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CANADA MEDICAL RECORD

MARCH, 1898.

Original Communications.

ARTIFICIAL ANUS CLOSED FIVE MONTHS AFTER COLOSTOMY — REPORT OF THE CASE.

By FRANK R. ENGLAND, M.D.,
Surgeon to the Western General Hospital.

E. I., a bright and healthy looking lad, aged fifteen years, was admitted into the Surgical Ward of the Western Hospital on February 3, 1898. He comes with an artificial anus which he wishes, if possible, to have closed, and the normal relations of the bowel restored.

Family history is negative.

Personal History.—Patient never suffered from any illness of importance until the beginning of September, 1897, when he complained of headache and feeling out of sorts. On the 22nd day of September he was seized with severe pain in the left lumbar region, radiating over the abdomen. A physician was called in, who prescribed poultices and a dose of castor oil. The same evening he was taken to one of the city hospitals, where an operation for appendicitis was performed soon after admission. The usual lateral incision was made. On opening the abdomen the cæcum and appendix vermiformis were found to be normal. The incision was closed, and on further examination a tumor of considerable size was discovered blocking the rectum, and situated about four inches from the anus. The mass was considered as probably tubercular. A left iliac colostomy was then per-

formed. The symptoms were relieved by the operation, and the patient was discharged from the hospital November 1st. Since the operation the bowels have acted two or three times a day by the artificial anus, the stools being well formed and normal in character.

February 10.—The patient was examined under an anæsthetic, no tumor could be made out, and water injected into the rectum, under a slight pressure, flowed out at the artificial opening.

February 12.—A heavy soft rubber tube, one inch in diameter and five inches in length, secured in the middle with a strong silk ligature, was introduced into the lumen of the bowel through the artificial anus, and held securely beneath the parietes by tying the tube to a pad of gauze placed over and closing the artificial anus. The patient was put to bed, and the tube allowed to remain in the bowel till the following day, with the effect that two large but rather soft evacuations were passed per rectum, showing that the lower bowel was pervious.

February 13.—Patient complained of some pain, and there was considerable swelling of the mucosa, due to the irritation of the tube. The tube was removed with but little difficulty, and the intestine irrigated with boracic acid solution.

February 19.—Having decided to close the artificial anus, the patient was anæsthetized, and Drs. Rollo Campbell and George Fisk kindly assisted me at the operation. An incision was made around the fistula at the junction of the mucous and cutaneous surfaces. The walls of the bowel having been slightly freed, and, before opening the peritoneal cavity, a continuous Glovers' suture of iron dyed silk was introduced to close the fistula and thus protect the peritoneum against contamination. The bowel was then freed from the parietes, the abdominal incision enlarged, and the peritoneal cavity opened. It was found that the omentum was adherent to the abdominal wall and to the intestines, and that the descending colon had been opened when the colostomy was performed. With the hand in the abdominal cavity no tumor or thickening could be discovered in the sigmoid or rectum, so it was decided to close the fistula.

Any lymph or thickening on the bowel in the neighborhood of the fistula was dissected off. It was then found that the calibre of the gut was only slightly narrowed, and this was apparently caused by the suture introduced longitudinally at the beginning of the operation to close the opening in the bowel. This suture was therefore cut and removed, and the opening into the bowel re-sutured transversely (instead of longitudinally) as is recommended in the operation of pyloroplasty, and first practiced by Heineke, of Erlangen. A second continuous Lembert suture was introduced, and for further security against leakage a piece of omentum was brought like a cuff around the bowel and sutured on either side to the mesentery.

Lastly, the old cicatricial tissue in the abdominal wall was cut away and the wound closed.

February 20.—Temperature 98, pulse 100. Patient passed a fair night and suffered very little pain. Flatus passed per rectum.

February 21.—Patient feeling well, and asking for food. Pulse and temperature normal.

February 23.—Patient feeling well and hungry. No distention. Flatus passing. Six tablet triturates Hydrarg. Subchlor. gr. 1-10 were ordered, one to be taken every hour, to be followed by a saline.

February 24.—Patient feeling perfectly well. Has had two large natural stools. From this time on his recovery was rapid and complete, his bowels moving twice daily without medicine. The stitches were removed on March 4, (thirteen days after the operation). The abdominal wound healed by primary union. Two days later the patient was up and about the ward and in excellent health.

On March 13 the patient complained of feeling poorly. He suffered from a sore throat and vomited a number of times. Temperature $102\frac{1}{2}^{\circ}\text{F.}$, pulse 120. The following day a characteristic scarlatina-form rash made its appearance, and he was sent to the Civic Hospital, where he is now convalescing.

ANEURISM OF THE ASCENDING PORTION OF THE AORTA.—Report of Case.

By J. BRADFORD McCONNELL, M.D.

Associate Professor of Medicine and Neurology University of Bishop's College,
Physician Western Hospital.

Mrs. H., aged 32 years; occupation, housewife. Admitted to the Western Hospital, January 15, 1898. Notes taken January 17th, recorded by A. D. Irvine, M.D., Senior House Physician.

COMPLAINTS.—Shortness of breath, pain between shoulder blades and in both arms, especially the right. Swelling in right breast.

PREVIOUS HISTORY.—Born in Derbyshire, Eng. Was never seriously ill until she came to Canada. Has worked very hard since her arrival in this country seven years ago. No specific history to be obtained.

PRESENT ILLNESS.—Began about two years ago, by an attack of rheumatism, which confined her to bed for about one month. She had almost recovered from that when she received a fright, and putting her hand to her chest felt a pulsating tumour on right side, after which she was very short of breath, and her physician advised her entrance into the hospital. In June, '96, patient entered hospital; the dyspnoea was found to be due to an aneurism of the aorta. She was treated by rest in bed, dry diet and *pot. Iod.* for seven weeks, and improved considerably, but she had to remain in bed for nine months after leaving the hospital.

For the last seven months patient has been doing her household work, but has been troubled off and on with dyspnoea and pain in right chest; also has had pain in her arms and between the shoulder blades for the last seven months. Has been coughing for three months.

PRESENT CONDITION.—Rather well nourished, intelligent woman. Has to assume an upright position in bed on account of dyspnoea; can recline a little, but it causes a feeling of pressure in the right chest, which produces dyspnoea and causes her to cough. Cannot sleep on account of impossibility to assume a position favorable to sleep. Temperature normal.

VASCULAR SYSTEM.—Pulse visible in all superficial arteries. Rapid, but free and strong. No arterio sclerosis. Right external jugular vein somewhat enlarged.

On inspection of the chest a large pulsating tumor about four inches in diameter is seen just to the right of the sternum over the 2nd, 3rd and 4th ribs. This tumor is tender to touch, and any pressure on it causes a smothering sensation. No difference could be made out in the radial pulsations and they were synchronous. Pulsations cannot be made out in the femorals.

An oval pulsating projection is seen on the right side of the chest between the 1st space and 4th rib, extending about four inches to the right of the sternum. On palpation the mass gave evidence of great tenderness on the slightest pressure, and an expansile tumor is readily made out, reaching to the spine, and having caused erosion of a portion of the ribs and cartilages. The apex of the heart is felt in the 6th space in the nipple line. Dullness on percussion corresponds to the outline of the tumor as made out by palpation.

An systolic murmur is present, heard over the tumor and along the course of the aorta. The second sound is accentuated, and at the left side of the ensiform cartilage a diastolic murmur can be heard.

Tracheal tugging is readily made out. There is some dullness over the left lung at the apex behind, the respiratory sounds are less intense than on right side, and tubular breathing is present throughout the upper half of left lung. In the right lung breathing is vesicular, but increased in intensity.

The pupils are normal and equal. There are no abnormal unilateral skin manifestations. There is frequent cough, and the difficulty in breathing is apparently due to pressure on the bronchi, especially the left, and infringement on the space of the right lung.

GENITO-URINARY SYSTEM.—Menstruation regular. No children, but has had three miscarriages. Urine sp. gr. 1034, otherwise normal.

The patient had frequent dyspnoea attacks, which were relieved by hypodermics of morphia, gr. $\frac{1}{8}$ and strychnia, gr. $\frac{1}{30}$. Towards the end the patient passed urine involuntarily.

Between the 17th and the 22nd, while she was in the

hospital, the pulse ranged between 90 and 110, and the respiration between 25 and 35 per minute. The temperature from 97° to $98\frac{2}{3}^{\circ}$.

The patient died suddenly on the 22nd.

PATHOLOGICAL REPORT, BY DR. J. A. MACPHAIL.

The throat was opened, and all the contents removed, together with the tongue and trachea. The relation of the parts was confused till a careful dissection was made. An aneurismal tumor was found extending from its site upon the ascending arch of the aorta to the right chest wall, and having eroded the ribs it appeared beneath the mammary glands externally.

1. The site of the aneurism was upon the ascending arch, commencing just above the aortic valves, and reaching nearly to the origin of the innominate artery. The tumor itself measured six inches in diameter.

2. The opening in the chest wall was nearly circular, and measured three inches in diameter. The ribs involved were the third and fourth, a part of the second and fourth.

3. The tumor rose above the chest walls as a gently rounded mass to the height of an inch, its centre being below the middle of the mammary gland.

4. Adhesions to the edge of the bony opening were complete and firm, and the lungs were adhered in places.

5. The mammary gland and the subcutaneous tissues of the chest were much infiltrated with the transuded fluid.

6. The sac was thin but ruptured in no place, and was filled for the most part with dark clot, which in no place was well organized. The remainder of the cavity contained fluid blood.

7. The aortic valves were not excessively damaged, though there were a few vegetations, and the cusps thickened and curled at the edges. The mitral valves were thick and the muscles powerful. The heart was hypertrophied though not to a high degree. The aorta was markedly atheromatous.

8. The orifice of the innominate artery was dragged into the form of a slit, the left carotid and subclavian arteries were much less deformed.

9. The bend of the recurrent laryngeal nerve was displaced downward at least two inches.

Before coming to the hospital the patient had been treated for months with iod. potassium. In regard to etiology, while there was no evidence of a general arterio-sclerosis, the post mortem examinations showed the presence of atheroma in the arch, and the dilatation doubtless began in the early stage of the process, induced by the patient's arduous work. This alone, with a predisposition to incompetent vessels, may suffice to account for her condition, but the miscarriages suggest a specific taint as an etiological factor, although her condition and history gave no direct evidence of its presence. Yet her age would suggest the probability of some such special cause leading to the early change in the central arterial system. Death was due to cardiac exhaustion.

Selected Articles.

POINTS CONNECTED WITH THE PATHOLOGY AND TREATMENT OF DIABETES.*

By F. W. PAVY, M.D., Lond., LL.D., F.R.S.
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MR. PRESIDENT, COLLEAGUES AND GENTLEMEN—I appear before you to-day to draw your attention to points connected with the pathology and treatment of diabetes. They constitute the outcome of the study which formed the basis of the Croonian Lectures delivered by me in 1894 and of the study I have since conducted. Disease is a deviation from health, and for its proper comprehension we require to have a knowledge of the conditions belonging to health. It is just this in the case of diabetes that it has been difficult to obtain, and the complaint has stood as one of the most inscrutable of diseases. The question first presented for solution is, How does carbohydrate normally become disposed of in the system? Next follows the question, What is it that gives rise to its unnatural escape with the urine?

Briefly stated, diabetes may be said to consist of a malapplication of the carbohydrate principles of food. Common observation teaches us that when the various forms of carbohydrate matter are taken by a healthy person with the food, they become lost sight of and contribute to the benefit of the system. The system has the power of placing them in a position to be susceptible of utilization, and they thus disappear from view with resultant good. In the case of the diabetic, however, the carbohydrate matter that

* Supplementary Croonian Lecture delivered before the Royal College of Physicians of London on November 13, 1897.

is ingested fails to undergo proper application, and passes, instead, as sugar through the system to the urine, with which it is discharged as waste material. This is the plain statement of fact regarding the difference between health and diabetes, and what is wanted is a right understanding of the details concerned.

It has been hitherto assumed, without any positive evidence as a basis, that the carbohydrates undergo oxidation in a direct manner in the system. Liebig placed them in his group of calorific food-principles. In his time physiology and chemistry were not sufficiently advanced to permit of carbohydrate matter being followed after being taken as food so as to obtain information of the phenomena occurring. The first step in this direction was the renowned work of Bernard. Bernard, accepting the view that the carbohydrates are destined for the purpose of oxidation within the system, enunciated the doctrine that the liver is endowed with a glycogenic function which provides a supply of sugar to be conveyed to the tissues for oxidation when carbohydrate matter is lacking in the food. I need not give attention here to the faulty groundwork upon which the glycogenic doctrine was raised. This matter has in times past been amply dealt with. Notwithstanding, however, that it is recognized that the experimental groundwork is fallacious, the doctrine has become so firmly implanted in the mind as to render effacement difficult. Apart from other considerations, what it implies affords its condemnation. In order that sugar may reach the tissues for oxidation, it must enter the general circulation. Now it happens that the stream of blood alleged to convey sugar to the tissues for destruction in part goes to the kidney. It was formerly taught that the capacity existed of tolerating a certain amount of sugar in the blood without its passing off with the urine, and this tolerating capacity was asserted to have been found in the dog to stand good for a proportion of 2.50 per 1000; in other words, when sugar amounted to 2.50 per 1000 in the blood, sugar escaped with the urine, but not when a less proportion existed.

At that time neither for blood nor for urine were the analytical methods for the recognition and determination of sugar in the satisfactory position in which they stand now. Modern physiologists are agreed that the amount of sugar normally present in blood is about, or a little under, 1 per 1000; and in association with this it can be definitely stated that sugar passes into the urine. It can also be definitely stated that in association with 2.5 per 1000 of sugar in the blood such an amount passes into the urine as to give it a pronounced saccharine character. The question of the presence of sugar in normal urine long stood, or was considered to stand, as a debatable point. The discussion on the subject that took place in the pages of *The Lancet* a few years back, in which I took part, will probably be remembered. The method formerly adopted for separating the sugar from the urine and obtaining it in sufficient quantity for its satisfactory identification was by precipitation with lead acetate and ammonia. Operating upon the product yielded by this process, I obtained information which left no doubt in my own mind that sugar constitutes an ingredient of healthy urine. More recently Baisch and others have operated with benzoylchloride. By this reagent sugar may be precipitated

and can afterwards be recovered in a pure form. From the evidence that has been obtained the matter may be considered to have been thoroughly set at rest. Not only, indeed, can it be said that sugar has been found, but likewise that its nature has been defined.

