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RETROSPECT, ASPECT, AND PROSPECT IN MEDICAL SCIENCE.

BY PROF. A. B. MACALLUM.

(Continued from page 732, October issue.)

WE have had with us from time immemorial that disease, tuberculosis, of which annually more people die in America alone than of cholera in the whole world. It is indeed the scourge of the race. When cholera threatens to invade us we become vastly alarmed, and every agency employable by the state for that purpose is utilized to prevent its advent, while we regard with apathy the ravages of tuberculosis, on the plea that nothing can be done. Although it is a disease that is on the increase, and although its causation was definitely determined over eleven years ago, no civilized government has, so far as I am aware, directly encouraged any research with the object of finding a cure, preventing its spread, or stamping it out altogether. Had scientific facts indicated it to be incurable, we might have an excuse for our apathy; but facts point in the contrary direction, and show that a number recover on hygienic treatment alone. When I say that no government has favored research in tuberculosis, I

omitted to mention that the national government of the United States has, through its Bureau of Animal Industry, taken up the question of tuberculosis in cattle. That does not need any comment.

Why should not tuberculosis, typhoid fever, diphtheria, scarlet fever, and other zymotic diseases be the subjects of research carried on under state control and by state aid? When the state institutes investigations into hog cholera and cattle plagues, surely it ought to do no less for diseases of the human subject. It is true that the state has attempted to extend its functions in the direction of the prevention of disease through its sanitary officials; but so long as the number of deaths per annum preventable by ordinary means is more than two thousand for every million of people, it is evident that the state has not done its duty fully.

It is interesting to compare the aid extended by the public to theological and technical education with that granted, for the same purpose, to medicine. According to Dr. Gould, the editor of the Philadelphia *Medical News*, there is, in the United States, a sum of between seventeen and eighteen millions of dollars invested in theological education, while there is less than half a million invested in medical education. In Ontario, according to the estimates I have in hand, the figures are, respectively, \$2,100,000 and \$85,000. The amount invested in technical education in the United States it is difficult to estimate, but is undoubtedly a vast sum. In this province the amount given to aid agricultural and mechanical instruction and civil engineering reaches the neighborhood of \$300,000, and this from the state. It may be urged that whatever is given to hospitals should be considered under the head of medical education; but if it could be shown that they always serve that purpose, the contention would be, in some respects, a valid one. But who will contend that this very indirect aid, if it is that, is the equivalent of that granted to instruction in mining, mechanical and civil engineering, and to agricultural education? When millions are given voluntarily by the people to the support of instruction in the various denominational theologies, the state ought surely to presume to give a fraction of such a sum to aid that which is, in the language of the Marquis of Salisbury, "the most sober, the most absolute, the most positive of all the sciences."

Now, let us turn from the dark to the bright side of this picture. What of the future? I have already pointed out how all the sciences which lie at the foundation of medicine have progressed during the last thirty years, and I have stated that the present abundance of publications containing original observations on subjects within the provinces of these sciences indicates that a host of enthusiastic workers are directing their energies to problems, the solution of some of which would be of inestimable importance to the welfare of mankind. Just as it has been in the

past thirty years, so in the coming generation will there be a steady increase in all our knowledge along this line. Indeed, within the next ten years some subjects, as, *e.g.*, bacteriology, as it is now understood, will be worked out—that is, we will know the substantially important facts connected with it—and there will remain questions of minor importance only to be solved. But bacteriology in a sense other than that commonly received is destined to be a subject of vast importance in the prevention of disease. I mean the biology of bacteria in its widest sense, embracing not only, as it does now, the determination of species, their external forms, their conditions of occurrence, and the effect of their presence in organisms, but also, and this more especially, their physiological chemistry. It is in physiological chemistry, in all its extent, that we are to find the study of the future. In this subject physiology, pathology, and bacteriology, as it will be, will be one. Physiology, in its departments of digestion, absorption, secretion, and nutrition, is now simply physiological chemistry; and when we analyze the functions of the specialized organs of the body, and find how these depend on nutrition as well as on specialization of structure, we can determine how great a part in physiology the chemistry of the cell and tissue plays. Pathology, in the sense in which we now use it, is quite as much interested, if not more so, in the advances made in physiological chemistry, for not only are a large number of diseases merely derangements of nutrition, but the phenomena of zymotic diseases are referable to the products of decomposition caused by bacteria in the organism. This study of physiological chemistry in its broader aspect has already begun. Bacteriologists are now engaged in the investigation, on the one hand, of the chemical products of the growth of bacteria, and, on the other, of the proteid compounds in the animal body which annihilate micro-organisms or prevent their growth. Pathologists have commenced the study of the chemistry of the tissues in disease. But most busy of all has been the physiological chemist himself. The researches on the proteids alone during the past three years might be considered as epoch-making, showing, as they do, how crude was our knowledge on many points connected with these. There is, indeed, a life's work in these for many an investigator in the future. That the phenomena of life occur in a complexity of proteids shows how far-reaching any important addition to our knowledge of them may be.

