodular. He was at the time quite confined to his bed. I prescribed for him the three iodides, in a mixture, with a calomel pill; and under their influence he made the most astonishingly rapid and complete recovery. Within a few months he was again engaged in a laborious country practice. He remained under my observation at intervals of six or twelve months for the next eight years. During this time he never had any recurrence of his syphilitic ulcerations; but he suffered repeatedly from attacks of the most profuse vomiting of blood. These attacks occurred over and over again, and in more than one it was feared that he would die. His attacks of blood-vomiting would come on quite suddenly, when he was not feeling ill. He assured me that the blood would pour forth from his mouth so that a large basin would be filled in the course of a quarter of an hour. On several occasions it had been necessary to leave him on the floor for the night, for fear that any movement might be fatal. Usually, these attacks were over in the course of half an hour; but on more than one occasion they recurred during several days. As he lived in the country, I never myself saw him during an attack of bleeding. The medical men who were called in to him always diagnosed ulcer of the stomach, and there seemed no other explanation of such profuse bleeding. Against that suggestion, however, there were the facts of long-continued liability, and an entire absence of stomach symptoms. There had never been any pain in the stomach, and as soon as ever the attacks were over Dr. I—— would begin to eat meat freely and to take port-wine, in order to make up the blood he had lost.

In addition to the attacks of hematemesis, he suffered also repeatedly from ascites. His abdomen would become distended until he could only just manage to walk about. Calomel was the remedy for this state of things. The ascites and the vomiting of blood generally occurred together; and the calomel, when given in conjunction with tincture of iron, so far from increasing his anemia, seemed to help the process of

blood-making. On one occasion, after a very severe attack, I had sent him to Brighton to recruit, and there his ascites became so distressing that he wrote to ask me to come and tap him. The next day, however, he was better, and within a fortnight, his gums having in the interval been a little sore, the fluid had almost wholly disappeared.

At length the end came. He had been attending to his patients as usual, and thought himself in better health. After having complained to his wife of a sense of weight at his stomach, vomiting of blood set in, and was so profuse that death resulted. I did not hear of the event until a week afterwards, and, unfortunately, no autopsy had been performed.

I have found in an old volume of the Dublin Hospital Reports a case which seems to supply what my narrative wants—a *post-mortem* proof that this form of hemorrhage may prove fatal, although no ulcer of the stomach be present. A man of 24, a tailor, was admitted under Dr. Cheyne's care in an exsanguined condition from hematemesis. He had been ill only four days. He looked like a spirit-drinker, but he denied that such was the case, and said that a year previously he had suffered from a similar attack, and had almost died from it. In the interval and formerly he had had good health. During the three weeks that he was under Dr. Cheyne's care in the hospital ascites developed itself. Further vomitings of blood took place to the extent, on one occasion, of "four large basinfuls," and the stools also contained the remains of blood. After one of these attacks death took place. The *post mortem* revealed a bloodless condition of all viscera, and mottled kidneys; but there was no ulcer in the stomach. The left lobe of the liver was enlarged and indurated.*

During my poor friend's life we often discussed the question as to the source of the hemorrhage, and were much puzzled to give any plausible explanation. That he was the subject of cirrhosed liver was undoubted; but the attacks were more sudden, more profuse, and more easily recovered from, than any which I have ever supposed to be explained merely by hepatic impediment. Since his death it has occurred to me as not at all improbable that he was the subject of varicosities of the lower esophageal veins. For the reasons already given, it seems improbable that he had an ulcer of the stomach, yet the bleeding far more nearly resembled that of an open artery or vein than anything we can suppose possible from mere congestion. The fact that the veins of the lower part of the esophagus do become varicose, and are sometimes the source of fatal hemorrhage, has been established by clinical observations which have been placed on record. I possess a French thesis by M. Eichhorst, recently

* "A Case of Melena, with Observations, etc.," by J. Cheyne, M.D. Dublin Hospital Reports, Vol. I., 1818.

published, which gives a detailed account of their anatomy, and a summary of the cases previously recorded. The anatomical arrangement of these veins is such that they tend to dilate, as collateral channels, whenever the circulation through the portal vein or liver is obstructed.

An excellent paper on this subject was read at the Birmingdam meeting of the British Medical Association in 1890, by Dr. Stacey Wilson and Dr. J. R. Radcliffe. The first case published in Britain appears to have been one by Dr. Bristowe, in the Pathological Transactions. In this case it was specially noted that the liver was healthy, although the patient, a woman of 48, had suffered from ascites. She had died in her first attack of hematemesis. The vein which had bled was recognized at the autopsy. In the paper to which I have referred, Dr. Radcliffe records five cases, several of which are very complete. He concludes his paper by expressing the belief that, if pathologists would look for these ulcerated esophageal varices, they would be found much more commonly than is supposed, and that the theory of "capillary oozing as a cause of hematemesis would gradually ooze away." In one of Dr. Radcliffe's cases it is stated that the blood rushed from the mouth of the patient "as from a hose-pipe." He brought up on one day eighty-four ounces, on the next forty-eight, and on the day following forty.—J. Hutchinson, in *Archives of Surgery*.

GENITO-URINARY AND RECTAL SURGERY

IN CHARGE OF

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THE TREATMENT AND CARE OF CHANCRE WITH PEROXIDE OF HYDROGEN.