The point to which we are led is that no tolerating capacity exists against elimination by the kidney of sugar present in the blood. As it is present so it escapes, and the urine thus becomes a delicate indicator of the condition of the blood. By experiment it can be shown that sugar introduced into the circulation is at once revealed by the urine. I have found that even as small a quantity as a quarter of a gramme per kilo, body-weight—that is, a four-thousandth of the weight of the animal—intravenously injected has given evidence of influence upon the urine. Where larger quantities are used a more or less pronounced elimination occurs, and the blood even an hour afterwards has not regained its normal constitution, but still retains a surplus of sugar. This tells against the assumed destruction in the systemic capillaries being the natural mode of application of sugar in the animal economy. It is sufficiently evident that the kidneys constitute the channel through which the sugar permitted to reach the circulation in diabetes is discharged from the system. The action of the kidney in relation to sugar is not different in health from that in diabetes. The only difference is one of degree determined by the difference in the amount of sugar existing in the blood. It is not surprising that in former times healthy urine was regarded as being free from sugar. The quantity is too minute for the chemical methods then at command to reveal. With the improved methods of the present day, the sugar which is present in healthy urine, and is derived from the small amount naturally existing in the blood, is readily susceptible of demonstration.

From the considerations that I have mentioned it is permissible to look to the urine for the supply of knowledge regarding the entry of sugar into the blood of the general circulation, and to reason as follows in relation to the glycogenic doctrine. Under natural circumstances the blood contains a certain small amount of sugar which may be considered as constitutionally belonging to it, just as is noticeable with the other constituents of the body. Physiologists are agreed that the amount of sugar in the blood is not altered by the amount of carbohydrate ingested. Within ordinary limits, both the blood and the urine remain uninfluenced by the character of the food with respect to carbohydrate. It matters not whether the comparatively insignificant amount of carbohydrate existing in an animal diet or the large amount contained in many articles of food from the vegetable kingdom be ingested, the result is the same. But could this be the case if the ingested carbohydrate had to be conveyed as sugar through the general circulation to the systemic capillaries to be there disposed of? It would mean that, notwithstanding the demonstrable fact that whilst the introduction of an exceedingly small amount of sugar into the circulation gets revealed by the urine, a surpassingly large amount can reach it from the food without evidence being afforded of its doing so. The circumstances are such that whatever presumably passes to the tissues for destruction would equally pass to the kid-

ney for elimination. If the kidneys were placed on the other side of the systemic capillaries there might be destruction without elimination. But it is the same stream that goes to the systemic and to the renal capillaries, and for the teaching to hold good it would have to be assumed that destruction could proceed and elimination remain in abeyance. By the ingested carbohydrates being temporarily stopped by the liver and stored as glycogen, the difficulty is not removed. Within a given time the transit would have to be made, and the amount transported under a free carbohydrate diet would be infinitely greater than could be derived in any way from animal food, and yet it escapes, being revealed by the urine.

What the quantity is that would have to pass may be judged by the difference in the amount of sugar eliminated by the diabetic patient partaking freely of carbohydrate materials on the one hand, and upon animal food only on the other. Everyone knows the immense difference existing, but I may mention in illustration the figures drawn from a case in which many years ago I specially studied the effect of different kinds of food on the elimination of sugar. The sugar voided during a twenty-four hours' period on a diet exclusively of animal food stood at 37 grammes, while for a similar period, with a diet containing a plentiful supply of carbohydrate material, it reached 685 grammes. This gives an idea of the amount of sugar that would have to traverse the circulation if the carbohydrate matter of our food had to be conveyed as sugar to the tissues for destruction. And yet, in the healthy state, the urine escapes without any effect being produced upon it.

If in reality the functional transit did take place, it could not fail to be rendered conspicuously evident by the urine. The transit, indeed, is just what belongs to diabetes, and I submit that this consideration is fatal to the glycogenic doctrine. For freedom from diabetes, carbohydrate matter must be prevented reaching the general circulation as sugar, instead of being thrown into it as such for conveyance to the tissues for destruction.

And now the problem that presents itself for our consideration is: In what way does the carbohydrate matter of our food become disposed of so as to be prevented reaching the general circulation as sugar? Any explanatory proposition that is offered must necessarily locate the seat of the disposal as standing between the alimentary canal and the point where the portal blood-stream obtains entrance into the general circulation. If it were located beyond this point, unless the capacity existed, which may be confidently said not to be the case, for effecting an instant removal of sugar directly the general circulation is reached, the conditions would be supplied for the urine to be influenced as it is found to be in the diabetic state.

What I have to say with reference to the mode of application of carbohydrate matter within our system fits in with what is observed to occur throughout living nature. The operations of animal and vegetable life are brought into harmony with each other. In one of the simplest of organisms—namely, the yeast-cell, a demonstration is afforded of the occurrence of the operations which I submit lead to the carbohydrate matter of our food being disposed of in our system without the opportunity being given of its reaching

the general circulation as sugar, and thence escaping as waste material with the urine. It is only gradually, and as the result of lifelong attention devoted to the subject, in association with unceasing laboratory work, that the knowledge has been acquired upon which the new doctrine is based. Much help has been afforded by the teachings of experience in connection with diabetes; and while these are absolutely irreconcilable with the old doctrine upon which physiologists have been relying, they, in the most complete manner, fall in with and give support to the new one. The subject is fully considered in my work on "The Physiology of the Carbohydrates," published in 1894; and it will only be requisite here to enter into sufficient detail for the comprehension of what is being spoken of.

The carbohydrates, as we know, are susceptible of being transmuted from one to the other by increased and decreased hydration. Ferments and chemical agents move them in the former direction, and the operation is one that we have the power of inducing at will. Transformation in the latter takes place to an unbounded extent in the living world, but if we exclude a few special instances of laboratory achievement, we have not the power ourselves of bringing it about. The first influence exerted on ingested carbohydrate is by the ferments of the alimentary canal, which hydrolyze and carry the insoluble into a soluble form and thus prepare for absorption. On being absorbed the carbohydrate is brought within the sphere of influence of living matter. In the villi, which constitute the seat of absorption, there are active cells with which the absorbed carbohydrate falls into close relation, and subsequently it permeates the cellular structure of the liver, which thus, as it were, stands in a position to exert a supplementary action, and to complete before the general circulation is reached, whatever may have escaped completion in the villi.

Now, by the agency of protoplasmic action, or the power possessed by living matter, carbohydrate is (1) transmuted to a lower form of hydration; (2) transformed into fat; and (3) synthesized into proteid. All these operations can be definitely shown to take place in the simple cell-organism of yeast as the result of the power with which its protoplasm is endowed, and the power here represented is nothing more than the common property possessed by protoplasm in general of both kingdoms of nature. While ferment-action hydrates and breaks down, protoplasmic action dehydrates and builds up; and it is by the influence of this latter power, I contend, that carbohydrate naturally becomes disposed of in the system, instead of by ferment-action leading to the production of sugar that is fictitiously assumed to undergo oxidation while traversing the systemic capillaries.

Between the seat of absorption and a point short of the general circulation being reached by the portal stream of blood, I say, we have to look for the disposal of the carbohydrate derived from our food, and it is by the exercise of protoplasmic power that what occurs is brought about. Ferment-action has performed its office within the alimentary canal in putting the carbohydrate matter, if it should be in a form to require it, into a fit state for absorption. If the disposal is completely accomplished, no sugar is left to reach the general circulation, and if none reaches the general circulation there is none to reach the urine. This repre-

sents the natural order of things. If, on the other hand, the disposal of carbohydrate by the exercise of protoplasmic power should not be properly effected, if, in other words, the circumstances should be such as to lead to the faulty accomplishment of protoplasmic action; or if, even with a natural state existing as far as the system is concerned, it should happen that the function is unduly taxed by the ingestion of an exceptionally large amount of carbohydrate in a readily absorbable form, especially at a period of fasting, sugar will be permitted to reach the general circulation, and in proportion as this occurs sugar will be found in the urine.

The process of transmutation into the lower state of hydration is exemplified by the production of glycogen in the liver. Carbohydrate which escapes being transformed into fat or synthesized into proteid passes on to the liver, and here, according to the evidence presented, it may be looked upon as undergoing in the first instance the change of state referred to. It is well known to physiologists that the liver becomes charged with glycogen in proportion to the largeness of supply of carbohydrate with the food. Possessing the colloidal property that belongs to it, it forms a serviceable storage-material, which, placed in the position it is, is favorably situated for being gradually utilized by transformation into fat, and possibly synthesis into proteid. That it should be destined to come back into sugar to be discharged into the general circulation and conveyed as such to the tissues for oxidation is incompatible with the condition in which healthy urine is found.

It was a subject of dispute in former times whether animals possessed the power of forming fat from carbohydrate. The matter is not now open to question. The power, indeed, is largely turned to account by those engaged in husbandry for the fattening of animals for the table. In the practice of our own profession if we want to reduce obesity we advise the restriction of carbohydrate articles of food, and conversely we recommend that they should be freely taken if we wish to fatten. For many years the state of the lacteals of the rabbit after a meal of oats has been fixed on my mind. Formerly it stood unintelligibly before me, but now I think the meaning is to be read off. It is common knowledge that after fatty food the lacteals, of the dog, for instance, are to be found conspicuously injected with milky chyle. In the rabbit, when in a vigorous but not when in a poor or sickly state, fed on oats and taken at the proper time afterward, I have seen the lacteals about as fully injected with milky chyle as in the dog after fatty food. Oats in their dry state contain about 5 per cent. of fat, which I am convinced upon full consideration of the matter is altogether inadequate to account for what is observed. The extent to which the villi under the circumstances are charged with fat-globules I have represented by photo engravings from microphotographs in my work on "The Physiology of the Carbohydrates." It is admitted that animals are fat-producers from carbohydrate, and with its production in the villi it reaches the system and subsequently passes on in precisely the same way as fat derived from without. In the one case we have to deal with fat emanating from a ready-formed supply, and in the other with fat formed by the protoplasmic agency of the cells of the villi, for it is not for a moment contended that what occurs is of the nature of a

mere chemical transformation. As carbohydrate may happen to be here applied to fat-production, so have we a provision in the direction wanted for preventing its reaching the general circulation as sugar. There are grounds also for believing that a further formation of fat is effected by the protoplasmic agency of the cells of the liver.

That carbohydrate can be turned to account in contributing to proteid-production is demonstrated by the growth of the yeast-cell in a medium containing no other source than sugar for the carbon constituent of its protoplasm. Further, carbohydrate is susceptible of being cleaved off from the proteid molecule. The proteids entering into our constitution do not enter the system in a ready-formed state. The proteid matter of food is as a first step towards its application to the purposes of life broken up by the ferment-agency of digestion. The absorbed products of digestion then fall into relation with the living protoplasm of the cell of the villi. Peptone, which is recognizable previous to the occurrence of absorption, now becomes lost sight of, and in view of all the circumstances existing it may be taken as reasonably permissible to conclude that through the instrumentality of protoplasmic action an extensive building up of proteid goes on in the villi.

By synthesis into proteid carbohydrate matter is placed in a position to be susceptible of transport through the system without running off with the urine. At the same time it is evident that its liberation from the locked-up state into a free form can be most easily effected in the presence of suitable conditions. The lactose of milk cannot, reconcilably with our collateral knowledge, be conveyed as such to the mammary gland, but must constitute a cleavage-product resulting from the effect of—may it not be said—ferment-agency existing within. In the grave form of human diabetes, as well as in the experimentally induced phloridzin and pancreatic diabetes, sugar is drawn from a source other than the food, and the large quantity that can be eliminated testifies to the abundant store of locked-up carbohydrate that must exist ready to be set free when the requisite agent for effecting the purpose is present, just as the sugar in amygdalin is set free in the presence of emulsion.

What has been said of the villi gives them the assimilation of food; a process that may be naturally looked for to immediately follow absorption. At a period of fasting, the amount of sugar in the portal blood practically stands in accord with that in the blood of the general circulation. After the copious ingestion of carbohydrate food, the amount of sugar in the portal blood rises, and I have known it reach as high as between 4 and 5 per 1,000. The circumstances are such as to lead to sugar being absorbed in too large a quantity to be fully assimilated or disposed of in the villi, and the portion that has failed to be assimilated reaches the portal blood and gives to it a fluctuating condition dependent upon the food. If there were no further provision existing for the purpose of assimilating this sugar and checking its passage into the general circulation, we should be thrown into a more or less pronounced glycosuric state after every meal, in precisely the same way as, in fact, occurs with the subject of alimentary diabetes. The liver, however, intervenes between the portal vein and the general circulation,

and here a supplementary action is performed, which, if complete in checking the flow of sugar onwards, protects the contents of the general circulation, and hence the urine, from being influenced in relation to sugar by the food ingested. If the supplementary action is incomplete, the blood and urine become influenced, and in proportion to the incompleteness so is the extent of glycosuria. The entry of sugar into the general circulation constitutes the unnatural and not the natural occurrence. In order that we may be kept free from glycosuria, sugar must be kept out of and not thrown into the general circulation.

Whatever may be the means by which it is effected, it may be regarded as certain that to keep the sugar proceeding from the food out of the urine it must be kept out of the general circulation. The power by which this is accomplished falls within what we understand to be meant by the term "assimilative power," and it is through this power being at fault that in diabetes sugar gets into the urine from the food. In proportion as the power in question is diminished so is there a diminution in the amount of carbohydrate that can be taken without influencing the urine.