To physiological chemistry, then, belongs the future. Closely related as it is to physiology, pathology, bacteriology, and general biology, it will tend to overshadow these, and the number of its students will be greatly reinforced from the ranks of those endowed with scientific curiosity, for, in one of its branches, that of the physiology and chemistry of the cell, a subject now developing into prominence, the investigator stands face to

face with the mother of mysteries, and there is no student who would not give a lifetime of work to be able to lift a corner of the veil to behold her features.

In therapeutics, physiological chemistry will be a modifying factor. At present we search the whole earth through for drugs to add to our list, and we discover new ones in our laboratory. Those that we take ready-made from nature, as, for example, quinin, digitalin, etc., are, for the most part, excreted products of vegetable metabolism, whose presence and retention in the vegetable cell, like that of the nitrogenous products in the animal body, are injurious to life. In other words, we use the excreta or by-products of one kingdom to irritate or stimulate the organism in the other. Unless we believe that Providence ordained that vegetable organisms should produce such compounds to touch with exactness the springs of life within us, we may be excused from considering many of them as permanently placed in our pharmacopeia. Were all the therapeutists of the present day to search for a drug which would benefit cases of pancreatic diabetes, would they ever find one which would replace exactly that physiological compound whose absence in disease of the pancreas is the cause of the appearance of sugar in the blood? Is it possible to find a by-product of vegetable metabolism which will replace, when the thyroid gland is diseased or atrophied, that physiological compound whose formation and presence in the normal thyroid gland prevents that deposition of mucin in the body which characterizes the disease myxedema? These facts and the possible advances in our knowledge of physiological chemistry suggest how transient is the present character of our pharmacopeia. At the present day we indulgently smile when an old wife gives a child a dose of castor oil or calomel for toothache, knowing how very indirectly the toothache is alleviated, if at all; but what a large number of drugs must we employ whose action, contrary to what we suppose, may be as indirect as that of calomel in toothache!

Apart from this, and from the crudities at present exhibited in the administration of the so-called animal extracts, physiological chemistry is destined to be a very important factor in the treatment of bacterial diseases. It is now known that some animals do not take certain diseases because of the presence in their blood of proteids which destroy or prevent the growth of the bacteria causing those diseases. Hankin has investigated some of these proteids, and found that they belong to the class called nucleo-albumins. Vaughan and McClintock have determined that they are nucleins. The nucleins and nucleo-albumins have been but little studied, but that they are a very important class of compounds is rendered apparent also by the extreme probability that the digestive and other ferments belong to that class. Kossel advances the view that the

animal organization defends itself against the poisonous proteids formed or secreted by bacteria through the nucleinic acid of the organism uniting with the toxic compound and thereby rendering it insoluble. If, as some physiological chemists maintain, the nucleins can be formed out of simpler elements in the laboratory, and if, further, a very large number of them exist, their employment in the future as therapeutical reagents may serve to prevent or alleviate many diseases due to micro-organisms.

