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OBSERVATIONS ON THE NATURE AND TREATMENT OF PERNICIOUS ANEMIA.*

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MANY causes and conditions have been adduced to account for the occurrence of pernicious anemia, but none of them is satisfactory —nothing definite is known as to the actual cause. The unknown factor is generally believed to be a toxine; on this theory only can the phenomena be accounted for. Among the English-speaking profession generally the toxine is looked upon as of gastro-intestinal origin, and that it acts on the blood of the portal system especially, causing rapid hemolysis, and that the other effects produced are secondary, developing in the course of the disease. Many German physicians, on the other hand, attribute the disease to a toxine effecting hemogenesis, as shown by the abundance of myeloblasts in the bone marrow and in the blood, indicating a reversion to the embryonal type. It is probable that both views are in part correct; that not only blood destruction, but blood formation, has been affected by a common toxemia, resulting in the genesis of abnormal corpuscles and the rapid destruction of the less resistant ones. The blood formation is atypical, and therefore to be attributed to pathological irritation rather than to excessive physiological stimulation.

The other changes met with, especially those in the spinal cord and peripheral nerves, are probably produced by the action of the same irritant, rather than as the result of the protracted anemia.

*Read at the meeting of the Association of American Physicians, Washington, May, 1901.

The irregular course of the disease, with its remissions and exacerbations, its irregular fever, the frequent disturbance of the mental condition, and the occurrence from time to time of vomiting and diarrhea, all indicate a common toxic cause.

The fact that the general condition does not bear a definite relationship to the blood state, goes to show that there is something else than the poverty in corpuscles on which it depends. This is well illustrated by the contrast between the condition of a miller who was able to do without difficulty all but the heaviest work of his mill and yet his blood only had 1,000,000 red corpuscles per c.mm., and that of a physician with over 4,000,000 corpuscles whose case is given in detail under the head of treatment. In the case of a member of the Canadian House of Commons, during the past year, there has never been more than 3,500,000 red corpuscles per c.mm., and yet he has not only regularly, and with marked ability, attended to his duties in the House, but has also conducted a most vigorous election campaign without either detriment or exhaustion. It is to be noted that in these as in all cases during well-marked remissions, the color-index is always near the normal, and that the corpuscles show less deformity and there are fewer nucleated ones among them.

That the condition is a toxemia is further indicated by the early occurrence of marked weakness. This, in most cases, is the first symptom, and it may be complained of a considerable time before the pallor is observed. It must, therefore, be independent of the anemia to which, as already stated, it is not proportional. In 22 cases observed during the last three years, with scarcely an exception, the first deviation from health noticed was the weakness; pallor followed soon afterwards.

It is to be observed also that the early occurrence of weakness, before, as a rule, any disturbance of the digestive tract is noted, does not support the theory that the toxine is of gastro-enteric origin, or that the digestive tract is the site of infection, but rather indicates that the changes in it are secondary to the toxemia. The disturbances of the stomach and bowels doubtless, however, increase the toxemia and therefore aggravate the condition.

The grounds for the opinion that the toxine is of gastro-enteric origin is the constancy with which disease or disturbance of the function of the digestive tract occurs. Few if any cases are met with in which there is not at some time a history of diarrhea and vomiting. In my 22 cases, diarrhea and vomiting occurred practically in all of them at some period of the disease, usually early, but sometimes later. The *post-mortem* conditions found in the relatively few cases examined do not afford much support to the theory, as in most of them all that has been found is atrophy of the gastric mucosa. Atrophy, however, occurs in gastric carcinoma and many other conditions which have shown no signs of

pernicious anemia, and then there is wanting evidence that the atrophy is not a late change in the disease. The only evidence of its early occurrence is the absence of free HCl from the gastric secretion, but free HCl is temporarily, and occasionally permanently, absent in many other conditions. During the remissions in pernicious anemia the appetite and digestion are often quite vigorous and a full diet may be as well disposed of as in health. At times there is every evidence of a secretion of HCl. Even in such malignant pyloric obstruction HCl may be restored to the secretion after the condition has been relieved by gastro-enterostomy.

Of late much importance has been attached to the probability of infection of the stomach by secretion from diseased gums around decayed teeth.* There is no doubt that such unhealthful conditions of the mouth may cause gastric catarrh, but that is far from proving it a cause of pernicious anemia. It is a question whether decayed teeth and diseased gums are found to exist in pernicious anemia in a greater proportion of cases than in other chronic exhausting diseases. There is such a vast army of people whose teeth are decayed and gums unhealthy, that it would require a marked connection between the condition of the mouth and any constitutional disease to establish a relationship of cause and effect even in a remote degree. In my 22 cases I have notes of the condition of the mouth in 17. One or more teeth were carious in ten of these, but nearly all of them were too well cared for to be a possible source of infection of the stomach. In only four of these cases were the gums unhealthy, three of them being only slightly affected and the fourth only fairly severely. In none was there a purulent secretion. It is further to be observed that these cases were not more affected by stomatitis or gastro-intestinal disturbances than were those whose teeth and gums were perfectly healthy.

One case at present showing very grave symptoms of pernicious anemia was under treatment two years for dilation and prolapse of the stomach with marked disturbance of its function. She was then quite thin and anemic, but the blood did not present the characters of pernicious anemia, and she made a very good recovery. Her present illness began during the past winter.

There was a history of pernicious anemia in the family of two of my cases. One of them, a young man whose death is just reported, had a brother who died of the same disease about four years ago. The history was typical, so that there can be no doubt as to the diagnosis. The other case is that of a lady about 70 years old. She had been ailing for nearly two years, and presented the characteristic symptoms in a marked degree. Two of

* William Hunter, *Medical Press and Circular*, April 3rd, 1901, p. 3537.

her brothers died a few years ago of a disease with similar symptoms and history.

Symptoms of the disease of the nervous system occurred in nine out of the 22 cases. In most of them there was only slight feeling of numbness in the extremities. In the case of Dr. J. E. E., not only the numbness, but ataxia was quite marked, and the mind was not quite vigorous and clear, even during his remissions, in some of which he was almost well.

In a lady of 68 years, there was a sensation of extreme coldness in the hands, that was distressingly painful at times. Her numbness was also marked. Severe neuralgia of the head, in all parts, but usually affecting one side more than the other, was the form the nerve symptom took in a young woman. The pain could scarcely be relieved, until a remission of all the symptoms occurred when she recovered fair health for a time; a relapse followed and terminated fatally six months later.

In estimating the value of the treatment in any disease, it is necessary to take due account of its natural course. This is especially true of pernicious anemia whose course is subject to such sudden and extreme changes. There are few diseases in which more marked remissions occur. It is not unusual for cases almost moribund to be about in a few days, and resume work in a few weeks. This was the history in a man last year. He had been ailing for some months, and in April was so prostrate that he could not be roused; blood-stained fluid flowed from his mouth, saturating his pillow. Yet in a few days he was sitting up, and returned to his home within a week, a distance of 100 miles. During the summer he considered himself well, and worked at his trade as a stonemason. He relapsed in the autumn, and spent the winter indoors with hopes of improving with the advent of the warm weather, but he grew worse rather suddenly and died in April last.

Another man, under my care at the same time, in his first attack two years before, was so prostrate that his physician told him he would not be able to return to his office for a year; but he was there in two weeks, and continued well, as he thought, for a year, when he relapsed, failing steadily with the usual exacerbations and remissions, until he died six months later.

Such cases as these show the inappropriateness of the name, "progressive" pernicious anemia. The disease is remittent, not *progressive*. Many run a milder and more persistent course, but in these also remissions occur and from time to time give promise of recovery. As in the case of the member of the House of Commons already referred to, the recovery may be almost complete, and remain unchanged for a year or more, but examination of the blood always shows some characteristic deviations, and a relapse may be confidently expected sooner or later. This has been my.

experience with 22 cases observed during the last three years. Of these 14 have died, 4 are running the usual variable course, and the remaining 4 have not been heard from for some time.

Arsenic, since its introduction by Bramwell, has, until recently, been regarded as a specific in pernicious anemia. As the natural history of the disease has become better understood, confidence in it has gradually lessened, until now many regard it as of little value. The only case of complete recovery I have had was apparently due to its action.* The case was that of a physician who, in 1889, presented all the symptoms of pernicious anemia running an acute course. The red corpuscles were reduced to 750,000 per c.cm., and there was marked poikilocytosis, with much variety in size. Histological examination of the blood was not then further made. He took arsenic very freely for three months, causing considerable peripheral neuritis. His recovery was complete and he has since remained well. In the light of my more recent experience I am inclined to doubt the diagnosis, although it is not apparent wherein the error lies. In none of my late cases has arsenic proved of any service. In many of them it soon causel gastric irritation, and it had to be discontinued. The general acceptance of the theory of gastro-intestinal toxemia has naturally led to the use of various antiseptics. Of these, bichloride of mercury has been most generally used, both locally as a mouth wash as well as internally. My experience with it has unfortunately not been satisfactory; no tangible good has resulted from its use. The use of other antiseptics, as salol, resorcin, creosote, bismuth salicylate, bismuth naphtholate, have all been equally ineffective. Should this plan of treatment after due trial prove unavailing, it will go far to show that the theory of the origin of the disease from a gastro-intestinal toxine is incorrect.

With a view of supplying the blood with an artificial serum, and stimulating lymphagogue action and the excretion of toxine by the kidney, I have given normal saline subcutaneously in a few cases. I first gave it to an old man in the Toronto General Hospital who was so prostrate as to be almost unconscious. After the first injection of a pint he roused up and remained much better. A pint was given every second day, and on the alternate days the same amount was given by the rectum. The injections were so painful that, on recovering his normal mental state, he declined to continue them, and the saline enemata soon caused diarrhea, and had therefore to be stopped. He improved very much, and left the hospital in very fair condition, with over 3,500,000 corpuscles per c.mm. He returned four months later in a relapse, and died in a few days. In a few other cases improvement followed the subcutaneous saline, and in one there was apparently a recovery, but he may have replapsed, as he has not been

* *Medical News*, October 10th, 1890.

heard of for some time. It is, unfortunately, too painful for most people to endure. The rectal administration should be as effective, but it cannot be continued on account of the diarrhea.

If, as Rumpf has lately pointed out, there is, in addition to the hydremic state of the blood, an excessive quantity of sodium chloride present, it would seem injudicious to add more water and NaCl to blood already surcharged with these constituents. However, if the solution stimulates the renal secretion, its use may so increase elimination from the blood as to more than counterbalance the evil effects of the introduction of more NaCl and water into the blood.*

The use of various other sera is illustrated by the history of the case of Dr. J. E. E.. He was fifty years of age, and practised in a neighboring city. Symptoms of weakness were noticed early in 1899, and pallor shortly afterwards. His teeth and gums were very healthy, but he suffered much from stomatitis, especially when his stomach was disturbed, as it was frequently. He could take arsenic only for a few days, as it caused nausea and vomiting, and normal saline by the bowel set up diarrhea. Bichloride of mercury was used for some time, both locally for the mouth and internally for the general toxic condition, without doing an appreciable good. Bismuth salicylate and other antiseptics were given from time to time for the diarrhea, which always recurred when the stomach was disturbed. His history was the usual one of mild exacerbations and remissions.

Plain horse serum was then given subcutaneously, in the hope of stimulating lymphatic action, but the only effect was to produce a severe urticaria. This was also the result of its use in three other cases. Then anti-diphtheritic serum was used, 2 cc. being given every second day. Its use in two previous cases was followed by gratifying results, doubtless *post hoc* rather than *procter hoc.* They were both old men, and one of them died the following year of acute diarrhea; the other two years later of senility. In Dr. E.'s case the serum had no apparent effect, nor had it in three other cases in which it was subsequently used.

During June anti-streptococcic serum was used, 5 cc. being given every two or three days at first, and later 10 cc., in all 125 cc. being used. During this time the temperature varied from 99 1-5 to 100 3-5. Some time after beginning the use of serum after each injection a free secretion of saliva occurred that was sometimes blood-stained. No apparent benefit followed the use of the serum.

He spent the summer of 1900 under most favorable conditions, living out of doors all day and sleeping in a tent at night. During the remissions the appetite was good and his diet highly nutritious. By September he was considerably better, but still his blood only

* *Berliner klinische Wochenshrift*, No. 17, 1901. Abstracted in *American Medicine*, Vol. I., No. 9.

contained about 3,500,000 red corpuscles per c.mm. In October on my advice he tried spermin (Poehl), 10 cc. being given in divided doses extending over ten days. He soon began to improve, and during November his blood contained 4,500,000 corpuscles per c.mm., and the hemoglobin rose to 85 (Fleishl). He looked quite well, and said he felt as well as ever. Corpuscles, however, showed considerable inequality in size, and a few nucleated ones could be found. He resumed his practice in a quiet way, but soon found himself unequal to the work. He became depressed; his mental condition, which had been affected early in his illness and was not completely restored even at his periods of greatest improvement, now became so much disturbed that he became difficult to nurse. He was confined to bed, although the blood showed only moderate deterioration, and in January, 1901, he grew suddenly worse, and died comatose.

In more recent cases I have advised moderate purgation, with the object of removing infective material from the bowel. At the same time intestinal antiseptics have been given, and such general remedies as strychnine, arsenic, iron, bone-marrow, etc. The results, however, have been no less disappointing than former experiences.

Notwithstanding all the good work that has been done, the cause and pathology of the disease are as yet quite unknown; and as to its effective treatment we are equally in the dark. No plan of management or treatment so far devised avails to cure the disease, or even, in most cases at least, alter its erratic course.

Before the recovery can be considered complete, the blood, on histological examination, must be found quite normal. A restoration of even the full complement of 5,000,000 red corpuscles per c.mm. is not sufficient, as that may occur in a prolonged and marked remission. Not a few of the cures reported have doubtless been remissions of this kind.

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HEMATOLOGY.*

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WITH the beginning of the new century we have entered upon the brink of a new era in medicine and surgery. For his oration on "Surgery" before the fifty-second annual meeting of the American Medical Association at St. Paul, Minn., June, 1901, Dr. John M. Wyeth, of New York, selected the subject, entitled "The Value of Clinical Microscopy, Bacteriology and Chemistry in Surgical Practice (and well may I add) and Medical Practice." The address is a master-work by a master of our profession. Having selected the subject of Hematology for my address, I will preface same with a few of the remarks of Dr Wyeth. (See *Boston Medical and Surgical Journal*, June 6th, 1901, p. 546.) To-day the blood is one of the most attractive subjects of laboratory research work, and although hematology is practically in its infancy, many valuable discoveries have already been made, and in the proper study of a patient a knowledge of the blood is as essential as that of the urine. A knowledge of hematology enables the surgeon to detect any form of anemia, and to determine whether it is a type of blood impoverishment which can be corrected, or whether it is of the graver or more pernicious forms which would either preclude an operation, or, if this were absolutely necessary, would enable him to announce to those entitled to information the gravity of the outlook; and here I am obliged to enlarge upon the essayist's remarks by saying: A knowledge of hematology is of the greatest value; in fact, a necessity to the general practitioner, to every practising physician or surgeon. Had Dr. Wyeth's address been other than one confined to the surgical section, I believe his closing remarks would have been, "Science and art of medicine are inseparable." "*Vox audita perit, littera scripta manet.*" We must admit that every advance in science provides a fresh platform from which a new start can be made, that the human intellect is still in process of evolution, and that the power of application and of concentration of thought for the elucidation of scientific problems is by no means exhausted. Scientific knowledge is no hereditary gift, but a tactful hard-earned acquisition. To become a skilled surgeon requires years of hard labor and study about the dissecting and operating room; to become a skilled physician, years of clinical work in the clinics and laboratory; to become a skilled hematologist requires years of constant study and experimentation in chemical, physiological, pathological and bacteriological laboratories and *post-mortem* dissections. Amongst the laboratory workers exists a natural ambition to maintain and increase the reputation of the branch of knowledge which he or

* Read at the Canadian Medical Association Meeting, Winnipeg, September, 1901.

she cultivates, and it is not infrequent that we hear that one of the privates of the rank and file has nullified the teachings of his teacher, all this due to energetic, conscientious study and research work. *Fas est et ab parvum ingenium doceri.* The study of hematology is divided into three branches: 1st. Methods of clinical examination of the blood; 2nd. Physiology of the blood; 3rd. General pathology of the blood; and I shall dwell upon these branches by mentioning, 1st. The imperfect practical manipulations; 2nd. The effect of medication upon the blood; 3rd. The blood in infectious diseases. The scientific apparatuses and appliances adapted for blood work are many, but the principally used ones are a good microscope provided with a 1-6 plain and 1-12 immersion lens, the Zeiss-Thoma counter for red and white corpuscles, the Fleischl Hemometer, blood needle, staining solutions, cover glasses and slides, hot oven and stage. But one American author, Dr. R. C. Cabot, of Boston, Mass., has furnished us with a text-book entirely devoted to the clinical examination of the blood, a brilliant work by a thorough student and teacher. *Fama semper vivat.* Amongst the European authors we find such authorities as Von Ehrlich, Engel, Ziemann, Von Limbeck, etc., and all these authors agree upon the following processes of obtaining a specimen of blood for microscopical examination: 1st. Obtain the blood by puncture; 2nd. Spreading of the blood; 3rd. Diluting the blood for counting purposes; 4th. Counting of red and white blood cells separately; 5th. Hemoglobin estimation; 6th. Estimation of specific gravity; 7th. Preparation of cover glass specimens; 8th. Staining; 9th. Differential counting; 10th. Bacteriological examination. Regarding the obtaining of blood by puncture we are taught as follows: Clean the lobe of ear or bear of finger of patient with a damp cloth and then rub against a dry one, so as to remove all gross dirt (some authorities advise washing the parts with soap and water or some antiseptic solution), and use a lancet or surgical needle for puncturing the skin. My findings based upon numerous tests reveal the fact that blood obtained in this manner will always show certain histological changes which are not shown in the blood of the same person if the blood is obtained by a method which I have adopted after many years' practical and experimental work in the field of hematology. *Facile est inventis addere.* Friction produced by rubbing the part from which the blood is to be obtained will cause a temporary thermogenesis, and subsequently a temporary increase of leucocytes in the blood-vessels near the irritated part. Cleaning of the parts with antiseptic solutions, or soap and water, will cause immediate resorption of some of the chemical substances of such antiseptic soap into the nearby tissues, and will cause, first, chemico-physiological and subsequently histological changes in the blood cells. I have the patient immerse his or her hand in lukewarm water for a few seconds, and permit the hand to dry by ordinary temperature. Should your patient see you exhibit a lancet or surgical needle, he

or she would at once be overcome with fright lest the procedure might hurt. The very fact of an existence, or even appearance of fright, will cause an instantaneous mild form of leucocytosis due to shock, sufficiently so to materially alter the blood picture, and to lead to a possible inaccurate diagnosis. I use a needle resembling a miniature scarificator, known as a blood needle, and which can be procured from any surgical instrument maker. This miniature instrument can easily be hidden in the palm of the hand; the needle can be regulated as to the depth of puncture desired. The puncture occurs instantaneously and causes a sufficient exudation of blood to make all the tests necessary for a complete blood examination. These differential procedures, although apparently of little note, are of the utmost value to arrive at a correct diagnosis by means of blood examinations. Our text-books quote correctly regarding the spreading of the blood. Wipe away the first few drops, and by smearing some around the puncture you will avoid having any dirt which had not been washed away mix with the blood, and collect about the fourth or fifth drop upon a perfectly clean cover glass, without allowing the latter to touch the skin. Drop the cover glass face downward upon a perfectly cleaned glass slide so that the force of the impact will help to spread the drop of blood. Place slide immediately under microscope, using the 1-12 oil immersion lens, and examine. Whenever a lengthy study of the fresh blood is required then the hot stage should be brought into requisition. The process of diluting the blood is universally the same, differing only as to the solutions to be used. For red cells a 1 per cent. solution of sodium chloride is my preference. Water alone breaks up the red blood cells, but NaCl preserves the cells. For white cells a 1 per cent. acetic acid solution with one drop of saturated solution of methylene blue, is my preference. To get exact results, and so as to save a great deal of labor, the Zeiss-Thoma counting apparatus, with two separate pipettes for red and white corpuscles should be used. The method of counting is so well explained in all text-books as to deserve no further notice at this time. For the estimation of hemoglobin the Fleischl Hemometer and the Gower's Hemometer are mostly used, and again our text-books fully explain the use and reading of these instruments. To estimate the specific gravity of the blood Hammerschlay's method is mostly used, and seems to work best. There exists no fixed rule regarding the preparation of cover-glass specimens, but, as a rule, we are taught as follows: Arrange a number of clean cover glasses near bedside of patient, and obtain the blood as previously stated. Collect a drop of blood upon a cover glass, and let the latter fall upon another cover glass in such a way that their corners do not coincide. The drop of blood will immediately spread over the whole surface, and as soon as it stops spreading slide off the top cover without lifting them apart. Dry the cover glasses over an alcoholic flame, or immerse for half an

hour in a solution of equal parts of ether and alcohol. *Audi alteram partem.*

Experimental work has taught me that the above teachings regarding the preparation of cover glass specimens will lead to grave errors. Measurements of the corpuscles of fresh blood and of corpuscles of the specimen prepared by above method, would show material differentiations, and therefore expert testimony regarding blood examinations relative to the measurement of blood corpuscles would not be admitted in any court of law while such differences exist. The heating of blood specimens over an alcohol flame will cause the coagulation of the serum albumen of the blood plasma, placing the fresh specimen in alcohol and ether will cause a shrinkage in the red corpuscles, and at the same time the dissolving of part of the nuclein within the nucleus of the leucocytes. After obtaining my blood specimen, and sliding apart the cover slips, I place the specimen under petri-covered glasses and allow them to dry. This requires but a few moments, after which I place cover glasses and all in a hot oven regulated at 98° Fahr. for twenty-four hours. The measurement of blood corpuscles in blood specimens prepared in this manner corresponds at all times with the measurement of the fresh specimen. The nucleus of the leucocytes in blood specimens of the same patient, but prepared according to the two different methods previously cited, exhibited a great difference in staining affinity. The methods of staining, differential counting, and bacteriological examinations of the blood are ably presented in all text-books; but the value of such work in aiding towards diagnosis depends, at least, in my opinion, upon the process employed in the obtaining of blood and the preparation of cover-glass specimens. Only by years of patience and strict research work have I been enabled to find the few errors I have cited, and well may I say: "*La patience est amère mais son fruit est doux.*"

Diet, hygienic surroundings and medication must be considered when studying the histological changes in the blood, and this takes us somewhat into the department of physiology, especially physiological chemistry. Physiology, as a science, is still in its infancy, although rapid strides have been made within the last few years. The incorrect understanding of the physiological action of some therapeutic agent, and the subsequent administration of such agent, under the belief that its physiological action is thoroughly understood, will often lead to grave results. Probably no other class of remedial agents is more frequently used than antipyretics, coal tar derivatives, or the various alkaloids of cinchona bark. The physiological action of any therapeutic agent is absolutely reflected in the blood, whether such medication is given to reconstruct tissue, to neutralize toxins, or to destroy micro-organisms. The establishment of thermogenesis or thermolysis is absolutely indicated in the blood. Hematology and physiology are closely allied, and to prove the findings of one includes the finding by both. Still our text-books

seem to conflict in statements, especially regarding the physiological action and therapeutic effect of the various antipyretics, etc.