The position of things may be exemplified by a vertical column, representative of the power under consideration, with the maximum degree of power, or that belonging to health, standing at the top and successive stages of decrease, corresponding with what may be found to exist in different cases of diabetes, following on below until we arrive at the bottom where the power is *nil*. The maximum power is such as to be sufficient for providing for the disposal of the carbohydrate that is taken within ordinary limits; and thus it happens that under these circumstances no influence is exerted upon the urine. If carbohydrate, however, should be taken to an undue extent, and especially if introduced into the stomach in a soluble form and at a period of fasting, the tax upon the assimilative power surpasses the capacity to meet it, and as a result, notwithstanding we are in the presence of a healthy system, a portion escapes being disposed of, and is permitted to reach the general circulation as sugar, and in this state to find its way into the urine. This may be looked upon as the explanation of the saccharine urine, which it is known can be induced in both man and the lower animals by excessive ingestion of carbohydrate.

With rather less assimilative power existing than is normal, a given amount of carbohydrate that can be taken by a healthy person without producing any noticeable effect gives rise to glycosuria. Cases of this nature are not infrequently met with in practice, and prove perplexing to the medical man and to the patient. By one practitioner the patient is told that there is sugar in his urine, and for a while he may be inspired with gloomy forebodings. He possibly later on seeks the opinion of another practitioner, who pronounces his urine to be perfectly right, and by this he is consoled till it arrives that he is afterwards told again that there is sugar in it. This apparently puzzling state is entirely due to the amount of carbohydrate that may happen to have been ingested just previous to the urine being examined. When in excess of a certain limit, sugar is voided; when, on the other hand, below it, no sugar is found, the assimilative work to be performed being within the capacity existing for performing it. Like to what has been said with

regard to the healthy person, saccharine and nonsaccharine urine follow in response to the particular amount of carbohydrate ingested. The only difference between the two cases is that an amount of carbohydrate that suffices to lead to the production of saccharine urine in the glycosuric does not suffice for doing so in the healthy person. It is to be remarked that the effect is noticeable within two or three hours after the food has been taken. Before the meal there may be no sugar in the water, and a short time afterwards a more or less notable amount may be discoverable. These are the cases that are frequently referred to as cases of intermittent diabetes; the intermittent character noticeable is due to variations that may happen to occur in connection with the food.

So it runs on. Different grades of power are met with in different cases, and it is found that an amount of carbohydrate that one glycosuric may be able to take without its leading to the passage of sugar suffices to determine its escape in another. The person has his fixed limit of power, just as we, as healthy subjects, have, but the limit of power stands lower, and is of varying degree in different cases. In each instance, as long as the carbohydrate taken is within the capacity existing of assimilating or properly disposing of it the urine remains uninfluenced; whilst, when the capacity has been exceeded, sugar becomes discoverable, the quantity standing in relation to the extent to which the capacity has been surpassed.

A case at a given time may be advancing in the direction of loss or in the direction of gain of power; but, taken at other times, the steadiness that is noticeable from day to day, week to week, month to month, or even year to year is most striking. The patient has his fixed point of assimilative power. In addition to the restricted diet for the diabetic, he may be able to take a certain weighed quantity of ordinary wheaten bread without sugar appearing in the urine. In other cases the quantity that can thus be taken may be larger and larger. The limit belonging to the case is ascertainable by observation, and subsequently the state of the urine will depend upon whether carbohydrate is taken to a greater or to a less extent than the equivalent of that contained in the specific quantity of bread found to be permissible. When the patient is living close up to his boundary-line, sugar is apt upon occasions to be met with. This, from the variation that is liable to occur in his daily food looked at in its entirety, is only what may be reasonably expected. When, however, thoroughly below his boundary-line, there is sufficient assimilative capacity to spare to cover any little variation, and prevent the urine being influenced.

It is not for a moment to be understood that in the restricted diet there is a complete exclusion of carbohydrate matter. Even purely animal food contains a certain amount, and in the substitutes for bread variable quantities according to circumstances exist. All that can be accomplished is to carry the exclusion as far as is practically consistent with the provision of a supply of food that the patient can satisfactorily eat and subsist upon.

As the object of the restricted diet is to reduce the supply of carbohydrate matter so that, if possible, it may fall within the assimilative capacity existing, it is of paramount importance that we should be able to rely upon the articles that are sold to take the place of bread. Without security in this matter the dietetic treat-

ment of diabetes may not merely prove fruitless, but at the same time absolutely misleading to the medical practitioner. Unfortunately either from ignorance or unscrupulousness, articles are put into the market for sale as appropriate food for the diabetic which are literally no more suitable for the purpose than the food they are designed to replace. Both medical man and patient require to be vigilantly on guard to escape from the infliction of grievous physical harm and subjection to vexatious disappointment. Even with foods of the better-class character considerable variation exists in the produce (particularly the gluten-flour and thence what is derived from it) of different makers, and want of success in treatment may result from the article employed not being of the degree of purity looked for. Fortunately, the high-class makers of diabetic foods in this country are fully alive to the importance of conscientiously attending to the question of purity, and the more this is realized and acted up to the better the position in which the medical practitioner is placed. It must be acknowledged that the matter is not devoid of difficulty. Palatableness has to be looked to, and ordinarily palatableness suffers at the expense of purity. The art called for is to produce food which is palatable and at the same time suitably constituted to meet the requirements of the complaint. The producer has at one and the same time to use his endeavors to please the patient and satisfy the physician, and amongst those who have exerted themselves in a right way to attain the object desired, I consider Mr. Callard deserves to be mentioned.

The state of the urine constitutes a tell-tale in relation to the food that has been taken, and errors in diet, in whatsoever way occurring, are unfailingly revealed. A reliable quantitative determination of the sugar is, of course, required for the purpose, and with a specimen of urine taken for examination from that passed on going to bed at night, and another from that passed on rising in the morning, the one being under the influence of the food of the day and the other under that of fasting during the night, we obtain a disclosure, if there is any to be made, of the effect of what has been ingested. The night specimen is under the influence especially of the food taken in the latter part of the afternoon and the early part of the evening, and from this circumstance it is not infrequently found to contain sugar whilst the morning specimen may be free. On the other hand, should food be taken shortly before bedtime—in other words, should the last meal be a supper at the end of the evening instead of a dinner at the early part of it, the position may be reversed through sufficient time not having elapsed for the night specimen to be influenced, and the effect of the food being thrown instead on the morning specimen. Under such circumstances, sugar may be found in marked amount in the morning urine, and less or none in that passed at bed-time. So sensitive is the urine to the influence of food, that in the case of a glycosuric requiring a strict observance of the restricted diet for maintaining the urine in a sugar-free state, the starchy matter contained in a thin water-biscuit may suffice to impart to it a distinctly saccharine character. Whatever the nature of the article containing the carbohydrate, it equally tells upon the urine, but on account of the solubility of sugar in contradistinction to starch, articles containing the former produce a more speedy effect than those containing the latter. I

need not dwell upon the delusion so extensively prevalent that toast from bread is allowable when bread itself is not, or that the starchy matter of the potato stands in a different position from that from other sources.

Removal of sugar from the urine by reducing the carbohydrate taken does not mean cure of the disease. What is wanted for cure is restoration of the assimilative power; and in proportion as this is brought about, so can more and more carbohydrate be taken without leading to the passage of sugar. If, indeed, in a diabetic case the power should become fully restored, the patient would be placed in a position to be able to take the ordinary diet without its influencing his urine, and he might then be truly told that he had shaken off his complaint.

But control of the elimination of sugar by diet is of paramount importance in promoting improvement, and may be looked upon as an indispensable measure of treatment. It is not the mere fact of the waste of food occurring with the discharge of sugar that constitutes the great source of trouble in diabetes. It is the state of system which stands as a preliminary factor to the elimination that occurs. The blood forms the connective link between the urine and the food. The sugar present in the urine has previously passed to it through the blood, and in doing so has created in this fluid a deviation from the natural state which tells injuriously throughout the entire system. It is not natural for the blood of the general circulation to contain more than a certain small amount of sugar—an amount varying but little under healthy circumstances. With the presence of an increased quantity as a result of the faulty assimilation of the carbohydrate of the food it is thrown into an unnatural state, and its constitution altered in such a way as to interfere with its fitness for administering to the proper performance of the nutritive and various other processes of life. All the symptoms and the results of the complaint depend upon the unnatural presence of sugar in the contents of the circulatory system, and on this condition being altered, as it is shown to be by the disappearance of sugar from the urine, the symptoms and ill effects immediately subside. It may then be said, that so long as this state can be maintained the patient has nothing to fear from diabetes. Diabetic coma is the condition most to be dreaded as an issue of the disease. With the sugar in an uncontrolled state the condition is liable at any time to supervene and speedily carry off the patient. If any other complaint of an acute nature, as influenza, pneumonia, etc., should set in, great danger is incurred of a fatal termination through the supervention of diabetic coma. A diabetic in the great majority of instances does not die in a direct manner from the super-added complaint, but from the development of diabetic coma. Not so, however, when the elimination of sugar is thoroughly under control. Such a patient is to all intents and purposes, except in relation to food, in the same position as an ordinary person. In all my experience I have never come across the supervention of diabetic coma in a case where the urine has previously been in a sugar-free state.

To control the escape of sugar by adaptation of the diet is only a rational procedure, and cannot be otherwise than right. There is a diminished assimilative power existing, and to bring the

conditions to a properly balanced state there should be a corresponding diminution in the class of food calling for the exercise of the power. When the amount of carbohydrate matter of the food is shaped so as to be properly adapted to the power existing of disposing of it, there is no disturbance of the required harmony between the two, and the system escapes being prejudicially influenced by the effect of the deficient power that has to be dealt with—escapes, in other words, being thrown into an unnatural state by the presence within it of sugar which ought not to be there. The passage of sugar that can be controlled by reduction of ingested carbohydrate means neither more nor less than the unnecessary infliction of harm, and the harm inflicted stands in proportion to the amount of sugar that is allowed to reach the system, and thence to escape with the urine. The fact of the voidance of sugar affords evidence that the system is already overburdened with carbohydrate, and any addition will have the effect of increasing the abnormal condition existing. If the case is one in which the sugar in the urine is not susceptible of removal, its reduction in quantity does good by establishing within the body a closer approach to the natural state.

As I have asserted, what is to be sought for by treatment is the restoration of assimilative power over the carbohydrates, and this is often demonstrably attainable. Let me give an illustration of the kind of case I am not infrequently meeting with in my experience. A patient, say above middle age, has become diabetic, but from some cause or other does not happen to fall under proper treatment until he has reached a very bad state. His symptoms have been persistently growing more and more marked, and at the time of falling under observation he may be suffering from great thirst, passing an enormous quantity of urine, and having become much reduced in weight and strength. We will suppose that he is placed on the restricted diet, which is loyally attended to, and that codeine, opium, or morphine is administered. Even within a few days a very marked change is produced. The thirst and excess of urine subside, and the patient picks up in weight and strength. The sugar falls and ultimately disappears. In some instances this happens with surprising rapidity, but in others it may not be till after the lapse of some days or even of a longer time than this, that the urine is found to have lost its saccharine character. The satisfactory progress continues. The patient feels as though he had shaken off his complaint, and perhaps wonders why he should have to keep to his measures of treatment. Any relaxation in diet, however, would immediately lead to a return of sugar. The power of disposing of carbohydrate matter has not yet become restored. For a while the improvement is well maintained, the weight, which in the first place underwent increase, being afterwards kept up. Later on, but when cannot be foretold, a change may set in which is not unlikely to excite gloomy forebodings by leading to the apprehension that a relapse has occurred. It may be at the end of some weeks, or more likely months, a decrease of weight may set in, and the patient may feel weaker and be reminded of the state that existed before the treatment was commenced. If with this alteration the urine continues free from sugar, it may be read off as a sure sign that a restoration of assimilative power has

commenced to take place. A return to ordinary food would indubitably bring back the sugar. The improvement of power that has occurred is only likely to be slight, and requires to be met by a correspondingly slight allowance of carbohydrate matter. It appears to me that bread is the article most missed from the ordinary dietary, and this therefore I am in the habit of suggesting for employment as the representative of carbohydrate food. I begin with 3 ozs. per diem in portions of 1 oz. at each of the three principal meals. Under the circumstances depicted it may reasonably be expected that no sugar will be made to appear in the urine, and such being the case, in the course of ten days or a fortnight a trial is made of $1\frac{1}{2}$ ozs. in place of 1 oz. three times daily. This also is ordinarily found to be tolerated, the indication of toleration being that the carbohydrate does not pass off as sugar. Interesting to note, with the administration of the bread the patient immediately begins to recover his lost weight and to feel himself again. Later on another drop in weight may occur, and it is to be taken as an indication for a further increase of bread. In this way I frequently work up during a space of, it may be, two or three months to 7 or 8 ozs. of bread per diem. I sometimes find that the capacity exists for the quantity to be raised to 9 or 10 ozs., and I have known cases where I have been able to proceed as far as 12 ozs., and upon rare occasions a greater latitude of diet than even this involves has been unattended with the passage of sugar. If sugar should appear in the urine it must be looked upon as meaning that the mark has been overstepped and that a retrogression must be made to the quantity found to be tolerated.

Let us for a moment pause and give thought to what the return of the capacity of taking carbohydrate matter without its escaping as sugar implies. To begin with, for a while there may be a passage of sugar with the limited supply of carbohydrate associated with the restricted diet. Then this sugar disappears, and next more and more carbohydrate can be taken without running off from the system as sugar with the urine. Surely this must indisputably mean that the system has regained a power that it had previously lost.

An important principle is involved in connection with what I have just set forth, and the facts stand in harmony with what may be rationally looked for. It is certainly a notable point that everything should work out as harmoniously as it does. The effect of carbohydrate food in health is diametrically opposed to its effect in diabetes. In health, as we well know, it contributes to the increase or to the maintenance of weight. In diabetes where sugar is being voided it does exactly the reverse. If it runs off as waste material with the urine it naturally cannot be expected to go towards maintaining or increasing weight. As a matter of fact, it leads to decrease of weight through waste occurring, and the wrong state of system induced by the abnormal presence of sugar in transit from the food to the urine. Who has not noticed the marked decline of weight that occurs in a diabetic before subjection to dietetic management and the rise that immediately follows its adoption? The circumstances in diabetes, then, are such as to lead to the supply of carbohydrate producing a loss, and restriction from it a gain of weight. The healthy person on the other hand

gains weight upon its full supply, and loses weight if the supply is restricted. Now, in proportion as his assimilative power becomes raised, so is the position of the diabetic brought into conformity with that of the healthy person, and so is the necessity created for his being similarly dealt with. As long as carbohydrate food fails to be utilized its supply does harm. Directly the system regains the power of utilizing it, it is found, as in the case of the healthy person, that it is wanted, and that if it is not supplied, the want is betokened by a decrease in weight and a decline of strength. The principle to put into force is to give it short of producing saccharine urine; and decreasing weight with sugar-free urine may be read as meaning that the supply is not equal to what is permissible and, moreover, wanted.