One may not hope for the extinction of disease. It will be present as long as life exists on this earth. Medicine has prolonged the average length of life by over three years, but it has also succeeded in bringing to maturity very many of the less robust, who, under the severer conditions which once obtained, would have succumbed. These are an easy prey, not only to bacterial, but also to functional diseases. The latter will always be with us, whether we have the other or not. The more medicine is perfected, the more of the less robust are saved to swell more and more the list of those who constantly require medical aid. The physically strong will not require it less than they do now, for, so long as human nature is what it is, it will sin as readily against physiological as against moral law. It is in the prevention of disease that progress ought to be made. I have already stated that there are over two thousand preventable deaths per annum in every million of inhabitants. To stop this waste of life—and stopped it ought to be—entails the prevention of a much greater amount of disease, because for every preventable death there are several cases of preventable disease. If the public could be convinced that tuberculosis could be made less prevalent, it would so act that probably another two thousand deaths would be prevented. To accomplish this, the state must teach sanitary science, not only to medical students, but to the whole people.

In the next thirty-five years, then, we will have a thorough knowledge of bacteria, of the compounds which they secrete or form during their growth, of the substances formed by them which are injurious to animal life, and of the compounds formed by the animal organism for self-defence. We will probably be able to assist nature, in some instances, at least, by adding to the supply of defensive material. We will have solved many of the problems of nutrition, while knowing more about others than we do now, and, as a consequence, our knowledge and treatment of disease will be far in advance of what it is at present. Of all this progress we can be certain, as it depends on forces now operating and increasing in strength as the years go by. It may be precipitated in the scientific world by any important increase in number of scientific investigators in medical science, in which case the rate of progress will be greater than I have attempted to outline.

What is the bearing of all this on the student's career? It is quite evident that if he rests content with the minimum of attainments demanded by a curriculum he will fail to achieve solid success in the future, when the physician must be more scientific than he is now; and, if he is intelligently ambitious, he will exercise his foresight by giving to the sciences of his course that full attention which they require of him in order to prepare him for all the possibilities of a medical career. He must lay the foundations well and surely in his work in the laboratories, and he must be constantly, year by year, building on the foundation with such material as the times give. It is true that to know all the sciences thoroughly is impossible to any one, however brilliant he may be, and that, with the time at the disposal of the student, a complete familiarity with the sciences may not be expected of him.

He may, however, by concentrated industry, acquire a knowledge of general biology, physiology, chemistry, pathology, and bacteriology, which will be of immense service to him. It is often stated that the student cannot gain a competent knowledge of these subjects in the four or five years of the course. Does he get a competent knowledge of medicine and surgery before he graduates, and is his development in these subjects arrested when he receives his license to practise? If not, why should it be different in the case of the sciences? Should he not carry on the study of these sciences in post-graduate years? When the scientific specialist or the medical man urges that there is no opportunity for getting more than a smattering of the sciences, he forgets that the student of the present day travels a much less rugged road than *he* did. If you ask any old practitioner about the facilities for anatomy in his student days, he will describe a condition of affairs that will, perhaps, be unintelligible to you who are aware of our splendid anatomical equipment and methods for teaching anatomy. In my time, as a student, and that was not long ago, the arrangements for learning anatomy, good as they were then, were far behind what they are now. In instruction in physiology ten years ago, no experiments were performed, and there were no demonstrations for the student. In pathology and bacteriology, in former years, it was seldom that a student had an opportunity for practical work. All that is changed. We have less of the fearful grinding out of lectures, and we make the student control all he reads by work in the laboratory. It appears to me that he is in a much better position to acquire the knowledge demanded by the curriculum than he was ten years ago. He does, indeed, what he did not do to any great extent in his undergraduate course then. The laboratory work compels him to observe and note, a feature of his training that was formerly developed at the bedside—a good place, indeed, for observation,

but a bad one for commencing the training of it. Dr. Billings says that of the vast literature on medicine much of it is worthless, much of it is suggestive, and only one per cent., perhaps, of it is valuable. That, if correct, can be explained in only one way—and that is, that the contributors to this literature, who are amongst the best and most progressive of the profession, are fearfully deficient in capacity for observation. What is responsible for this but the old-time methods under which the student was trained? The student of the present day has, indeed, everything in his favor, and he ought to cultivate to the full every opportunity which our modern methods of teaching offer him. He ought to study the sciences not simply for the purpose of passing examinations in them, but to avoid being an empiric in after years. The latter is one who relies on his own experience, or on that of others, without having therefor a scientific explanation. Empirics are not at all rare at the present day, and they usually style themselves “practical” men. As such, they are related, perhaps distantly, to the old “yarb”* woman who relies on her limited experience, and on nothing else. It is the fashion of this class to exalt the professional and deride the scientific subjects as if they were distinct and opposed. A physician whose training in the sciences may be very limited may, indeed, avoid empiricism by constantly examining and proving the phenomena of disease which present themselves; but how laborious such a process must be to him, and how much more practical is he who recognizes that the scientific and professional subjects of medicine are inseparable.