Dr. W. P. Worster, in the *Journal of Cutaneous and Genito-Urinary Diseases*, in writing of the treatment and care of chancre with peroxide of hydrogen, says that the treatment adopted varies so greatly that the general practitioner has no fixed rule to follow. He cites a few cases where the treatment of the peroxide was applied with the compressed air apparatus at sixty pounds pressure, and concludes as follows:

"The pressure of the spray (60 pounds), which is one of the most important factors in the whole method, not only cleanses and produces thorough asepsis of it, killing the germs of the disease at the very bottom of the ulcer, but the oxygen of the peroxide aerates the blood through the capillaries, and arrests the progress of the disease at the nearest possible point, allowing the process of repair to commence as soon as possible, according to the severity of the disease, with the least loss and destruction of tissue and consequent scar. It must be particularly understood that in using this treatment all instruments, spray tubes, and bottles must be made of either glass or hard rubber, for the reason that metals, with one or two exceptions, coming in contact with the peroxide, will destroy its component parts and render it useless; and I have found also a great difference in the results if the peroxide is fresh or otherwise. The first effect of a spray of peroxide upon the ulcer is to deposit upon it a thick film of albumen; this should be allowed to remain for about half a minute or less; then continue the spraying till a large tubeful has been used (one ounce); as the sore progresses the spraying causes a good flow of rich arterial blood upon it, which merely shows returning healthy conditions."

[I have applied peroxide and other medicaments with the spray apparatus, with exceedingly good results. I do not think that so high a pressure is necessary by any means. I find that the double bulb hand

atomizer will produce just as good results as the more expensive spray apparatus. I have always used some other application, as mercury or silver, after the use of the peroxide. Yet, after all, in cases where the sore can be excised, that is the simplest, least painful, and quickest treatment of the chancre.—E.E.K.]

Two Cases of Unusual Location of Chronic Blennorrhea in Women.

Finger, in *Wien. Med. Wochen.*, says that these cases are the first published in which the chronic blennorrhea was confined to the urethra, the external and internal organs being at the same time healthy. The symptoms of chronic gonorrhea in women are objective purely, and in these instances could be seen only when the patients had not passed water for several hours. Stripping the urethra from behind forward, milky, mucous-like pus could be squeezed out, and the urine passed after thorough cleansing of the external genitals was turbid or contained gonorrheal threads.

The Value of Microscopical Examination for Gonococci.

Neisser recommends the examination of pus for gonococci, for the following reasons:

(1) It is beyond doubt that gonococci are the true cause of gonorrhea.

(2) In many cases, especially in chronic affections, with only slight subjective and objective symptoms, the proof of the existence of gonococci leads us to a correct diagnosis, and thereby to an effective treatment (instead of using inefficacious astringents, we apply well-known anti-blennorrhagics, such as silver, mercurial salts, ichthyol, etc.).

(3) In cases where the question arises whether gonorrheal disease is the result of infection or is the remnant of a previous outbreak, examination for gonococci is indispensable.

(4) Since in every stage we must adjust our treatment to the number of gonococci present, the search for them is necessary not only in the beginning, but during the whole time of treatment.

(5) In the present state of our knowledge, examination for the germs must be confined to the microscopical; bacteriological cultivation is too troublesome.

(6) Where we receive positive proofs of the presence of gonococci the diagnosis is made. In negative cases caution is necessary, as it is well known that the bacteria may exist in the deeper structures, lacunæ and mucous folds, in such small number that the superficial secretions under examination may be entirely free. Then it becomes imperative to excite

artificial irritation to increase the number and bring them to the surface. Clinical symptoms will aid considerably in this condition.

(7) In married persons the existence of gonorrhea in one will impose on us the duty of treating the other.—*Deutsch. Med. Wochenschrift.*

The Effect of Limewater on the Urine.

As limewater is almost a necessary part of the liquid diet of illness and infancy, it is very important that all its effects upon the system should be known. That the urine is rendered alkaline by an excess of limewater in the food is a frequent clinical observation, but the nature of this alkalinity has only recently been studied. The mother of an infant noticed an ammoniacal odor coming from its urine-moistened linen, for which the physician could find no other cause than the limewater which had been administered freely in the milk for some months. As a test case, two teaspoonfuls of a very thick cream of lime were well distributed in the milk and other food of a boy, four years old. On the evening of the third day, the child's urine gave off free ammonia, and had all the characteristic reactions of a dilute solution of calcium carbonate. There was no digestive disturbance.

The test was made by Dr. John J. Abel, of the Johns Hopkins Medical School, whose account appears in the *Johns Hopkins Hospital Bulletin* for April. He further experimented upon healthy animals, and found that when slaked lime was mixed with the food of dogs fed on bone-free meat their urine became strongly alkaline, and spontaneously gave off carbon dioxide and ammonia. It contained, however, absolutely less ammonia in the twenty-four hours than normal urine. It always contained a calcium salt in solution which was not bicarbonate of calcium, and which decomposed with precipitation of calcium carbonate when the urine was allowed to stand. This lime urine exhibited all the characteristics of a weak aqueous solution of calcium carbonate, and a white powder was isolated from it which behaved in every way like synthetically prepared calcium carbonate, except that it gave less accurate results when subjected to quantitative analysis. Human urine was found to react exactly like that of the dog, when large quantities of lime were taken in the food, and it likewise contained calcium carbonate. Carbonic acid, which is believed to be one of the principal immediate precursors of urea, combines with the lime, and the human body probably avails itself of the readily soluble carbonate of calcium to eliminate an excess of lime that has been absorbed. It is an interesting fact that so simple a drug as limewater may cause such hitherto unsuspected changes in urine.—*N. Y. Medical Journal.*

PEDIATRICS AND ORTHOPEDICS

IN CHARGE OF

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POTT'S DISEASE—PARALYSIS—OPERATIVE TREATMENT.

Nearly all cases of paralysis from Pott's disease recover through proper treatment. Myer says 55 per cent.; Gilney, 50 per cent.; Taylor and Lovett, 90 per cent.; Phelps, 90 or 95 per cent. Hence, probably, not more than ten in every hundred cases of Pott's paralysis are incurable without operation. Of those operated on statistics show a mortality of 40 per cent. Of thirty-six cases operated on by Schede, Horsley, Lane, and Macewan, there were eleven cures, eleven deaths due directly to the operation, and 40 per cent. uncured, slightly improved, or died after many months.