In cases where the assimilative power is not recovered, observation shows that the restricted diet is borne without the occurrence of loss of weight, and it is permissible for me to state that the circumstance may be safely taken as a guide in practice. I know of patients who have gone on for years with the restricted diet with a thorough maintenance of weight. They are not the patients to bear the supply of bread. The system cannot want or be benefited by that which it has not the power of properly disposing of but allows to run off as waste material with the urine. It is only that which can be properly disposed of that can render service to the system.

The loss of weight attendant upon unneeded restriction from carbohydrate food may afford assistance from a diagnostic point of view. If, at starting, the case has not been properly diagnosed, and it should prove to be one where from simply undue concentration of urine, the high specific gravity and the slight indication of reaction with the copper-test often met with under the circumstances, an erroneous inference has been drawn and the patient has been unnecessarily put on the dietetic management for diabetes, a loss of weight, sometimes of a marked nature, will ensue. Equally also, loss of weight will ensue if the case is one of mild glycosuria, and it is treated as one of ordinary diabetes. Rightly appreciated, the result noticeable will be suggestive that curtailment of the supply of carbohydrate matter is being carried to an uncalled-for extent.

From the remarks I have made it will be gleaned that food stands as the great factor in the treatment of diabetes. As I have stated, the object really before us for attainment is restoration of assimilative power. My experience leads me in an explicit manner to say that I believe this is promoted by the medicinal employment of opium or its alkaloids, and I think the view accords with the result of the general experience of others. The older physicians, before the dietetic management of diabetes stood in the position it does now, empirically arrived at the conclusion that an amelioration accrued from the administration of opium.

Although the great factor in relation to the amount of sugar eliminated, food is evidently not the only one. The pathological condition which stands at the foundation of the wrong action constituting the immediate source of the elimination is presumably influenced by incidental circumstances. In many cases, it is true, it may be noticed that the assimilative power stands with remarkable constancy at a fixed point for a prolonged period, but in others

evidence is presented pointing to the patient being liable to be influenced by collateral conditions, especially of a mental nature, having the effect of altering to a greater or less extent the amount of sugar eliminated upon a given quantity of carbohydrate when sugar is being passed, and of leading to a certain amount of elimination when the urine has previously been in a non-saccharine state.

The phenomena I have hitherto been speaking of belong to what is appropriately styled the alimentary form of diabetes, which I would certainly say from my own experience is far more common than the other, but at the same time is not the form that most frequently finds its way into the wards of the hospital. Besides the cases controllable by attention to food, we meet with others in which no amount of dieting will remove the sugar from the urine. These present us with the classical type of the disease, and may be grouped into what may be called the grave form of diabetes—a form belonging especially to the period of life below middle age. A superadded condition exists which leads to sugar being derived from the tissues as well as from the food. The glucoside constitution of the nitrogenous principles of the body supplies an intelligible source for sugar, all that is wanted being a pathologically developed ferment possessing the power of breaking them up with the liberation of their sugar molecule, just as occurs with amygdalin in the presence of emulsion.

Cases progress from the alimentary form into the grave form, and it is upon the extent to which the progressive tendency exists that the issue depends. Amongst persons above the middle period of life the progressive tendency is usually susceptible of being held in check; and often, as I have shown, progress even in the opposite or right direction is to be brought about. I think it may be definitely said that allowing the complaint to run on in an uncontrolled state promotes the passage from the alimentary into the grave form, but undoubtedly there is nothing like the same proneness for the occurrence of the passage amongst elderly that there is among young people. It is indeed the strongly marked progressive tendency that gives the formidable nature to diabetes in young subjects. A striking analogy is presented to the progressive diseases of the nervous system; and—but this is a point that time precludes my entering into—may we not have at the foundation of diabetes a wrong nerve-condition implicating and operating through the vaso-motor system? In its early stage, the complaint may be just as controllable in a young as in an elderly person, but as time goes on, the difference becomes manifest, and it is found in the former that through the advance that has insidiously taken place the measures that before produced a satisfactory state no longer succeed in doing so. The rate of progress may vary considerably. In some cases with an inherited history I have known it extend over many years.

And now, Mr. President and gentlemen, let me in concluding this lecture express the hope that I have succeeded in clearly placing before you what is in my own mind as the outcome of the lifelong attention I have given to the subject upon which I have addressed you. The views I have set forth have sprung entirely from experimental physiological work on the one hand, and from practical experience in connection with diabetes on the other.

With this foundation, they harmonize with the assemblage of facts to be dealt with belonging alike to physiology and pathology; and, at one and the same time, they bring the whole matter into a state of great simplicity, and supply a working basis upon which the treatment of diabetes may be rationally and reliably conducted. With the glycogenic doctrine the teachings of diabetes are absolutely irreconcilable, and it may, moreover, be said that modern research has removed the support upon which it was originally based. And yet the doctrine still lingers in the mind, influencing its conceptions and shaping its views, for persons seem unable to look at points belonging to the subject otherwise than through the prepossessions that have been engendered thereby. The chapter, however, will have, sooner or later, not simply to be revised, but completely rewritten; and the sooner this is done the better, I feel I am justified in saying, will it be for the right comprehension of diabetes by the medical profession.

Progress of Medical Science.

MEDICINE AND NEUROLOGY.

IN CHARGE OF

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RESULTS OF METHODS OF TREATMENT AT THE LOOMIS' SANITARIUM FOR CONSUMPTIVES, LIBERTY, NEW YORK.

Dr. J. Edward Stubbert, the physician in charge of this institution, gives a resumé of the results of one year's work which appears in the *Philadelphia Medical Journal* of March 12, 1898. Two hundred cases were treated. 11 were in the incipient stage without bacilli when admitted; 68 in the incipient stage; moderately advanced, 81; far advanced, 40. Patients in Sanitarium, 78; discharged apparently cured, 16; arrested, 13; improved, 16; unimproved, 29; died, 3. Results in patients still in Sanitarium: Bacilli disappeared in 4 cases, decreased in 17; cough decreased in 40 cases, disappeared in 7; physical signs improved in 65; weight increased, 66; remained stationary in 10; diminished in 2.

The basis of all treatment has been climatic and hygienic in this Sanitarium in all cases. The climate is well adapted to all forms of tuberculosis, as well as other troubles. The elevation, 2,300 feet, is within those limits generally conceded to be most advantageous for lung troubles; this altitude, together with the peculiarly dry atmosphere and abundance of sunlight, furnish all the conditions necessary in climatic

and hygienic treatment, not only of lung diseases, but of many others as well. Malarial fevers, which so often complicate tuberculosis in lower altitudes, are unknown, and when brought here are speedily eradicated. The situation, on top or just below the crest of the highest range of mountains between New York and the Great Lakes, with a breathing space of 50 miles lying at one's feet to the south and west, gives all the climatic advantages necessary for a fair trial of all the methods of treating tuberculosis. The writer has been fortunate enough to have visited many of the noted health-resorts of America and Europe, and, after carefully weighing the advantages of these places, he can truly say that, when an average of all the advantages is taken, the weight of evidence is in favor of Liberty for incipient cases of tuberculosis. One peculiarly rare good feature of this climate is that it shows good results in both winter and summer; the winters being long, cold, dry and exhilarating, the summers cool and refreshing.

No report can be made upon *Guaiacol*, as it was too expensive a drug to find favor among the majority of patients.

Guaiacol valerianate has, in a few cases, proved an agreeable form of administering guaiacol, but it is also expensive. Much has been claimed for this drug in the way of non-irritating properties. Our experience would tend to classify it as a less irritating drug to the stomach than creosote, but not superior to guaiacol carbonate.

Ichthyol in keratin-coated pills, two grains each, has been used with considerable success, especially in cases showing intestinal complications. The initial case was as follows: The patient had far advanced pulmonary lesions, with secondary deposits in the intestines, had seven or eight watery evacuations a day, with tenesmus, general abdominal tenderness, tympanites, etc., and could not tolerate any preparation of creosote. Keratin-coated pills of ichthyol were prescribed, with the purpose of passing the remedy to the intestines before its coating become dissolved. In a short time the evacuations were reduced to one or two a day and tenderness became localized at one point. A number of patients have since been treated with ichthyol in daily doses of from 6 to 10 grains, and the results obtained have been 10 per cent. better than those from creosote or any of its derivatives; these results are obtained in the relative effect upon weight, expectoration, cough and the disappearance of bacilli. No disturbance of digestion supervenes.

Oil of Cinnamon in daily doses of from 30 to 40 minims has been used in a few cases, with apparently good results, but there have been too few cases placed upon this treatment to make it fair to compute its relative value.

Hot-air inhalations have been given with apparent success in many cases. We use the Underwood Inhaler, and the temperature within these tubes varies according to the case, from 200° to 450° F. At present all that can be said is that in cases of mixed infection, with profuse expectoration and troublesome cough, these inhalations are especially useful, in that the expectoration and cough decrease materially. I have failed to discover any effect upon the tubercle-bacilli.

TREATMENTS.

Inhalation Cases.

Number of cases treated, 50.

Cough decreased.....	39	Expectoration decreased.	37
“ increased.....	2	“ increased..	3
“ stationary.....	6	“ stationary.	10
Taken off on account of			—
hemoptysis	3		50
	—		
	50		

Anti-Tubercle Serum.—At a meeting a year ago you may remember I reported a series of seven cases treated with anti-tuberculin serum, with one apparent arrest or cure. Last month that patient presented himself for examination, and I found his lungs in exactly the same condition as the day he left the Sanitarium. By referring to the table I shall read to you, it will be seen that during the past few months the results of serum-treatment upon temperature, cough, expectoration, weight and tubercle-bacilli are far in advance of those of any agent we have used. I, for one, am not ready to pin my faith to serotherapy in tuberculosis, but in the face of such facts as are and have been lately presenting themselves before me daily, both in and out of the Sanitarium, I find it necessary to cultivate a conservative spirit, lest I believe too quickly. With a common ground of climate, hygiene, food, etc., placing side by side patients treated with serum and other remedies, we are forced to acknowledge in incipient cases, with or without bacilli, that the percentage of good results in every way has been lately in favor of the former. Numerous cases, more advanced, that have not prospered under other treatment, have gained weight, reduced temperature, and expressed themselves as feeling much stronger. The comparative results in general condition, the absolute effect upon temperature and bacilli, have been really startling, and I can only say I hope they may prove true and lasting.

The serum we use is furnished by the United States Government, from the Biochemical Laboratory at Washing-

ton, D.C., and is the result of experiments made by Dr. E. A. de Schweinitz, Chief of the Laboratory. After four years of careful research he has arrived at the following conclusions:

1. That the injection of live cultures in animals is capable of producing anti-tubercle serum.
2. That this serum is probably capable of producing immunity to tuberculosis in animals.
3. That while the serum from cows thus treated sometimes produces deleterious results, *absolutely no toxic effects follow the use of horse-serum.*

TREATMENT WITH UNITED STATES GOVERNMENT SERUM IN CONNECTION WITH GREAT HYGIENIC AND CLIMATIC TREATMENT ONLY.

Number of patients thus treated, 34.			
Conditions before taken.		Physical signs.	
Incipient stage.....	16	Improved	30
Moderately advanced.....	15	Unimproved.....	34
Far advanced.....	3		—
	—		34
	34		
Expectoration.		Temperature.	
Decreased.....	28	Decreased.....	21
Stationary.....	6	Unchanged.....	13
	—		—
	34		34
Cough.		Appetite.	
Decreased.....	26	Improved.....	27
Stationary.....	8	Unchanged.....	7
	—		—
	34		34
Tubercle-bacilli.		Weight.	
Disappeared.....	4	Increased.....	25
Decreased.....	7	Stationary.....	7
Stationary.....	20	Lost.....	2
Had none.....	3		—
	—		34
	34		

NOTE.—Besides these 34 cases, 8 have been under serum-treatment but too short a time for any report to be made.

Throat-Treatment.—A very important branch of the Sanitarium is the work in laryngeal tuberculosis. Dr. Chappell, our consulting laryngologist, will present this question to you much more ably and gracefully than I.

X-rays.—During the year we have demonstrated that in the Röntgen rays and fluoroscope we possess accurate agents for the diagnosing of tuberculous changes in lung-tissue in their various stages, using them not only as corro-

borative factors of results arrived at by auscultation and percussion, but in some instances discovering isolated foci of infection not recognisable by ordinary methods. In addition the fluoroscope enables us to recognize more fully and accurately the degree, position and relation of areas of infiltration and consolidation; it also delineates plainly the limit of these areas. It is unfortunate that as yet no satisfactory photographs have been taken of the images cast upon the fluoroscopic plates.

A summary of the results of our investigations at the Sanitarium shows:

1. Slight haziness indicates the beginning of tuberculous infiltration and may or may not be accompanied by dullness.

2. Decided shadows indicate consolidation, the extent of which is in indirect relation to the comparative density of the shadow thrown on the fluoroscope.

3. Circumscribed spots of bright reflex, surrounded by narrow, dark rings or located in the midst of an area of dense shadow, indicate cavities.

4. Intense darkness, especially at the lower portions of the lungs, indicates old pleuritic thickenings over consolidated tissue.

5. Pleural effusions are shown in dark shadows, the upper level of which may be agitated by succession.

6. There is no reason to doubt that the effusion of pericarditis would throw a like shadow, which would be distinguishable from the heart shadow above by its greater blackness.