It is maintained that the medical profession is overcrowded. It is claimed by some that twenty thousand practitioners in the United States could be very well replaced by a thousand well-educated and well-trained ones. It is certainly not wanting in numbers in Great Britain, France, and Germany, and we are familiar with the statement that there are quite enough in Canada. Those who are already in it must have a greater professional experience than the student can get by close attention to professional requirements alone, valuable as these are; and if he neglects the sciences on which they are based when he gets a license to practise medicine, he is one more in the struggling mass, with no more moral right to succeed than the average man. The profession is not overcrowded to those who patiently and steadily train themselves in all the parts that distinguish a scientific practitioner of medicine. There cannot readily be too many of such, and if the student determines to be one of these, and carries out his determination, his future is assured.

*“For in all times, in the opinion of the multitude, witches, and old women, and impostors have had a competition with physicians. And what followeth? Even this: that physicians say to themselves, as Solomon expresseth it upon an higher occasion: ‘If it befalleth to me, as befalleth to the fools, why should I labor to be more wise?’”—Bacon, “*Advancement of Learning*.”

A few years ago, a physician considered himself equipped for clinical work if he had a stethoscope, a few test tubes, with a spirit lamp, and perhaps an ophthalmoscope. At the present day, to be prepared for all cases, he must have a variety of instruments, the proper use of which requires a careful training in the laboratory, and also a very fair knowledge of physiology, physiological chemistry, and bacteriology. Some diseases may be and are diagnosed by the use of these instruments alone, or by methods taught in the laboratory, while in the diagnosis of other diseases these instruments and these methods furnish a very great assistance. Those who have examined the history of the past in medicine will agree with me when I say that the methods of diagnosis in the future will require a greater scientific knowledge than is even now the case.

To the student himself I would say, Cultivate the sciences which lie at the foundation of medicine, for they are to be the key to you that will unlock the treasure-house of the future. They will give to you that sense of satisfaction that arises out of your knowing that you are in the van with progress. Not any the less thereby, but rather the more fitted will you be for professional work when you enter upon it. For this cultivation there is abundance of opportunities in your undergraduate course and, indeed, the Medical Council has, with a wise foresight, provided that you may pass the fifth year of your course in laboratory work wholly. If, on the other hand, you neglect the sciences, you will be hampered in the appreciation of your work, and the exigencies of a practice will prevent you from overtaking the arrears of knowledge due to that neglect. You may then fully realize your mistake, when regret is of no avail to repair it.

No one, I believe, esteems more highly than I do professional attainments and skill. Nor do I deride experience, for it is not that which makes you satisfied with what has been done, but rather that which stimulates your desire to know more. Perhaps the best view of experience is that given by Tennyson in his poem, "Ulysses." The old hero, who had gone unwillingly with the Greek host, has, after ten long years before Troy and ten years of peril and adventure on the sea, returned to Ithaca, and he is represented as resolving to take up once more the life of change and discovery. I quote one familiar passage because it describes my ideal of the scientific spirit, whether it is to be found in the laboratory or at the bedside, and because it gives to the student of to-day a glimpse of the life that may be his in after years :

" I am a part of all that I have met ;
Yet all experience is an arch where through
Gleams that untraveller world whose margin fades
Forever and forever when I move.
How dull it were to pause, to make an end,

To rust unburnished, not to shine in use!
 As tho' to breathe were life! Life piled on life
 Were all too little, and of one to me
 Little remains; but every hour is saved
 From that eternal silence, something more,
 A bringer of new things; and vile it were
 For some three suns to store and hoard myself,
 And this gray spirit yearning in desire
 To follow knowledge, like a sinking star,
 Beyond the utmost bound of human thought."

THE MEANING OF VITAL MOVEMENTS.*

BY H. A. McCALLUM, M.D.,

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 LONDON, ONT.