Paralysis is produced from pressure, (1) by bending of the spinal column from destruction of bone; (2) invasion of the canal by the tubercular process, producing a large deposit of caseous matter, and a meningitis from invasion with deposit of inflammatory material. Sudden paralysis is generally due to bone pressure, whereas slow, progressive paralysis is produced by tubercular abscesses invading the cord, or a pachymeningitis and growth of granulations with inflammatory deposit. The cases of sudden paralysis are the more likely to yield to mechanical treatment, while those which are long-continued and progressive are the most likely to prove intractable. Always treat the case mechanically for a time—say, two months—and if the paralysis continues to increase, or if it become total, operate. Cases of total paralysis with incontinence of urine or feces of several months' or weeks' duration should be operated on, unless they show speedy improvement under treatment. When there is well-defined abscess burrowing in the canal with increasing paralysis incision should be made, the abscess scraped out, and good drainage established. Operate when pressure threatens the destruction of the cord.—Phelps, in the *Journal of Nervous and Mental Diseases*, July, 1893.

Propagation of Diphtheritic Virus.

Bellanti (*Riforma Médica*, March 23rd, 1894) relates a case, showing the long continuance of diphtheritic bacilli in the tonsils and throats of apparently healthy individuals. In the case of a child who had died from diphtheria, it was thought that infection might possibly have occurred from a brother who had had the disease seven months previously. His throat was examined, and in the tonsil exudations two varieties of bacilli were found identical with the Klebs-Leoffler streptococci which were found in the dead child. Luxuriant and extremely virulent cultivations of diphtheritic bacillus were made by inoculation on blood serum. A second examination three months later again disclosed the presence of Leoffler's bacillus, but evidently in a state of great attenuation, as they gave rise only to very transient local inflammation when inoculated into animals. It is suggested that great care should be exercised regarding the purification of the throat in cases convalescing from diphtheria.

Tetanus Complicating Vaccinia.

In the *Medical News* for February 24th, 1894, Toms reports a case in which a little girl, aged five years, died from tetanus, resulting apparently from infection at the open sore at the site of vaccine inoculation. The child had previously been ill with measles, mumps, and strumous keratitis. Bovine virus was used, with all possible antiseptic precautions. The ulcer which formed subsequently was deep, slightly indurated, and discharged a sanious pus. Six days later the child had an aphthous stomatitis, and it was while examining the mouth that slight trismus was first noticed. Some ragged, decayed teeth were present. Two days later there was rigidity of the muscles at the back of the neck, and some pain. The following days spasm extended. The mouth could not be opened, and later there was unusual spasm with opisthotonos. In all, there were eleven convulsions. Death took place thirty-five days after vaccination. The ulcer on the arm at this time appeared to be perfectly healthy. The endeavor to secure cultivations of tetanus bacillus from the arm gave negative results. In view of the fact that there was an ulcerated mouth, it is doubtful how the tetanus infection occurred. Six cases complicating vaccination have been collected.

Freidreich's Ataxy.

The report of the Manchester Medical Society proceedings (*British Medical Journal*, April 21st, 1894) contains the following notes of two cases of this disease by Dr. Dreschfeld:

CASE 1. A girl, æt. 18. No other member of the family affected; no history of alcoholism in the parents. Ten years ago she noticed that she could not walk so well; five years ago, after an acute febrile attack, she became worse, and was much affected in her walking; and three years ago, after another acute febrile attack, she got much worse, and since then had not been able to walk or stand by herself. She was of diminutive size. Slight horizontal nystagmus on fixing a certain object, when the muscles of the neck also showed slight movement, and speech affected. The upper extremities showed inco-ordination, the lower extremities marked inco-ordination. There was both static and motor ataxy; the superficial reflexes were present, the deep reflexes absent. There was no anesthesia, and no affection of the bladder and rectum. The patient complained of slight pain in the arms and legs. The toes were forcibly flexed, and there was beginning talipes.

CASE 2. A boy, æt. 16. No other member of the family affected; father was a drunkard. The symptoms date from early infancy. The patient is able to stand and walk, but his gait was markedly ataxic. Occasional slight nystagmus; no affection of speech; tremor of tongue. Upper extremities showed slight inco-ordination, lower extremities marked inco-ordination. The peronei and tibialis anticus were weak and somewhat atrophied; the big toes hyper-extended; the appearance of the foot when in recumbent posture resembled that seen in the early stage of peripheral neuritis. The electric reactions, however, were normal; the superficial reflexes, except plantar reflex, were normal; the deep reflexes absent. There was no anesthesia; when walking and standing, there was marked lordosis. No affection of the bladder or rectum. Intelligence fairly good; growth somewhat stunted. With the peroneal type of myopathic atrophy this case, owing to the atrophy and weakness of the peronei, had some resemblance; but the marked ataxy, the absence of anesthesia, and the normal state of the electrical reactions were sufficiently distinguishing.

AN ANALYSIS OF TWENTY-FOUR CASES OF ENTERIC FEVER IN CHILDREN.

Wightman (*British Medical Journal*, May 5, 1894) publishes an analysis of twenty-four cases of typhoid fever in children under thirteen years received at the Liverpool Infirmary for Children during 1892 and 1893. There were three deaths. One from pyemia, one from perforative peritonitis, and one from exhaustion. No reference is made to the treatment used.

Temperature. In all cases there was elevation of temperature, but rarely as high as 104° F. There were no relapses. A not uncommon occurrence, after the temperature had become normal, was a slight rise for

a day or two on first adding semi-solid food to the diet, but this subsided, and was not accompanied by any further cause for anxiety.

Spleen. Enlargement of the spleen, discoverable by palpation, occurred in eight cases.

Progressive Paralysis of Muscles of Extremities and Trunk in a Girl of Fourteen, following Scarlet Fever.

At the March meeting of the Sheffield Medical Society, Dr. Porter showed a girl, æt. 14 years, the subject of progressive paralysis of muscles of extremities and trunk. She had scarlet fever six years before. There was loss of reaction to both galvanic and Faradic currents; pronounced lordosis on standing; knee-jerks abolished; family history negative.—*British Medical Journal*, April 21st, 1894.

Rash. Typical typhoid (rose) spots were seen in fifteen cases.