Febrile conditions, neuralgia, etc., are mostly due to digestive disturbances, and in such conditions the blood will reveal a digestive leucocytosis. According to whether the leucocytes are exceedingly active in converting peptones into tissue pabulum, or whether they lay dormant for want of material to work upon, we find thermogenesis or thermolysis. When abnormal temperatures, due to these factors, exist, then the antipyretics, analgesics, etc., are resorted to. It depends now to select the remedy which will exert its physiological action to control the three systems of nerves, viz., thermotoric or heat regulating, thermo-exitory or heat increasing, and thermo-inhibitory or heat decreasing. If the thermo-inhibitory centres are too much stimulated they are apt to loose their control, hence the temperature rises in many patients after the administration of antipyretics. As a rule, most antipyretics and analgesics lessen the oxygen-carrying function of the red corpuscles, also retard the ameboid movement of the leucocytes, and according to this the employment of most of these therapeutical agents would be of harm rather than good in fevers due to auto-intoxication. Physiological experimentation with most of the antipyretics and analgesics now used proved to me that they exert powerful influences upon the histological structure of the blood cells. As most of these products do not add to the amount of oxygen required by the red corpuscles, we should look for the agent which holds in its complex body the necessary combine to increase the oxygen-generating function.

During my experimentation I came across a product known in chemical nomenclature as ammoniated phenyl-acetamide, a product of the amido benzene series ($C_6H_5NH_2$), and better known as Ammonol. This product differs from all other antipyretics, in as far as it contains in chemical combination ammonia in active form, which gives to it a stimulating instead of a depressing action on the vital functions of the organism. Unlike most other products of the phenyl group, the physiological action of Ammonol is exhibited in the blood. Leucocytosis is decreased; hemoglobin increases, and the red corpuscles appear well formed. Clinical tests with ammonol, as compared with tests of the other products of the phenyl group, corroborate the above findings.

Blood examinations should be resorted to whenever we are confronted with, or are led to believe, that we deal with infectious diseases. Septicemia is easily diagnosed by the finding of some micro-organism in the blood. The Widal test has established its value as a diagnostic medium in typhoid fever. Thus far we have made but little progress to establish a positive diagnosis of syphilis by blood examinations. Our text-books refer to the Lustgarten bacillus, but the author says: "Thus far I have found a bacillus in the diseased areas lying partly between and within the pus cells, and also in the blood." Eve and Lingard have found a bacillus

answering the description of the Lustgarten bacillus in the nucleated cells of the discharge from primary lesions and in tertiary gummata, while Alvarez and Pavel claim that this identical bacillus is found in normal secretions. At all events all efforts of cultivating said bacillus have proven futile.

Thus, the theory that syphilis is a disease produced by pathogenic bacteria, has as yet no support. Although I have vainly searched for the Lustgarten bacillus, by following the author's preparing and staining method, I have been unable to detect any such bacillus; but I have found the smegma bacillus, whose morphological structure is exactly the same as that of the Lustgarten bacillus, and the author himself states that the smegma bacillus stains with the Lustgarten method. While research work in this direction has been continued for a great length of time, little if any attention had been given to the comparative study between normal blood, blood of syphilis, and blood of other infectious diseases, due to pathogenic bacteria. During the last year I examined the blood of hundreds of cases of syphilis, making the estimation of hemoglobin, count of red and white corpuscles, and pathological differential count. I had the opportunity to study the blood of syphilitic cases which had been under treatment for months or years, also new cases which had never been treated. I found the Justus hemoglobin test to be correct, but of no special value to arrive at an early diagnosis. In every blood specimen I observed one or more crenated red corpuscles with ameboid movement, and if coming in contact with any healthy-appearing, well-formed red corpuscle, such corpuscle at once changed to the crenated form. Likewise I found in the stained specimen a corresponding number of altered but nucleated red corpuscles. The fact that there exists a wide difference between the amount of decrease in hemoglobin and red corpuscles in all syphilitic blood, should be enough proof to change the present misnomer of anemia of syphilis to that of syphilitic chlorosis.

While continuing the studies of syphilitic blood, I was frequently requested by some of the surgeons of the New York Skin and Cancer Hospital to examine the blood of cases of carcinoma. To my surprise I found in such blood the identical histological changes which I had observed in syphilitic blood, and this gave me a new impetus to follow my investigations on original lines. There still exists much doubt as to the etiology of cancer, although some excellent research work is now being done in various laboratories, especially by Dr. Gaylord at the New York State Pathological Laboratory. Some time ago Gaylord expressed his opinion that cancer was caused by a protozoon, but his assertion has not been corroborated. Accidentally I was requested to examine the blood of a young medical student who was desirous to have his blood tested for a matter of curiosity. Results: Hem., 89 per cent.; red cells, 4,700,000; white cells, 5,500. On the day following the young man was vaccinated, a supposed smallpox case having been

located in his boarding-house. and I saw him two hours after vaccination. I again requested him to give me a specimen of his blood, and was surprised to get the following results: Hem., 67 per cent.; red cells, 4,550,000; white cells, 8,700. Microscopically examined, the blood showed the same histological changes which I had previously observed in blood from cases of cancer and syphilis. I have since examined the blood of a number of persons before and after vaccination always to find the same changes. These facts lead me to the opinion that the introduction of virus into the circulation causes the peculiar histological changes in the blood of vaccinated persons, and why should we not consider whether syphilis and cancer are diseases due to virus auto-intoxication.

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THE RECENT CHRISTIAN SCIENCE TRIAL.*

BY JAMES H. RICHARDSON, M.D., M.R.C.S. (ENG.).

THE recent trial of a Christian Scientist in Toronto for manslaughter has taught that peculiar sect that they cannot shield themselves, in violating the law, by pleading their peculiar religious beliefs.

It is also satisfactory that the public were informed that Christian Scientists do not admit there is any reality in sickness, for, no doubt, many will ask, Where in the name of common sense was there any need of a paid "healer," when there was nothing to heal? It is also well that the public was informed by Christian Scientists that they did not believe in the contagiousness of diphtheria, smallpox, etc., nor in the necessity of any precautions to prevent their spread.

One witness "thought a Christian Scientist could not take smallpox." It is not to be expected that counsel would have an intimate acquaintance with all the vagaries of Christian Science, but if he had, I think he might have elicited the fact that Mrs. Eddy herself admits in her miscellaneous writings that "smoothing the pillow of pain may infect you with smallpox."

Mr. Rinkbie testified that "a real man cannot die," but that a "mortal man will die of disease, if it is not checked." The unhappy father of the dead child must have heard this evidence with pain, for the death of his child proved him to be mortal, and "Science and Health" declares that mortals are not God's children, but "the children of the evil one" (p. 47).

Mr. Norden "cited a case of hereditary disease of twenty years' standing cured by Christian Science."

He did not seem to be aware that his new Bible declares: "The Scientist *knows* that there can be no hereditary diseases" (p. 411).

Another witness testified that she lost the use of her hand, was advised rest by Dr. Johnson, and after a rest of fifteen months regained the use of her hand.

What a marvellous cure by Christian Science!

From one witness we learn that there is an institute (?) in this city which, after a few weeks' course and the payment of $50, turns out practitioners, duly certified as fully equipped to grapple with every form of disease.

There are forty-eight of such institutes on this continent, in spite of Mrs. Eddy's "ordinance" that "teaching Christian Science shall be no question of money" (M. W. 315), and of her denunciation: "The author trembles when she sees a man, for a

* Written specially for THE CANADIAN JOURNAL OF MEDICINE AND SURGERY.

petty consideration of money, teaching his slight knowledge of mind power ("Science and Health").

It was no doubt soon discovered that the ordinance and this pious horror were merely intended to prevent others from poaching on her preserves.

For eight years Mrs. Eddy ran a college, turning out 4,000 practitioners after a few weeks' course, and giving them diplomas, in defiance of the law, which imposed a fine of not less than $50, nor more than $500, for each offence.

In my opinion the most important evidence given relates to the subject of prayer for the sick. All the witnesses attributed their cures to the efficacy of prayer to God.

Not one of them, not even the learned counsel for the defence, who combines with his legal practice the practice of a Christian Scientist, seemed to be aware that "Science and Health" expressly denies that prayer and faith have anything whatever to do with Christian Science healing. Had this been brought out in cross-examination, it would, I think, have puzzled them not a little.

Did it never occur to those witnesses to ask, "Why should I send for a 'healer,' and pay money for him to pray to God for me? Will God hear the prayer of a stranger in preference to a prayer which rises from my own anxious heart? Is money needed before God will hear and answer prayer?"

"Yes," the healer unblushingly answers. "When I began the healing work I was so much distressed that the patient received no benefit from the treatment. Then it occurred to me that *we had been told to charge* for our services." That settled it, and the patient was healed at once (*Christian Science Sentinel*).

The teaching and practice of Christian Science is manifestly "no money, no cure."

As to the "demonstrations," upon which Mrs. Eddy relies to prove her miserable religion, they will be found, on examination, to comprise:

1. An immense number of cases, in which it is evident at a glance, there is nothing whatever wrong with the patients, such as trivial accidents, of no account whatever.

2. Injuries of a more severe nature, which are magnified into fractures and dislocations, etc., of which this is an example, recorded in *Christian Science Journal:* A young woman met with an accident, people *said* she had broken her leg. She went about as usual, did not look at her leg, was well in three days; *then* "looked at her leg, and found the broken bones below her knee pressing against the skin, as if trying to get through."

3. Purely hysterical affections, which every physician knows simulate every form of disease.

4. Functional diseases, which are largely under the influence of the mind.

5. Paralytic cases, in which nature has repaired the lesions, and the use of the paralyzed parts has been regained. In some of this class of cases, the patient may remain a long time *apparently* paralyzed, simply on account of a *disbelief* in the possibility of motion, and consequently cannot put forth any *will* to move, until *belief* is restored through *faith* in some extraordinary means. A case which I think is of this ntaure, of recovery from paralysis of thirteen years' standing, was recorded in the daily papers a few days ago.

6. Cases said to be cancer by Christian Scientist practitioners, who may be competent tinsmiths, dairymen, caretakers, seamstresses, or even barristers-at-law, etc., but are absolutely ignorant of every form of disease, and are actually taught in "Science and Health" that "diagnosis of disease induces disease" (p. 369), and, as the late trial showed, cannot distinguish mumps from diphtheria.

Christian Scientists have, over and over again, been challenged to produce scientific proof of their cancer cures, but have always declined, or failed, to do so.

But, even supposing all these cures to be authentic, they no more prove the truth of Christian Science than Valentine Greatrakes' cures prove the truth of his theory, viz., that all disease resulted from a demon, which was to be driven out by stroking or rubbing

How is a belief in Eddyism and its marvellous spread to be accounted for? How is it possible for any person of average intelligence to accept propositions in philosophy, medicine, physics, physiology, psychology and theology, which manifest deplorable ignorance of every one of these subjects?

Dr. Bentley, of Cornell University, thinks "it is the sect's comfortable promise of freedom from pain and disease" which attracts. May be, but the wonder remains, why should the promise attract, when daily experience belies the promise?

Dr. Bentley also thinks that "if the practical aspects of the belief were eliminated, and the theoretical part put in plain, unambiguous terms, Eddyism would cease."

May be, but how is this to be accomplished?

The spread of Eddyism is a curious problem, comprising many factors. The chief one is, undoubtedly, the way in which it disposes of the question of evil, which has vexed the minds of men through all the ages. The Lisbon earthquake, or the Galveston horror, do not bother the Christian Scientists. God is All-in-all, *therefore*, there cannot be any evil. (*Q. E. D.*) How simple, how complete this extinction of evil in all its forms, material and moral. Mrs. Eddy as merely to "puff," and away goes evil, "reduced to its native nothingness." "Error" will "howl"

when you are doubled up with colic, or frantic with a jumping toothache; all you have to do is to "deny" it, and away goes error.

Another factor is the fascination which anything mysterious or inexplicable, such as theosophy, Buddhism, spiritualism, etc., exerts over multitudes, even the most gifted.

Another is the loose, uncritical habit, in which so many indulge in reading, especially reading any book requiring a little extra thought. Another is the sense of superiority, the self-inflation engendered by Eddyite teaching. Eddyites are God's children; *they* possess MIND, whilst you and I are mortals, children of the evil one, under the domination of a horrible something they call "mortal mind."

To give an intelligible statement as to Mrs. Eddy's teaching concerning MAN and men, is utterly impossible—and need not be attempted, for Mrs. Eddy's book assures us:

"Brains can give no idea of God's man" (84), a statement which meets with my entire approval. I will, therefore, confine myself to giving an extract from "Science and Health," which may convey some idea of the folly, and at the same time of the vileness, of Eddyism.

"The false evidence of material sense contrasts strikingly with the testimony of Soul."

"Material sense lifts its voice with the arrogance of reality, and says: 'I am unjust, and no man knoweth it. I can cheat, lie, rob, murder, commit adultery, and elude detection by smooth-tongued villainy. Brutal in propensity, deceitful in sentiment, fraudulent in purpose, I propose to make my short span of life one gala day.'"

"Soul, bearing opposite testimony, saith: 'I am spirit. Man, whose senses are spiritual, is my likeness. He reflects the infinite understanding, for I am infinity. The beauty of holiness, the perfection of Being, imperishable glory—all are mine, for I am God—*I am that I am.*'"

There is no mistaking this language, but if anyone should think it impossible for Mrs. Eddy to mean the *soul of man* to be speaking, read the next sentence: "I hope, dear reader, I am leading you into the understanding *of your divine rights,* and heaven-bestowed harmony." (The italics are Mrs. Eddy's.)

The last factor is the religious teaching. The demands of conscience and stifled sin is reduced to a nullity. "Soul *cannot* sin," sin is not a transgression of God's law, but merely the *belief of erring "mortal mind"* that sin is a reality. I do not mean to assert that Christian Scientists are wickeder than any others, but "to err is human," and a doctrine which asserts that there is no such thing in reality as sin, *must be* destructive. To my mind, nothing can be more horrible than to declare that murder, robbery, lying, debauchery, deception, brutality, etc., etc., cannot and do not "deprive a man of his *divine rights.*"

But, after all, something more is needed than the agency of these factors to explain the spread of Eddyism. How are we to account for what may be called the Christian Scientist's peculiar mind, that psychological condition which permits a man to declare that a thing is, and in the same breath to declare it is not. I have already given instances—but to make myself perfectly clear—take this one: A Mr. Fluneau delivered a lecture on Christian Science, in which he lamented that "the world is in a maelstrom of intemperance, and within ten lines below, declared that there cannot be inebriety nor an inebriate.

My matured belief is that the Christian Scientist's mind is in an abnormal condition, that he is incapable of reasoning correctly; that he is in precisely the same mental state as that of one under the influence of hypnotism, who believes that he is drinking wine when he is drinking water, etc., etc.

The hypnotized believe anything, however absurd and contradictory under after suggestion, and so in the very same way do Christian Scientists.

Dean Hart* has stated my views so clearly that I cannot do better than quote from him:

"A perusal of the pages of this remarkable book will reveal to the person of ordinary intelligence that that quality of the mind which is called 'thought' is here so persistently defied, that it at length retires from endeavoring to understand what the authoress means; in the bewilderment which then ensues, the mind surrenders itself to that very condition which is essential for the operation of 'suggestion,' to work upon the disordered body.

"I found that Mrs. Eddy's book was the best mode of inducing the mesmeric sleep I had experienced. The repetition of senseless sentences, with constantly changing signification of words, whose new meanings had to be gleaned from the context, this long string of synonyms: Principle, mind, soul, spirit, life, love, substance, intelligence, all synonyms of God, and their interchange in sentences, *produced a strange maze,* which made the mind dazed. . . *the reader becomes mentally dizzy, mesmerized in fact*" (p. 86).

P. C. Woolcott, Trinity Church, Highland Park, Ill., writes in the same strain: "To those who read it seems without plan or purpose—only words, words, words, and what is more, words whose meanings are uncertain and shifting. It seems to be altogether lacking in clear, logical thought and expression—a dreary, grotesque sort of a book, and after a few pages the reader lays it down in despair of ever finding out any coherent meaning in it."

"What really happens when you attack these tiresome, monotonous pages is this: You struggle at first to master the difficulties and get at the meaning. If you become convinced that it is not

*D.D., Moderator and Medallist in Experimental and Natural Science, Trinity College, Dublin; Dean of St. John's, Denver.

worth the effort, you dismiss the matter from your mind, and that is the end of it. But, if you force yourself to the task, and pore over the pages, *you soon fall into a condition of mental dizziness or vertigo.* The reasoning faculties are benumbed, your critical judgment is lulled to sleep, and suggestion dominates your intellect."

"The person who has succumbed to what I have called mental vertigo, is incapable of logical reasoning. *The vagaries of the controlling influence are reproduced in the disciple"* (64).*

My experience coincides perfectly with that of these two gentlemen. After a week or so of trying to master Christian Science, I remarked to my intimate friends: "I really believe that if I keep on studying Christian Science, my mind will become 'dottled,' as the Scotch say."

I have already occupied more of your space, Mr. Editor, than I expected, but wish, before concluding, to add a few words about Christian Science healing. Believing, as I do, in this hypnotic influence on the Christian Scientist, it is not surprising to me that good results may follow the course pursued in treatment of disease, *i.e., if the disease is amenable to the influence of suggestion and belief.* I fear sufficient importance has not been given to the influence of *belief* by medical men.

More than fifty years ago, Dr. Holland, in his "Medical Notes and Reflexions," introduced a chapter on the "effects of mental attention on bodily organs," which contained this sentence: "The simple act of concentrating the attention upon any particular organ will effect it in some change, both as regards the sensation derived from it and its functional activity." He also thought that certain of the results of animal magnetism, as hypnotism was then called, might be explained on this principle, "Mind-cure" is not a fad. Belief has worked wonders in healing. It is belief that has given virtue to all the holy wells, the charms, the holy shrines, the king's touch, etc., the beneficial effects of which it is useless to deny. An intelligent belief in the knowledge and ability of the surgeon or physician, and in the means which science has proved to be efficacious, are wonderful *aids* in relieving all forms of disease.

The lamentable fact is that most people are unable to separate the *post hoc* from the *propter hoc,* and attribute relief obtained through nature, *aided* by belief, to the mummery of a "healer," and publish it as a "demonstration" of the truth of a system which for folly and blasphemy never was equalled.

Christian Science is nothing more or less than unadulterated quackery. Mrs. Eddy has adroitly tacked on a system of mind-cure to a pretended revelation from God, dubbed it "Christian Science," copyrighted it, and proclaimed that it was the "cure-all,"

* There is much in Mr. Woolcott's brochure, "What is Christian Science?" which will interest as also there is in Dean Hart's book. They can be purchased at the Revell Co. Henderson on Lombard Street has some leaflets, costing only a few cents, which will interest.

warranted to free the world from sin, sickness and death, solely in order to gather in the shekels. *The* proof is disclosed in her own words. "Her first pamphlet on Christian Science was copyrighted in 1870, but did not appear in print until 1876, as she had learned that this science must be demonstrated by healing, before a work on the subject could be profitably published."

Mrs. Eddy's pretended revelation is a very old imposture, which can only gull those who are entirely ignorant of the history of quackery.

She has had numerous predecessors who said they were inspired, but none so blasphemous as to declare their productions were the Holy Spirit—among them was Valentine Greatrakes, an Irish gentleman, who, in the middle of the seventeenth century, proclaimed that he was inspired by God to heal all manner of diseases. From all parts of Ireland the deaf and dumb, lame and blind, and diseased of all kinds, crowded his stable, barn and malthouse, to be healed. His fame soon spread to England, and he became the lion in London. Lords and ladies, justices, deans, lord mayors, in fine, the elite of England, vied with each other to do him honor.

His theory was that all diseases were due to the presence of a demon, which he exorcised by stroking and rubbing.

He was followed by Mr. and Mrs. Louthenbury, in 1789, who, also said they were inspired by God, who had endowed them with the miraculous power of healing, by looking upon the sick, and touching them. Their house was besieged by immense crowds, it was said at the time that as many as three thousand persons were waiting, at one time, for the benefit to be derived by being looked at and touched.