7. Shadows thrown in the first and third stages of pneumonia probably resemble those of tuberculous infiltration. The shadow of the second stage of pneumonia is identical with that of tubercular consolidation.

8. In emphysema and asthma the reflex is abnormally clear, and the movement of the diaphragm is restricted.

In closing this report I wish to urge upon the Board the necessity of establishing a good laboratory at the Sanitarium in order that the profession at large may avail itself more fully of the very exceptional clinical features under the care of this Board.

ORTHOFORM IN THE LOCAL TREATMENT OF PAINFUL ULCERATIONS, ESPECIALLY OF THE UPPER AIR PASSAGES.

Dr. Eugene S. Yonge (*British Medical Journal*, February 5, 1898, *New York Medical Journal*) says that this anæsthetic presents a triple claim to recognition, in that it is

sparingly soluble, is nontoxic, and is powerfully antiseptic. On the other hand, it is a disadvantage that it will not act on unbroken skin or, with certain reservations, on intact mucous membrane, for its strong anæsthetic properties are only manifested where nerve-endings are exposed. The slow solubility leads the anodyne to exert its action economically on the tissues, and, unlike its rapidly soluble congener cocaine, only sufficient is dissolved to produce and keep up local insensibility, which therefore becomes prolonged. In from five to ten minutes after its application anæsthesia of the denuded surface to both touch and pain begins, and it reaches its consummation within a short period of time. The effect lasts from a few hours to five or six days, and there is, in the majority of cases, perfect or nearly perfect analgesia, the patient experiencing the sensation of the offending part having been cicatrized over or "enamelled." Suppuration, is usually decidedly diminished and healing accelerated.

The action of orthoform on the unbroken mucous membrane of the mouth, naso-pharynx, and larynx is, in his experience, the following: "Neither the free orthoform (basis powder) nor the hydrochloride anæsthetizes sufficiently to allow of surgical action. When it is applied to the tongue, to the inner surface of the cheek, or to the pharynx, a numb sensation supervenes in the course of about five minutes, but there is little real anæsthesia. The effect on the larynx is to reduce reflex irritability. A peculiar feeling described as similar to that produced by cocaine is experienced in five minutes; in a few minutes more this relative loss of sensation vanishes, but if before its subsidence a probe is introduced and the vocal cords and interior of the larynx are touched, although a species of "gagging" ensues, there is no laryngeal spasm or cough. In the same patient a similar procedure without the previous introduction of orthoform causes intense discomfort and a fit of coughing. The intact nasal mucous membrane is also slightly amenable to the influence of the drug. A feeling of numbness is shown in about two minutes, and this merges into real anæsthesia, which, however, is feeble and transient. The author then gives brief histories of a number of cases in which he has used orthoform.

Toxic effects, he says, were not noted in any of the cases, but there was occasionally some slight burning for a few minutes after the application of the hydrochloride. This failure to discover toxicity is compatible with the statement that over twelve drachms have been sprinkled on a broken surface in the course of the week, also that from thirty to sixty grains have been administered to rabbits, and from forty-five to ninety grains to dogs, without evil effects during life or the post-mortem discovery of visceral changes. Ortho-

form fails to produce any results on an ulcer unless the dual precaution is taken to apply the drug directly to the ulcerated surface and to insure its retention there.

No relief was experienced by patients suffering from either catarrhal pharyngitis or quinsy.

The antiseptic action of orthoform, says the author, appears to be demonstrated by the rapid diminution of purulent exudation in several of the cases encountered and the speedy healing of the ulcer. In a case of acute gonorrhœa injections of orthoform solutions were followed by the disappearance of gonococci in four days and the complete cessation of blennorrhagia.

If further observations confirm the results already published, says Dr. Yonge, it would appear that orthoform is entitled to take a position in the gamut of local anæsthetics applicable to the upper air-passages. It seems probable that it will replace—by virtue of its insolubility and innocuousness—its relative, cocaine, when long anæsthesia on ulcerated surfaces is wished for.

TUBERCULOSIS, DIABETES AND BASEDOW'S DISEASE TREATED BY RECTAL INJECTIONS OF ARSENIC.

At a recent meeting of the Société Médicale des Hôpitaux, report of which is published in the *Indépendance Médicale* for March 23 (*New York Medical Journal* April 9, 1898), M. Renaut presented a communication on the action of arsenic in large amounts. He stated that he had given enemata of five cubic centimetres two or three times a day of the following solution :

Distilled water.....840 grains ;
Fowler's liquor..... 60 “

In taking three injections a day the patient received 0.15 of a grain of arsenious acid, such an enormous quantity as could not be administered by any other method. These enemata were tolerated for weeks and months.

Tuberculosis, diabetes, and Basedow's disease were three diseases which, by different modes, reached the same degree of disassimilation, and for this reason could be treated in the same way. M. Renaut had treated three tuberculous patients for a year and one for six months with the arsenic, and they were well on the road to recovery ; at the present time the pulmonary tuberculous symptoms had disappeared. In the diabetic patients the strength had returned and the sugar had diminished. Very satisfying results had also been observed in those suffering with Basedow's disease. In case of any irritation of the rectum, it was necessary only to add a few drops of Sydenham's laudanum [wine of opium] to the enemata.

NEW VOLUMETRIC METHOD OF ESTIMATING URIC ACID IN URINE.

The British Medical Journal (Feb. 5, p. 346, 1898, *American Medico-Surgical Bulletin*) contains an article by Dr. F. W. Tunnicliffe and Otto Rosenheim, Ph.D., on a new method of estimating uric acid in urine, based on the solubility in water of urate of piperidine, a salt formed by the action of piperidine on uric acid, with which it unites in molecular proportion.

Uric acid separated from urine and suspended in water to which a few drops of an alcoholic solution of phenolphthalein have been added, will unite chemically with a piperidine solution until all the acid is dissolved before the characteristic red color-reaction occurs between the piperidine solution and the phenolphthalein. A piperidine solution of definite strength enables the exact calculation of the amount of uric acid combined.

1. The most suitable solution of piperidine was found to be 1 to 20 normal solution. This is standardized to ascertain the amount of it required to neutralize a certain amount of 1 to 20 normal acid solution.

2. The authors obtained the uric acid from urine by precipitating it with ammonium chloride, and subsequently decomposing with hydrochloric acid. The uric acid thus obtained from 100 c. c. of urine is filtered and repeatedly washed to free from HCl, 15 to 20 c. c. of water being found enough for this washing in most cases.

3. The pure acid is rinsed with 20 to 30 c. c. of hot water off the filter-paper into a small vessel. This is brought to the boiling-point, and a few drops of alcoholic solution of phenolphthalein added. Into this the standardized piperidine solution is allowed to run from a burette. The urate of piperidine will continue to be formed and to dissolve so long as there is free uric acid. But the moment the latter is all combined the purple color-reaction will at once manifest itself.

One c. c. of a normal piperidine solution corresponds to 0.00425 gme. piperidine, which equals 0.0084 gme. of uric acid. The number of c. c. of the solution used to bring on the color-reaction, multiplied by 0.0084, will give the amount of uric acid present. Where 100 c. c. of urine are taken in the first place, the uric acid obtained will be the percentage of it in the urine.

In a table of results given by the authors, in which this method is adopted under control of the method by weighing, a variation of only 2-10 mg. was found, accounted for by the urinary pigments which increase the figures in the weighing method.

WOODBIDGE TREATMENT A FALLACY.

Dr. R. W. Holmes writes very disparagingly about the Woodbridge treatment of typhoid fever (*Chicago Med. Recorder*, Vol. XIV, No. 2, p. 120, *American Medico-Surgical Bulletin*). When the town of Ironwood, Mich., was stricken with typhoid fever in 1893 a temporary hospital was opened, of which the writer was placed in charge. Appreciating the advantages to be derived from a thorough trial in an epidemic, Dr. Woodbridge came down to the city and secured the permission of the health-officer to use his treatment in the hospital. A thorough trial was given it under Dr. Woodbridge's personal supervision for about three weeks, and after Dr. Woodbridge's departure the method was continued on appropriate cases for some time longer. The author presents the epitomized histories of twenty-two cases from that epidemic, and the showing is certainly not in favour of the Woodbridge treatment. The claim that no complications occur under that treatment is entirely unfounded, says the author. In these twenty-two cases the treatment had to be stopped twice on account of excessive movements from the bowels, which were depleting the patients; five times salivation occurred, which is a serious matter in the typhoid state with the impaired metabolism; in two cases hemorrhage occurred; in one case it took place early in the course of the disease, and stopped on discontinuing the drugs; the other case died. Out of the twenty-two cases four died, a mortality of 18 per cent.; but, as one case presented symptoms of peritonitis before the Woodbridge treatment was begun, and died on the next day after instituting that treatment, the author eliminates it, thus making the mortality 13.6 per cent.

To the question whether the Woodbridge treatment is capable of aborting typhoid, the author gives a decidedly negative answer. From the date of commencement of the treatment, five cases had normal temperature within two weeks, four were convalescent on the fifteenth to the 21st day; the remaining nine who lived were cured in from the twenty-fourth to the fifty-second day.

The author's conclusions are as follows:

1. The Woodbridge treatment does not abort.
2. The mortality is not influenced by the treatment.
3. Five to eight per cent. of typhoid in an epidemic of mild type, or even of medium severity, will cure themselves within two weeks.
4. A user of the Woodbridge treatment who invariably has abortive "results does not correctly diagnose all" his cases.
5. Complications are not prevented by the Woodbridge treatment.

6. A positive diagnosis is prerequisite to make statements concerning any abortive treatment valuable.

7. Believers in the abortive treatment of typhoid must bear in mind the existence of the abortive type of Liebermeister and the typhus levis of Griesinger to intelligently differentiate typhoid from the diseases with which it may be confounded.

SURGERY.

IN CHARGE OF

GEORGE FISK, M.D.

Instructor in Surgery University of Bishop's College ; Assistant Surgeon Western Hospital.

THE TREATMENT OF INTUSSUSCEPTION.

Manning (*N. Y. Med. Journal*, Feb. 19, '98) advises in reducing intussusception to press on the apex of the mass, and never to use traction, as in gangrene of the part rupture is imminent. While strongly in favor of operation, he cites a successful case of his own where reduction was accomplished by a large rectal enemata with the use of a rectal tube and inversion of the child. Three attempts were made before a quart was injected, the child placed in a horizontal position and the bowels kneaded. Relief soon followed the passing of the fluid with some flatus but no fæces. About six hours after a relapse had to be treated in the same way. Three pints of the salt solution were injected this time, and were followed in a few hours by two good stools, the first occurring one hour after the fluid was passed. Since then the child has progressed rapidly to health.

THE OPERATIVE TREATMENT OF HÆMORRHOIDS.

Parker Syms (*N. Y. Med. Journal*, Feb. 12, '98) discusses the three classical methods of operation. He considers Whitehead's operation (complete resection) rather formidable, with loss of time, considerable hæmorrhage and danger of sepsis ; Allingham's (ablation and ligation) excellent in most cases, but takes longer, involves a greater loss of blood, and is followed by more post operative pain than the clamp and cautery. In recommending the latter he emphasizes the necessity of stretching the sphincter, applying the clamp in the long axis of the bowel, and using the cautery at a dull red heat.

THE PREVENTION OF THIRST AFTER ABDOMINAL OPERATIONS.

Dr. W. M. Taylor has a short paper on this subject in the *Memphis Medical Monthly* for February, 1897. It is so brief and yet so timely that we give it in full. He says: "As is well known, it has been the practice with surgeons after abdominal operations to withhold water by the mouth for twenty-four hours, or until the patient is free from nausea and vomiting. During this time the thirst is distressing, and torture from that source has been so great in some instances that patients have been known to get up out of bed, in a momentary absence of the nurse, in search of water.

Some surgeons have for several years administered water by the rectum in small quantities to allay thirst; but the routine method of injecting a large quantity of saline solution (0.6 per cent.) for the prevention of thirst after abdominal operations was first resorted to in the Johns-Hopkins' Hospital. The procedure consists in the injection of a quart of normal saline solution into the lower bowel immediately at the close of the operation and while the patient is still under the influence of the anesthetic. The patient is elevated to the moderately high Trendelenburg posture, a stiff rectal tube is inserted well up into the sigmoid flexure, and the fluid slowly poured into a glass funnel, which is held three or four feet above the level of the patient's buttocks.

"A paper by Dr. Clarke (*American Journal of Obstetrics*, Aug., 1896) states that he has reviewed the special charts of one hundred abdominal section cases which have not, and one hundred cases which have, had the saline enemata, and that he is able to report the most gratifying results, not only in the alleviation of thirst, but also in the reduction to a minimum of vesical irritability, which is so common in operative cases.

"In six abdominal operations done for ovarian cysts, ovarian abscess, pyosalpinx and cystic ovaries, in four the saline enemata were administered as has been described. All of these operations were performed at two o'clock in the afternoon. Two of the patients did not call for water at all until the next morning; the other two asked for water once or twice during the night, but on its being denied they became quiet, and did not beg for it. The two cases in which the saline injection was not used suffered from the usual thirst, and were quite restless during the first night. The four patients who had the saline injection excreted a larger amount of urine during the first few days than the patients who did not have the injection; none of them suffered from vesical irritability, nor did the catheter have to be used to

empty the bladder. While all the six cases mentioned made good recoveries, those in which the saline injection was used had a quieter and smoother convalescence."—*Medicine*.

FATAL HEMORRHAGE FROM THE REMOVAL OF ADENOID VEGETATIONS.

Schmiegelow (*Monatsschrift für Ohrenheilkunde*, 1897, No. 3; *Centralblatt für Chirurgie*, August 14, 1897) reports a case, not his own, but occurring in the practice of a surgeon who had often done the operation without mishap. The patient was a boy, twelve years old, who showed nothing strikingly abnormal beyond a pronounced adenoid habitus and scrofulous glands in the neck. The operation was done without anæsthesia, and the ordinary Gottstein annular knife was used. Without any warning a sudden gush of arterial blood issued from the mouth and nose. In spite of prompt tamponing and subcutaneous and intravenous saline injections, death occurred in a few minutes. The internal carotid artery was found to have been opened just in front of its point of entrance into the carotid canal of the pars petrosa ossis temporis. The author supposes that swollen glands had pushed the vessel forward so that the pressure of the knife caused its rupture, for it was not cut.—*New York Medical Journal*.