Bowels. (*a*) Constipated, 10; (*b*) typical stools (that is, corresponding to the typhoid "pea-soup" motion of the adult) in three cases only; (*c*) apparently normal, 3; (*d*) loose and offensive, but not typical of anything, 8. Enemata had to be given during the acute stage in seven cases, and during convalescence in seven cases also.

Cause of death. The causes of death in the three cases mentioned above were as follows:

Pyemia (girl, aged 13 years) secondary to acute necrosis of the terminal phalanx of a finger; the form of pyemia being innumerable superficial abscesses.

Perforative peritonitis (boy, aged 12). Symptoms coming on one hour after the administration of a glycerine enema, the child dying forty-eight hours afterwards. The *post-mortem* examination showing a small perforation at the base of a typhoid ulcer two inches above the cecum; general acute peritonitis; the gut much thinned for some distance from the perforation; ten or twelve ounces of sero-purulent fluid in the general peritoneal cavity.

Exhaustion (girl, aged 8). The temperature kept high—104° F.—for about a fortnight, in spite of the usual antipyrexial treatment. The *post-mortem* examination showed many typhoid ulcers of the lower part of the ileum; some healing, some extending to the peritoneal covering, and some commencing.

PATHOLOGY

IN CHARGE OF

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The Parasite of Favus.

MM. Constantin and Sabrayes have studied the course of favus in man, the dog, and the fowl. This study has led them to conclude that three distinct parasites are the cause of the disease in the three species mentioned.

The fungus found in human favus is nearly related to that of the dog, but distinguished from the latter by its appearance in culture, by the invariable structure of its mycelium, and by its color. The fungus found in favus of the fowl is altogether different from that found in favus of the human subject or the dog.—*Recueil de Médecine Vétérinaire.—Journal of Pathology and Therapeutics.*

The Infectivity of the Blood of Tuberculous Cattle.

At the instigation of Bollinger, Hagemann has recently made some experiments with the view of ascertaining whether the blood of cattle affected with tuberculosis contains tubercle bacilli. Blood from six such animals was inoculated to guinea-pigs; in two of these cases the disease was moderately advanced, and in the other four the lesions were very extensive. In none of the cases was acute generalized tuberculosis present. For the experiments eleven guinea-pigs were used, and of these one died from purulent edema on the second day after inoculation. Of the ten others, nine remained healthy, while one proved to be extensively tuberculous seven weeks after inoculation (tuberculosis of the spleen, liver, and abdominal and thoracic lymphatic glands). The blood with which this guinea-pig had been inoculated was taken from a cow with very extensive tuberculous lesions, but in fair condition. The result of these experiments was similar to that obtained by Bollinger's pupils in earlier experiments with the milk and flesh of tuberculous cattle, but in the former experiments the milk and flesh were found to be much more frequently infectious. Bollinger calls attention to the fact that, since tuberculosis

develops more rapidly and shows greater tendency to generalization in the pig, the blood of that animal is probably much more frequently infectious than the blood of cattle. The blood of tuberculous pigs ought, therefore, to be excluded from human consumption, especially since the sausages in the manufacture of which it is used are generally imperfectly cooked.—*Zeitschrift fur Fleisch und Milchhygiene.—Journal of Pathology and Therapeutics.*

A New Urethral Diplococcus.

Immerwahr has found in blennorrhagic pus a new diplococcus, similar to the gonococcus both in form and tinctorial reactions, but differing from it in its cultural characteristics in the ordinary culture media in use. It is intracellular, is decolorized by Gram's solution, forms small gray, transparent colonies upon agar, and does not liquefy gelatine. Immerwahr believes this germ to be identical with the saprophyte described by French authors as the cause of epididymitis, and which they have named the orchococcus. This germ differs from the gonococcus chiefly in its size, and from the staphylococcus in complete absence of grouping in grape-bunch form.—*Rev. Intern. de Bibliog. Med.*, etc., Feb. 10, 1894.

Ehrlich's Diazo Reaction.

Julius Friedenwald has studied this reaction with some care, making personal observations in twenty-one cases of typhoid fever, in which disease it is very constant, making its appearance usually within the first week, and gradually disappearing between the second and third weeks.

In twenty-nine cases of severe pulmonary tuberculosis the reaction was almost constant; in fourteen light forms it was not shown. Its presence in this disease, extending over long periods of time, may therefore be regarded as a grave sign. The reaction was never obtained in healthy individuals.

The author emphasizes the following conclusions of Ehrlich: The diazo reaction is of great diagnostic value in typhoid fever. If the case shows a slight or no reaction between the fifth and eighth days, other appearances pointing to typhoid fever, it can be looked upon at once as an exceedingly light form, and the prognosis made accordingly. Gastro-intestinal catarrhs, accompanied by fever, always run their course without a reaction. Very marked and constant reactions may accompany mild forms of typhoid fever, and do not justify a bad prognosis. Reactions appearing continuously for a long time (two months) in phthisis pulmonalis always indicate a grave prognosis.—*New York Medical Journal*, December 23, 1893.

Editorials.

MEDICAL "FAKIRISM."

WE have recently been pondering over the meaning of the term "fakir," and, as a result, are now wondering why our text-books in medicine do not present their readers with some short or long account of the ways in which "fakirism" can be employed with benefit to either patient or practitioner. Benefit accruing to either would seem to completely justify the procedures classified under the term, and certainly our colleges, which brag of their equipment in modern ways and means, ought not to send out students minus a course in (im) morality, which would be of the greatest service to them hereafter. Many short-sighted individuals, students as well as practitioners, have complained bitterly of the fact that some preparations of drugs travel under more than one name, and have thus brought unsuspecting ones into trouble. Hitherto we have sympathized with the afflicted ones, but now we know; for we have it on the best of authority that this pharmacopeial freak works, along with some other things, for the material benefit of the wise man. For example: A Canadian practitioner of high standing sends a patient to sojourn for a longer or shorter period of time in a part of the United States which he knows to be suitable from a climatic standpoint. The physician gives his patient a prescription to take with him and have filled from time to time, as found necessary. Fortunately for the patient, on his way to the spot recommended, by somebody's advice, he consults a great specialist, one whose name is to be found, perhaps, as often as that of any other, in the most recent text-book of medical practice written in America. The eagle eye of the great man instantly detects the danger of permitting a sick patient to take, for example, liquor arsenicalis when Fowler's solution would be so much safer and better; and also of allowing him to sequestrate himself so far away that the Fowler's solution employed could not easily and quickly be examined to make sure that the proper amount of Fowler was present, and no more.