They were followed by Johanna Southcott, who, in the latter part of the eighteenth century, published, like Mrs Eddy, a pretended revelation, and wrote much unintelligible nonsense, and also forestalled Mrs. Eddy in claiming that she was the woman spoken of in the Book of Revelation.

Mrs. Eddy says her *book* was the child called Wonderful, which was foretold by Isaiah. Johanna Southcott predicted that she was about to give birth to a child, even Shiloh, and so infatuated were her followers that they actually prepared a cradle for the infant which cost no less than £200. They were sadly shocked, however, by Johanna's death from *dropsy,* but many persisted in the belief of her speedy resurrection. The sect never entirely died out until a few years ago.

When one reads the rubbish contained in "Science and Health" the lines which Hudibras wrote concerning astrology, are seen to be much more applicable to Christian Science:

> "Are not these fine commodities
> To be imported from the skies,
> And vended here amongst the rabble
> For staple goods and warrantable?"

36 St. Joseph Street.

A NEW WRENCH FOR USE IN THE CORRECTION OF STUBBORN DEFORMITIES.

BY GEORGE A. PETERS, M.B., F.R.C.S.(ENG.),

Associate Professor of Surgery and Clinical Surgery, University of Toronto; Surgeon, Toronto General Hospital; Surgeon, Hospital for Sick Children, Toronto.

In the correction of deformities either in children or adults all surgeons, of course, agree that there is no other power which is so useful as that exerted by the subtle, intelligent, naked human hands. There is in power so applied a precision and nicety of direction and adjustment which cannot be imitated in any mechanical appliance. Moreover, the skin of the hand produces no injury to the skin of the part operated upon; so that in the correction of any deformity in which sufficient strength is supplied by the surgeon's hands, the use of any such apparatus as the one described is not to be countenanced. But there are cases within the experience of every surgeon, such as stubborn deformities in children of eight years or over, and in practically all cases of club-foot in adults, and of the knee joint in both children and adults, in which he feels that the powers of his own hands are totally inadequate. It is in such cases that the use of the apparatus described below is of great value. It is not contended that any such powerful apparatus as this wrench shall do away with the necessity of tenotomy and fasciotomy—in fact any retaining structure that can be divided safely and subcutaneously should be divided just as in the case of correction by hand power; but it is within the experience of every surgeon to find cases in which, after every possible retaining band has been divided subcutaneously, the power exerted by the human hand alone is quite inadequate to overcome the remaining obstruction, and in order to achieve his object he must then have recourse to mechanical aid.

It was with a view to meeting and overcoming these difficulties that the author devised the apparatus about to be described.

The wrench is made of round bar steel about 5-8 of an inch in diameter. The shape is sufficiently indicated by the accompanying sketch (Fig. 1). The reverse extremity of the wrench is expanded into a bow shape, so that in operating, for example, on an adult club-foot, the foot may be passed through this end and the wrench then slid into position. The apparatus is equipped with two movable bars, one (*b*) upon the upright limbs of the wrench, the other (*c*) upon the horizontal limbs. The bar (*b*), as shown in the figure, is bent towards the bow end of the wrench to the extent of about an inch and a half, and is provided with two

thumb-screws which fit into small depressions on the upright limbs, so that it can be set accurately in any desired position. The bar (*c*) is attached by a close-fitting collar to one limb only of the horizontal portion of the wrench, the other end of the bar having merely a concave groove which fits upon the opposite limb. This bar is, of course, also provided with a set-screw. By this means the bar can be opened out completely, so as to allow the wrench to be slid over the foot up to any desired position between *b* and *c*. The bar (*c*) is made slightly concavo-convex on its upper surface, so as to fit the limb, while bar (*b*) is also concavo-convex on its under surface for the same purpose. It will be observed that the bowing of bar (*b*) towards the body of the wrench allows the two bars (*b*) and (*c*) to be practically placed one under the other when in position on the foot, and thus the fullest possible extent of short leverage is permitted. In my first wrench the

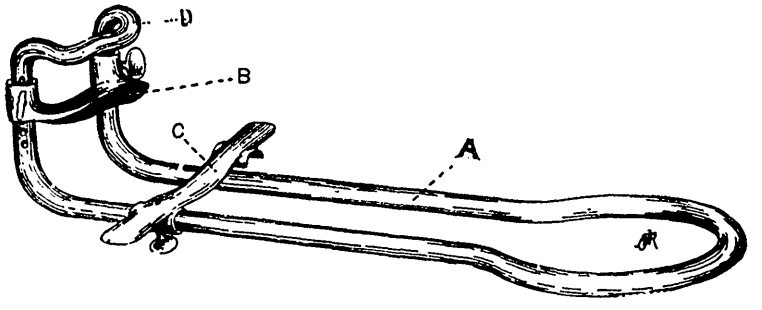

FIG. 1.—*A* the horizontal limbs expanded into a bow. *B* the bar on the vertical limbs provided with set screws. The bar *C* on the horizontal limbs is shown partly lifted. *D* joins the two limbs so as to prevent the collars from "binding."

vertical limbs terminated by free ends above the bar (*b*), as in Fig. 2. It was found, however, in practice that the slight spring between the limbs caused the collars on (*b*) to "bind," and the connection (*i*) bent to correspond to (*b*) was a valuable suggestion by my confrere, Dr. Clarence L. Starr.

In operating with the wrench, the skin over the part may be further protected by placing blocks of "rubber sponge" between the bars (*b*) and (*c*) and the limb. The total length of the wrench is about two feet, and the width between its limbs from centre to centre four inches. This will be found to be large enough for almost any limb, and to be also small enough for children of such an age as to require the use of such a powerful wrench. Of course for any special case a larger or smaller one might be used.

I have used repeatedly the wrench described and figured above in children eight to ten years of age, and also on the knee of an average-sized adult. However, if I were having one made especi-

ally for the knee, I should have the limbs five inches apart from centre to centre. Of course a much lighter wrench would do for young children, but it should in any case be perfectly rigid, so that no spring in the wrench itself should take place, even when the surgeon was using all the effort he deemed wise. In practice this wrench is found to be extremely useful. There is practically no limit to the force that can be applied by its use. The limit, indeed, is fixed by the resisting power of the soft tissues, and with the use of the spongy rubber I have never yet seen any considerable injury done to the skin or muscles.

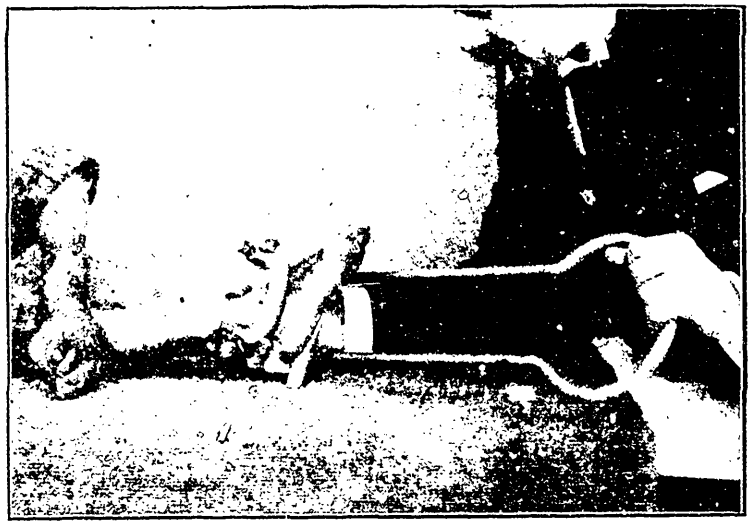

FIG. 2.—Showing method of using the wrench. Notice that the curve on bar *B* brings it below the external malleolus, and almost opposite bar *C* on the horizontal limbs, thus increasing the leverage.

The apparatus, being made entirely of metal, can be perfectly sterilized either by heat or by immersion in antiseptic solutions.

I have not used the instrument in cases of bow-legs or knock-knees, requiring fracture, and so cannot speak in regard to its suitability for such cases. I have, however, not the slightest doubt that sufficient power could be exercised through its use to fracture a bone in a young person, and I think without any undue injury to the soft parts. However, the open operation in these cases is usually so satisfactory, and accompanied by such slight danger, that any mechanism for producing subcutaneous fracture seems almost to be uncalled for.

102 College Street, Toronto.

NEW YORK CLINICS.

BY JOHN HUNTER, M.B., TORONTO.

TWELVE years have come, played their part in life's drama, and gone, since, as one of the German professors would say, I saw New York "before again." In the "strenuous life" of the practice of our art, the passing years make deep furrows on the brows of its devotees. Men who in 1889, with unbounded zeal and untiring energy, were working up and up to higher niches in Fame's dazzling temple, are to-day, with their ranks decimated and their wan faces turned toward the setting sun, complacently marching with feebler tread slowly onward to that "bourne whence no traveller e'er returns." But though "change and decay" may be seen in the case of individuals, yet our science is most richly endowed with virility. The medical drama has no interlude; whilst the old actors are receding, new ones, with more scientific trappings, and (perhaps) with more—certainly not with less—assurance of their ability, are passing forward to take their part in what may be represented as a great conflict between disease and health. This by the way; now for the practical part.

NOSE AND THROAT WORK.

Taking a good deal of interest in this part of the work, I first directed my steps to where it could be found. I was very much nonplussed on calling on Prof. Bosworth, one of the foremost nestors of American rhinology and laryngology. He gave me a very courteous reception. Whilst plying him with questions regarding the best course to pursue, I was furtively taking in his office outfit. After looking in vain for anything besides an atomizer and an electric jet, I summed up courage enough to ask him what appliances were really needed for examining nose and throat cases. He laughed and said when he was young he had a much larger collection, but now—taking out a reflector and a laryngeal mirror from his vest pocket—I find these with even a tallow "dip" are quite efficient. Prof. Lefferts, in his lecture at Vanderbilt Clinic, after describing what he termed the three essentials for this kind of work, viz., a good lamp, a reflector, and a laryngeal mirror, showed his class a most elaborate display of electrical appliances for illuminating the mouth, throat, accessory cavities, etc. He said: "These are very ingenious and beautiful, costly to purchase, expensive to keep in repair, and practically needless." He courteously, but I think most justly, scored the general practitioner. He said a man has scarcely the right to claim to be

a general practitioner who does not acquire sufficient skill to use the laryngoscope intelligently. He went on to say that it was the duty of every physician to examine the nose and throat in all pulmonary cases, and that it required less time and skill to make an accurate examination of the upper respiratory tract than of the chest.

A quarter of a century ago Bosworth came to the conclusion that there is no such a structure as a normal tonsil between the pillars of the fauces. The old "Nestor" holds the same opinion to-day, though almost innumerable opportunities have come before him of verifying or disproving his views. Prof. Myles, in his clinic, at the New York Polyclinic, rather felt inclined to accept Bosworth's conclusion. One is somewhat surprised at the apparently reckless profusion with which cocaine is used by Myles in his nose and throat operations. He very freely applies either the powder on a moist swab, or a one hundred per cent. solution. In addition, if the operation is to be any way severe, he often gives a hypodermic of morphia and atropia. Myles used the Gottstein curette, afterwards scraping the debris away with his finger-nails in removing post-nasal adenoids. Prof. Quinlan and his assistant remove all the adenoid tissue they can reach in the vault of the pharynx with forceps, placed at a right angle to the handle, and with broadish blades with oval openings. They then wrap the index finger, using first the one and then the other, with some rather coarse sterilized towelling, and thoroughly clean out the vault with the finger, thus protected. The latter process seems the much safer and more effective method. A rather ingenious little drill was used to remove spurs or hard growths from the upper region of the nasal septum, when there was danger of injuring the cribriform plate. The drill resembled a trocar, with a blunt end. There is a window near the end of the canula, into which, when *in situ,* the growth projects. A rapidly-revolving spur, which comes up inside the canula, removes whatever of the growth is protruding into the window. The little instrument does its work quickly and harmlessly. In removing the faucial tonsils, the McKenzie tonsillotome, with the flat blade that pushes forward, is mostly used. The adhesions between the tonsils and the pillars are broken up by a bent probe. The tonsillotome is then pressed firmly against the pillars, the index finger inserted to feel that the tonsil is fully engaged, then slightly withdrawn and kept firmly pressed against the flat portion of the blade as it is thrust forward. If the tonsillar tissue is much degenerated, Myles picks out the rest of the stump with curved forceps, leaving as clear a cavity as possible. Considerable stress was laid upon the importance of having the respiratory space as nearly as possible of the same capacity in both nostrils. Unequal atmospheric pressure on either side of the septum would intensify

the pathological conditions in the obstructed side, hence the necessity for removal of enlarged turbinates, the size of which cannot otherwise be reduced.

At the Nose and Throat Hospital I had the intense pleasure of running across Fitzgerald, a Toronto boy, class, I think, of '97. He is on the staff and doing his full share of scientific work. In this hospital they have a powerful electric light apparatus, for using the rays of light in treating lung and throat cases of tubercular origin. The chest and neck are uncovered, and the patient sits either directly before the lens, or with a screen intervening. They claim good results, but I have not yet had time to investigate the method. Fitzgerald let some light upon a mystery that often puzzles the general practitioner, viz., how our specialists get rich so easily, whilst they who have to work so much harder don't get that way at all. He said they can get from twenty-five to fifty or a hundred dollars for removing tonsils, and sometimes as much as five hundred for an operation on adenoids.

Well, no one need be so ungenerous as to begrudge these specialists an *occasional* good fee, for in no other calling do men bestow, with more princely generosity, their time and skill in deeds of charity. The poor in New York have free access to all the skill the multi-millionaires can command.

In subsequent papers will deal more fully with the medical and surgical phases of clinical work in the New York hospitals.

Dr. L. H. Warner, of New York, who during the past few years has made many warm friends in Canada by the scientific value of papers read by him at the Canadian Medical Association meetings at Ottawa, Winnipeg, and elsewhere, has taken up bacteriological work as a specialty. The Doctor has opened a laboratory in the Astor Court Building, 20 West 34th Street, New York City, and is prepared to make chemical, pathological, and bacteriological analyses and examinations.

We are very pleased to notice that Messrs. Parke, Davis & Company have opened an office in Toronto at 50 Bay Street, which will be in charge of their local representative, Mr. W. M. Grant. They have taken this step, not because they intend carrying any stock of their products in Toronto, as such is not the case, but in order to have an address where physicians and the drug trade can reach them. Any request for samples or of literature in regard to any P. D. & Co. preparations, or for any information of any nature in regard to them, will be given careful attention. Their telephone number is Main 2014, where Mr. W. W. Barlow, the genial detail representative who talks P. D. & Co. to the physicians of Toronto, may also be reached.

Public Health and Hygiene.

... IN CHARGE OF ...

J. J. CASSIDY, M.D., AND E. H. ADAMS, M.D.

REPORT ON TUBERCULOSIS BY THE COMMITTEE ON CONTAGIOUS DISEASES OF THE PROVINCIAL BOARD OF HEALTH OF ONTARIO.

MR. CHAIRMAN AND GENTLEMEN,—Your Committee, in view of the renewed interest taken in the causes of the prevalence of tuberculosis in man and animals, and in the enormous mortality due to it, more than 100,000 deaths having been due to it in the United States in the census year 1900, believes it to be the duty of this Board to indicate, as briefly as possible, its views as to the most practical direction in which the public, physicians, and public health authorities in Ontario can take action towards lessening the prevalence of a disease the cause of so great suffering, mortality, and family and economic loss to the community.

In the address by Prof. Koch, that eminent bacteriologist, who will ever remain illustrious as the discoverer of the bacillus or germ of the disease, refers in the first paragraph to *Tuberculosis as a Preventable Disease;* and points out that this fact became evident because its cause had been discovered. Referring to the fight for its prevention, Dr. Koch says: "Such a conflict requires the co-operation of many, if possible of all, medical men shoulder to shoulder with the State and the whole population."

In the paragraph on "Special Preventive Measures needed for Various Diseases" he points out how these may vary for different diseases, and citing plague, cholera, hydrophobia, leprosy and tuberculosis, and states what this Board has expressed and referred to in its circular issued in 1890, that "sputum is the main source of infection," and that the lungs are the chief source of this disease. In the next paragraph he refers to the "differences between human and bovine tuberculosis."

This difference was noted by Prof. Cruickshank in 1889, and more recently by other writers, notably Prof. Theobald Smith, of the Bureau of Animal Industry at Washington. Prof. Koch's conclusions have gone further, however, than some others in seeming to assert that the difference is not only in morphology or appearance, but that the two diseases are different in essence, and

that the bovine disease is not communicable to man. This view so subversive of what for over ten years has been a general belief, has not been accepted by many, who are, however, ready to admit with him that the infection of the human from the bovine is not as frequent as from the prevalence of bovine disease and the common use of the milk and meat from cattle might be expected.

Some of the reasons why so many refuse to accept his conclusions are:

1. That the human germ, accustomed to a temperature in man of 98.04, has its optimum or best growing temperature at this point, while the normal temperature of the cow being 101 degrees, the bovine germ finds its optimum at the latter point; and that in keeping with the well-known fact of the great variability of these simple forms of vegetable life under different environments and the multitude of generations of any germ within a short period, it is reasonable to suppose that the bovine germ taken into the human body with milk may live for days and weeks on the mucous surface, undergoing variation in successive generations, and may, as other germs do, even the human germ itself, find an entrance into the tissues whenever, through a congestion or abrasion of the mucous surface, an opportunity arises.

2. That this assumption is probable is seen in the fact that ninety per cent. of *post-mortem* examinations of people dying of other diseases show that they have been attacked at points of the mucous membranes, by tubercular germs which have not succeeded in causing any general disease of the system.

3. That in consumptives who constantly swallow their own sputum, only a few relatively have tuberculosis of the intestine; and the same fact is illustrated by Prof. Koch's experiments, that hogs fed with bovine tuberculosis become infected in the neck, glands, etc., but not necessarily in the intestines.

4. That, as argued by Lord Lister, very few tuberculized persons, even children, who of necessity must swallow with food in infected rooms, and in the mucus from the mouth and nose, the germs of the human disease, are attacked in the mucous membrane of the stomach and intestines.

5. That some diseases, as for instance anthrax, the most sudden and fatal of all diseases, do not attack human beings with the same readiness or nearly the same fatality as they attack cattle; while small-pox, a disease so readily communicable and so fatal in man, is not taken at all directly by cattle, but yet has been shown by various experimenters to be through a series of transmissions from calf to calf, at length capable of producing mild small-pox or cow-pox in cattle.

6. That the bacillus tuberculosis, like all other micro-organisms, varies greatly in the virulence of the germ from different patients in animal inoculations, and in the degeneration of the germ in

laboratory cultures. This fact is supported most strongly by Profs. F. Hueppe and Weleminsky of Berlin, who both combat strongly Koch's position, since, though differing still more from bovine tuberculosis, they have succeeded, by making successive cultures, in grafting avian or bird tuberculosis on animals.

7. It is a recognized law that the antitoxin or serum produced in the blood of animals by the presence of the germs of one disease is a specific only against germs of that disease; but it is found that the antitoxin (Tuberculin) produced by the bacillus tuberculosis (even from a mild germ propagated in the laboratory for years through successive cultures) is equally delicate in diagnosing the presence of tuberculous nodules in man and in cattle.

8. Experiments made in Berlin under the direction of the Commission of 1901, on smaller animals, have not established any difference between human and bovine tuberculosis.

9. Prof. Virchow, the great German pathologist, refers to occasional cases of peritoneal tuberculosis of such enormous extent as to lead to the suspicion that they may have been due to bovine germs, though holding that the transmission of bovine tuberculosis to man is probably not very common.

10. Many seemingly authenticated cases of infection of veterinarians and others through wounds of the hands, and by use of known tuberculous milk.

Prof. Koch dealt with the subject of bovine tuberculosis, quite fully, in his most practical paper; but he desired to press home that it is the human sputum which is the great source of human infection, and pointed out how, though the well-to-do classes who live in large houses and enjoy careful nursing, may be protected against the danger of infection, yet it is quite different among the poor, who may live in "two small ill-ventilated rooms."

He asks, "How can the necessary cleanliness be secured under such circumstances? How is such a helpless patient to remove his sputum so that it may do no harm? Thus families are infected and die out, and as he says, the people say the disease is hereditary. So it is the over-crowded dwellings of the poor that we have to regard as the real breeding-places of tuberculosis, and he says it is gratifying to see how, in all countries, efforts are being made to improve the dwellings of the poor.

The statistics of tabulated deaths for Toronto in 1898 too sadly confirm this statement, as do those from all sources.

The statistics of Toronto show that eight per cent. of the deaths from consumption in this city are among the class of artizans.

The advice given in the circular issued in June, 1900, by your Board very fully recognized this fact, when it refers:

1. To the need of supplying isolated wards for consumptives in public institutions.

2. That in private families there should be as much isolation as possible, and special care taken to destroy expectorations.

3. That vacated rooms should be thoroughly disinfected.

4. That local Boards should make rules for the notification of cases of consumption, while at the same time it points out this is not in order that houses should be placarded, but that Boards may assist householders, especially the poor, by supplying printed rules and directions for limiting the dangers of infection.

5. To the need for municipalities establishing sanatoria for giving aid to persons, especially the poor, affected with tuberculosis.

Prof. Koch's arguments in his address all lead up to this latter point, which is referred to in the paragraph on "The Need for Hospitals for Consumptives." He says: "I know very well that this project will have great difficulties to contend with, owing to the considerable expense it entails," and points out that "its execution opens a wide field of activity to the State, to municipalities, and to private benevolence."

As, however, this cannot be done at once, Prof. Koch argues that notification be made the law, in order that such aid already referred to may be given to householders.

His concluding section deals with the special subject of Sanatoria, or Cure-Homes for Consumptives, since, as he points out, the disease is curable in its early stages.