MY intentions are to show that a basic relation exists between all vital movements, to indicate the meaning of hypertrophy and broken compensation, and to point out that all motion has defensive intention. The somewhat dogmatic style of the paper, the failure to state fully the methods of investigation, and the negligence to present all the data in the premises from which the conclusions have been drawn, will doubtless be subjects of criticism; but these defects have arisen from stern attempts at brevity.

If you examine the subject of biology for the faculties by which protoplasm was enabled to survive the ascent to the higher animal, and by which our present grade of higher animal protoplasm became the survival of the fittest, you will doubtless have vital movement and immunity in your list of findings.

Vital movement in offensive media only, by means of which the animal life was enabled to migrate into purer media, or expel the offensive surroundings, can scarcely be disputed to be the chief factor in this survival. By long submersion in offensive media, the ability to develop tolerance or the so-called immunity would be another of these faculties. The first of these qualities implies the power of relaxation as well as contraction, and the former is as necessary to undergo vital movements as the latter. All grades of protoplasm not so behaving would likely perish. So that our present grade of higher animal protoplasm from hereditary tint would be thrown into active movements by offensive or toxic surroundings; and this I wish to show is the basic explanation of all motion.

*Read before the Canada Medical Association, London, September, 1893.

The lymph surrounding the muscle fibre is offensive to its protoplasm, and the contraction which occurs is with the object of expelling it and obtaining a purer media. We term lymph offensive when there is a change in the chemical composition, temperature, or pressure, which, when increased, leads to the death of cell protoplasm. Examination of the phenomena of contraction in voluntary muscle discloses (Foster, vol. i., page 125) that the impulse coming down the motor nerve produces a carbohydrate explosion, setting free carbonic acid, lactic acid, etc., changing the muscle from an alkaline to an acid reaction before any contraction has taken place (in the latent period). The construction we place on this is that the contraction which follows on this explosion is with the purpose of expelling the resulting offensive lymph. Physiologists are agreed that these products fatigue and even produce the death of the fibre if not removed, and Foster says "the explosion gives rise to the visible contraction." Ludwig says that even passive motions of a limb will greatly increase the lymph flowing from that limb. If contraction expels large quantities of lymph from a muscle, relaxation must extract equal quantities from the blood. It must follow, therefore, that the number and vigor of contractions of a muscle are a measure of the amount of lymph passing through it. If suitable time is allowed between each contraction to allow the nutritive particles to be assimilated by the muscle protoplasm, a high state of nutrition must attend this phenomenon. The hypertrophy that follows on training of voluntary muscles results from the large quantity of nutritive fluid made to pass through the muscles.

It will not be disputed that venous blood, or the blood of asphyxia, induces contraction of involuntary muscle; the lymph obtained from the blood surcharged with waste products is the stimulus. The contraction is purposeful, viz., to expel the offending lymph from the adjacent vicinity. The waste products may be so plentiful that voluntary muscles take part in this phenomenon.

Examination of motion in the uterus, intestines, spleen, ureters, scrotum, bladder, etc., will show that involuntary muscle fibre throughout the body undergoes rhythmic contractions with intervening relaxations—strongly resembling the long-drawn-out beats of a tardily beating heart (see Foster, vol. iv., p. 1539). The meaning we attach to this phenomenon is that these rhythmic contractions are induced by lymph surrounding the muscle fibre becoming offensive. The rhythmic contractions of these tissues appear to represent the homologue of the lymph hearts of the amphibia.

Lymph may be rich in nutritive material, yet offensive, and this is the secret of the occurrence of hypertrophy in involuntary muscle. The uterus may be taken to illustrate this position. This organ undergoes

rhythmic contractions that become so well marked in the last months of pregnancy. They are not peculiar to the pregnant state, however, and have been seen to occur in a uterus wholly removed from the body. The interval between each contraction shortens as pregnancy advances, and the organ itself enlarges or hypertrophies as gestation proceeds. Two things keep pace with the increase in waste products of the child, viz., the speed of the contractions and the hypertrophy of the uterus. The hypertrophy is evidently due to the increasing quantity of lymph made to pass through the organ, and this is effected by the frequent extraction during relaxation after "hardening." Hypertrophy is therefore due, indirectly, to the offensive lymph. This position is strengthened by the relation subinvolution and hyperplasia bear to septic infection, endometritis, lacerated cervix, etc. The increased growth of the child, by increasing the pressure of the lymph in the lymph spaces of the organ, may be a factor in this intermittent hardening, but it must not be forgotten that the vital movement may take the form of relaxation to avoid this offence. This faculty of relaxation appears to take place from the fibre becoming tolerant to pressure—so to speak, immuned to this offence. The relaxation phenomenon appears to give the uterus the accommodating faculty for the fetus.