The medical profession is, of course, noted for its conservatism in more ways than one. Dare we ask Professor Osler to be liberal enough to see that something be done, when another edition of his "Practice" is called for, to give fakirs and fakirism *proper* recognition?

Our main object in writing will be achieved if our colleges can be persuaded to look into the subject, and see that, if necessary, the student may be taught evil that good may come of it.

THE ONTARIO MEDICAL ASSOCIATION.

THE Ontario Medical Association has nearly completed the thirteenth year of its existence, and will hold its fourteenth annual meeting in Toronto on June 6th and 7th. The first meeting of this society was held in Toronto, June, 1881, under the presidency of the late Dr. Workman, and was in all respects so remarkably successful that its promoters and friends, one and all, agreed in predicting for it a bright and prosperous career. We are much pleased to be able to state that the desires and hopes of the organizers have been fully realized, and that to-day our provincial association stands on a firm basis, and receives the cordial and active support of the profession of Ontario.

The following is a list of its presidents in regular succession: Dr. Jos. Workman, Toronto; Dr. C. W. Covernton, Toronto; Dr. J. D. Macdonald, Hamilton; Dr. D. Clark, Toronto; Dr. A. Worthington, Clinton; Dr. G. A. Tye, Chatham; Dr. J. H. Richardson, Toronto; Dr. J. W. Rosebrugh, Hamilton; Dr. W. H. Henderson, Kingston; Dr. J. Algernon Temple, Toronto; Dr. W. H. Moorehouse, London; Dr. R. A. Reeve, Toronto; Dr. R. W. Hillary, Aurora; Dr. L. McFarlane, Toronto. The association, though young in years, has been very unfortunate in having lost four of these through death, viz., Drs. Workman, Tye, Worthington, and Henderson.

We are glad to know that the prospects for the coming meeting are of the brightest sort. The president, and members of the various committees, especially those having charge of papers, business, and general arrangements, have been working assiduously, and have about completed their work of organization. We publish in this issue a provisional programme, which will give a partial idea of the work to be done. Several additional papers are, however, expected. It will be noticed that Drs. Fox and Robinson, of New York; Dr. W. H. Hingston, of Montreal; Drs. Herman Mynter and C. G. Stockton, of Buffalo; and Dr. Thos. S. Cullen, of Baltimore, have promised to read papers. Other prominent physicians have been invited, and will probably attend.

CONTRACT OR LODGE PRACTICE.

THE question of contract or lodge practice is surrounded by many difficulties. In Great Britain it is recognized as reputable, and in the interests of certain classes of citizens, especially in large cities. The average lodge doctor of England, however, is rather a poor specimen of a cultured and scientific physician; and we think it is not in the interests of this new country to unduly endeavor to cultivate anything of that sort.

At the same time, it is sufficiently patent that we are making rapid strides in certain directions; and contract practice has developed to such an extent and in such a way in certain localities that it has become a disgrace to our profession. We do not know that the system can ever be abolished entirely, but we certainly agree with the London Medical Society as to the desirability of taking some steps towards "minimizing the evil."

We publish in this issue a communication from the London Society on the subject; and are pleased to note that its members do not simply protest against the system, and call wildly for its abolition, but, in addition, offer certain suggestions which, if carried out, would be likely to do much towards, at least, lessening the evil. We do not propose to discuss these at the present time; but we hope that all those members of the profession in Ontario who are interested will take the trouble to consider the matter in all its aspects, and endeavor to convince the members of the Medical Council—a large number of whom have already shown a desire for radical reforms in the direction indicated by the London Medical Society—that there exists an urgent necessity for legislation in the near future.

THE INTERNATIONAL MEDICAL CONGRESS AT ROME.

THE latest detailed reports of the proceedings of the International Congress, in Rome, reveal little that is new or startling. The congress was certainly a huge affair, but not otherwise remarkable in any sense. There was nothing at all brilliant in the direction of scientific work; there was little or nothing that can be called new in the work of the various sections. There were four official languages. In speaking of this, the *British Medical Journal* says: "It may be convenient and even courteous to assume that every one understands three languages besides his own, but it is not a theory that works in practice, and it would undoubtedly have contributed to the interest of the discussions if there had been but one official language, and that French, which appears to be spoken by most Italian medical men."

There has been a considerable amount of discussion as to the utility of such immense congresses, composed of men of different nationalities, speaking varied languages. The recent meeting at Rome was, we think, singularly unfruitful in the way of advancing medical science and art. Those who attended it with the idea of having a very pleasant and interesting outing were, as a rule, not disappointed. In fact, we may say that the great majority of visitors enjoyed themselves very much, and left Rome about as full of wisdom, in a medical way, as they were when they landed in the ancient city.

Notwithstanding certain drawbacks which are inseparably connected with very large gatherings of physicians, it is altogether likely that the International Medical Congress is a permanent institution, and will ever retain the general popularity which it now enjoys. Leading medical lights of different countries can scarcely meet without doing something in the way of developing that brotherly love which should exist amongst the members of our craft in the whole civilized world. Apart from any sentiment, we have learned much about Italy from the meeting in Rome; and the impressions received are likely to increase our respect for the grand army of Italian physicians who are working so earnestly and successfully in the interests of scientific medicine.