Quoting from the report of the German Central Committee for the establishment of Sanatoria for the cure of Consumption, he states that 5,500 beds will be at the disposal of those institutions at the end of 1901, making it possible to treat 20,000 patients every year. And then referring to statistics of cure, points out that 4,000 persons would leave these cured, and the remainder having their lives greatly prolonged, with profit to their family and the State.

Your Committee is constrained to ask: "How in this Province, where on every hand trade, commerce and agriculture are prosperous, and where our population has increased slowly, can we afford to neglect so potent a means of saving life and increasing population; and furthermore, preventing the loss of time, labor and expenditure, incidental to the sickness and death caused by the annual recurring of 3,000 deaths from this disease.

Your Committee would herewith present with this report the resolutions adopted unanimously at the recent meeting in Buffalo, of the American Public Health Association, representing the advanced scientific opinion on this subject, of the sanitarians of the United States, Canada and Mexico, and would desire to draw particular attention to the practical recommendations contained therein.

Resolved,—That notwithstanding the advances of sanitary sci-

ence, the mortality from tuberculosis continues to be appalling. It has been demonstrated that by the application of proper measures this mortality may be diminished rapidly and to a great degree. Therefore, every effort should be made by sanitarians to carry into effect all reasonable methods which have been shown by experience and research to be efficacious towards this end;

Resolved, That the increase of tuberculosis in cattle and swine as shown by investigations of recent years, and by meat inspection statistics, is a serious matter from a commercial as well as sanitary point of view, and calls for more systematic attention from those responsible for the integrity of the food supply and for the protection of the public health ;

Resolved, That this Association is of the opinion that sufficient facts have not been offered by Prof. Koch or other investigators to prove that human and bovine tuberculosis are different diseases; it is further of opinion that the variability under different environment common to micro-organisms may, on further investigation, be found sufficient to account for the differences that have been noted, and that the germs of these diseases may yet be proved to be closely allied or identical. Irrespective of the communicability of bovine tuberculosis to man, the inspection of animals and premises is absolutely necessary in order—

1. That the meat and milk of animals suffering from this and other constitutional diseases be not used as human food.

2. That the sanitary condition of dairies, stables, etc., as regards cleanliness, water supply and ventilation, may be maintained.

3. That the health of dairymen and other handlers be closely supervised to prevent the spread of diphtheria, scarlet fever, human tuberculosis, etc., through the milk supply.

Resolved, That this Association, while desiring to express its positive opinion as to the importance of dealing with animals and their products, as indicated in the preceding resolutions, does at the same time insist upon the necessity for dealing with the still greater dangers now universally recognized of the transmission of tuberculosis from one person to another by continued personal association, through inhalation of the air of infected living rooms, the contamination of clothing, handkerchiefs, and similar objects with sputum and other secretions, and would therefore urgently recommend that municipalities adopt regulations as follows:

1. Against expectoration on pavements and in other public places.

2. For the compulsory notification by physicians of cases of tuberculosis, in order that literature may be supplied to householders and municipal aid given where necessary to lessen the dangers to the family of infected persons.

3. For the establishment of municipal sanatoria for the benefit of persons and families of limited means.

4. For the regular inspection of tenements, factories, workshops, schools and other public institutions to promote cleanliness, ventilation, and other sanitary conditions.

The proper course for the executive health bodies to adopt seems to your Committee to be this: That whilst ready to listen to all that Prof. Koch and others have to say, and whilst waiting for the further developments which we may expect from the investigation of the Commissions that have been appointed and other scientific bodies, we should not relax any of the vigilance that has been recommended in regard to tuberculous meat and milk, and this Board unites with Dr. Koch and others in continuance of efforts to prevent the spread of tuberculosis from tuberculous patients by dealing properly with sputa and providing for the proper care and comfort of those suffering from consumption, and other forms of tuberculosis, especially among the poor.

In concluding its report, your Committee would quote the concluding words of Prof. Koch.

"If we allow ourselves to be continually guided in this enterprise by the spirit of genuine preventive medical science, if we utilize the experience gained in conflict with other pestilences, and aim, with clear recognition of purpose and resolute avoidance of wrong roads, at striking the evil at its root, then the battle against tuberculosis, which has been so energetically begun, cannot fail to have a victorious issue."

J. J. CASSIDY,
P. H. BRYCE,
W. OLDRIGHT,
Committee on Contagious Diseases.

Isham Springs.—Mr. Merritt A. Brown, of 14 Yonge Street Arcade, Toronto, is General Canadian Agent for Isham Waters, and will be willing at all times to answer enquiries from physicians. See advertisement on page xlix. this issue.

Excerpt.—Dr. L. Fürst, of Berlin, a short time ago wrote and published in the *Wiener Medicinische Presse*, Vienna, Austria, a most interesting article on "Mental Depression and Chronic Constipation." He expressed himself as follows: "Patients suffering from chronic hyperemia, or overexertion of the brain, caused either by prolonged mental overwork, or by depression of the mind of long standing, from business cares, worry or grief, etc., are usually, and as a result thereof, afflicted with slow or inactive bowels. Such constipation I have invariably and successfully relieved by the application of the Hunyadi Janos bitter-water, and thereby cured such patients of the accompanying brain or nervous disorders."

Selected Articles.

STYPTICIN.

THIS new, uterine hemostatic,, styptic, and sedative, and dental and nasal styptic, exists as a bitter, yellow powder, soluble in water or alcohol. It is used in every form of uterine hemorrhage, not due to fungus endometritis, retained fragments of placenta, or neoplasms. Its chief virtue is as a hemostatic in the painful, prolonged or excessive menstruation of young women, and in the menorrhea or menorrhagia of the young it is best given in doses of value in pulmonary hemoptysis and its topical application, as powder, or on cotton or gauze, in dental and nasal hemorrhages, has been spoken of very highly. As a prophylactic against dysmenorrhea or menorrhagia of the young it is best given in doses of 3-4 grn. four or five times a day, in tablets or elixir. In other conditions the dose varies from 3 4 to 4 grn. four or five times a day, by the mouth or hypodermically, according to urgency of case, in sugar-coated or hypodermic tablets.

In 1893 Dr. Martin Freund, then professor of organic chemistry and pharmacology in the University of Berlin, suggested the advisability of trying cotarnine hydrochlorate as a hemostatic and styptic. His reasons for this he thus states: "The costliness of hydrastinine hydrochlorate, which was introduced into therapeutic use on my suggestion, made desirable the introduction of a drug of similar effect but less expense. The close chemical relationship of cotarnine to hydrastinine readily suggested the former as a possible succedaneum for the latter." After adequate physiological and clinical evidence of its real value had been obtained, it was introduced to the profession under the brief name of styptic in.

Internally in Uterine Hemorrhage.—Dr. H. J. Boldt, while professor of gynecology in the New York Post-Graduate Medical School, tried stypticin in eighty-seven cases of uterine hemorrhage, and reported his results at the ninety-third annual meeting of the New York State Medical Society, at Albany. Among other interesting things he said:

"In reviewing the action of Stypticin one must come to the conclusion that in certain forms of uterine hemorrhage it is almost a specific. I have found no unpleasant symptoms even in cases in which 4 1-2 grn. (0.3 Gm.) doses were administered. . . .

"I close this recital of my personal observations by requesting

those who have tried other remedies and found them wanting, to add also stypticin to their therapeutic agents; feeling convinced that in it they will find a most useful addition, and that the curette and local treatment will be less frequently called for. . . .

"For some time more attention has been devoted to operative interference for the control of bleeding from the uterus, or to some form of local treatment—the latter not infrequently with deleterious results to the patient. This was undoubtedly due to the unsatisfactory results which had been obtained from the internal remedies used in such cases. These remedies were few in number. With the introduction of stypticin, however, we have a very valuable new remedy—a hemostatic 'par excellence' if the proper indication has been selected for the employment of the drug. In the above I have endeavored to show in which classes of cases such results may be expected."

Dr. J. B. McGee, professor of materia medica and therapeutics, Cleveland College of Physicians and Surgeons, states:

"A limited use of stypticin has convinced me that its claims as an efficient uterine hemostatic are just. I have occasionally found it to succeed when the usual agents of this class have failed to control the existing conditions, and my personal experience with it has been quite satisfactory. Its action is usually prompt, and is said to be due not to uterine contraction, but rather to a vaso-motor influence. I have never noticed the narcotic or sedative action ascribed to it by some, and while larger doses are recommended, 1-2 grain orally every few hours will generally exert a beneficial action, and it is evidently worthy of being recognized as among the reliable remedies of its class."

Dr. Sigmund Gottschalk, Chief Physician of Women's Clinic, Berlin:

"Our results from stypticin in hemorrhages of varied origin have on the whole been highly satisfactory. It is adapted for long-continued use. Over other hemostatics, as ergot and hydrastis, it has the great advantage of sedative action, visible in anodyne and soporific effects that are very desirable, particularly in *dysmenorrheic conditions*. The hemostatic results secured in cases of pure subinvolution were in every case permanent. Permanence of effect was the rule also in the menorrhagias without demonstrable lesion, so far as our clinical material enabled us to demonstrate this."

Internally in Pulmonary Hemorrhage.—Dr. Martin Freund, after reviewing the successful results with stypticin in gynecological cases, says:

"The efficacy of stypticin in various forms of *uterine* hemorrhage is established. Whether this agent, in certain instances of *pulmonary* hemorrhage, is indeed superior to others, has still to be determined by corroborative tests, which I would herewith sug-

gest." [Here the author obviously refers principally to the report of Lavialle and Ruyssen, cited below.] "Having been further personally informed of excellent results attained with it in a case of *rectal* hemorrhage, I would propose that suitable trial should be given it in such cases, as well as in those also of *vesical* and *nasal bleedings.*"

He then briefly quotes the results obtained by the two French observers above-named as follows:

"Drs. J. Lavialle and Ch. Ruyssen, in Lille (France), (on suggestion of Prof. De Combemale, of the Medical Faculty of Lille University) investigated the action of stypticin in *hemoptysis,* especially with tuberculous subjects (*L'Echo med. du Nord,* 1898, p. 225). Whenever the tuberculous condition had not passed beyond the second stage, very happy results were had. Injections of up to 1 Cc. (16 min.) of 10-per-cent. stypticin solution were made three to four times, all on one day. Even the most copious hemorrhages ceased after four injections; also by mouth, eight or more of the 5-Cg. (3-4 grn.) tablets, in the same period, yielded satisfying action. When congestive conditions prevailed, the administration of the remedy was combined with laxative and derivative treatment."

Internally in Menstrual Neuroses.—In a paper on "Functional Neuroses and their Relation to the Diseases Peculiar to Women," read before the New York Academy of Medicine, Nov. 25, 1898, Dr H. J. Boldt said:

"Among particular forms of reflex neuroses, those in connection with menstruation are quite prominent, as, for example, acne rosacea, eczema, urticaria, etc. The following instance is unusual:

"A girl, aged fourten years, began to menstruate between the eleventh and twelfth year; the flow was profuse, and of eight days' duration. A few months after the appearance of the menstrual epoch, the child developed an eczema, which extended over the hips, buttocks, and posterior surface of the thighs, gradually diminishing to nearly complete disappearance for two weeks after cessation of the flow. Upon the recurrence of each menstrual flow, the skin affection was intensified and took a similar course as on previous occasions. The writer was finally consulted on account of the exceedingly profuse flow. The child was well developed, short in height, and very plump. She complained of great weakness and was very anemic, the quantity of hemoglobin being reduced to 45 per cent. A recto-abdominal examination revealed no pathological condition to account for profuse bleeding. Incidentally my attention had also been called to the eczema. The girl was placed upon the use of stypticin in doses of 1-4 grn. every three hours, beginning four days prior to the next period; and with the begininng of the flow the dose was increased to 1-2 grain every two hours. The result was that the next period continued

only five days, the loss of blood was greatly diminished, and the eczema not intensified at this period. The treatment was continued three months; the flow diminished to there days' duration, and of moderate quantity; the anemia disappeared and the eczema vanished without any direct treatment."

Topically in Dental Hemorrhage.—Dr. J. Munk, of Duna-Szerdahely, Hungary:

"Tooth extraction is not infrequently followed by hemorrhage difficult to suppress. Such hemorrhage sometimes recurs in a violent degree as long as twenty-four hours after the operation. There have been instances in my experience in which all the well-known styptics remained without avail, and where only mechanical compression, continued for hours together, succeeded in preserving the patient from bleeding to death. In several such cases, even chromic acid (recommended by Hollander as generally reliable) failed in my hands.

"In a desperate case of this kind, recently, I conceived the notion of *externally* applying one of the stypticin tablets, which I always carry in my emergency outfit for purposes of gynecological hemostasis. I cleared the gum cavity of the clots, absorbed the flowing blood with a cotton tampon, and immediately upon withdrawal of the latter inserted the tablet into the cavity, pressing it down by a new tampon—and lo! the bleeding ceased as if by a stroke of magic.

"I subsequently tried the same procedure in four more cases, and each time I witnessed the same prompt effect.

" . . . On the ground of my experiences with this remedy, I should venture to suggest its being tried also in bleeding after *circumcision.*"

Topically in Epistaxis.—Dr. Munk states:

"On the ground of my experience with the topical styptic action of stypticin (substance) in dental hemorrhage, I tried 10-per-cent. solutions thereof in nasal hemorrhage. The result here was likewise a striking success."

Dr. Marcus:

"I happened to have occasion to treat two rather severe cases of epistaxis in which I applied stypticin with satisfactory results."

In Obstetrics and Gynecology.—Dr. Gottschalk's first report, with tabulated details of forty-seven cases treated wholly with stypticin—made after nearly two years' systematic observation and comparison as to the action of the various hemostatic agents—contains the following conclusions:

"Pure subinvolution of the uterus after childbirth—Uniformly prompt effect; not any failure. (By pure subinvolution I mean such as is caused merely by muscular atony, not by the presence of debris of placenta. If the latter are present, ergot preparations and hot douches are indicated.)

"Fungous endometritis, or bleeding from the ovaries—Symptomatic benefit as to hemorrhage and pain; but curettage or cautery not generally superseded thereby. When, however, the latter measures prove insufficient to still the flow, the *subsequent* use of stypticin is mostly effectual.

"Myomata—Lessening of flow in every instance.

"Climacteric hemorrhage—The same.

"Purely congestive menorrhagia (without anatomical change—Equal efficacy as from hydrastis preparations.

"Intrauterine polypi (even very small endometric neoplasms)—Insufficient effect; the removal of the growths by other means is needed."

In recapitulating the results of his six years' experience in the use of stypticin, Dr. Gottschalk states:

"The inability of stypticin to effect uterine contractions by which a foreign body could be ejected from the uterus, makes it less effective than ergot in such uterine hemorrhages after abortion, as have their origin in retained fragments of the placenta, or in those which are due to small mucous polypi. Submucous myomatous polypi must, when present, be removed before the remedy can exert any beneficial action.

"Stypticin *has been found effective* in the following category of cases:

"1. In *purely* climacteric hemorrhages.—Special stress is laid on the term "purely" climacteric, because malignant processes are covered up by many so-called "climacteric" hemorrhages. Every so-called climacteric hemorrhage following a very protracted period of amenorrhea (say 9 to 12 months), and then becoming suddenly aggravated after coition or without discoverable cause, should be suspected as being malignant and promptly investigated as to its possibly requiring surgical interference, without losing time by waiting for effects from internal medication.

"2. In hemorrhages following defective uterine contraction after delivery or *abortion,* when not due to decidual or placental debris.—There is a form of such subinvolution, characterized by abnormally increased blood-pressure, which causes continued or recurrent hemorrhage. This is usually relieved at once by the subcutaneous injection of 0.2 Gm. (3 grn.) of stypticin; sometimes, however, only after repeated injections. (If the atonic hemorrhage is due to insufficient closure of the placental veins after expulsion of the placenta, then large doses of ergot, with hot vaginal irrigations, are preferable.) Again, stypticin is the proper remedy in subinvolution referable to inflammatory para- or peri-metritic exudations, because then the hemorrhages are again due to increased blood-pressure in the intramucous vessels of the uterine region.

"3. In reflex (secondary) hemorrhages; *i.e.,* those causes by

diseases of adnexa of the parametrium, without the uterus itself being diseased.

"4. In congestive hemorrhages of young girls not referable to a pathologico-anatomic condition.—Here the remedy is of particular benefit when used for a few days *before* the menstrual periods, and in such cases a permanent good result is frequently obtained.

"5. In myomata.—Here the remedy deserves more extended application, within the limits noted.

"6. In hemorrhages during pregnancy.—Here I have so far employed stypticin only so long as no uterine contractions had as yet occurred. (When they had, I usually prescribed repose in bed, opium suppositories, and viburnum internally.) Other observers, however, report having prevented threatened abortion by the administration of stypticin alone. (I should think it might be eligible, in urgent cases, to combine the application of the opium with the stypticin treatment.)"

Administration.—In most of the indications discussed under "Obstetrics and Gynecology," the majority of the observers agree pretty closely as to the *measure or degree* of success gained. Where some of the authors here quoted differ on this particular considerably, these differences may readily be attributable not only to variations in the clinical material and the circumstances; but obviously also, in quite a conspicuous sense, to the very *different doses* employed by pioneer investigators.

That a new drug had to be employed cautiously at first, until the safe limits for its dosage had become established, is explanation enough for imperfect results to have appeared in early experience. When, later on, a wide and prolonged practice had extended the limits of dosage, it was but natural that more decided and more uniform successes were obtained.

It may be taken as a good augury for the *permanence* of a new remedy when during seven years' trial the reports on its availability are found constantly to increase in fulness and to become more and more positive as regards its virtues, as is the case with stypticin.

Even as early as 1895—not quite two years after the first trial of stypticin as a gynecologic hemostatic—Dr. Gottschalk, the first experimenter with this drug, and the one who, *four years after* the date of his first paper on stypticin, published a *review paper* thereon, covering six years' experience altogether, found occasion to make the following public statement:

"Owing to the number of new remedies with which the markets are flooded, I approached the clinical probation of stypticin with great skepticism. This attitude appeared to me, after my first ten cases thus treated, to be well justified; for my results were not at all promising. As I soon found, however, this experience was not due to the remedy, but to the *insufficient doses* in which it

had been given—which were but Gm. 0.025 (3-8 grn.) three times a day.

"The effects were totally different, when I *doubled,* not only the single, but also the daily dose; and grew still more striking when I no longer hesitated, in profuse uterine bleeding, to inject Gm. 0.2 (3 grn.) at one sitting per day, subcutaneously, into the gluteal muscles.

"The injections were given in 10-per-cent. aqueous solution, sterilized, and kept in a hermetically sealed tube until required; and care was taken to carry the needle deeply into the muscular structure. The internal doses employed were mostly of Gm. 0.05 (3-4 grn.) five to six times per day, in powders, or in gelatin pearls."

[The latter are now replaced by sugar-coated *tablets.*]

Of importance also seems to be the following hint, by the same author:

"My experience has shown me that it is advisable, in *menstruating* patients, to give the remedy *prophylactically* also. The effect in menorrhagias is vastly superior, when the administration of stypticin is begun four or five days *ahead of the impending period.* Smaller doses are available here for—say 3-8 grn.—about four times per day; as soon as the period begins order *twice that amount* to be taken during its continuance. If a patient be not seen until the bleeding is at its height, the prompt *subcutaneous* intramuscular gluteal injection of 3 grn. (as before explained) is advisable; this may be repeated for several days without harm."

It is significant that, four years later, the same author *once more doubled* the internal dosage he used, as will be seen from the following:

"The usual effective single dose is Gm. 0.1 (1 1-2 grn.), four or five times per day at appropriate intervals."

To this he adds:

"A patient who took by mistake the *daily* dose of Gm. 0.4 (6 grn.) *at once,* soon fell into a slumber lasting half an hour, from which she awoke, refreshed, without feeling cause for any complaint whatever."

As to the relative merits of internal *versus* subcutaneous administration, Dr. Gottschalk makes these remarks:

"I have gained the general impression as if the subcutaneous administration were superior, as to promptness of effect, to the internal; although the latter is undoubtedly more convenient. In all the great number of injections made under my observation, the most that ever was reported, in the way of *subjective* symptoms, was, in some few isolated cases, a burning sensation and dullness immediately about the puncture, lasting some hours. But I never witnessed, in any case, any external sign of irritation; there

was absolutely never any infiltration. I wish to call attention once more, however, to my having used only absolutely *sterile* solutions, and injected *deeply* into the gluteal muscles."

In his review, after four years' *additional* experience, Dr. Gottschalk says:

"The impression that subcutaneous administration of 2 Gm. (30 min.) of a 10-per-cent. aqueous solution—best applied *bilaterally*, away down into the glutei—surpasses in efficacy the internal dosing, has remained with me as it was before."

ALKALOIDAL MEDICATION.*

BY ALEX. C. EWING, M.D.

A GOVERNMENT that will provide for the welfare of its people must see that its armament is up-to-date, that the crude 32-pounder of thirty years ago is replaced by the rapid-fire breech-loader of to-day. The shotgun has been relegated to the past in army warfare, and we now have the repeating rifle and the gatling.

Likewise, if we as progressive physicians are to keep up a successful warfare against the encroachments of disease, we must improve our armamentarium. If the practice of the healing art ever becomes an exact science, it will be only when the crude-drug shotgun prescription, composed of the tinctures, fluid extracts, infusions, syrups and decoctions, of unknown strength and purity, is relegated to the past; and the unerring, rifle-repeating alkaloids are substituted in their stead.

The active principles are to the crude plant what gold, silver, copper, and lead are to the crude ore; and heretofore have been as difficult to obtain. To procure the precious metals, hidden away in the fissures and crevices of the rock, the ore must be crushed, ground and fused, as well as subjected to the action of chemicals. And so the precious elements of the plant, hidden away in the interstices of the leaf, stem and root of the crude drug, must undergo a similar process in order to obtain them—as if they were given us, not as a help, but as a reward.