Labor is the outcome of a failure on the part of the uterus to properly expel its offensive lymph without ending gestation from the violence of its intermittent contractions. Pregnancy, therefore, resolves itself into (in many cases) a capability of the pelvic lymph system. These contractions would doubtless be inaugurated by that part of the uterus corresponding to the placental attachment being the situation of maximum offence. A contraction wave (which is induced by one fibre in contraction raising suddenly the pressure in the lymph of adjoining fibres; one fibre after another, finding the increased pressure offensive, falls into contraction) passes over the entire organ. The return of the uterine body to smaller dimensions after delivery is due to a want of its former contraction stimulus. The relation of heat and cold as causes of offence in the lymph of the whole or part of the organ needs no attention.

I desire to direct attention to some interesting relations this theory bears to cardiac physiology and pathology. Howell and Cook (*Journal of Physiology*, vol. xiv., p. 198) show that the heart beat is not inaugurated by an "organic diet." Their conclusions offer no contradiction to the position taken in this paper; indeed, the results obtained from their extensive series of experiments become intelligent under our meaning of motion. Our meaning of motion teaches that the heart beat is inaugurated by the offensive lymph surrounding the muscle fibres. Starting at a delicate point like the sinus venosus (speaking now of the isolated heart), the con-

traction wave, which is induced similarly to that seen in the uterus, sweeps over the entire heart. The theory of one fibre becoming negative to its neighbor could possibly be interpreted as offence, but the offending pressure can fully explain away the difficulty in understanding the contraction wave. This view is supported by the peristaltic motion seen in the intestines, ureters, scrotum, etc., and indirectly by the arrest of this wave by ligatures, etc. If the wave were induced by electrical variation, it would probably conduct itself past ligatures, etc.

The theory that the cardiac beat is inaugurated by offence is supported by the increased speed that occurs in conditions of asphyxia, toxemia, etc. What inaugurates the rhythmical respiratory movements but offensive lymph in the respiratory nerve centres! This, and the fact that the very causes which will increase the depth and speed of respiratory movements acts apparently similarly on the heart, point out that the respiratory stimulus is also a cardiac one.

Cardiac hypertrophy is induced by increased quantities of lymph travelling through this organ. Hypertrophy is called forth by those very conditions which would furnish offensive lymph. The offensive lymph in renal disease, by stimulating to contraction the body tissues (like the muscular coats of the arteries), increase the blood pressure; and, in this way, aid in inducing hypertrophy. The most probable cause of this hypertrophy, however, is the direct action of the offensive lymph on the heart muscle itself. There arrives a time in this hypertrophy when one of two things occurs: Either relaxation becomes greater than normal, and there is only left elasticity to restrain dilatation (and this is damaged, doubtless, before this stage is reached); or, by the long submersion of the cardiac protoplasm in this offensive (increasing) lymph, a condition of toleration is developed. By these results, "broken compensation" follows on cardiac hypertrophy. Immunity, therefore, plays a part in producing somatic death.

Before closing, I might mention that motion is not confined to muscular tissue; it is agreed that here we merely have its most definite examples. Those causes, therefore, which induce motion in the muscular tissues act similarly, though to a less degree, on other tissues. This view of motion, and the theory that the tissues extract their own lymph from the blood, are opposed to the "endothelial secretion theory" of Heidenham and Sterling; but, since I am answering their position elsewhere, it is unnecessary to touch in this paper on the many objections which vitiate their conclusions.

By granting the ability to the tissues of securing their own lymph, inflammation becomes simply excessive extraction action of the tissues themselves.

Motion, therefore, is nature's most effective defensive agency.

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Selected Articles.

REMARKS ON PRE-VESICAL INFLAMMATION.*

BY PAUL THORNDIKE, M.D.,
BOSTON.