CATHETERISM OF THE URETERS WITH THE HELP OF THE URETER CYSTOSCOPE. REPORT OF SEVEN CASES.

Willy Meyer, M.D., read before the New York Academy of Medicine (Section on Genito-urinary Surgery) a paper, saying:

"In reference to the manipulation I consider that to approach the ureteral mouth and to engage the tip of the tiny catheter in the same is not more difficult in the male than in the female. In order to be successful in the use of Casper's instruments, one will do well to be guided by the following rules, the observance of which has yielded me invariable success:

"1. Wash and cocainize the bladder according to well-known rules.

"2. Fill the bladder with from five to seven ounces of clear fluid.

"3. Introduce the instrument. For this purpose the ureter catheter should be pushed down to the internal opening of the canal of the cystoscope; the lid of the latter should be pulled out about one-third inch.

"4. As soon as the beak has entered the bladder the catheter should be gently pushed forward into the vesical cavity by about one-half to three quarter inch, and then the lid

should be at once pushed into place, i. e., it should be fully closed.

"5. After the interior of the bladder has been satisfactorily inspected and the ureteral openings have come into view, approach one of them.

"6. Let the ureteral opening appear at the very end of the cystoscopic picture farthest from the middle of the bladder, but keep it under your direct inspection, with the prism as near to it as possible.

"7. Push the catheter gently forward; if the beak's direction is a proper one, i. e., if it is parallel with that of the lower end of the ureter, the ureteral catheter will almost invariably easily enter the mouth, when conducted by a trained hand.

"8. Allow the catheter to proceed not more than one to two inches into the ureter, and withdraw the wire mandrel. Then, as a rule, urine will begin to flow, drop by drop, at intervals or continuously."—*Medical Review of Reviews*, October, 97.

GYNÆCOLOGY.

IN CHARGE OF

A. LAPTHORN SMITH, B.A., M.D., M.R.C.S. England.

Fellow of the American Gynæcological Society, and of the London Obstetrical Society; Gynæcologist to the Montreal Dispensary; and to the Western Hospital; Surgeon-in-Chief of the Samaritan Hospital for Women; Professor of Clinical Gynæcology in Bishop's University, Montreal.

The *Annals of Gynæcology* for January, 1898, has several interesting articles. The first on Asepsis and Antisepsis by Dr. Sherwood Dunn, after pointing out the tremendous saving of life after injuries and wounds, in many cases reducing the mortality from 55 to 4 per cent., calls attention to the necessity for the most rigorous carrying out of all details. He says that the time required for an operation can be greatly reduced if the operator has sufficient assistants, but that the lack of appreciating the importance of keeping their hands aseptic, once they have been sterilized, induces many operators to do with as few assistants as possible. He advocates the use of ether to remove grease before sterilizing the hands, which latter he thinks are the greatest source of danger. For sterilizing gauze, ligatures, etc., he shows that fractional sterilizing is the safest. It consists in raising the temperature in a common steam sterilizer to 200° F. for 20 minutes on three separate occasions at intervals of one day. Pasteur has shown that this will destroy all germ life. He mentions Cushing's method for sterilizing cat-gut, which is worth noting. The coils of cat-gut are kept in stock, submerged in ether, which remove the grease. When required for use,

the coils of cat-gut are rinsed in fresh ether, wiped, unbound, stretched, and cut in suitable lengths. Each ligature is then placed in a separate glass tube, and thoroughly dried at a very gentle heat. The tubes with a corresponding number of suitable corks are then baked in a sterilizer, with proper regulating apparatus at a temperature of 140 C. for one hour, and the apparatus is allowed to cool slowly without opening it. The next day when any space present may be supposed to have developed, the oven is heated again, and its contents baked for one hour at 140 C. Meanwhile a solution of nine parts absolute alcohol and one part glycerine is prepared and boiled, and when the oven is opened, under due precautions, sufficient of this solution is put in each tube to cover the cat-gut, the cork is firmly inserted into the tube, and thus it is kept until the very moment of use in operation, when a nurse removes the cork and holds the tube ready for the operator to remove the cat-gut with clean forceps.

The importance of keeping the intestines aseptic is forcibly pointed out. Dominici, of Paris, after administering half an ounce of sulphate of soda and sulphate of magnesia mixed, the patient passed 400 billions of microbes in 24 hours.

During the following 24 hours the patient passed only half a billion or one eight hundredth as many, although the stools measured more than one fourth of the previous day's quantity. We know now that the *bacillus coli* is a prominent factor in appendicitis and even peritonitis, hence the advantage of treating the early stage of these diseases by saline purgatives.

Some Results of the Postural Method of Draining the Peritoneal Cavity after Abdominal Sections, by W. L. Burrage, Boston. This is quite a remarkable paper based on a report of Dr. Clark, Dr. Kelly's assistant, at Johns Hopkins' Hospital, on seventeen hundred cases of abdominal section from the standpoint of intra-peritoneal drainage.

Dr. Kelly, like most operators, has gradually abandoned drainage tubes after abdominal sections, and in their place he makes use of the absorbing process of the diaphragm to carry away the exudations from raw surfaces. The foot of the bed is raised from 12 to 18 inches, thus allowing peritoneal fluids to gravitate towards the diaphragm. Many cases are cited to prove the efficacy of the method. I have long been accustomed to raise the foot of the bed in bad cases of coeliotomy, but it was rather for the sake of letting the blood flow to the head to avoid fainting and to keep the heart full.

Dr. Burrage points out that the natural flow of fluids is towards the diaphragm; he does not mention, but it is quite

possible, that the diaphragm acts as a pump to keep the peritoneal fluids moving. He notes what I have several times reported, that post operative stasis and general aching or soreness is much less since we introduced two or three quarts of normal salt solution into the peritoneal cavity or into the rectum. He claims that keeping the foot of the bed elevated for three or four days after abdominal operations does away with pain in the back.

The Diagnosis of Tumors of the Breast is the title of an able article by the editor, Dr. Cushing. The most important deduction is that all tumors of the breast should be removed as early as possible, as even benign ones are liable to become malignant, after which the prognosis becomes much less favorable. My own experience emphasizes this still more strongly. When cancer of the breast is advanced enough to affect the glands in the axilla, it is too late to do much for the patient. I have had a number of such cases, and although I removed all the glands and cellular tissue in the axilla, leaving the vessels clean, and although I removed the pectoralis major and minor muscles, all the patients died within two years, while those whose glands were not affected, and from whom I removed the breast only, are all alive.

Hysterectomy for Fibromyoma; some Early Records, by Mary A. Dixon Jones, M.D. This is a most elaborate article, describing the first operations in America, which were performed by this lady operator of Brooklyn, and also the first operations performed in England by Dr. Clay, of Manchester. The writer is a strong advocate of total removal of the uterus, including the cervix. According to statistics of 42 operators in America the death rate of hysterectomy with the stump drawn out of lower angle of wound was $13\frac{1}{2}$ per cent.; while that of total removal, including the cervix, the mortality was $12\frac{1}{2}$. There was therefore only a slight difference. Certainly the convalescence is less when no stump is left. My own preference in the treatment of fibroid uterus is, 1st, if the patient can afford the time and expense, I would treat them with electricity, which cures the majority of them without any mortality; 2nd, if electricity could not be employed, then I would prefer to remove the tubes and ovaries close to the uterus. This almost invariably puts an end to the hæmorrhage, and causes retraction of the tumor, so that it never troubles the patient, and has a mortality of not more than 2 per cent.; 3rd, if the patient desires immediate and entire removal of the tumor, I am in favor of total removal, as advocated by Dr. Mary Dixon Jones.

Medical Society Proceedings.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, January 7, 1898.

ROBERT CRAIK, M.D., President, in the Chair.

Dr. E. W. Archibald was elected an ordinary member.

THE TREATMENT OF FRACTURES BY THE AMBULATORY METHOD.

Dr. G. E. ARMSTRONG showed a man whom he was treating for fracture of the tibia by the ambulatory method, and gave the following description of it :

The idea is to apply a fixation apparatus that will enable the patient to use the broken leg in progression. To allow the patient to get out of bed and to go about with the aid of crutches is the idea in the ambulatory treatment of fractures. To attain this object any fixation splint may be used, but plaster of Paris has been chiefly employed, either alone or together with other splints. I have tried to carry out the idea in eight or ten cases recently admitted to the wards of the Montreal General Hospital, and I find that in properly selected cases this method possesses decided advantages.

In this man, the fracture is of both bones about the middle of the leg, and the fracture of the tibia is very oblique. He limps along as you see, but that is about all the inconvenience he has. One great advantage is that the patient can get out of bed. The ability to move about is a great gain. A business man may go down to his office for an hour or two each day and look after his affairs. The advantage is still greater in the case of old people with fracture of the neck of the femur. By avoiding the confinement to bed, pneumonia is prevented. I find this method adapted to the treatment of Pott's fracture and fractures of the fibula.

The other advantages claimed for the ambulatory method are lessening of the muscular atrophy and the stiffening of joints, more rapid repair, and the avoidance of delirium tremens.

MENIERE'S DISEASE.

Dr. F. G. FINLEY exhibited a case of Menière's disease.

The patient, aged 44, baggageman, was admitted to the Montreal General Hospital on Dec. 29, 1897, complaining of attacks of vertigo with vomiting,

About four years ago, whilst apparently in perfect health, he began to have attacks of giddiness on rising in the morning, staggering always towards the left side. The attacks lasted from 45 to 60 minutes, and came on every two weeks, and latterly have become rather more frequent. About the same time he noticed noises in the ears, compared to rumbling or whistling, and these sounds have continued constantly since.

For the past year there has been diarrhœa, a loose stool being passed after each meal, but not accompanied by pain. Vomiting with the attacks of vertigo set in two months ago.

For the past six months deafness has been noticed.

On the day before admission, whilst at work, he suddenly

fell down and lost consciousness for half an hour, hurting his shoulder, but not biting his tongue or passing urine.

His health previous to the onset of the attacks of vertigo was always good, with the exception of an attack of pleurisy 18 years ago. A brother is stated to have died of this disease, but there is nothing further pointing to tuberculosis in the family history.

Examination.—The patient is a rather spare man, with small muscles. The temperature is normal (and continued so during his stay in hospital) and the pulse 76.

The right lung presented marked dullness at the apex posteriorly to the 5th spine, with slight blowing breathing, and fine crackling *râles*. There was no cough or expectoration, nor had there ever been. The other organs and urine were normal. The bowels moved once or twice daily after his admission, the stools being rather loose.

The ears were examined by Dr. Birkett, who reported R ear 1-40, L. ear c-40, membranæ tympanorum, indurated and thickened, no reflex. Bone conduction very defective, especially for the higher notes.

During his stay in hospital he was treated with pilocarpin hypodermically with a view of influencing the chronic catarrhal condition in the ears. Although there were no attacks of vertigo in the hospital, this is rather to be attributed to rest and quiet than to treatment, as the attacks recurred as frequently as ever after his exit.

The case is evidently a typical one of Menière's disease, the four cardinal symptoms—vertigo with vomiting, noises in the ears, and defective bone conduction—being present.

The chronic catarrhal otitis media points to a similar condition of the labyrinths.

The importance of examining the bone conduction with tuning forks of different pitch is very well exemplified in this case. With a low pitched note, no departure from the normal could be made out, but with a high note the difference was very obvious.

The diagnosis of aural vertigo is usually easy, although the condition is frequently overlooked and attributed to biliousness. According to Gower 90 per cent. of cases of vertigo are due to labyrinthial disease, and the importance of "*Vertigo e Stomaco Læso*," doubtless owing to the teaching of Trousseau, has been much over-estimated. Gastric disturbance undoubtedly increases the frequency and often precipitates an attack, but inquiry into the aural symptoms, and particularly careful testing of bone conduction, almost always shows that the origin of the disease is in the ear.

The chronic diarrhœa, with evidence of disease in the apex of the lung, was attributed to tuberculosis.

Stated Meeting, January 21, 1898.

ROBERT CRAIK, M.D., President, in the Chair.

IRRITATIVE TRISMUS.

DR. J. ALEX. HUTCHISON read the report of this case, and presented the patient before the Society.

APPENDICITIS IN AN INFANT.

DR. J. ALEX. HUTCHISON read the report of this case.

Stated Meeting, February 4, 1898.

ROBERT CRAIK, M.D., President, in the Chair.

OSTEOMYELITIS OF THE TIBIÆ AND FEMUR.

DR. BELL presented two tibiæ and the lower half of a femur, illustrating the late effects of osteomyelitis, and gave brief reports of the case as follows :

CASE I.—A. W., a strongly built man, æt. 44, was attacked with acute osteomyelitis in the lower third of the left tibia at the age of 12 years. He recovered after a long severe illness, with a sinus persisting. Several years later another sinus appeared higher up the leg. These sinuses kept healing over and breaking out at intervals, and on one occasion a sequestrum about three inches long escaped from the uppermost sinus. Eight years ago the bone was operated upon. He was laid up for eight or nine months, and it was a year and a half before he could go about as usual,—the sinus still persisting. Four years ago he fell and broke the bone about the middle. He was laid up four or five months, and the bone united, but the sinus still persisted. Three years ago he broke the bone again at a point a little higher up than the first fracture. He was laid up four or five months, and union took place. He was able to get about and work on his farm until the 30th of December, 1897, when he fell and broke the bone again on a still higher level than the previous fracture. Two days later he came to the Royal Victoria Hospital. There was a clean transverse fracture across the tibia, at the junction of the upper and middle third, but no displacement. The anterior subcutaneous portion of the tibia in the middle third was exposed. It was free from periostum, rough and irregular. A sinus led down to the bone from a point about three inches below the tuberosity of the tibia, on the inner and posterior surface, and another about eight inches lower down. On the 6th of January, 1898, the leg was amputated through the knee joint (lateral flaps), and the patient made an uninterrupted recovery, with an excellent stump.