The first alkaloid separated from the crude drug was in 1816, when morphine was obtained from opium by Sertuerner. In 1818 Pelletier and Caventou separated the great cerebro-spinal stimulant and tonic, strychnine, from nux vomica; and a year later discovered a weaker brother, brucine, in the same plant. In 1820 these delving chemists made, perhaps, a still greater discovery, when they found quinine in cinchona bark.

These few alkaloids, even at this early day, were used in preference to the much-used old preparations. But the idea of a

*Read before the Salt Lake Medical Society, October, 1900.

more general use of the alkaloids in medicine dates from 1848, when Burggræve, of the University of Ghent, urgently advocated their superior merits over the old crude-drug preparations.

Through the expert chemical touch of Geiger, Hesse, Mein, and Bley, belladonna had then given up its atropine, henbane its hyoscyamine, and aconite its powerful febrifuge aconitine. An added interest was manifested when the glucoside, digitalin, was obtained from digitalis, aloin from aloes, podophyllin from may apple, ergotin from ergot and caffeine from coffee and tea. The further march toward scientific medication was intensified when opium responded to further chemical research and yielded codeine and heroin, and when Mathison and Wright discovered that the cause of the "morning sickness" of the eldest daughter (morphine) was the presence of apomorphine, they acting as accouchers, and giving to us the most reliable emetic known. Investigation went on, and the hypnotic hyoscine was found in the meshes of the sleepy henbane, the expectorant emetin in the nauseous ipecac, the gouty colchicine in colchicum, the great heart-tonic and diuretic sparteine in broom corn, the unsurpassed diaphoretic pilocarpine in jaborandi. Then followed the great spinal sedative, cicutine, found in the obsolete hemlock, cocaine, the remarkable local anesthetic, from cocoa-leaves, while three additional active principles (digitalein, digitoxin, and digitonin) were born to the prolific digitalis—greatly increasing the therapeutic uses of this most valuable drug. I might add here, that the German digitalin prepared by Merck is a combination of the four active principles —digitalin, digitalein, digitoxin, and digitonin. The first three contract the arterioles and increase the strength of the heart-muscle, while digitonin dilates the capillaries and possesses therefore the diuretic properties of the drug.

There are now over fifty alkaloidal remedies quoted in the price-currents, and I believe the day is not far distant when the druggists, in self-defence, will be compelled to keep the whole of them in stock. When an alkaloid is given, but one effect is produced as a rule (unless they are mixed in solution), while the crude preparation, containing as it always does a number of active principles, may give (and often does) an effect the opposite of that desired; for the very good reason, that "the relative proportion of these several principles is never the same in any two given specimens of the drug."

The inaccuracy, so often observed, may reasonably be accounted for, too, by the fact that their solubility is so variable; some being insoluble in water, their presence could not be expected in infusions, while others being insoluble in alcoholic menstrua, would necessarily be absent from the fluid extracts. Of course most all active principles now in use are in combination with acids in the form of salts, making their solubility perfect.

When two alkaloids are obtained from the same plant, one of them is usually stronger than the other, *e.g.*, morphine and codeine, strychnine and brucine, etc.; and are spoken of as "primary and secondary" alkaloids—the secondary having the same properties as the primary, but in a minor degree.

Then again we find plants, the alkaloids of which are physiologically antagonistic, *e.g.*, eserine and calabarine from Calabar bean, and pilocarpine and jaborine from jaborandi. This fact alone is good and sufficient argument for the separation and use of the alkaloids alone, and it is from them only that definite effects can be obtained. If our patient's heart is flickering, none would resort to the tincture of nux vomica, whose alkaloidal strength is not known, but to the sulphate or nitrate of strychnine, the physiological action of which is so prompt and well understood. The same might be said as to the urgent use of the tincture of digitalis (made perhaps from leaves deteriorated by age or other causes), when the use of "Digitalin Germanic Merck" would so much more promptly meet the indication.

Most physicians who object to the alkaloids do not stop to investigate their marvellous uses—their rapid physiological action. Most of us, 'tis true, ride "hobbies" and some get into "ruts," from which they make no effort to extricate themselves. It is, indeed, a difficult thing to overcome a habit.

> "Habit with him was all the test of truth.
> It must be right; I've done it from my youth."

But the alkaloids that have been used for years and with which all are familiar, such as quinine, morphine, strychnine, atropine, pilocarpine, codeine and cocaine, have stood the test of time and experience, and none could be induced to abandon their use and substitute the crude drugs from which they are derived. Who would, at the present day of advanced ideas, use the cinchona bark for intermittent fever? The extract of nux vomica for a rapidly-failing heart? Would resort to the tincture or powdered opium to quiet acute pain? Would drench a patient with an infusion of jaborandi to make him perspire? Would trust to the efficacy of belladonna for night-sweats or hypersecretion? Or instil into the delicate eye a decoction of cocoa leaves for local anesthesia? None.

Some of the leading manufacturers of officinal preparations having recognized the great disparity in alkaloidal strength of plants grown in different soils and climates, in low or in mountainous districts, in the time of year the plants are gathered, the different means of curing and preserving them, as well as the great exposure to different degrees of heat and moisture, have put upon the market what are called "Standardized Preparations"; that is, after a fluid extract is made, and is found upon analysis to

be deficient in alkaloidal strength, they add enough of the known active principles to bring it up to the recognized standard; and on the other hand, if it is found to possess too much of the alkaloids, it is brought down by the addition of diluted alcohol. This is a step in the right direction, and if the house from which the drugs come is known to be reliable, it will satisfy many who are still sceptical about the little homeopathic-looking tablets, containing the strength of ten minims or a dram of the tincture. The little tablets, however, have no resemblance (except in size) to the *'similia similibus curantur"* idea, for within their limited area lurks a power that vanquishes disease and pain. "Like the l aves of the fresh rose, they bring out the sweet perfume of gratification." It is the old story of the heavy mace against the rapier of Damascus steel.—*Alkaloidal Clinic.*

Salt Lake City, Utah.

THE TREATMENT OF BRIGHT'S DISEASE.

BY JAMES TYSON, M.D.
Professor of Medicine, University of Pennsylvania.

(*Digest.*)

In *The Therapeutic Monthly,* of Philadelphia, for June, 1901, Dr. James Tyson publishes a most interesting paper upon this subject. He says that the treatment of chronic Bright's disease must consist mainly in measures which will help nature accomplish her difficult task. What are these measures?

In the first place, it becomes desirable to do what we can to rest the kidney, to diminish its wear and tear, and to substitute its offices by those of other organs. By general acknowledgment, the first of these indications is best met by a selected diet, including drink. It is recognized that the chief office of the kidney is to separate urea and the xanthine compounds, represented especially by uric acid, and that all of these are derived from the proteid foods, of which lean meat and albumen of eggs are the type. It is manifest, therefore, that a rational treatment requires the restriction of proteid foods. The degree of this restriction must be determined by the severity of the case. In the severest forms the restriction should be as absolute as possible, although even in these the proportion of albumen contained in dilute milk does not seem excessive. The farinacea, represented by rice, potato, the various starches, arrow root, tapioca, and even white bread with butter, are perfectly allowable, and to these may be added, where digestion is good, the soft, juicy vegetables in season, such as peas, beans, spinach, asparagus and the like, as well as fruits in liberal quantities. Fats are also allowable when they can be digested.

What shall we say of meat and eggs? In bad cases all meats, including poultry and fish, as well as red and white meats, must be forbidden. In mild cases, where active symptoms are wanting, they should be very much restricted, say the equivalent of a small mutton chop, or an egg of which the yoke may be used in larger quantity than the albumen. An amusing error of practice has arisen from the habit of disenjoining red, or butcher meat, as it is sometimes called, as contrasted with the white meat of chicken and fish. Persons often consult me who I find are consuming large quantities of poultry and fish under the impression that they may eat unlimited quantities of these, provided they do not eat red meats,—forgetting that the composition of both is the same, and that the only difference is in the smaller amount of red blood in the white meats, and they are surprised when I tell them there is more danger in a half pound of chicken than in a quarter of a pound of roast beef.

There can be no doubt that a man can live and maintain his health on a fatty and farinaceous diet with such an amount of proteid as is contained in vegetables and milk. Such a diet may not be compatible with the highest physical and intellectual development, but that a man may work hard and subsist upon it is daily shown by the constant habit of the Chinaman and East Indian, who scarcely know meat from one year's end to another. Experiments which need repeating also go to show that vegetable proteids are attended with less xanthine eliminations than animal proteids.

No patient with chronic Bright's disease should use beef tea or bouillon, or the so-called beef-extracts as a diet. Over and over again it has been shown that these substances are concentrated solutions of the very salts which go to make up the solids of urine itself, in addition to a certain amount of albumen. Yet I am constantly consulted in cases where the physician is nourishing his patients on such food with the impression that he is doing a good thing, whereas he is either overworking the kidneys or overcharging the blood with toxic substances, or both. Whenever there is an aggravation of symptoms a recourse must be had to a milk diet. Diluted milk is to be preferred to skim milk, because in the latter the proportion of proteid remains unchanged, and the fat, harmless fat, is removed, while in diluted milk the proteid is reduced and much of the fat is retained, as is, of course, desirable.

Because of their irritating qualities, alcohol, strong wines, and malt liquors are disallowed. They all increase the work of the kidney, and tend to load the blood with toxic substances. At the same time it is doubtful whether any harmful results occur from the moderate use of light wines, like Moselle, Rhine, and light clarets, especially when freely diluted with water. It goes without saying that substances directly irritating to the kidney, such as mustard, horseradish and pepper, must be avoided.

The second indication supplements the office of the kidney by promoting the function of other organs, especially the skin and bowels. The action of the skin is favored by warm clothing, as well as by warm seasons and warm climate. Hence, the time-honored advice that the patient with chronic Bright's disease must wear wool next the skin. There is abundant evidence to show that a residence in a warm climate, and especially in a warm, dry climate, is favorable to cases of chronic Bright's disease, and in my book on Bright's disease I relate a striking instance of the salutary effect of a residence in a warm climate and the rapidly fatal effect of removal to a cold, damp one.

I have called attention to the alkalies in the shape of alkaline mineral waters and solutions of alkalies. Unfortunately, this country furnishes no really alkaline mineral waters east of the Rocky Mountains, and those of our Western country are not fitted for use. The imported Vichy and Vals waters fulfil the indication. The artificial Vichy, much advertised, contains practically no alkaline constituent. * *

As a part of treatment, including the promotion of skin action, I wish to mention a measure which I have found of signal service in improving the general condition of patients with chronic Bright's disease where not needed to avert serious symptoms like dropsy and uremia, viz., the frequent use of the vapor bath by one of the numerous convenient forms of apparatus known as cabinets and possessed by many families. A sweat thus produced continued for twenty minutes to half an hour just before going to bed has the happiest results in promoting the general well-being of the patient. His energy increases, he improves in appearance, the skin becoming clearer and smoother. Every other night is usually often enough, and the patient can manage it himself. Of course, the bowels should be kept regularly and even freely open, as in this way elimination is favored and the kidneys are rested.

CHRONIC GASTRITIS—REPORT OF A CASE.*

BY DR. CHAS. J. POLLARD, PRINCETON, KY.

CHRONIC gastritis is a condition of the stomach almost daily met with in this country in a more or less well developed form, and to successfully treat these cases as they come to us is a goal we all desire to reach.

This disease is almost invariably associated with more or less indigestion manifested by many protein symptoms and accompanied by more or less active vomiting of the ingested materials.

*Read before the Meeting of Kentucky State Homeopathic Medical Society, May 29th and 30th, 1901.

The gastric secretions are almost without exception abnormal, many fermentative changes taking place in stomach contents, thus necessitating lavage more or less frequently for its relief.

The report and treatment of the following case, while not strictly in accord with true homeopathic prescribing, perhaps was so prompt in effect and has proved so lasting in results that I shall be willing to shoulder any censure that may be heaped upon me.

On May 21st, 1900, Mr. H. came to me from an adjoining country and applied for treatment, having been through the hands of two old school physicians in the last four years.

His age, 57; average build, lean, languid, dull, expressionless eyes, coated tongue, dirty, sallow-colored skin, gave history of indigestion for last four years, characterized by eructations of sour materials, pain after eating, nervous depression, sleepless nights, constipation alternating with occasional attacks of diarrhea, vomiting, not marked, loss of flesh, weak pulse, flabby muscles, in fact, a typical case of gastric catarrh in its chronic form.

From the history of treatment and the many symptoms pointing to the drug, I prescribed nux vomica and diluted muriatic acid after meals, believing the digestive fluids deficient in quantity. The patient reported some improvement in two weeks, his medicine was repeated and he was cautioned about diet, as formerly.

He reported again on the 21st of June, 1900, and gave history of an attack of rheumatism one week before, but still improving slowly of his stomach trouble.

In the meantime I had been studying this case arduously. I read of a case having been successfully treated with hydrozone and glycozone, then I concluded to use these as adjuvants when patient returned.

Owing to impossibility of regular lavage, I furnished patient with two ounces of hydrozone and directed him to add one ounce to a quart of sterilized water and take half a tumblerful half an hour before meals.

This, you will perceive, would procure a clean surface for the oncoming meal, though for the first few days it produced some discomfort, he said, from accumulation of gas.

Immediately after meals he was ordered to take a teaspoonful of glycozone in a wineglassful of water and three grains of nux vomica.

The next report was the 16th of July, when the improvement was very marked in his general appearance; patient was then able to eat without any dread of pain or discomfort.

Prescription was repeated and by August 1st all signs of any lesion of stomach had disappeared. Patient claimed to be well for the first time in four and one-half years.

Treatment was discontinued, of course. I saw the patient recently and he had practically no trouble since last August.

Dr. Finlay Ellingwood, in his excellent Materia Medica, says glycozone is one of the best manufactured products of the present

time in its action upon enfeebled disordered stomachs, especially if there is ulceration or catarrhal gastritis.

It is a most efficient preparation and I shall use it freely in the future.

TORONTO ORTHOPEDIC HOSPITAL.

In submitting the Third Annual Report of the Toronto Orthopedic Hospital, the trustees note with pleasure the continued progress and steady growth of the work undertaken by them three years ago. This report presents a view of the work accomplished by the Hospital during the year ending September 30th, 1901. Some idea of the growth of the work can be gathered by a comparison of the following figures:

COLLECTIVE DAYS' STAY OF PATIENTS IN THE HOSPITAL.

First year	3,306 Days
Second "	5,582 "
Third "	8,599 "

TOTAL RECEIPTS.

First year	$2,601.52
Second "	6,444.83
Third "	12,343.23

The outlook for the future of the Hospital was never so bright and encouraging as it is to-day. It *has long passed the experimental stage, and its history has emphatically demonstrated not only that it has a right to exist, but that it has become one of the indispensable public institutions of Canada.*

It is particularly gratifying to observe the warm *appreciation of the Hospital's work which has been shown by the* MEDICAL PROFESSION. Up to the present the large majority of the patients treated have come to the Hospital as the result of the *advice of family physicians who wished such of their patients as needed orthopedic treatment to enjoy the benefit of special equipment and wide experience.*

Aside from the general appreciation of the fact that the needs of the lame, crippled and deformed can best be met in hospitals established and equipped exclusively for their benefit, there is good reason to believe that the *policy adopted at the outset by the Trustees and staff in regard to charitable work* has contributed greatly to the confidence and popularity the institution now enjoys. Any hospital which allows patients who are able to pay to be treated free, and boarded and nursed in its wards for less than cost, is guilty of a grave injustice both to the public who support it by their donations and taxes, and to the medical men who give their services free of charge to the patients occupying its public and free beds. No patient has ever been refused admission to the Toronto Orthopedic Hospital because of inability to pay. In no public institution in the Dominion are the deserving poor more

warmly welcomed or considerately treated; but, on the other hand, the Hospital authorities insist that all who are able to pay their way wholly or in part shall do so.

A feature of the Hospital's policy now firmly established is the recognition of a "voluntary class." Patients are constantly being received who feel that their present circumstances do not justify a promise to pay any definite amount, but who do not wish to be regarded as public or free patients. Again, it is sometimes necessary to detain patients in the Hospital a longer time than was at first expected and provided for. In such cases the word "voluntary" appears in the Hospital ledger in connection with the patient's name whenever it is felt that the only kind and just course is to leave the account entirely to the patient's ability and sense of honor.

The patients of the Hospital have come from *nearly all parts of the Dominion.*

The Trustees are glad to be able to announce that, through the generosity of one of our citizens, they have been able to secure a *splendid new site at 100 West Bloor Street for the future development of the Hospital.* The large building upon the new premises is being remodelled. Substantial new additions are being built, and when the improvements are completed the patients of the Hospital will be comfortably located in a building excellently suited to their requirements. There will be wide verandahs on the east and south, and also a large lawn, and in connection with the public wards a splendid roof garden. There will be accommodation for 60 patients. This roof garden will be one of the most useful features of the Hospital, and will add very greatly to the comfort of the public patients.

To complete the necessary improvements and open the new hospital free of debt a total of $30,000 will have to be expended. Only a comparatively small portion of this amount has yet been raised, and the work has gone on much more slowly than would have been the case had sufficient funds been guaranteed to complete what has been undertaken. At an early date it will be necessary to stop work altogether on the new property for a time unless more money is forthcoming. It will be most unfortunate if such delay can not be avoided, for the premises now occupied are constantly overcrowded, and the beneficent work of the Hospital is seriously hampered by the need of more room. There is no philanthropic work on which money could be more advantageously expended, and the Trustees desire to urge upon the public the duty of supporting this worthy cause.

Signed on behalf of the Board of Trustees,

JOHN POTTS, *President.*

The present list of Trustees includes such well-known men as:

Rev. John Potts, Rev. Frank Ryan, Rev. John Gillespie, Judge McDougall, J. J. Foy, M.P.P., J. I. Davidson, Warring Kennedy, A. E. Ames, W. J. Sheppard, E. R. Wood and T. Eaton.

PROF. SCHWEITZER PROFOUNDLY IMPRESSED WITH PARKE, DAVIS & CO.'S PLANT.

PROF. H. SCHWEITZER, one of the foremost chemists in the country, Secretary of the American branch of the Society of Chemical Industry of London, England, ex-professor of chemistry in the great Heidelberg University, and a member of the committee on adulterations of the National Wholesale Druggists' Association, is at the Russell House.

Prof. Schweitzer comes to Detroit for the purpose of giving expert testimony in the case against Detroit men charged with counterfeiting trade-marks owned by Farbenfabriken, Bayer & Co., of Elberfeld, Germany. The Professor is well known to the courts in the East, as he is almost invariably called as an expert in cases where the questions involved are similar to those that will come before the Court in the Detroit case.

Prof. Schweitzer visited the plant of Parke, Davis & Co., at Detroit, yesterday afternoon, and this is what he says he found:

"The greatest industry of the kind in the world, the greatest beyond all question. The biological department was astounding. The physical assay work on animals is worth to a student a walk of one thousand miles. The scientific atmosphere is an inspiration, and the ingenious machinery a marvel. I was told that there were employed in the factory alone over 1,500 people, and that the firm has 207 travelling men employed.

"There are five American branches, I was told, and there are manufacturing plants in England and Canada. In the English plant are employed 250 persons. There is nothing wanting in this plant for the production of powerful, accurate, uniform and palatable medication. They have a circulating library for the employees, as well as an emergency hospital, and I understand the employees have decent hours and are well treated."

Prof. Schweitzer will remain in Detroit until the cases before the courts are disposed of. In the meantime he will visit the University of Michigan. This is his first visit to this city, and he expresses himself as being charmed with the city and with its people.

Attorney Allan H. Frazer, who is a friend of the professor, will see to it that he comes in contact with the bright side of Detroit life.—From the *Detroit Journal,* Tuesday, October 22nd, 1901.

The Canadian Journal of Medicine and Surgery

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Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., *must be* in our hands by the fifteenth of the month previous to publication.

Advertisements, to insure insertion in the issue of any month, should be sent not later than the tenth of the preceding month.

VOL. X. TORONTO, DECEMBER, 1901. NO. 6.

Editorials.

POISONING BY CANNED SALMON.

WE are indebted to Mr. Thomas Macfarlane, Chief Analyst of the Inland Revenue Department at Ottawa, for Bulletin 76, which gives details of the analyses of 100 specimens of canned salmon collected in June, 1900, at different places in the Dominion.

It appears that traces of metallic contamination (lead) were found in about one-half the number of samples, but the quantities were so small, 9 and 12 parts per million in some of the samples,

th. ...jurious to a consumer.
No ... was discov...d in any of the samples.

It is furth... he Bulleti...t that "only three samples are mentioned as avin... ...ctionable odor, one of these being very bad, and two samples a... characterized as stale. Thus, only five per cent. of the sample... were found to be in any degree doubtful, so far as quality is concerned." This part of the report is particularly gratifying, since statements have appeared in the Canadian press to the effect that salmon of bad quality was frequently offered for sale in the markets of the country. To obtain trustworthy information as to the truth of this charge, a circular and a schedule were issued, December, 1899, by the Inland Revenue Department to physicians practising in Canada, requesting them to mention any cases of illness in their practice apparently attributable to the use of tinned foods. In reference to the information evoked by this circular, Mr. Macfarlane writes: "The number of cases actually given amounts to 970 for the whole Dominion. The period of observation sometimes means the whole time during which the physician has been practising, and in many other cases it extends back only a year or two. The average period I find to be seven years. The number of cases of disease apparently attributable to the use of tinned goods would, therefore, average about 138 per annum in the whole of Canada. The total number of cases which terminated fatally amounted to fifteen in the above-mentioned average period."