The next congress will be held in Russia. The choice appeared to lie between Russia and Spain, although Egypt also wants to hold a meeting. At the Berlin Congress in 1890, Russia extended a cordial invitation to the members; but Italy was chosen, with an implied understanding that the claim of the former country would be favorably considered at this meeting. A congress in Russia will certainly be interesting in many ways; and it is probable that we may, as the result of the next meeting, gain a knowledge of Russia's work in scientific medicine which will greatly increase our respect for the physicians of that vast country.

Correspondence.

LODGE PRACTICE.

To the President and Members of the Ontario Medical Council:

GENTLEMEN,—The London Medical Society hereby appeals to the Medical Council to devise, if possible, some means of abolishing or restricting the system of contract or lodge practice.

This society, in common with the profession in general, recognizes the necessity of some steps being taken to check this evil. The Medical Council has rendered valuable service in protecting the profession and the public from *unlicensed* practitioners. There has, however, grown up, within the ranks of licentiates themselves, this pernicious system, which is making greater inroads upon the field of regular practice than all forms of quackery combined; and this society but voices the current sentiment of the profession in condemning the system, and appeals to the Council, as the guardians of the profession, to adopt some means of abolishing or minimizing the evil.

The society begs to offer the following suggestions:

(1) Apply for legislative authority to prohibit contract practice. With the prevailing contract rates at $1 and $1.50 per member, this prohibition might be shown to be in the interest of the public as well as the profession, inasmuch as indifferent service is a natural result of inadequate remuneration; or

(2) Apply for legislative power to fix a minimum tariff of contract rates. The *Dominion Medical Monthly* for December, 1893, claims, on the authority of a distinguished actuary, that the proper remuneration for contract practice in Canada is $4 a year per member; or

(3) Apply to the Legislature for power to frame and enforce a code of medical ethics, with a view to control the evil; or

(4) Address an appeal to every registered practitioner to discountenance the system. The influence of such an appeal, coming from the representative body of the profession, would tend to bring the practice into disrepute.

Signed on behalf of the London Medical Society,

J. H. GARDINER, M.D., President.
OCTAVIUS WELD, M.B., Secretary.

London, April 6th, 1894.

Book Reviews.

HEADACHE AND NEURALGIA. By J. Leonard Corning, M.A., M.D. New York: E. B. Trent.

The present edition, which is the third, is enlarged by the addition of an interesting chapter on "Localization of the Action of Remedies on the Brain." Altogether the work is very readable, and abounds in ingenious devices and valuable suggestions for the relief of the distressing affections with which the book deals.

THE NATIONAL DISPENSATORY, containing the natural history, chemistry, pharmacy, actions, and uses of medicines, including those recognized in the pharmacopœias of the United States, Great Britain, and Germany, with numerous references to the French Codex. By Alfred Stillé, M.D., LL.D., Professor Emeritus of the Theory and Practice of Medicine and Clinical Medicine in the University of Pennsylvania; John M. Maisch, Phar.D., late Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy; Charles Caspari, jr., Ph.G., Professor of Theoretical and Practical Pharmacy in the Maryland College of Pharmacy; and Henry C. C. Maisch, Ph.G., Ph.D. Fifth edition, enlarged and revised in accordance with the seventh decennial revision of the United States Pharmacopœia, with three hundred and twenty illustrations. Philadelphia: Lea Brothers & Co., 1894.

The present edition of this work was rendered necessary by the numerous changes and additions in the recent revision of the United States Pharmacopœia. The work is a magnificent volume of about 1,900 pages. In the body of the work the drugs are arranged alphabetically, which is very desirable in such a large treatise. Each drug is described as to its origin or preparation, physical and chemical properties, impurities, tests, action, and uses. We are indebted for the greater portion of the materia medica and pharmacy contained in the volume to the late Prof. Maisch, who, happily, had completed his share of the work before his demise. The therapeutical portion of the work is under the control of Prof. Stillé, and is very complete as far as the use of drugs is concerned. He lays greater stress upon facts the result of clinical experience than upon pharmacology.

In the fifth edition of the work, many of the recent synthetic compounds and botanical preparations are introduced and fully described. The decimal system, as well as the British, is used in all weights and measures. In the appendix, lists of reagents used in qualitative and quantitative analysis are given, as well as many tables, such as thermometric equivalents, formulæ, and molecular weights of chemical compounds, etc., etc. The index is very com-

plete, and includes an "Index of Therapeutics," in which all the drugs in volume are classified under the different diseases in which they are of medicinal use. The work is splendidly gotten up, and a valuable book of reference to a physician.

AN AMERICAN TEXT-BOOK OF THE THEORY AND PRACTICE OF MEDICINE. By American teachers. Edited by William Pepper, M.D., LL.D., Provost and Professor of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennyslvania. In two volumes. Illustrated. Volume II. Published by W. B. Saunders, Philadelphia.

We reviewed the first volume of this work, and said: "It is undoubtedly one of the best text-books on the practice of medicine which we possess." A consideration of the second and last volume leads us to modify that verdict, and to say that the complete work is, in our opinion, the best of its kind it has ever been our fortune to see. It is complete, thorough, accurate, and clear. It is well written, well arranged, well printed, well illustrated, and well bound. It is a model of what the modern text-book should be.—*New York Medical Record.*

NEW AID SERIES OF MANUALS FOR STUDENTS AND PRACTITIONERS.

W. B. Saunders, of Philadelphia, announces the foregoing work as in active preparation. These Aid Series will not merely be condensations from present literature, but will be ably written by well-known authors and practitioners, most of them being teachers in representative American colleges. This new series, therefore, will form an admirable collection of advanced lectures, which will be invaluable aids to students in reading, and in comprehending the contents of "recommended" works.

Each manual, comprising about 250 pages, will further be distinguished by the beauty of the new type; by the quality of the paper and printing; by the copious use of illustrations; by the attractive binding in cloth; and by the extremely low prices, which will uniformly be $1.25 per volume.