The tibia was dissected out and sawn down the centre throughout its whole length. The bone was greatly sclerosed, the medullary cavity obstructed, and it showed three or four old abscess cavities in the cancellous tissue.

CASE II.—W. B. McG., a pale, neurasthenic man, æt. 48, was seized suddenly one evening, after a hard day's skating, when 14 years of age (1863) with acute osteomyelitis in the upper part of the left tibia. He was very ill for several months, and recovered with a sinus. The usual history of sinuses—healing over and breaking out again—followed, but he was laid up with acute suppurative conditions about the leg in 1870, 1881, 1885, and November, 1886. Since the last attack he has suffered a great deal of pain in the tibia, and has not been able to get about without a crutch, and he had an attack of synovitis of the knee joint, which, however, left the joint functions unimpaired. On January 1st, 1897, there was general thickening of the bone with tender spots, just below the tuberosity on the inner side and about the middle third and the upper part of the lower third. There were no sinuses. Trephining was recommended, but the patient declined to have any operation

except amputation. This was done, through the condyles, on the 21st of January, and the patient made an excellent recovery.

Vertical section of the bone showed numerous abscess cavities throughout its whole length. The medullary cavity was obliterated and the whole bone very dense. It would have been quite impossible to have located and enumerated the many abscess cavities found.

CASE III.—A pale, emaciated boy, æt. 19, was seized with osteomyelitis in the lower portion of the femur in August, 1894. A long illness of many months followed, during which the leg became flexed to an angle of 45° . Sinuses persisted, and operations for the removal of sequestra were performed in September, 1896, September, 1897, and January 13, 1898. At this latter operation it was decided to recommend amputation. On the 28th of January, 1898, a circular amputation was performed at the junction of the middle and upper portions of the thigh. The patient made an excellent recovery.

Section of the bone (in its length) showed obliteration of the medullary cavity, sclerosis and deep irregular cavities in the lower end of the bone, from which sequestra had been removed.

In presenting these cases Dr. Bell expressed the opinion that surgeons, in their laudable desire to save limbs, probably often erred in doing repeated, serious operations upon hopelessly diseased bones instead of amputating. He thought every one would admit that these cases were hopelessly diseased, and that the patients who recovered in three or four weeks, and would be getting about on modern artificial limbs in three or four months, would appreciate the more radical treatment.

Dr. G. E. ARMSTRONG, said :

Hospital surgeons are more frequently called upon to treat the sequelæ of osteomyelitis than the disease itself. With the exception of the acute cases arising during the convalescence of typhoid patients transferred from the medical wards, hospital surgeons rarely see these cases during the early stages. This is unfortunate and hard to account for. The pathology and bacteriology of osteomyelitis are now well understood. The diagnosis and treatment during the early course of the disease are not difficult, but the closure of the large bone cavities found in old cases of long standing is extremely unsatisfactory. I have seldom been able to close these cavities with blood clot as advised by Schede. Nor does Senn's method of closing them with decalcified bone chips yield much better results. I believe that these extreme cases, necessitating amputation, would not occur if osteomyelitis was recognized early and treated properly in the early stages. I have tried twice unsuccessfully to close the cavities by filling them with sterilized plaster of Paris. The insuperable difficulty is to render these large irregularly shaped spaces sterile.

Dr. BELL, in reply, said that he agreed with Dr. Armstrong about the way in which cases were overlooked when acute, though this was not so much the case now as it was many years ago, when the cases of which the report had been given were in the acute stage. One of these occurred 35 and another 32 years ago. With reference to the closing of large cavities, he had used both chips

and blood clot with not very great success. Healing by blood clot he considered the ideal method. Irregular cavities could not be rendered aseptic.

VAGINAL HYSTERECTOMY UPON AN OLD WOMAN.

Dr. F. A. LOCKHART read the following report :

The patient, from whom the accompanying specimen was removed, is a Mrs. F., aged 75 years. She was first admitted to the gynæcological ward of the General Hospital on November 5, 1896. Her complaint was "falling of the womb," which she said had only existed for eight days, but this is probably incorrect, as her statements are very unreliable, and the ulcerated condition of the vaginal mucous membrane pointed to a duration of at least several weeks. She first menstruated at 14, and was regular every month until she was 21 years old, when the flow ceased and did not return. She had pain in the right iliac region for seven or eight days each month at the time when the flow should have appeared.

She had one full-time child, who, she says, is 33 years old, but I think that either this statement or the previous one that her menses finally disappeared when she was as twenty-one years of age is wrong, as she would be very unlikely to have a child after the cessation of menstruation, whereas an extremely probable cause of that cessation would be superinvolution of the uterus.

The patient's general condition was fairly good, but all of the superficial arteries were very atheromatous, which made one rather anxious to avoid operation.

Local examination of the genitals revealed a large mass consisting of the uterus, part of the bladder and rectum, and the vagina, protruding from the vulva, the cavity of the vagina being reduced to about half an inch in depth.

The mucous membrane was eroded all round the protruding mass for fully two inches from the external os uteri, and was also greatly hypertrophied and thickened. There was no enlargement of the inguinal glands.

The uterus was carefully washed with creolin, and, after dusting it with a powder consisting of oxides of bismuth and zinc and boracic acid, was easily returned inside of the vulva, and a large boroglycerine tampon inserted to retain it in position. The above proceeding was repeated daily for the next ten days, the patient being kept in bed, after which the vagina was simply douched with creolin twice daily until the patient left the ward on Nov. 29, by which time the uterus had returned to its normal condition and the ulceration had healed except at the margin of the os uteri.

The patient re-entered hospital on Dec. 11th, the uterus having remained in position for ten days only after her leaving the ward. Four days later the uterus and appendages were removed, *per vaginam*, ligatures being used. The only points about the operation worthy of note was the extreme difficulty at first on account of the thickened mucous membrane obscuring the usual landmarks, and the presence of a unilocular cyst of the right ovary, the size of a large orange. (This occupied the site of the periodic pain from which the patient suffered.) After the uterus had been completely

separated on the left side, the cyst bulged into the wound, and was punctured and removed without much difficulty.

On account of the atheromatous condition of the vessels, chloroform was used instead of ether.

The patient's convalescence was uneventful, the pulse only twice going up to 90 and the temperature never reaching 100° F. She sat up in a chair on the 18th day, and left the hospital on the 30th.

The pathologist reported the presence of very early cancer of the cervix.

I am greatly indebted to the care and watchfulness of Dr. Chas. Gurd, who was house gynecologist at the time, and to the nurses, as without their active co-operation the result might have been different.

DR. LAPHORN SMITH thought removal of the uterus was the proper procedure in cases of procidentia such as this, because the cervix was most often the seat of beginning cancer. It was so in three of his cases. When the patient would not consent to this, ventro-fixation was satisfactory, if the uterus was not too large. Where the uterus was large and heavy, Alexander's operation was preferable, because there was too much pulling on the abdominal wall after ventro-fixation. In either case the cervix should be amputated, and an operation performed for narrowing the anterior and posterior vaginal wall.

With regard to whether one should use ligatures or clamps in vaginal hysterectomy, he thought the ligatures gave the best results, although they rendered the operation much longer and more anxious. In one case he had sewed the two broad ligaments together and closed up the opening in the vaginal roof with cat-gut, and thus greatly strengthened the floor of the pelvis. This patient went to work as a charwoman a week later against his orders.

Dr. J. C. WEBSTER asked if Dr. Lockhart had performed the operation for cancer or for the relief of the procidentia. On the operator replying that it was for suspected cancer, Dr. Webster pointed out that it was important to make the distinction, as this operation had been repeatedly tried for procidentia uteri and had been justly condemned by such men as Pozzi, Leopold, and Muller among others. The reason for this was a very simple one. Procidentia uteri was simply a hernia of the pelvic floor, and removal of the uterus not only did no good, but actually did harm by taking away part of the support. He had never seen a case that could not be helped by amputation of the cervix, anterior and posterior colporrhaphy, perineal repair, and, in addition, in many cases, ventro-fixation of the uterus.

Total extirpation could only be regarded as justifiable when the removal of some condition associated with the procidentia was necessary, *e. g.*, carcinoma or myoma uteri.

THE
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PUBLISHED MONTHLY.

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All communications for the Journal, books for review, and exchanges, should be addressed to the Editor, Box 2174, Post Office, Montreal.

Editorial.

SAJOURS ANNUAL AND ANALYTICAL ENCYCLO- PÆDIA OF PRACTICAL MEDICINE.

This is the title of a new work to be shortly issued by the F. A. Davis Co., and which replaces the *Annual of the Universal Medical Sciences*, which with the 1896 issue ceased to exist. While a very useful *resumé* for a few, it has proved to be too elaborate a work to be popular with the profession at large; hence, an attempt to better meet the requirements of the largest number, and to produce an annual *resumé* of progress in a condensed and attractive form.

The modified work will consist of a number of volumes, in which all the general diseases, medical, surgical, obstetrics, etc., will be fully described, and in the text will be inserted all progress made for ten years back. Large type is used for the general text and small type for the excerpts.

A new annual entitled *The Monthly Encyclopædia of Practical Medicine*, which is a continuation of the *Universal Medical Journal*, will give the progress in current literature, making at the end of the year a volume of 500 pages. The whole work will be revised several times a year, but one will be able to keep abreast with the *Monthly* for at least three years without purchasing a new edition, during which time

the *Monthly* is sent without extra charge. We hope this new effort will meet with success, and that the novel method proposed of keeping the profession fully posted will prove an advanced step.

THE PHILADELPHIA MEDICAL JOURNAL.

We gave a preliminary notice of the appearance of this new weekly a couple of months before its first issue, on January 1st, 1898. The Company is composed entirely of medical men, all of whom stand in the leading rank of the practitioners of America.

Dr. George M. Gould is editor, and his best efforts are being put into the management of this journal, and it doubtless will, like all Dr. Gould's literary and scientific work, prove a complete success. There are some thirty-six pages of reading matter in each number. The subscription price is three dollars. It is hoped that this will enlist a larger number of subscribers, and in that way make up for the larger amounts that are received by journals of similar standing.

The arrangement and scope of the journal is on a modified plan. There is first some half a dozen pages of editorial comment, in which the live subjects of the day are ably discussed. Under American News and Notes is included a *resumé* of the happenings and interesting notes upon occurrences throughout the United States. Then foreign news and notes represent the happenings abroad, while Philadelphia News and Notes refer to all matters of medical interest in this great centre.

A novel and useful feature is the giving of the title of the original articles in a number of leading medical journals of the world with a *resumé* of the article. There are six or seven original articles in each number, and so far the editor has succeeded in securing papers from the leading medical writers of the United States and Canada.

If the same freshness and scientific vitality continues to characterize this new medical journal, which is worthy of an extended patronage, we bespeak for it an unexampled career.

THE AMERICAN MEDICAL ASSOCIATION.

DENVER MEETING, JUNE 7TH, 1898.

COMMITTEE OF ARRANGEMENTS.

306 MCPHEE BUILDING, }
DENVER, COL., MARCH 15, 1898. }

DR. J. M. BEAUSOLEIL,

President Canadian Medical Association, Quebec :

MY DEAR SIR :—I am requested by the local Committee of Arrangements for the coming meeting of the American Medical Association, which will be held in Denver on June 7th to 10th next, to extend to you and the members of the Canadian Medical Association a cordial invitation to attend this meeting. Great interest is being taken throughout the United States, and this promises to be one of the most successful meetings of the American Medical Association which has ever been held. Special trains are being arranged from many of the eastern cities to bring the delegates to Denver at that time, and the railways are heartily taking up the matter and promising enthusiastic co-operation to make the occasion an unqualified success. The opportunity will be an unusual one for those desirous of seeing the great health resorts of Colorado and the Rocky Mountains under favorable circumstances, and at very much reduced cost. Delegates from Canada may feel assured that the members of the profession in Denver and Colorado will heartily welcome them to this meeting, and will do all in their power to make their excursion an enjoyable one. Visitors from Medical Societies outside of the United States are invited to register without fee, and to exercise all the privileges of membership, except, of course, that of voting.

We hope that the Canadian Medical Association will be represented by a very large delegation.

Will you please see that some notice of this invitation is sent to the members of the Association throughout the Dominion, so that they may feel assured of a hearty welcome if they come, and are properly introduced by your Society.

I remain, dear sir, yours very truly,

(Signed) EDMUND J. A. ROGERS (MCGILL),

Chairman Committee on Foreign Invitations.

THE ETHICS AND POLITICS OF MEDICAL BOOK-REVIEWS.

The following editorial on this subject from the *Philadelphia Medical Journal* sheds light on some dark places, and is exceedingly suggestive as to where reform is required :—

We have talked with many editors concerning book-reviewing, and for years have attentively studied the methods and motives at work. As a result we have no hesitancy in saying that by far the greater part of the reviews in our 275 medical journals are not only incompetently done, but that they are worthless scientifically, ethically, and as literature. This everybody knows well enough, and it is admitted by editor, author, publisher, reviewer, and profession. The whole business needs revolutionizing or abolishing. The review department of journals whose editors have any trace of journalistic or professional conscientiousness is the terror and the disgust of these editors. It is the football of commercial interests, dominated by prejudice or by personal motives, either of the editor, as regards his publisher, or as regards his author ; or, on the other hand, of a hundred possible jealousies and concealed motives of the reviewer, as regards the author. When secret malevolence does not rule, over all is the paralyzing hypnosis of the desire to say pleasant things, to avoid arousing enmities, and not to hurt the feelings of the author and publisher. The result is that the whole affair, from one motive or another, is deeply dyed with dishonesty, superficiality, flattery or malignancy,—but all thoroughly misleading.

That is the diagnosis. Pages might be devoted to the symptomatology :—Editors, *e.g.*, refusing to review books of their rivals, or doing so maliciously ; publishers dictating good reviews of their own books, or “swapping” good reviews with certain rival publishers ; publishers coercing the character of reviews in other journals than their own by a dozen contemptible means, or refusing to send any of their books at all to the non-complaisant ; medical journals indiscriminately reprinting the publishers’ circulars and praising every book with stereotyped phrases—for the sake of the private library-shelves ; authors anonymously reviewing their own books ; lenient editors, to avoid trouble, bunching twenty so-called reviews on a page, etc., etc., with infinite variations, *ad nauseam*.