Mr. Macfarlane states that, in reply to the query in the schedule, "Have you judged the symptoms of poisoning to point to metallic or to ptomain poisons," the answers are indefinite; but, interpreting them reasonably, about 70 per cent. of the cases are attributed to ptomain, and 30 per cent. to metallic poisoning. In reference to the charge of ptomain poisoning, the physicians ascribed it to several causes, viz. (1) because the contents of the tin were too old; (2) because they were exposed too much to air after opening, and without being transferred to another vessel; (3) owing to imperfect exclusion of air previous to opening; (4) because of unsound character or inferior quality when originally packed. The suggestion is also offered by the physicians that "screws should be used in screwing the boxes in which the tins are packed, as nails sometimes happen to be driven through the tins, causing access of air.

There appeared also to be a unanimity of opinion among the majority of the physicians who made returns, that the time of filling the tins (month and year), and the name of the manufacturer or canning-factory, should be stamped on the tins, and that this provision should be secured by legal enactment. From the opinions expressed by the physicians reporting cases, and much more so from the reports of the analyst of the Inland Revenue Department, there is small reason to object to the use of tin cans in preserving salmon. The proportions of lead or other metal found in the samples of fish analyzed being small indeed, the undoubted cases of poisoning which occur from time to time will, therefore, have to be ascribed to some other cause, and we hope that analyses made in Canada will show what that cause may be.

We must confess to some regret that the analyses referred to in the bulletin do not throw any light on the fatal cases reported by the physicians, as having occurred in their practice; but this failure to discover the real poison need not excite surprise, for the analysts only looked for evidence of metallic contamination, as well as the presence of preservatives. A table showing the presence or absence of ptomains in one analyzed sample qualified as "stale but not bad," in another described as "colour pale, unpleasant odor," and a third as "color pale, bitter taste," would make these analyses much more instructive. We acknowledge with pleasure, however, that Mr. Macfarlane has, by a process of exclusion, made the road much straighter for chemists, who may be asked later on to report the poisons contained in tinned fish in Canada. That poisonous ptomains are present in putrid fish is well known to chemists. For instance, gadinin, C7 H16 NC2 (Brieger), and ethylidenediamin, C2 H8 N2 (Brieger), are examples of poisonous varieties, and triethylamin, C6 H5 N (Brieger), is non-poisonous. An instructive case of ptomain poisoning from eating canned salmon is reported by Professor Vaughan in Ptomains, Leucomains, Toxins and Antitoxins, 1896, p. 56: "K——, a very vigorous man of thirty-four years of age, ate freely of canned salmon. Others at the table with him remarked that the taste of the salmon was peculiar, and refrained from eating it. Twelve hours later he began to suffer from nausea, vomiting, and griping pain in the abdomen. Eighteen hours after he had eaten the fish Professor Vaughan saw him. He was vomiting small quantities of mucus, colored with bile, at frequent inter-

vals. The bowels had not moved, and the griping pain continued. He was covered with a scarlatinous rash from head to foot. His pulse was 140, temperature 102 degrees F., and respiration shallow and irregular. After appropriate treatment he began to improve. The next day the rash disappeared, but the temperature remained above the normal for four or five days, and it was not until a week later that the man was able to leave his house." Professor Vaughan examined the salmon, and found a micrococcus present in great numbers. This organism, grown for twenty days in a sterilized egg, produced a most potent poison. The white became thin, watery, markedly alkaline, and ten drops sufficed to kill white rats.

The next time a marked case of poisoning occurs from eating canned salmon in Canada a bacteriological study should be made of the suspected fish.

Mr. Macfarlane deserves the thanks of the profession for Bulletin 76, which makes it reasonably clear that in such cases of poisoning from eating canned salmon as have fallen to the lot of Canadian physicians, lead or other metallic poisons have had no influence in producing the illness complained of. J. J. C.

ON THE PATHOLOGY OF CANCER LESIONS.

At the recent meeting of the American Medical Association, in the Section of Surgery, a symposium was held on the above topic. Dr. Roswell Park lead off with a contribution on the parasitic theory of cancer, and went so far as to declare that "a very marked advance has been made in our knowledge of the disease." He further made the astounding announcement that he was prepared to go so far as to declare that "the parasites have been discovered." He compared the life history of this malignant hyperplasia to vegetable, or tree-cancer, a species of foreign growth, sometimes seen in the vegetable kingdom. Consecutive metastatic invasion he regarded as an indisputable evidence of the infectiousness of the cancer process. He would regard bacteria as an etiological factor, but all parasitic life is not of this order. Autogenetic infection, as along the track of a trocar, etc., he thought established beyond a doubt the infectious nature of cancer. He would attach little importance to the general failure of homo-

geneous implantation. Dr. Park closes his interesting summary by asserting that "cancer must remain as it always has been, a surgical disease, and if recognized early in an accessible part of the body and removed thoroughly, it can be absolutely cured." He is hopeful that we may establish a parasitical cause, and reach it by some mineral or vegetable substance or animal antitoxin. The State of New York contributed ten thousand dollars towards defraying the expenses of a laboratory last year, especially devoted to the study of cancer.

Those of us who are familiar with the clinical aspects of this terrible disease, with the history of the years of experimental effort made to unmask its mysteries, must yet remain very sceptical.

Laboratory and bacteriological researches have, without question, widely enlarged our knowledge of the morphological characters of malignant disease, but they have led to a most confused and needlessly complex classification, which has in no measure whatever enabled us to the more rationally deal with it.

Dr. Nicholas Senn followed Park, dealing with "The Present Status of the Carcinoma Question." His article embraces the latest literature on the subject up to date. His views as to initial changes are similar to Colen Levins; *i.e.*, he believes that the primitive nucleus is in "a matrix of epithelial cells;" or, in other words, that it has an histogenetic origin, its primary location being mesoblastic, with a matrix of embryonic epithelial cells. With Williams and others he strongly opposes the parasitic theory. He says that "the histology and histogenesis of carcinoma speak against the parasitic origin of this disease." Regional metastasis, he believes, takes place through the lymphatics, general metastasis through the systemic circulation.

In connection with this question of dissemination, it would be interesting to have an explanation of those retrograde metastases, as for example, when, after the excision of a breast, the stomach, liver, pancreas, or ovary is attacked.

Notwithstanding the active participation of the lymphatics, said to take place in malignant disease, from an extensive study of the normal and pathological elements of the tissues, we must say that, inasmuch as the lymph vessel can be only studied with great difficulty in the healthy state, and of the so-called "lymph glands" we know nothing definite of their functions, and should

not accept without convincing proof any conclusions based on disordered function of these structures. It is difficult also to accept the assumption that metastatic invasion occurs through the veins or arteries. A cancerous ulcer stops at nothing, laying waste to everything in its path. Epithelial infiltration penetrates the vessel's wall early. We have seen it invade and completely obliterate the lumen of the common carotid artery, as well as the internal jugular vein, and yet there was no metastasis anywhere. Here we had whole shoals of epithelial seed forced into the vessel's lumen. Several other somewhat similar cases have come under our notice, in which if the theory of vascular dissemination held good, we should have following widespread infarcts of the internal organs. But some such theory must be invoked to support the theory of the "localists."

Professor Senn denies that cancer is on the increase. In this respect he is undoubtedly correct, for we are confident that a large number of cases operated upon for cancer possess no malignant elements at all. These are the cases of "cures."

Of the causes of cancer enumerated, we must rule them all out, predisposing and active, except one; and it is doubtful if that one should specially stand out here. This one is "heredity," because this influences nearly every non-contagious disease known.

Age certainly should be struck out as a cause.

Trauma.—Of the thousands annually injured, but few suffer from cancer. Can it be that this is a coincidence? The same may be said of scars, warts, and local irritations. Inference is not proof. Sir James Paget and Roger Williams, of London, have called attention to the curious fact that sots, syphilitics and prostitutes rarely acquire cancer, and that it works its greatest ravages among the abstemious, well-to-do and careful livers. Discarding, then, the parasitic elements, what are the well-known and definite causes of cancer?

Here is the mystery.

As Senn well says: "As we are still ignorant concerning the essential etiology of cancer, the treatment up to the present time has been largely of a palliative and empirical nature." Further he adds: "The only real advances made have been in the operative treatment. . . . . The operative treatment of carcinoma has undergone a decided improvement during the past decade." Early "radical" operation is advised. With a confession of

our absolute lack of knowledge of the causes of cancer, and a rejection of its parasitic origin, it is inconceivable how we can admit of real advances in its treatment. In all truth, in treatment as in the etiology, of substantial advances we have made none. It won't do to so far encroach on the credulity of the profession as to say that a lesion is local, while at the same time it is admitted that its real essence or cause is unknown, and that final, effective influence on the atypical epithelia can only be effected through constitutional measures. On this point we should speak out in unequivocal terms, for the reason that at the present time we must regard every case of genuine clinical cancer as invariably mortal, with very rare exceptions. We protest that the early and wide cut is a pernicious and dangerous doctrine to hand down to a rising generation of practitioners; first, because an early diagnosis of cancer is out of the question, until the full clinical picture is in evidence. The wide cut, the large dissection, is a cruel mutilation on a patient the subject of cancer. In mammary cancer it leaves the whole anterior chest wall stripped of its cutaneous and muscular investment, the shoulder displaced backward, with a bloated, stiff and painful arm; but, what is worse than all, the truce of relief is not lengthened. In one patient so treated we saw widespread relapse in three months.

No honest, conscientious practitioner can be guilty of definitely promising to cure a patient afflicted with cancer.

Dr. Senn is to be congratulated for extending the time-limit for the cure-test to ten years. Possibly one per cent. treated by any means may attain that limit. T. H. M.

LANGUAGE IS ONLY THE INSTRUMENT OF SCIENCE.

In our July number an editorial appeared, entitled "A Plea for Union among Canadian Physicians." Beginning with an allusion to the proposed establishment of a French Medical Association for Quebec and the United States, we mentioned a few objections to the project, such as would occur to a Canadian physician who supports the cultivation and diffusion of medical science in Canada by Canadians, and who attaches but a mediocre interest to the language through which the scientific idea is conveyed. We instanced the bilingual Parliament at Ottawa as an example of how

effective work could be carried on in affairs of State, and suggested that the work of a medical association in this country could be done in sections, and that the French members could read their papers and discuss questions in their own language, under the leadership of their own officials. A closing observation was made to the effect that if French Canadian physicians place language on a higher plane than patriotism, the English-speaking physicians of Canada may be attracted towards the great medical organization of the United States.

Dr. Arthur Simard replies, at considerable length, in the September number of *Le Bulletin Medical de Quebec,* and, if his views must be accepted as correct, there is little or no reason to ever expect a combination of English and French physicians in this country, even for the very neutral and unexciting purpose of cultivating medical science.

He attributes the very noticeable absence of French Canadian physicians from the meetings of the Canadian Medical Association principally to the fact that there are 1,500 French-speaking physicians in the Dominion, and asks, "What profit could they obtain from deliberations they could not understand?" Very little, we confess, and yet, even if we admit the accuracy of Dr. Simard's assertion, we must regard it as decidedly uncomplimentary to the educational status of French Canadian physicians. If the assertion were correct, it would be in opposition to the observations of a good many professional and non-professional persons, who think that many French Canadian physicians practising in different parts of Canada to-day, understand the English language, and some of them speak it with facility.

Why, then, establish a permanent medical association whose principal function will be the usage of the French language? To restrict the work of a scientific association in Canada to the French or English language is to elevate mere expression to a place it has no right to occupy in a scientific assembly.

When Koch, the German scientist, read his epoch-making address at the London Congress of Tuberculosis last July, he used the English language. Nocard, a Frenchman, who took up the gauntlet, replied in French; but he understood what the German scientist had said. Had Nocard's answer been in English, it would have been more effective from an oratorical point of view, but oratory does not count for much in the expression of opinions

on a subject of intrinsic importance. Physicians who intend to express their views in great associations and congresses must at least understand English, French, and German; to understand only one language is to court failure. Were a medical association to be largely intended for social purposes; were its programmes to be made up of a modicum of science, with a good deal of poetry and oratory, polyglots would not be in demand, and their presence might even be inconvenient.

French Canadian physicians, instead of secluding themselves, should imitate their Norman ancestors and invade Anglo-Saxondom; instead of building their medical association on a one-language theory, they should take advantage of their undoubted facility in the use of two languages; or, to put our idea in a concrete form, they should develop and expand the influence of a bilingual, medical parliament, and help to make it the centre of the best medical thought in Canada. Although Dr. Simard may not re-echo this view, we think he is too loyal a Canadian to oppose it. In the meantime, let both the English and the French in Canada strive, in friendly emulation, to accomplish their best work. It is pleasing to learn that graduates of Laval University have attained very creditable positions in the medical profession of Quebec and America, and if they reach still greater heights at home and abroad, the graduates of the universities of Ontario will be delighted. Should the graduates of Laval University imitate the scientists of France in bringing to completion orginal investigations, or in making important discoveries, expressed, of course, through the medium of the French language, their good fortune would rouse no feeling of envy in Ontario. On the contrary, physicians of every race in this country would feel so much patriotic interest in the glory of a Canadian medical discovery, that they would not stop to inquire in what language it was first expressed. J. J. C.

AN "ABSENT" TREATMENT FOR THE CHRISTIAN SCIENTISTS.

The jackal half closed his eyes, curved his fingers around, and then looked through them in the good old drawing-master way, and tried to find enough to make a sketch (in proper perspective) of the models posing, a few weeks ago, in our Assize Court as types of

Christian Science. Alas, the attempt failed. Nothingness does not lend itself to curve and line. "Matter is not—all is Mind." (?)

If Christian Science embodied (I beg the cult's pardon) simply a religious belief or form of worship, no medical journal would be found having aught to say against it. With any form of religion or agnosticism medical journalism has nothing whatever to do, and medical men have not the slightest wish to pose as spiritual experts. They are, however, fully equipped and capable experts upon all that assails or deals with the human body, and they are jealous of the honor of their profession, and will never unfurl the white flag of truce to such enemies of public health as the Christian Scientists by their actions have shown themselves to be. These peculiar people refuse to recognize their present physical "make-up"; they assert they are bullet-proof; in fact, as they have done away with any material body, and "all is Mind," they must believe they are flying around in their minds. Would to God they were; they would do much less harm a-singing in "the choir invisible," instead of croaking about eczema, dyspepsia, diphtheria, with which they have been afflicted in their *thinkers!*

Somehow, a couple of weeks ago enough of them to fill a court-room blew in, and their apparently very material selves filled all the available space, and without modesty young women stood up and told of "gatherings in their heads," "tonsillitis," and other ailments cured by Christian Science treatment "at home" and "absent." Continuing, they still further unbosomed themselves by asserting that for years they had not been subject to disease, in fact had been "kept from error" by Christian Science. Oh, tell the truth, people—kept from disease by the very material supervision of Dr. Charles Sheard and his competent workers; kept from disease by that grim sentinel called the Public Health Board; kept from disease by your honorable neighbors, who respect the material Temple and consent to its isolation, and the placarding of the spot they call Home, as a warning and a protection to you lest the plague should come nigh your dwelling and one of your household "pass on" attended by a Christian Science healer.

How shall we treat this spook that is trying to appear and appeal to the medical world? Immortalize her in a poster; surely she is a fitting subject. Material nothingness has neither shape nor make, like unto a woman in a "raglan," neither fore nor aft to her—and tell us, do you know which way she is going?

W. A. Y.

"CONSISTENCIE'S A JEWELL."

THE following extracts from a prominent Toronto daily newspaper, which we place in parallel columns, are, to put it mildly, rather incongruous:

October 29th, 1901.

"A prominent officer in South Africa attributed his immunity from typhoid fever to his habit of drinking bad water whenever he felt thirsty, without boiling it or adopting any other precaution. Let us honor the scientists for the great service they have rendered the world, a service the world has never been able to repay. But we need not turn in alarm from any article of diet or any habit of life to which the race has been accustomed for ages. The race becomes immune to the danger of its environment through the survival of those best able to resist."

November 2nd, 1901.

"Toronto in evidence of its healthfulness has a remarkably good record of typhoid to show this year. Last month there were only sixteen cases, as compared with twenty-nine last year, and during the year thus far there have been only eighty-one. This is the lowest record in ten years. Within that time the number of cases for October has been as high as 156, and for a year nearly a thousand. The present low typhoid record is a good index of the *quality of the city water.* A couple of months after one elevation of the intake pipe the typhoid cases numbered over a hundred. When it is considered that the death-rate in typhoid is one in five, the citizens have reason to congratulate themselves upon the present condition of affairs."

In the first extract, the observation of the officer who defied the rules of hygiene and common sense, is quoted approvingly, as if it demolished the contention of medical science, *i.e.,* that typhoid fever is caused by a specific germ, which is present in water fouled by the urine and feces of typhoid patients. The plain suggestion to the reader is that avoidance of foul water is foolish, and that, although bacteriologsits deserve credit for their labors in discovering pathogenic microbes in the fluids people drink, yet their views must not be taken seriously or their advice implicitly followed, because the human race has become accustomed to these microbes, and is immune to their attacks. If the newspaper's reasoning in the first extract is correct, it certainly does seem superfluous to filter and boil foul water before drinking it, because, as typhoid fever has been in existence for centuries, it is about time that "the survival of those best able to resist" it should be to the fore. In the second extract, however, fresh ground is broken, and we learn that the present low typhoid record in Toronto is an index of the

quality of the city water, or, in other words, that the water, being relatively pure, the citizens are not attacked by typhoid fever as much as they were in former years, when the city water was notably bad. The theory of obtaining immunity to typhoid fever by cultivating a taste for foul water, is cloaked in the second extract, although this newspaper had already stated that, by the use of foul water we might secure the *survival* of those "best able to resist" that disease. Probably the last opinion is correct; but then, what a mortality would result!

Recently, in a Toronto weekly newspaper, a reflection was made "upon the general cocksureness of a great many of our scientific barriers against microbes," and the principal reason given was that a prominent gentleman, who had just died from typhoid fever, was remarkable during his lifetime for a rigid adherence to the rules of hygiene. No allowance was made for absence from home and the accidental use of infected water or milk in another city, or in a railway car. The editor of the weekly concluded that because the gentleman referred to had caught typhoid fever and died of it, "immunity is as far removed as ever."

No person is immune to typhoid fever unless he has had it, and acquired an actual, *natural* immunity, or has been rendered passively immune by inoculation with typhoid virus. Any non-immune person may catch typhoid if he drinks fluid infected with the Eberth bacilli, or eats uncoked food which they have infected. Persons who live hygienically are not likely to catch typhoid fever, but if they drink infected water or milk, or eat food which has been exposed to the attacks of flies, they run the same risk of catching typhoid fever as those who never take any precaution against it. It is easy to avoid one source of typhoid fever, viz., infected water, by always using boiled fluids, such as tea, coffee, beer, or boiled water. If food is protected from flies, and is thoroughly cooked when presented at the table, another source of typhoid infection is removed. J. J. C.

EDITORIAL NOTES.

Perineal Prostatectomy.—Parker Syms, M.D., clinical professor of Surgery in the Bellevue Hospital Medical College, New York, says, in a paper read before the American Medical Asso-

ciation, June, 1900, he does not favor the performance of suprapubic cystotomy as part of the operation for prostatectomy. He operates through the perineum, but without making any wound above the pubis. In one case he was able to crowd the prostate down by manual pressure from above, because the abdominal wall was thin and easily impressed. In another case he succeeded in reaching the prostate and enucleating its three lobes by means of a special retractor, which he devised. It consists of a rubber tube made of the size and consistence of the ordinary perineal drainage-tube, on one end of which is cemented a thin rubber bulb; the bulbous end is inserted into the bladder through the membranous portion of the urethra, which has been opened, as after Alexander; when the bulb is well within the bladder it is dilated by being filled with sufficient water to expand it into a bulb 2 1-2 inches in diameter; then traction can be made on the strong rubber tube sufficiently to bring the prostate into the perineal wound within reach of the finger, enabling the operator to perforate the capsule and to remove the gland. The operator has used the straight median incision, not having found it necessary to use one of the transverse or curved incisions of Zuckerkandl, Dittle, or Rydygier, but in certain cases one of these incisions would have great advantage over the shorter ones of the median line. The point the author wishes to make is that prostatectomy can readily be done entirely through the perineum, and that it should not be combined with a suprapubic cystotomy. The author feels that the perineal drainage of the bladder is of importance when a cystitis is present, but that it is not a necessity otherwise, and if the patient presents himself for operation before cystitis has been established, the operator should endeavor to remove the prostate without opening the urethra or the bladder. In closing, the author wishes to urge upon his confreres the importance of the early recognition of obstructing prostatic hypertrophy, and also that they should submit these patients to a radical operation before the cystitis, prolonged pain, infection and fatigue have put them in a condition where they are unfit to undergo a surgical operation.

The Worship of Æsculapius compared with Christian Science.—In the treatment of many diseases, at Epidaurus, Athens, and other places in Greece where temples were erected to Æsculapius, much attention was devoted by the priests to a regulated diet and

good hygiene, as well as the use of various medicines. They seem to have been quite successful in curing gout. Dr. Barnes says, in a paper on "Roman Medicine and Roman Medical Practitioners": "We find the priests prescribing plain food, hot and cold baths, active gymnastic exercises, counter-irritation, and a great variety of medicaments. The following thanksgiving of one cured of the gout is interesting: "Oh! blessed Asklepios, god of healing, it is thanks to thy skill that Diaphantes, relieved of his incurable and horrible gout, no longer moves like a crab, no longer will walk upon thorns but has a sound foot, as thou hast ordained." Cicero, the great Roman orator, evidently thought the worship of Æsculapius more conducive to health than taking physic, for he says "Nec ego multorum ægrorum salutem non ab Hippocrate potius quam ab Æsculapio datam judico." Recently a Christian Scientist emphasized the same idea in another form, for he avowed that he had been cured of life-long eczema, gout, and various other diseases, including a fondness for *liquor and tobacco,* by Christian Science. He had been treated by Drs. Startin and Shortt, dermatologists in England, without a permanent cure of his eczema being effected. Within a year after coming into Christian Science the eczema disappeared. The gout, a concomitant of eczema, had returned for a short time. This result, the witness contended, had been attained by Christian Science. All of which is seemingly true. Had he lived a couple of thousand years ago, he might, after spending a season at Epidaurus, have ascribed the cure of his gouty eczema to Asklepios.