AN AMERICAN TEXT-BOOK OF THE DISEASES OF CHILDREN, including special chapters on Eye, Ear, Throat, and Nose; Diseases of the Skin, and General Management of Children. By Louis Starr, M.D., Physician to the Children's Hospital, Philadelphia, and late Clinical Professor of Diseases of Children in the University of Pennsylvania. In one royal octavo volume of 1,190 pages, profusely illustrated with woodcuts, half-tones and colored plates. Publisher, W. B. Saunders, 925 Walnut Street, Philadelphia.

The work is intended to be a practical book, suitable for constant reference by the practitioner and advanced student, and it seems to us to quite fill the place for which it was intended. The book consists of a collection of monographs by the best known teachers in this department in America. The author has aimed to make the work in every particular American, and American in the broadest sense; to this end he has gone from one side of the continent to the other in the selection of the sixty-three contributors whose combined articles make up the volume.

The book opens with an excellent and most instructive article on "The Clinical Investigation of Disease and General Management of Children," by Dr. Starr. The chapters on bacteriology contain the results of the most recent investigation in this department. With reference to the infective fevers, the portion devoted to them is most complete, particularly as to their nature and causation.

The writer on scarlet fever introduces the most beautiful and lifelike colored plates we have ever seen.

In this connection, we might remark that the illustrations with which the work abounds are unusually good. The colored plates, of which there are some twenty, showing the different skin diseases, blood conditions, and bacterial slides, are most perfect representations.

The chapters on diseases of the nose and throat are clear, and much attention is paid to formulæ and to technique in operative procedures.

Many beautiful colored plates, together with useful formulæ, make the portion devoted to skin diseases most complete.

A most important department in a work of this kind is the consideration of suitable foods for infants and young children, and also of the conditions which arise when unsuitable and indigestible food is given. In the work before us this subject receives careful treatment, and the views expressed appear to us to be in harmony with the most advanced scientific teaching.

Considering the work as a whole, we are glad to have an opportunity of recommending it to our readers as in every respect a most instructive and desirable book.

The following books have been received:

INTERNATIONAL CLINICS. A quarterly of clinical lectures on medicine, neurology, pediatrics, surgery, genito-urinary surgery, gynecology, ophthalmology, laryngology, otology, and dermatology. By professors and lecturers in the leading medical colleges of the United States, Great Britain, and Canada. Edited by John M. Keating, M.D.; Judson Daland, M.D.; J. Mitchell Bruce, M.D., F.R.C.P.; and David W. Finlay, M.D., F.R.C.P. Published by the J. B. Lippincott Company, Philadelphia. Volumes II., III., IV. of Third Series. Volume I. of Fourth Series.

SAUNDERS' QUESTION COMPENDS. Essentials of Nervous Diseases and Insanity. Their symptoms and treatment. A manual for students and practitioners. By John C. Shaw, M.D. Second edition revised. Published by W. B. Saunders, Philadelphia.

SAUNDERS' QUESTION COMPENDS. Essentials of Practice and Pharmacy. Arranged in the form of questions and answers prepared especially for pharmaceutical students. Second edition. Edited by Lucius E. Sayre, Ph.G. Philadelphia: W. B. Saunders.

HYDATID DISEASE. A collection of papers on hydatid disease, by the late John Davies Thomas, M.D. Lond., F.R.C.S. Eng. Edited by Alfred A. Lindon, M.D. Lond. Publishers, L. Brèck, Sydney, and Bailliere, Tidall & Cox, Strand, London.

Medical Items.

A PROGRAMME of the proceedings of the June meeting of the Ontario Medical Association will appear in the Toronto newspapers, June 4 and 5.

DR. RIDLEY MACKENZIE has been appointed Medical Superintendent of the Montreal General Hospital.

DR. R. B. NEVITT, of Toronto, spent a couple of weeks in April in the Johns Hopkins Hospital, Baltimore.

THE firm of William Warner & Co., Philadelphia, have been awarded a silver medal for their exhibit at the International Congress held at Rome.

DRS. BRUCE RIORDAN, James T. Thorburn, and Thomas McKenzie have gone to the meeting of the American Railway Surgeons at Galveston, Texas.

DR. JOHH H. GIMBY, of Wiarton, has been appointed Associate Coroner for the county of Bruce; and Dr. Hugh S. Bingham, Associate Coroner for the county of Ontario.

PROFESSOR OSLER, of Baltimore, was in Toronto May 6th and 7th. He will sail for Europe May 24th, and intends to go at once to Paris, where he will remain some months.

DR. JOHN CAVEN, Professor of Pathology in the University of Toronto sailed for Europe on May 11. He expects to spend the summer on the continent, where he will be mostly engaged at laboratory work.

DR. GERALD O'REILLY, who has practised in Fergus for thirteen years, has sold out to his former partner, Dr. Armstrong. He expects to take a somewhat extended tour in Europe, after which he will return to this continent, and probably locate in Detroit.

DRS. J. E. GRAHAM, G. R. McDonough, W. P. Caven, A. McPhedran, Edmund E. King, B. E. McKenzie, G. A. Bingham, and J. F. W. Ross are going to the meeting of the Congress of American Physicians and Surgeons to be held in Washington, May 29th to June 1st.

DR. MACKID, of Calgary, is in town on his way from Vienna. The doctor and his wife have been away since December. He says that the deprssion in the United States has made a decided impression on the number of American physicians who annually visit Europe.

DR. GEORGE PETERS, of Toronto, gave an exhibition of some of his work in parian cement and plaster of Paris in St. George's Hall, Toronto, May 15. It included busts of the Lieutenant-Governor of Ontario, Hon. John Beverly Robinson, Sir Casimir Gzowski, and many other prominent citizens, all of which were much admired by those in attendance.

A MEETING of physicians of West Toronto was held on April 7, when an association was formed under the name of the West Toronto Territorial Medical Division. The following officers were elected: President, Dr. Arthur Jukes Johnson; vice-presidents, Drs. A. A. Macdonald and A. Hamilton; secretary, Dr. Carveth; council, Drs. Orr, Spence, and McPhedran.