We cannot go now into the treatment, but wish only to speak of one complication of the disease that needs a bit of clearing up. Reviewers may be divided into three classes :

the anonymous (or editorial), the initialed (or hermaphroditic), and the entirely-signed (or purely individual). The last class may be passed over, because when a reviewer signs his whole name his opinions carry weight only according to his personal ability, and are recognised by all as simply one man's opinion. The neuter-gender review by initials is "neither flesh nor fowl nor good red herring." Neither the journal nor the individual is held responsible.

All reviews, like all editorials that have any respect shown them, or that have carrying-power, are anonymous, and for these the Journal must assume direct and absolute editorial responsibility. Any other course results in ludicrous and silly ineptitude and self-contradiction. If the periodical does not assume this responsibility, there is no right to use the editorial "we," and no right, human, or professional, or commercial, to review the book at all. The spectacle of an editor, for example, in one column, reviewing eulogistically a book that denounces on every page the germ-theory of disease, and maligning the motives of those who believe in the germ-theory, while, on another page of the journal, editorially upholding the doctrine—all this is illuminating—of many things.

We are thorough believers in the wisdom of the anonymity of editorials and reviews in medical journalism, and the strict holding of the journal to an accountability for every editorial utterance. It would seem that this position would hardly need defence. All high journalism has come to this practice, and it is the only condition of ethical and journalistic progress. There is something in the editorial "we" that cannot be gained by any ego-ism or individualism, however expert and able. *Nos* becomes *vous* by putting "you" into it. A good journal must have a character of its own that is different from that of any other journal, and from that of any one or more of its editorial staff. It is, in a word, if at all true to any ideal standards, an organ, the spokesman of many and of all, and must, consciously or unconsciously, trend to non-individualism, to action in the interests and aims of the many. It is this very impersonalism that gives its opinion weight and unselfishness; an editorial writer must merge his individuality, his personal peculiarities, into the larger general purposes, look for the light and truth that is beneath individual imperfections, struggling to larger issues and for the common good. Anonymity in men, if not in puppets, quenches whims, foibles, and crankeries, and leads to attention riveted upon the wants of and duties to the thousands of readers. Let every subscriber hold the composite editorial personality strictly responsible for what is

said in all unsigned articles. In this way, the careless and *laissez-faire* editor can be brought up standing before the bar of professional responsibility. One result of such an accounting would be an ending of the thousand disgraces of medical-book reviewing, which at present make our journalism the butt of ridicule of every conscientious and wide-awake reader.

THE AMERICAN MEDICAL ASSOCIATION.

SECTION ON MATERIA MEDICA AND THERAPEUTICS.

The following papers and discussions have been promised for the meeting at Denver, Col., June 7-10, 1898:—

“Yellow Fever: Its Etiology and Treatment.” Discussion by Surgeon-General George M. Sternberg, M.D., of Washington, D.C.; Prof. John Guitéras, M.D., of Philadelphia; Sollace Mitchell, M.D., of Jacksonville, Fla.; T. S. Scales, M.D.; of Mobile, Ala.; G. B. Thornton, M.D., of Memphis, Tenn.; H. M. Bracken, M.D., of Minneapolis, Minn.; P. E. Archinard, M.D., of New Orleans, La.; Prof. William H. Welch, M.D., of Baltimore, Md.; Captain R. S. Woodson, M.D., Assistant Surgeon United States Army, of Fort McPherson, Ga.; Prof. William Pepper, M.D., LL.D., of Philadelphia, Pa.

“Aims of Modern Treatment of Tuberculosis.” By Prof. Edwin Klebs, M.D., of Chicago. Discussion by Charles Denison, M.D., of Denver, Col.; Prof. William Pepper, M.D., LL.D., of Philadelphia, Pa.; Prof. William H. Welch, of Baltimore, Md.; Prof. William E. Hughes, M.D., of Philadelphia, Pa.

“Serum-therapy of Tuberculosis.” By Prof. S. O. L. Potter, M.D., of San Francisco, Cal. Discussion by Prof. James M. Anders, M.D., of Philadelphia, Pa.; C. C. Fischer, M.D., of St. Louis, Mo.

“The Therapeutics of Pulmonary Phthisis.” By Paul Paquin, M.D., of St. Louis, Mo.

“The Practical Value of Artificial Serum in Medical Cases.” By P. C. Remondino, M.D., of San Diego, Cal.

“The Present Status of Serum-therapy.” By George W. Cox, M.D., of Chicago, Ill.

“Biological Activity of the Antitoxins.” By Prof. Joseph McFarland, M.D., of Philadelphia, Pa.

“Glandular Extracts.” By Prof. Isaac Ott, M.D., of Easton, Pa.

“The Use of Remedies in Diseases of the Heart and Blood-vessels.” By T. Lauder Brunton, M.D., D.Sc., F.R.S., of London.

"The Mescal Button." By Prof. D. W. Prentiss, M.D., of Washington, D. C., and F. P. Morgan, M.D.

"The Modern Intestinal Antiseptics and Astringents." By William Frankhauser, M.D., of New York. Discussion by Boardman Reed, M.D., of Philadelphia, Pa.

"A New Non-amylaceous Flour for Diabetics and Dyspeptics." By N. S. Davis, jun., A. M., M.D., LL.D., of Chicago, Ill.

"The Solution of Ethyl Nitrite." By D. J. Leech, M.D., of Manchester, Eng.

"A Contribution to the Effects of Coffee in Excess." By Prof. William Pepper, M.D., LL.D., of Philadelphia, Pa.

"The Treatment of Insomnia." By Robert T. Edes, M.D., of Jamaica Plain, Mass.

"Are there Therapeutic Principles?" By Solomon Solis-Cohen, M.D., of Philadelphia, Pa.

"To What Extent is Typhoid Fever favorably modified in Its Course, Duration, Termination or Sequelæ by the Administration of Drugs." By Frank Woodbury, M.D., of Philadelphia, Pa.

"Strychnine." By J. N. Upshur, M.D., of Richmond, Va. Discussion by Prof. J. H. Musser, M.D., of Philadelphia, Pa.; Walter M. Pyle, A.M., M.D., of Philadelphia, Pa.

"Methods of Teaching Materia Medica and Therapeutics." By Prof. G. H. Rohé, M.D., of Baltimore, Md.

"The Study of Materia Medica and Therapeutics." By H. M. Bracken, M.D., of Minneapolis, Minn.

"A Contribution to the Pharmacology of Cannabis Indica." By C. R. Marshall, M.A., M.B., Pharmacological Laboratory, Downing College, Cambridge, England.

"The Place of Hydrochloric Acid in the Treatment of Diseases of the Stomach." By Boardman Reed, M. D., of Philadelphia, Pa.

"The Continuous Use of Digitaline in the Vasomotor and Cardiac Lesions of Senility." By Henry Beates, jun., M. D., of Philadelphia, Pa.

"Home Remedies *versus* Patent Medicines." By Prof. Adolph Koenig, M. D., of Pittsburg, Pa.

"Opium in Bacterial Diseases." By J. P. Farnsworth, M. D., of Clinton, Ia.

"The Great Therapeutic Importance of a Rational Adaptation of Cathartic Remedies to the Physiological Functions of the Gastro-intestinal System." By E. D. McDaniels, M. D., LL. D., of Mobile, Ala. Discussion by Prof. John M. Dunham, A. M., M. D., of Columbus, O.

"Recognition of Temperament: a Factor to the Selection of Remedies, and their Dosage in Disease." By J. E. Moses, M. D., of Kanas City, Mo.

"On Some Preparations of the National Formulary." By C. Lewis Diehl, Ph. G., of Louisville, Ky.

"The Use of Stimulants in Acute Diseases." By E. B. Hershey, M. D., of Denver, Col.

"Codeina." By A. K. Minich, M. D., of Philadelphia, Pa.

"Therapeutics of Idiopathic Epilepsy." By Prof. J. N. Barnhill, A. M., M. D., of Columbus, O.

"The Use of Drugs in Diseases of the Uterus." By Prof. John M. Dunham, A. M., M. D., of Columbus, O.

"Why the Pharmacopœial Preparations should be Prescribed and Used by the Profession." By Leon L. Solomon, M. D., of Louisville, Ky.

"The Use of Electricity by the Practitioner." By Caleb Brown, M. D., of Sac City, Ia.

"The Relation of Pharmacal Legislation to Pharmaceutical Education." By Willis G. Gregory, Ph. G., of Buffalo, N. Y.

"The Uric-Acid Diathesis: Its Cause and Maladies Resulting from it. Is it a Cause or an Effect of Bright's Disease of the Kidneys?" By H. V. Sweringen, M. D., of Fort Wayne, Ind.

"The Sulphocarbolates." By Prof. William F. Waugh, M. D., of Chicago, Ill.

"Incompatibles." By B. E. A., Ruddiman, Ph. M., M. D., of Nashville, Tenn.

"Fraudulent Claims—The Remedy." By C. C. Fite, M. D., of New York.

"The Selection of Diuretics and Lithon, triptics in Diseases of the Urinary Tract." By Ernest L. Stephens, M. D., of Fort Worth, Texas.

"Life-history of the Bacillus Tuberculosis in its Relation to the Treatment by Tuberculin." By Robert Reyburn, M. D., of Washington, D. C.

"The Chemistry of the Albuminates." By F. E. Stewart, M. D., of New York.

The following have also promised papers, subjects to be announced very soon, together with the day assigned for each discussion and paper:

Dr. R. S. Woodson, U. S. A., Fort McPherson, Ga. Dr. Dudley W. Buxton, London, England; Prof. I. E. Atkinson, of Baltimore, Md.; Prof. George F. Butler, M. D., of Chicago, Ill.; Prof. Joseph P. Remington, of Philadelphia, Pa.; Prof. Ernest B. Sangree, A. M., M. D., of Nashville, Tenn.; Dr. L. A. Sayre, of Lawrence, Kas.; Dr. T. M. Balliet, of Philadelphia, Pa.

The chairman will be pleased to receive and place upon the programme subjects for discussion and papers. John V. Shoemaker, M. D., chairman, 1519, Walnut St., Philadelphia Pa.

PERSONAL.

Dr. Lapthorn Smith, who has arranged to spend the summer visiting the Gynæcological clinics of Europe, will leave Montreal on the 21st May, and will be absent until the 21st of August. He has promised to send the CANADA MEDICAL RECORD monthly letters from London, Paris and Berlin, which are sure to prove of interest to our readers.

PUBLISHERS DEPARTMENT.

APPLETONS' POPULAR SCIENCE MONTHLY FOR MARCH, 1898.

The opening article in *Appletons' Popular Science Monthly* for March describes A Summer Journey to the Sahara Desert; It is by Prof. Angelo Heilprin, of the Philadelphia Academy of Sciences, and is copiously illustrated. Franklin Smith, under the title An Apostate Democracy, sharply criticises the degeneration of American political ideals and statesmanship. Dr. Fred E. Leonard discusses, the important question of Physical Training in the Colleges; he points out the good results which have followed its general introduction, and gives a general survey of the methods in use at different institutions. The pioneer scientific society of the West, The Academy of Natural Science at St. Louis, is described by Prof. Frederick Starr, of the University of Chicago. In a World Half as Large is the title of an article by the late M. J. Delboeuf, discussing some of the inconsistencies of Laplace's *Exposition du Système du Monde*. The concluding chapter in Prof. William Z. Ripley's series on the Racial Geography of Europe takes up the problems of city populations. An interesting archæological paper, by F. S. Dellenbaugh, is entitled Fabric-Marked Pottery. The Taxation of Choses in Action is the title of David A. Wells's sixteenth chapter. Harold W. Fairbanks describes the curious geologic structure of the Great Sierra Nevada Fault Scarp; the text is accompanied by instructive illustrations. The first Thermometers, by M. P. Duhem, gives a history of this now universally used instrument, and describes some of the curious forms in which its principle was first applied to ascertaining temperature. The Sketch is of Sir Joseph Lister, the author of antiseptic surgery. The Claims of Science and the Upward Struggle of Society are the titles in the Editor's Table.

New York: D. Appleton and Company. Fifty cents a number; \$5 a year.

PAIN IN OTITIS.

Dr. George H. Powers, Professor of Optbalmology and Otology in the University of California, San Francisco, in an article in *The Medical News*, writes as follows in reference to the treatment of pain in otitis: "At my first visit I found a copious discharge of bloody serum from the ear with hardly a trace of pus. He suffered from severe cephalalgia, but there was no special tenderness in or about the ear, and no swelling. Thorough cleansing of the meatus with dry cotton relieved the pain in the head remarkably, and with a dose of antikamnia, 10 grains, he slept some hours."

SANMETTO THE STANDARD PREPARATION FOR GENITO-URINARY DISEASES.

For some years I have been a very warm admirer of Sanmetto, and have found its action marked and well defined in the cases wherein I have used it. In cases of prostatitis, with loss of virile power in elderly men, I find its action superb. In chronic specific urothrits, cystitis and all irritable conditions

of the urinary tract I find Sanmetto very efficacious. I do not hesitate to recommend it as a standard preparation in cases where the action of pure santal and saw-palmetto is indicated.

JOS. MARSHALL, M.D.

DURAND, MICH.

SANMETTO AN INVALUABLE ADDITION TO OUR
MATERIA MEDICA.

It gives me pleasure to state that Sanmetto at my hands has proven all that its manufacturers claim for it. I consider it an invaluable addition to our materia medica.

SCHUYLER C. GRAVES, M.D.,

Dean, and Professor of the Principles of Surgery and
Clinical Surgery, and Clinical Professor of Abdominal
Surgery, in the Grand Rapids Medical
College.

GRAND RAPIDS, MICH.

No one who is interested in the best contemporary French literature can afford to miss the series of sketches and stories by Paul Bourget, which will begin in *The Living Age* for April 2. These sketches have been but recently published in France, and this is their first appearance in English dress. They are translated for *The Living Age* by William Marchant. They are extremely clever and characteristic.