An Alien Trained Nurse.—We are indebted to the editor of the *Detroit Medical Journal* for a novel application of the word "alien," and a good laugh, by the way. In an editorial which appeared in the September number of that journal, a disparaging allusion was made to the nurse, who waited on the late President. The distinguished patient was said to have been "left to the rule of thumb care of an alien trained attendant." To understand this criticism aright, it may be remarked that the nurse referred to, Miss Mohan, is a Canadian by birth, though she received her training at Buffalo General Hospital. Obviously the Detroit editor's criticism was a slap at the professional qualifications of the nurse, as well as a reflection on the medical men who placed her in charge of their patient. As no evidence obtainable so far

shows that Miss Mohan performed her duties "by the rule of thumb," the substantial portion of this charge proves to be a work of the imagination. That she is an "alien" is true enough, and we are delighted to know that Canadian nurses in the United States do not find their alienism a bar to preferment. In the October number of the *Detroit Medical Journal,* the editor explains that he did not employ the word alien in its ordinary meaning, "foreign," "not native." He meant to say that Miss Mohan was alien to Buffalo, as was necessarily the case, when she was imported from Washington, D.C.

Adulteration of Effervescent Sodium Phosphate.—Of the 64 samples of effervescent sodium phosphate which had been purchased in different pharmacies, all over the Dominion, only 13, or 20 per cent., have been found genuine by the district analyst. The greater number of the adulterated samples have been so characterized because they do not correspond with the requirements of the British Pharmacopeia. Mr. McGill shows that a freshly-prepared sample of effervescent phosphate of sodium should contain 10 per cent. of its weight of P2 O5. Of the 64 samples analyzed, three are not effervescent phosphate. The remaining 61 show the following results, as far as phosphoric acid is concerned:

Less than	2	per cent.	P_2O_5	2	Samples.
"	3	"	"	4	"
"	4	"	"	4	"
"	5	"	"	10	"
"	6	"	"	13	"
"	7	"	"	7	"
"	8	"	"	2	"
"	9	"	"	4	"
"	10	"	"	9	"
"	11	"	"	3	"
"	18	"	"	3	"
				61	

Alkaline citrates and tartrates are possessed of purgative properties, and it is supposable that in some of the above instances they may replace the phosphate of sodium, as far as medicinal properties are concerned; but, then, the purchaser of effervescent sodium phosphate, which is now defined in the British Pharmacopeia, is entitled to receive the article he asks for, and not a substitute.

Alcohol or Strychnine in Pneumonia.—The clinical uses of strychnine are multiplying to an extraordinary degree. In pneumonia it renders very good service, so much so that some practitioners are substituting it for alcohol in that disease. There is really no conflict between these two drugs, each of which has its advantages. Although generations of physicians succeed each other, no routine treatment has yet been discovered for pneumonia, in which the principal object is to support the powers of life until the crisis is passed. Alcohol has considerable food value, lessens waste and improves appetite and digestion. Given in small regulated doses, viz., 1-2 oz. of whisky every three or four hours, it is of the greatest value; pushed to excess, it may cause coma, although there is certainly great tolerance of alcohol in pneumonia. Some practitioners begin the administration of strychnine, per os, at the outset of a case of pneumonia, giving 1-30th to 1-15th of a grain every four hours, and continue it throughout the disease. Should urgent need for stimulation arise, the drug is given hypodermically, in doses of 1-15th of a grain every two or three hours. Modern authorities commend it highly. "In no other disease does strychnine possess greater potency for good than in pneumonia, if wisely employed" (Anders).

To Repress Reckless Expectoration.—Section 194 of the Sanitary Code of New York City forbids, under penalty of fine or imprisonment, spitting on the floors of public buildings, or in cars and ferry-boats. Inspectors have also been appointed to discover those who violate this rule. The passage of a similar code would be in order now in Toronto. Smokers and chewers of tobacco would object; but in public buildings and in cars where people are obliged to come in close contact, the rights of the few should be subordinated to those of the many. All public schools should be equipped with spittoons, so that children may be taught in time to dispose of their sputa properly.

Dr. C. A. Hodgetts was appointed, on November 5th, Medical Health Officer for the unorganized districts of Ontario.

The *Alkaloidal Clinic* makes a very generous offer to every new subscriber in page advertisement appearing in this issue. Turn to their advertising page, Doctor, and read their proposition. It will be to your interest.

The Physician's Library.

BOOK REVIEWS.

Nothnagel's Encyclopedia of Practical Medicine. Edited by ALFRED STENGEL, M.D., Professor of Clinical Medicine in the University of Pennsylvania; Visiting Physician to the Pennsylvania Hospital.

It is universally acknowledged that the Germans lead the world in internal medicine; and of all the German works on this subject Nothnagel's "Encyclopedia of Special Pathology and Therapeutics" is conceded by scholars to be, without question, the best system of medicine in existence. So necessary is this book in the study of internal medicine that it comes largely to this country in the original German. In view of these facts, Messrs. W. B. Saunders & Company have arranged with the publishers to issue at once an authorized edition of this great encyclopedia of medicine in English.

For the present a set of some ten or twelve volumes, representing the most practical part of this encyclopedia, and selected with especial thought of the needs of the practical physician, will be published. The volume will contain the real essence of the entire work, and the purchaser will therefore obtain at less than half the cost the cream of the original. Later the special and more strictly scientific volumes will be offered from time to time.

The work will be translated by men possessing thorough knowledge of both English and German.

Each volume will be edited by a prominent specialist on the subject to which it is devoted. It will thus be brought thoroughly up-to-date.

The American edition will be more than a mere translation of the German; for, in addition to the matter contained in the original, it will represent the very latest views of the leading American specialists in the various departments of internal medicine. The whole system will be under the editorial supervision of Dr. Alfred Stengel, who will select the subjects for the American edition, and will choose the editors of the different volumes.

Unlike most encyclopedias, the publication of this work will not be extended over a number of years, but five or six volumes will be issued during the coming year, and the remainder of the

series at the same rate. Moreover, each volume will be revised to the date of its publication by the American editor. This will obviate the objection that has heretofore existed to systems published in a number of volumes, since the subscriber will receive the completed work while the earlier volumes are still fresh.

The usual method of publishers, when issuing a work of this kind, has been to compel physicians to take the entire system. This seems to us in many cases to be undesirable. Therefore, in purchasing this encyclopedia, physicians will be given the opportunity of subscribing for the entire system at one time; but any single volume or any number of volumes may be obtained by those who do not desire the complete series. This latter method, while not so profitable to the publisher, offers to the purchaser many advantages, which will be appreciated by those who do not care to subscribe for the entire work at one time.

This American edition of Nothnagel's Encyclopedia will, without question, form the greatest System of Medicine ever produced, and the publishers feel confident that it will meet with general favor in the medical profession. (Reprint from publishers.)

A Treatise on Surgery by American Authors. For Students and Practitioners of Medicine and Surgery. Edited by ROSWELL PARK, M.D., Professor of Surgery in the University of Buffalo, N.Y. New (3rd) edition, in one royal octavo volume of 1,350 pages, with 692 engravings and 64 full-page plates, in colors and monochrome. Cloth, $7.00 net; leather, $8.00 net. Philadelphia and New York: Lea Brothers & Co.

When the third edition of Roswell Park's Surgery reached us, we at once noticed that it was a most imposing volume, and, if appearances were everything, to see the book would alone be a great temptation to purchase it. Looks, however, are not everything, especially in medical literature, and the material contained within the cover boards is what must be judged. All that is required in the case of this book to enable one to judge, is to choose almost any chapter and read it carefully, when the only conclusion that can be come to as to the value of the work is that few textbooks on the Practice of Surgery have appeared in recent years which will meet with more popular professional approval than that edited by Dr. Roswell Park. It is but two years since the second edition was placed in the hands of the profession, and yet a third is called for. There are medical books published in several editions, the trouble being, however, that very little revision is made in each, so that one buying a second or third edition is very little better off in the end. Not so with Park's Surgery. The editor states in his preface that his book has been "thoroughly revised," and he speaks truly, as almost every chapter has been gone

over carefully, and the changes called for made, until the purchaser of edition No. 3 secures what is practically an entirely new work. There are well on to 700 pictures throughout the volume (nearly double the number appearing in the last edition), so that it is profusely illustrated. The full-page plates are exceedingly beautiful, their execution being most correct in detail.

In the list of collaborators, the places of Drs. J. H. Etheridge and H. H. Mudd, who, since the publication of the last edition, have "crossed that bourne whence no traveller returns," have been filled most acceptably by others almost as well known to the profession. Dr. I. P. Lyon has contributed an able chapter on Blood Examination Applied to Surgery, a subject of considerable and daily increasing importance. Dr. Park and his contributors deserve hearty congratulation on the result of their labors.

W. A. Y.

A Practical Treatise on Diseases of the Skin. By JOHN V. SHOEMAKER, M.D., LL.D., Professor of Skin and Venereal Diseases in the Medico-Chirurgical College and Hospital, of Philadelphia; Physician to the Philadelphia Hospital for Diseases of the Skin; Member of the American Medical Association, of the Pennsylvania and Minnesota State Medical Societies, American Academy of Medicine, and of the British Medical Association; Fellow of the Medical Society of London. Fourth edition, revised and enlarged, with chromogravure plates and other illustrations. New York: D. Appleton & Company. 1901.

To the general practitioner, as well as the dermatologist, Dr. Shoemaker offers an excellent work of reference. His extensive knowledge of the science and art of medicine, as well as his specialty, enable him to present the subject of skin diseases in a very full and discursive manner. One does not like to criticise a work exhibiting so many excellencies, but it seems that the author, who is now recognized as an authority on dermatology, would be justified in presenting his own views as to the treatment of a disease without reference to the opinions of other writers or their formulæ. A multiplicity of formulæ is not conducive to accuracy in prescribing, and is a burden to the memory.

In the first part of this work are to be found well-written chapters on the anatomy and physiology of the skin, and the symptomatology, diagnosis, pathology, etiology and treatment of skin diseases. In the second part the author adopts a modification of Hebra's well-known classification of skin diseases, as being the most commonly accepted system now in vogue. In the third part may be found an extensive collection of formulæ.

Several fine chromogravures appear in the work, exhibiting cases of psoriasis, lupus, alopecia areata, dermatitis venenata, pem-

phigus, etc. The more of that form of describing a disease of the skin we get in a book on dermatology the better we like it. The publishers deserve credit for the handsome appearance of the book.

J. J. C.

A Text-Book of Pharmacology. Including Therapeutics, Materia Medica, Pharmacy, Prescription-Writing, Toxicology, etc. By TORALD SOLLMANN, M.D., Assistant Professor of Pharmacology and Materia Medica, Western Reserve University, Cleveland, Ohio. Royal octavo volume of 880 pages, fully illustrated. Philadelphia and London: W. B. Saunders & Company. 1901. Cloth, $3.75 net. Canadian Agents: J A. Carveth & Co., Toronto.

It has to be admitted that there is frequently too lax a system of teaching in the majority of our medical schools and universities, upon that important subject, pharmacology. Students, as they graduate at the termination of their five-years' course do not have a sufficiently intricate knowledge of drugs and their action to enable them to treat and watch the course of many diseases in their different phases while under the influence, physiologically, of the various drugs. In this connection we may say that it is a most valuable thing for a medical student to, if possible, spend a year or more in a drug store, as such work will so acquaint him with drugs and the manufacture of their different preparations as to give him often the whip-hand over those of his fellow-practitioners who have not had that practical experience. Sollmann's Pharmacology will be found to be eminently practical, the author having had in mind that an intimate relation exists at all times between pharmacology and the practice of medicine. He has been careful not to go into unnecessary details, and has laid stress upon, what is most important to the physician having the life of his patient in his hands, the *accurate* use of drugs, as without accuracy there cannot be efficiency. We read with profit the chapter upon prescribing, and found it most instructive. The section upon toxicologic analysis is well worth reading.

A Reference Hand-Book of the Medical Sciences, embracing the entire range of scientific and practical medicine and allied science, by various writers. A new edition, completely revised and rewritten. Edited by ALBERT H. BUCK, M.D., New York City. Volume III., illustrated by chromo lithographs and 676 halftone and wood engravings. New York: Wm. Wood & Co. 1901.

The publishers of this splendid work are to be congratulated upon the fact that but a month or two have elapsed since Volume II. appeared. It is no small achievement for any firm to get out a series of volumes as large and massive as those of The Reference

Hand-Book of the Medical Sciences, and were the publishers not among the largest and most responsible in the country, such prompt delivery could not be accomplished. We find that such names as the following appear in the list of contributors to Vol. III.: Drs. T. L. Bennett, of New York; Walter A. Bastedo, of New York; R. P. Bigelow, of Boston; Peter H. Bryce, of Toronto; L. D. Bulkley, of New York; Frank Buller, of Montreal; Charles H. Burnett, of Philadelphia; C. G. Coakley, of New York; Allan McLane Hamilton, of New York; Frederick G. Finlay, of Montreal; St. John Roosa, of New York; Beaumont Small, of Ottawa; and Grover W. Wende, of Buffalo, N.Y.

Volume III. comprises from Chloralamid to Equilibrium, so that it is at once seen what a wealth of information must be contained within its cover boards. It would be a very difficult matter to select any scientific subject of medical interest that is not at least touched upon or referred to at length. Almost everything in pharmacology, anatomy, physiology, medical dentition, dermatology, and a vast number of other subjects between the letters C and E, will be found in the volume, so that the book is in reality an encyclopedia or a dictionary on a comprehensive scale, a work that will be found to be invaluable for reference by a physician who may not, just then, have at his disposal the leisure to consult the text-book giving what he wants but at too great length. If the rest of the volumes of The Reference Hand-Book are as complete and thorough as Vols. I., II. and III., it will be a wonderfully valuable addition to medical literature. W. A. Y.

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

Another edition, revised and enlarged, of this deservedly popular and excellent manual of obstetrics will be welcomed, especially by students of medicine and busy practitioners. The general lines and divisions of the first edition which was so cordially and favorably received by the medical profession have been maintained, but the present work has been thoroughly revised, largely rewritten and considerably enlarged. The text is further elucidated by the addition of numerous new illustrations, many of them being original and highly commendable. Recent pathology and bacteriology of the many morbid conditions encountered in obstetrics have been given full attention. The chapters on the physiology and hygiene of pregnancy and labor, as well as those descriptive

of the physiology and management of the new-born, and infant mortality, are quite scientific, instructive, and add materially to the value of the manual. By the addition of several new sections, including serum therapy, the surgical treatment of puerperal sepsis, placental transmission of disease, and the role of the liver in the production of puerperal eclampsia, the work emphatically perpetuates the title of "modern obstetrics." A strong reaction in the profession has developed against the old-established theory of attributing all cases of puerperal eclampsia to a renal inadequacy; the present tendency is to ascribe the albuminuria and convulsive seizures to the same cause, an autointoxication, the liver being the offending organ in which the poison is developed. This theory is given due weight, and is scientifically discussed in this edition. The subject-matter of the work is arranged with skill, and is written in a clear and forcible style, its descriptions being comprehensive, yet not too detailed. Its teaching is decidedly clinical and practical, whilst due consideration is given to all physiological and pathological obstetric conditions. We feel sure that the warm reception given this first edition will be none the less enthusiastic over the present one. G. T. M'K.

International Clinics, a quarterly of Clinical Lectures and especially prepared articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose and Throat, and other topics of interest to students and practitioners, by leading members of the medical profession throughout the world. Edited by HENRY W. CATTELL, M.D., Philadelphia, with collaboration of John B. Murphy, M.D., Chicago; Alex. D. Blackader, M.D., Montreal; H. C. Wood, M.D., Philadelphia; T. M. Rotch, M.D., Boston; E. Landolt, M.D., Paris; Thos. G. Morton, M.D., and Chas. H. Reed, M.D., Philadelphia; J. W. Ballantyne, M.D., Edinburgh; and John Harold, M.D., London; with regular correspondents in Montreal, London, Paris, Leipsic and Vienna. Vol. III., eleventh series. 1901. Philadelphia: J. B. Lippincott Co. Sole Canadian Agent: Charles Roberts, 1524 Ontario Street, Montreal.

Among the list of contributors to Vol. III. of Series XI., International Clinics, appear such names as Drs. John Abercrombie, of Charing Cross Hospital, London; W. H. Battle, of St. Thomas' Hospital; D. R. Brower, of Rush College, Chicago; Solis Cohen, of Philadelphia; T. D. Crothers, of Hartford; J. B. Deaver, of Philadelphia; Edebohls, of the N. Y. Post-Graduate; Thos. H. Manley, of New York; and A. H. Tubby, of London. It will therefore be seen that to judge alone from the standing and the ability of writers for Volume III., it must be one of the best yet issued.

We read, among other lectures, that by our friend and collaborator, Dr. Thos. H. Manley, Professor of Surgery in the New York School of Clinical Medicine, upon "Strangulated and Gangrenous Hernia." This lecture covers about fifteen pages, and is written in a thoroughly practical manner, being well and profusely illustrated with half-tones of gangrenous gut, the operation for anastomosis, etc., etc. This contribution by Dr. Manley to Volume III. is but another evidence of his ability as a specialist in intestinal surgery.

Volume III is a capital one, and fully up to its predecessors.

W. A. Y.

Atlas and Epitome of Bacteriology. A Text-Book of Special Bacteriologic Diagnosis. By Professor Dr. K. B. LEHMANN, Director of the Hygienic Institute in Wurzburg; and R. O. NEUMANN, Dr. Phil. and Med., Assistant in the Hygienic Institute in Wurzburg. From the second enlarged and revised German edition. Edited by GEORGE H. WEAVER, M.D., Assistant Professor of Pathology, Rush Medical College, Chicago. In two volumes. Part I., consisting of 632 colored figures on 69 lithographic plates. Part II., consisting of 511 pages of text, illustrated. Philadelphia and London: W. B. Saunders & Co. 1901. Cloth, $5.00 net. Canadian Agents: J. A. Carveth & Co., Toronto.

We do not think that we will be considered at all fulsome when we state that for a long time there has not been published in any country a series of books which are as valuable to the busy practitioner as Saunders' Medical Hand-Atlases. With such an atlas for reference, it is a very simple matter indeed for the physician to pick up points of the utmost value to him in an exceedingly short period, whereas, had he to study his subject through the channels of the ordinary text-book, he would not only have to spend a much longer time, but, we fear, have the subject impressed upon him in a far more cursory fashion. As we have stated before in our review columns, the value of any book, be it a text-book, handbook, or atlas, is very greatly added to by well executed illustrations, and more especially so when so delicately colored as are many of the plates in Saunders' Medical Hand-Atlases.

The Atlas of Bacteriology is divided into two volumes. Vol. I. is the Atlas proper, and Vol. II. the text. For those doing original work, we can safely say that these two volumes will prove of the greatest value. The colored plates could hardly be improved upon, and if the cost of the presswork alone of Vol. I. is considered, it will be seen that the price charged for the work as a whole, $5.00, is exceedingly cheap indeed. Vol. II. is subdivided into two sections, the first treating of general and the second of special bacteriology.

Human Physiology. Prepared with Special Reference to Students of Medicine. By JOSEPH HOWARD RAYMOND, A.M., M.D., Professor of Physiology and Hygiene in the Long Island Hospital, and Director of Physiology in Hoagland Laboratory, New York City. Second edition, entirely rewritten and greatly enlarged. Handsome octavo volume of 668 pages, 443 illustrations, 12 of them in colors, and 4 full-page lithographic plates. Philadelphia and London: W. B. Saunders & Company. 1901. Cloth, $3.50 net. Canadian Agents: J. A. Carveth & Co., Toronto.

In many branches of medical study, there is almost a surplus of literature. In fact, some subjects are "written to death," rendering it no easy task for many to expend the amount necessary to buy all of the books as they come off the press. On the other hand, Human Physiology is a subject which few authors, many of whom are well able to undertake the work, feel inclined to write upon. It seems almost strange that such should be, as that subject is the basis of all medical study, in fact is the groundwork for all future achievement in the study of medicine and surgery.

We do not hesitate to say that Professor Raymond's book on physiology, especially his second edition, is one which will be found to be a most acceptable addition to the literature already available on the subject. We have read with more than usual pleasure the chapter devoted to the reproductive functions. In it we find that Dr. Raymond impresses his readers with the variety of opinions held as to the relation of menstruation to evolution. Laryngologists will read with interest what he says on voice production, in connection with which Professor French devotes some space to that most interesting topic, laryngeal photography. The effect of alcohol upon mouth and gastric digestion, the subject of deglutition, and the gastric movements, shown by the use of the X-Ray, are given considerable space. The book is, above all, practical, that alone recommending it as one worth possessing.

The Practice of Obstetrics. By American Authors. Edited by CHAS. JEWETT, M.D., Professor of Obstetrics and Gynecology in the Long Island College Hospital, New York. Second edition, revised and enlarged. Illustrated with 445 engravings, 48 of which are in colors, and 36 colored plates. New York and Philadelphia: Lea Brothers & Co.

It is about two years now since the first edition of this work came from the press, and yet the author is called upon to rewrite it. This is an honor not accorded to every one, and goes to show that Dr. Jewett contributed to medical literature something worth while.