THE following officers of the Toronto Clinical Society were elected at the May meeting: President, Dr. G. Sterling Ryerson; vice-president, Dr. J. E. Graham; corresponding secretary, Dr. Allan Baines; recording secretary, Dr. D. C. Meyers; treasurer, Dr. A. R. Atherton. Executive Committee—Drs. J. H. Burns, W. H. B. Aikins, L. McFarlane, Edmund E. King, Joseph Leslie.

WE regret exceedingly to report that Dr. Ingersoll Olmsted, who, a few months ago, went from Hamilton to Philadelphia, is suffering from a serious attack of septicemia. When the symptoms appeared he returned at once to Hamilton, and placed himself under the care of Drs. Malloch, Mullin, and Edgar, in the General Hospital. We understand, at the time of writing, that he is improving slowly.

THE ONTARIO MEDICAL ASSOCIATION.

The following is the provisional programme of the fourteenth annual meeting of the Ontario Medical Association:

The President's Annual Address.—L. McFarlane, Toronto.

Discussions:

(1) "On the Treatment of Strangulated Hernia"—J. Wishart, London; F. W. Strange, Toronto; R. Whiteman, Shakespeare; G. S. Rennie, Hamilton.

(2) "On the Treatment of Chronic Diseases"—J. E. Graham, Toronto; R. W. Bruce Smith, Seaforth; R. H. Preston, Newboro.

(3) "On the Use of Strychnia in Ordinary Practice, with special reference to Pneumonia and Chronic Heart Disease"—J. H. Duncan, Chatham; J. T. Fotheringham, Toronto; A. C. Gaviller, Grand Valley; H. J. Sanders, Kingston.

(4) "On Placenta Previa"—J. Algernon Temple, Toronto; A. McKay, Ingersoll; G. T. McKeough, Chatham.

(5) Symposium on Influenza: "Its General Features"—L. M. Sweetnam, Toronto. "Its Nervous Phenomena"—S. Lett, Guelph. "Its Thoracic Phenomena"—Chas. Sheard, Toronto. "Its Digestive Phenomena"—T. S. Harrison, Selkirk.

Papers by guests :

(6) "Cancer of Breast in its Clinical Aspect"—W. H. Hingston, Montreal.

(7) "Cholecystenerostomy and Gastroduodenostomies by aid of Murphy's Buttons"—H. Minter, Buffalo.

Papers are also expected from A. R. Robinson, New York ; G. W. Fox, New York ; T. G. Roddick, Montreal ; J. C. Cameron, Montreal ; J. Stewart, Montreal, and others.

Papers by members :

(8) "Atrophic Rhinitis"—J. Price Brown, Toronto.

(9) "The Contagiousness of Diphtheria"—J. R. Hamilton, Port Dover.

(10) "Artificial Feeding and Care of Infants"—J. W. S. McCullough, Alliston.

(11) "Placenta Previa"—A case : J. Campbell, Seaforth.

(12) "The McGill Operation for Prostatic Enlargement, with cases"—A. McKinnon, Guelph.

(13) ————A. B. Welford, Woodstock.

(14) ————J. M. Cotton, Lambton Mills.

(15) "Photographing of Pathological Specimens"—N. A. Powell, Toronto.

(16) "Treatment of Consumption"—E. Herbert Adams, Toronto.

(17) "Law versus Practice in Therapeutics"—G. M. Aylesworth, Collingwood.

(18) "Inflammation of the Frontal Sinuses"—F. N. G. Starr, Toronto.

(19) "Cholecystotomy"—R. Whiteman, Shakespeare.

(20) ————R. King, Peterborough.

(21) "Cephalhematomata"—E. Bromley, Bright.

(22) "Surgical Interference in Typhlitis. When? How?"—G. A. Bingham, Toronto.

(23) "Hip-Joint Disease, Diagnosis and Treatment"—W. W. Bremner, Toronto.

(24) "The International Congress of '94"—E. E. Kitchen, St. George.

(25) "Uncured Gonorrhea, Causes and Sequences"—E. E. King, Toronto.

(26) "Paralysis Agitans"—E. H. Stafford, Toronto.

(27) "Treatment of Morphia Poisoning by Permanganate of Potash—Report of Experiments"—Graham Chambers, Toronto.

(28) "Headache"—D. Clark, Toronto.

(29) ————L. Brock, Guelph.

(30) ————William Britton, Toronto.

(31) "Report of Some Cases of Abdominal Sections, with Remarks on Same"—H. Meek, London.

(32) "Suprapubic Lithotomy : A Case"—W. J. Gibson, Belleville.

(33) ————J. E. Eakins, Belleville.

(34) "Therapeutics of Diuretin"—A. McPhedran, Toronto.

(35) "Papilloma of the Ovary—Report of two Cases, with Photographs and Drawings"—J. F. W. Ross, Toronto.

(36) ————D. J. Gibb Wishart, Toronto.

OBITUARY.

DR. N. R. OLIVER, of Brampton, who retired from active practice many years ago, died April 11th, at the age of eighty years.

DR. A. G. FENWICK, of London, Ontario, died suddenly on May 14, from apoplexy, at the age of 76. He was educated in McGill Medical College, and secured his license to practise in 1840. He ived in the Province of Quebec until 1875, when he went to London. He was Dean of the Medical Faculty of the Western University, Professor of Medical Jurisprudence, and the representative of the university in the Ontario Medical Council. He was highly respected by all classes in London and vicinity, and dearly loved by his intimate friends.

DR. EDWARD BULL, of Toronto, died at his late residence, 131 Bloor street, April 25th, in his 71st year. He graduated in Victoria University in 1845. After practising two years at Bond Head he went to Lloydtown, where he remained until 1864. He then removed to Weston, where he was engaged in practice until 1876, when he retired from active work, and removed to Toronto. He had a large and lucrative practice in Weston, and was well known and highly respected in West York, where he was once a candidate in the Liberal interest for the Dominion Legislature. He had a large circle of warm friends, professional and otherwise, in Toronto, who feel very deeply the loss they have sustained by his death.