In the second edition we find a book considerably larger than

its predecessor, beautifully printed, with excellent illustrations, which would do credit to any publishing house in America. The section devoted to the Pathology of Pregnancy we perused with care and a considerable amount of pleasure, a great deal of it not being found in the first edition. The chapter by Dr. Henrotin, of Chicago, is particularly well written, and presents the subject of ectopic gestation fully and most practically. Part VIII. is devoted to obstetric surgery, those contributing to this department being, besides the author, Drs. Hunter Robb and John O. Polak. The chapter on the induction of abortion and of premature labor covering 13 or 14 pages, is just as practical as anything we have read upon that subject. We cannot resist congratulating our old friend and countryman, Dr. Clarence Webster, now of Chicago, upon his contribution to the book, dealing with the Anomalies of the Mechanism of Labor. Over and above those already mentioned, the following names appear also as contributors: Drs. J. W. Williams, H. N. Vineberg, J. M. Van Cott, C. D. Palmer, W. P. Manton, Allan McLane Hamilton, J. C. Edgar, R. L. Dickenson, Montgomery Crockett, Henry Dwight Chapin, J. C. Cameron, A. H. Buckmaster, A. T. Bristow and E. H. Bartley.

Text-Book of Bacteriology. By GEORGE M. STERNBERG, M.D., LL.D., Surgeon-General U. S. Army. New York: William Wood & Co.

After five years we have a new edition of Sternberg's Bacteriology, somewhat smaller in bulk, perhaps, than the manual which appeared in 1892, and is practically the first edition of this work, but still a very considerable volume; although a good deal has been omitted which appeared in 1892, additional chapters have been added. This edition is evidently an attempt to strike a happy medium between a small laboratory work and a manual on the subject, and we doubt very much if it is successful.

The early chapters on morphology, classification, methods of staining and methods of culture, are much as they were in the earlier editions; some portions might very well have been left out, others might certainly have been extended. For instance, it is a great pity that the author omitted the methods of preparation of culture media recommended by the meeting of American Bacteriologists which has rendered the work in American laboratories so exact.

The same criticism applies to other portions of the book. When, for instance, we examine the new chapter on protective inoculation, we find that the discussion of the literature up to a certain point is almost too full, yet recent and important work, especially on diphtheria, is absent.

We are certainly disappointed with this book; it practically shows no advance since 1896, and very little since 1892, the date

of the Manual. It would have been better if the author had considered seriously the question of rewriting many portions of the book, and in the case of special sections handing the work over to selected specialists, as was done with Flugge's Text-Book when it was necessary to issue a new edition of that work. J. J. M.

The Principles of Hygiene: A Practical Manual for Students, Physicians, and Health Officers. By D. H. BERGEY, A.M., M.D., First Assistant, Laboratory of Hygiene, University of Pennsylvania. Octavo volume of 495 pages, illustrated. Philadelphia and London: W. B. Saunders & Company. 1901. Cloth, $3.00 net. Canadian agents: J. A. Carveth & Co., Toronto.

This book is not an exhaustive treatise on the various subjects included under the name of hygiene, but is intended to convey a knowledge of the underlying principles upon which hygienic practices are based. It is quite modern, containing references to the latest discoveries, and presents up-to-date views of the subject. The chapter on ventilation is very readable, the latest opinions being well and clearly stated. The chapter on heating contains all that can be usefully said on that subject.

In Chapter III., Food and Dieting, we have found much interesting information. The nutritive value and cost of food, as given by Professor Atwater, are presented. It must be conceded that, in the present condition of medical practice, when Hippocrates seems to be yielding to Æsculapius, a good working knowledge of food values is a useful part of the practitioner's educational outfit. In reference to important subjects, viz., disinfection, sewage disposal, and purification of water, the information given is precise and valuable.

The quarantine laws of the United States are given in full. The metric system is used throughout the book, but the relative values in terms of the English system are given in an appendix. Certainly a most useful book, not only to physicians, but to every well educated person. A copy should be found in the library of every newspaper in Canada. J. J. C.

Anatomy, Descriptive and Surgical. By HENRY GRAY, F.R.S., Lecturer on Anatomy in St. George's Hospital, London. Thoroughly revised American from the 15th English edition. In one imperial octavo volume of 1246 pages, with 780 illustrations. Price, with illustrations in black, cloth, $5.50 net; leather, $6.50 net. Price, with illustrations in colors, cloth, $6.25 net; leather, $7.25 net. Philadelphia: Lea Bros. & Co.

It can be safely asserted that there are few, very few, of the younger practitioners of to-day who do not have reason to remem-

ber Gray's Anatomy. This work has for many years been looked upon as the best book extant on the subject of anatomy, both descriptive and surgical. It is true that the edition in use when many of us labored in the dissecting room over the tangles of the brachial plexus, or tried to fathom the difficulti s of the pons varolii, or still worse, the ventricles of the brain, was not by any means as complete as the one now under consideration, but as a standard work, one on which the medical student could place all reliance, to take the necessary number of marks, or even pass a brilliant examination, Gray's Anatomy took first place. We find in the new fifteenth edition that almost every chapter has been gone over and in many places additions of value have been made. The sections upon the brain and nervous system, as also that on embryology, have been almost rewritten, and a large number of colored illustrations added, giving the book a peculiarly handsome appearance, and one which in point of detail could hardly be excelled. There is little fear that the work will be superseded by any other of greater merit. W. A. Y.

Murray: Thyroid Gland. Part I., 112 pages. Price, 7s. 6d. London: H. K. Lewis, 136 Gower Street.

The book before us is the first instalment of a work upon the thyroid gland, by Professor George R. Murray, of Newcastle, in which he embodies not only his own researches, but also a very complete discussion of the work and observations of others. The whole work constitutes really an extension of the author's Goulstonian Lecture, and the article upon diseases of the thyroid gland in the Twentieth Century Practice of Medicine.

Part I. deals first with the histology and physiology of the gland, with a very full discussion on the results of the experimental removal of the gland in animals. The remaining chapters of this part are devoted to the pathology and treatment of myxedema and cretinism. The book promises to be a most complete and scientific monograph. The illustrations are all from original photographs, and are well reproduced. J. J. M.

A Text-Book of Diseases of Women. By Charles B. Penrose, Ph.D., formerly Professor of Gynecology in the University of Pennsylvania; Surgeon to the Gynecean Hospital, Philadelphia. With 221 illustrations. Fourth edition, revised. Philadelphia and London: W. B. Saunders & Company, 1901. Toronto: J. A. Carveth & Co. Price, $3.75.

In March, 1900, we had the pleasure of reviewing the third edition of Dr. Penrose's work on Diseases of Women, and congratulate the author on the necessity for a fourth edition. To keep pace, in a published work, with the growth and development

of the science and art one has taught, is indeed a pleasure. In this book-loving age, the number of books on diseases of women is not small, and authors have not been slow to recommend and picture a great variety of operations for the same lesion. The prevailing excellence of Dr. Penrose's book is that he recommends but one plan of treatment for each disease, and for this the student and the general practitioner will forever hold him in grateful remembrance.

Such changes as have been rendered necessary by an increased knowledge of gynecology, appear in this edition, but the work has been carefully done, and there are just eight pages more of reading matter in the fourth than in the third edition. J. J. C.

Text-Book of Nervous Diseases, being a Compendium for the use of Students and Practitioners of Medicine. By CHAS. L. DANA, A.M., M.D., Professor of Nervous Diseases in Cornell University Medical College; Visiting Physician to Bellevue Hospital; Neurologist to Montefiore Hospital; ex-President of the American Neurological Association; Corresponding Member of the Societe de Neurologie, etc. Fifth edition. With 244 illustrations. New York: Wm. Wood & Co. 1901.

It is now four years, or thereabouts, since Dr. Dana had published the last edition of his work on nervous diseases. During that short length of time the book has received a most flattering reception at the hands of the profession, the author being looked upon as one of the chief exponents of neurology on this side of the Atlantic. The name of Dana has for a number of years been recognized as that of a specialist in nervous diseases, so that it is little wonder that anything proceeding from such an author would command respect. We have run over the fifth edition of the text-book, and find that the author has devoted a good deal of time to its revision. A chapter on general paresis will be found in this volume which did not appear in the fourth edition. It is very interesting, and makes an addition of value. We find lots of new illustrations, which also materially add to the work as one of reference. We feel that Edition V. will meet with the endorsement of many medical practitioners, resulting in a large and encouraging sale all over America.

A Laboratory Course in Bacteriology. For the use of Medical, Agricultural, and Industrial Students. By FREDERICK P. GORHAM, A.M., Professor of Biology, Brown University; Bacteriologist to the Health Department, Providence, R.I. 12mo volume, 198 pages, with 97 illustrations. Philadelphia and London: W. B. Saunders & Co. 1901. Cloth, $1.25 net.

Bacteriology is essentially a laboratory study. It is only by actual laboratory work that it can be taught in such a manner as

to serve any useful purpose. It is also a subject of very general scientific interest. Courses in bacteriology are no longer confined to the medical schools, but are being introduced into colleges and agricultural and industrial schools. This volume has been prepared as a guide to the practical details of laboratory work. It is intended to present the subject in such a general way as to lay a broad foundation for later specialization in any branch of bacteriology. By a judicious selection the course can be made to conform to the requirements of medical, agricultural, or industrial students.

The illustrations are practical, and will assist the student very much. There is a full list of stains and reagents used in the study of bacteria in the appendix, with their formulæ and mode of preparation. Also a description of bacterial measurements by photography, as recommended by Wilson and Randolph in the *Journal of Microscopy*. An excellent help to the laboratory student. J. A. Carveth & Co., Toronto, are the Canadian agents.

A. J. H.

Dose-Book and Manual of Prescription-Writing: with a list of the Official Drugs and Preparations, and the more important Newer Remedies. By E. Q. Thornton, M.D., Demonstrator of Therapeutics, Jefferson Medical College, Philadelphia. Second edition, revised and enlarged. Octavo, 362 pages, illustrated. Philadelphia and London: W. B. Saunders & Co. 1901. Bound in flexible leather, $2.00 net. Canadian Agents: J. A. Carveth & Co., Toronto.

During the seven years that have elapsed since the first edition of Dr. Thornton's Dose-Book was published, a vast number of changes have come about, not to speak of the additions being constantly made to what are known and spoken of as official drugs. For that reason, it is a wonder that the author did not bring out his revised edition sooner than he has done. His second edition is a great advance upon his first, being fuller and more complete in every way. The chapters devoted to "Prescription-Writing" and "Incompatibles" have been rewritten very largely, besides additions and changes to those sections devoted to vegetable drugs and organic extracts. In the appendix, chapters upon synonyms and poisons have also been added.

Practical Dietetics: Food Value of Meat. By W. R. C. Latson, M.D., Editor of *Health-Culture*. New York: The Health-Culture Co., Publishers, 503 Fifth Avenue.

What can I eat? This faces us at every turn, and the matter of meat-eating in particular is becoming an important subject for consideration. The question of the quality of meat products as now produced brings it before the public in a very practical way.

In this manual Dr. Latson makes a strong plea for the elimination of meat from the category of foodstuffs, as being unnecessary for the proper maintenance of physical and mental vigor. He goes on to show how all food elements found in meat can be obtained by the use of such products as cereals, nuts, vegetables, and fruits. The author calls attention to the fact that the flesh of animals is laden with poisonous waste, due to the constant breaking down of tissue, and this taken into the human body often causes weakness and disease. There are many interesting and valuable facts presented by the writer, and we certainly commend this booklet to the thoughtful reader. W. H. P.

A Text-Book on Obstetrics. By Barton Cooke Hirst, M.D., Professor of Obstetrics in the University of Pennsylvania. Third edition, thoroughly revised and enlarged. Royal octavo, 873 pages, with 704 illustrations, many of them in colors. Philadelphia and London: W. B. Saunders & Co. 1901. Cloth, $5.00 net. Canadian Agents: J. A. Carveth & Co., Toronto.

It is not by any means an easy matter for any one, desiring to purchase a work on obstetrics, to make a choice in a hurry, especially if he is desirous of securing something that is at the same time comprehensive, practical, and fully up-to-date. The reason that this is the case is simply that there are now a large number of books on obstetrics in print, almost all by good authors, and each one having within its covers the very best of material. Dr. Hirst's Text-Book of Obstetrics is no exception to the rule, as if there is one point about it worth special note it is that it is exceedingly practical, and that is what is wanted more than anything else. The third edition has been revised carefully and a lot of new material added. We find the chapter dealing with the pathology of labor and that on obstetric operations considerably larger than before. The feature of illustrations is also a notable one, and embellishes the book to quite a considerable extent, rendering its perusal more interesting and a great deal more instructive.

Atlas and Epitome of Special Pathological Histology. By Docent Dr. Hermann Durck, of the Pathological Institute of Munich. Edited by Ludvig Hektoen, M.D., Professor of Pathology in Rush Medical College, Chicago. Vol. II.—Liver, Urinary Organs, Sexual Organs, Nervous System, Skin, Muscles, Bones. With 123 colored illustrations on 60 lithographic plates and 192 pages of text. Philadelphia and London: W. B. Saunders & Co. 1901. Cloth, $3.00 net. Canadian Agents: J. A. Carveth & Co., Toronto.

Some little time ago, W. B. Saunders & Co. issued Volume I. of this atlas. That volume was devoted to circulatory organs, respir-

atory organs, and gastro-intestinal tract, with 62 colored plates. This volume covers the liver, urinary organs, sexual organs, nervous system, skin, muscles, and bones, and is embellished with no fewer than 123 colored illustrations. Volume II is the larger and, to the casual reader, the better and more complete of the two.

This series of atlases is now well known, and has met with a phenomenally large sale. It is little wonder that, looking at the enormous cost of production, the publishers were at first a little fearful; but we feel that they have found by this date that the medical profession appreciate and at once recognize a good thing in medical literature. In this series the illustrations form the strong point of attraction. In this atlas they are no exception to the rule, being excellent from every standpoint, and correct in the most minute detail, even to the colors which show the different staining processes.

Materia Medica, Pharmacy, Pharmacology and Therapeutics. By W. HALE WHITE, M.D., F.R.C.P., Physician to and Lecturer on Medicine at Guy's Hospital, London; Author of a Text-Book of General Therapeutics. Edited by REYNOLD W. WILCOX, M.A., M.D., LL.D., Professor of Medicine and Therapeutics at the New York Post-Graduate Medical School and Attending Physician to the Hospital; Visiting Physician to St. Mark's Hospital; President of the American Therapeutic Society; Fellow of the American Academy of Medicine, etc. Fifth American edition, thoroughly revised. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1901. Price, $3.00 net. Canadian Agents: The Chandler & Massey, Limited, Toronto.

We have read over carefully several chapters of Dr. White's Materia Medica, and from the first were impressed with the clearness of the author's method of expression, and the manner in which what, as a rule, is not the most interesting subject to read, is presented. It is a difficult matter to render any book on pharmacology and therapeutics attractive, there being so much that is dry and uninteresting. Dr. White has, however, overcome that, and has given the profession a book, not large and cumbersome, but one that, by being "short, sweet, and to the point," will be found readable and instructive alike to the medical student and the professional man.

Captain Ravenshaw. Toronto: The Copp, Clark Company.

The hero of the story, Captain Ravenshaw, is a professional soldier, not engaged on the tented field, but campaigning among the London taverns. Scorning to make an honest living, he is forced to resort to many diverting tricks and devices in order to

keep body and soul together. Whatever ill may be said of his morals, nothing but praise is due for his swordsmanship, which, if anything, borders on the marvellous. His ability to withstand for a considerable time the soporific effects of a stiff dose of opium is of a piece with his swordsmanship. The Captain at last finds his reward in the heart and hand of "the fair maid of Cheapside," who, in spite of his battered reputation, preferred him to an elderly dandy to whom her parents had betrothed her against her will for motives of worldly advancement. The dialogue flows very evenly, and without being noticeably archaic, has a marked Elizabethan flavor. We suppose that the Latin words on the book-cover, "Deus pascit corros," were meant to be "Deus pascit corvos."

J. J. C.

The Ready Reference Hand-Book of Diseases of the Skin. By GEO. THOS. JACKSON, M.D., Chief of Clinic and Instructor of Dermatology, College of Physicians and Surgeons, New York; Consulting Dermatologist to the Presbyterian Hospital, New York, and to the N.Y. Infirmary for Women and Children; Member of the American Dermatological Association and of the N. Y. Dermatological Society. Eighty illustrations and three plates. Fourth Edition, thoroughly revised. New York and Philadelphia: Lea Bros. & Co. 1901.

During the ten years (nearly) since the first edition of this hand-book, vast changes have taken place in the treatment of most, if not all, skin diseases. The study of dermatological diseases has considerably advanced, so that what was ten years or so ago an obscure condition and one most difficult to relieve, can now be treated and often cured in a very short space of time. Dr. Jackson has revised his hand-book with care, adding some colored plates and a few illustrations, till in its fourth edition it is almost more of a text-book than anything else. Among the diseases, a description of which has been added to this edition, are Lichen pilaris, Lichen annularis, Impetigo of Bockhardt, Granuloma Necrotica, Fordyce's diseases of the lips, Verruga, Peruana and others.

A Manual of the Practice of Medicine. By GEORGE ROE LOCKWOOD, M.D., Professor of Practice in the Woman's Medical College of the New York Infirmary. Second edition, revised and enlarged. Octavo volume of 847 pages, with 79 illustrations and 20 full-page plates. Philadelphia and London: W. B. Saunders & Company. 1901. Cloth, $4.00 net. Canadian Agents: J. A. Carveth & Co., Toronto.

We know of no better adjective to apply to the second edition of Lockwood's Practice of Medicine than "boiled down." The great trouble with works upon this subject has been that they are far too lengthy, and that the authors "lose themselves" and forget

that their readers are not anxious for bulk, but on the other hand are specially desirous of securing only what is practical and will assist them in their everyday work and labor. Dr. Lockwood has borne this in mind, and wisely so, and any one taking up his last edition will agree with us that the author has dispensed with theory and adhered to terse facts. New chapters have been added on gastroptosis, Reichmann's disease, and bubonic plague, the balance being rearranged and in many parts rewritten.

The Pathology and Treatment of Sexual Impotence. By VICTOR G. VECKI, M.D. Third edition, revised and enlarged. Philadelphia and London: W. B. Saunders & Company. 1901.

This important branch of study has been certainly overlooked for how few students of medicine to-day ever see any literature on this subject. Yet we are constantly being consulted along these lines. The author discusses the whole subject of sexual impotence in a very searching and scientific manner. We believe the former edition was exhausted in less than two years. In this edition the book has been thoroughly revised, new matter added, especially to the portion relating to treatment, and we can recommend the work as a scholarly treatise on its subject. We wish to add that J. A. Carveth & Co., Canadian Agents, are handling it at the moderate sum of $2.00. W. H. P.

The Physician's Visiting List (Lindsay and Blakiston) for 1902. Fifty-first year of its publication. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street.

For any firm of publishers to be able to boast that for over half a century they had been publishing each and every year a book, be it a text-book or visiting list, is a sufficient guarantee that that book must be nearly "all right." This can be said of Blakiston's Visiting List, and now for the fifty-first year in succession it is placed in the hands of the profession. In addition to the table of signs, and metric decimal system of weights and measures, besides a dose table, the publishers devote two pages to the consideration of asphyxia and apnœa, and give a table for calculating the period of utero-gestation. Physicians can secure this visiting list either in the regular edition, suitable for 25 to 100 patients a week, or a perpetual or monthly edition, the prices ranging from $1.00 to $2.25.

D'Ri and I. By IRVING BACHELLER, author of "Eben Holden." Toronto: William Briggs.

Very prettily bound, and writ large and clear upon the page is this tale of pioneer days along the shores of the great St. Lawrence. The story abounds with incident—"strenuous life," if you like it—in fact here and there a chapter that is almost a hair-curler, then a bit of delightful description. The places men-

tioned, interwoven with the action of the period, are very familiar to the Canadian reader, and some of the incidents a part of the history of almost a century ago. The book is proving itself to be of interest to a varied class of readers. Already the sale has been large, and the book "D'Ri and I," should find itself among the Christmas gifts of the fifteen-year-old "hopeful" who in these days represents the adventurous and "Tommy Atkin" propensities of the family. W. A. Y.

Circumstance. By S. Weir Mitchell, M.D. Toronto: The Copp, Clark Company, Limited. Cloth.

Less voluminous than "Dr. North and His Friends," simpler than "Hugh Wynne, Quaker," yet a story that interests and charms. The physician still lives in the author as he carefully diagnoses a few more types of men and women—the crafty adventuress, the poor victim of heredity, the charming yet "cat-like" society bud, the Anglican priest, in whose very weakness and foibles lies his strength, the splendid young physician, and the rugged medico. What a pleasant hour we spent with them all! Such a company do not often drop in to keep us from our forty winks. Bid them welcome, Canadian doctor, around your Christmas fireside. W. A. Y.

Elements of Practical Medicine. By Alfred H. Carter, M.D., M.Sc., Fellow of the Royal College of Physicians, London; Professor of Medicine, University of Birmingham, etc., etc. Eighth edition. London: H. K. Lewis, 136 Gower Street, W. C. 1901.

Being merely an introduction to the study of medicine, this work is intended chiefly for students. It is a short, practical text-book, is well written, and contains very little useless matter. Such books can not take the place of the more elaborate and complete text-books or systems of medicine, but are useful aids for beginners.

A Manual of Diseases of the Nose and Throat. By Cornelius Coakley, A.M., M.D., Professor of Laryngology in the University and Bellevue Hospital Medical College, New York City. Second edition, revised and enlarged. New York and Philadelphia: Lea Brothers & Co., 1901.

The first edition was characterized by the clearness of the typography, the number and excellence of the illustrations and plates, and the care taken in the selection of therapeutic measures and operations indicated in various disease conditions. This is no "Sunday Illustrated." The second edition differs chiefly in the addition of a dozen illustrations, and a chapter on the affections of the upper respiratory tract in the infectious diseases.

J. M. M.