SINCE Retzius, a Swedish anatomist, published a paper in 1858 describing in detail the anatomy of the lower abdominal wall and pre-vesical space, many cases of inflammation in this region have been reported; and many articles have been written, chiefly by French authors, with a view to explaining the pathology of these inflammations and tabulating our knowledge of the subject, including the cases reported.

The writer has recently had the privilege of examining a case of inflammation in this region occurring in the service of Drs. Bradford and Post, at the Boston City Hospital, and has been interested to look up the present-day knowledge on the subject. A résumé of this knowledge, apparently, does not exist in English, and it is hoped that the present one may prove of use to some of us.

The pre-vesical space, often called the cavity of Retzius, is a shallow space entirely external to the peritoneum, and serves in part to give the bladder room in which to expand when filled with urine. It is bounded anteriorly by the pubes and the anterior layer of the transversalis fascia of Cooper, and behind by the bladder and by the posterior layer of this same fascia. The part of the space which extends upward beyond the pubes is limited above the line of union of the two layers of fascia which are given off at the lower border of the sheath of the recti muscles posteriorly, and has for its side limits the union of these layers with the aponeurosis of the transversalis and the oblique muscles. Below, the space is limited by the prostatic sheath and the superior aponeurosis of the true pelvis, so that pus in this space can get back to the rectum and to the iliac fossæ on either side of it.

Now, let me see if I can make this a little clearer. It will be remembered that the sheath which covers the recti muscles of the abdomen on their posterior surface does not extend all the way down to the pubes, but ceases at a point between the umbilicus and pubes, and ends in a

*Read at annual meeting of the American Association of Genito-Urinary Surgeons, at Harrogate, Tenn., June 14th, 1893.

crescentic border which the French writers call the "semicircular fold of Douglas." This leaves the lower part of the posterior surface of the recti muscles without a sheath. From this lower crescentic edge of the sheath two thin layers of fascia are continued. The anterior one, which is very thin indeed, covers the lower posterior surface of the recti muscles, left uncovered by their own sheath, and attaches itself to the symphysis. The posterior of the two layers extends down behind the bladder to join the pelvis fascia. These two layers of fascia are merged at the sides into the edge of the aponeurosis of the transversalis and oblique muscles. It is evident that there are two distinct spaces in this region: First, A submuscular space just behind the lower part of the recti muscles and shut off from the pre-vesical space proper by the thin anterior layer of fascia; and, second, the pre-vesical space itself, shut in above between the two layers of fascia, and below between the anterior bladder wall and the symphysis pubis.*

Enough has been written about the anatomy of the so-called space of Retzius to create a very general interest in the pathology of the region; and cases of many different kinds have been reported as instances of pre-vesical abscess. Various different schemes for arranging these cases have been suggested, so that from the writings on the subject it is difficult to get an idea of what is meant by a case of pre-vesical abscess.

As may be supposed, suppuration in this region occurs as a result of traumatism (operative or otherwise), as a result of disease in neighboring organs, such as the bladder, prostate, uterus, etc.; and even a gonorrhœa has been the direct cause of pre-vesical suppuration in one or more instances, as a result of metastasis in pyæmia or typhoid fever. In other words, we may have an inflammatory process in this region, as in most other parts of the body, from very many different causes.

A study of reports shows that when all such cases have been eliminated there still remains a number which have apparently no such reason for their existence. In other words, as far as our present knowledge goes, there are idiopathic pre-vesical abscesses. Englisch, of Vienna, has studied and tabulated the cases of this sort which he was able to find, and published his tables in two articles (1889 and 1891). He finds in literature twenty-three cases of so-called idiopathic pre-vesical inflammation, and adds ten more from his own experience.

In none of these could any possible cause for the inflammation be assigned. He thinks that all other cases may be conveniently classed under three headings: (1) Those caused by traumatism; (2) those caused

*I purposely refrain from further anatomical detail as to the boundaries, etc., of these spaces, as the points mentioned are all that seem necessary for clearness, and I believe they are all proven by many careful dissections made at different times by several anatomists (notably Retzius and Hyatt). The descriptions of them date back to the early years of this century.

by metastasis; and (3) those caused by direct extension from neighboring organs or tissues. Let us leave these cases for brief consideration later, and look first at the idiopathic form of inflammation, as these cases are by far the most interesting ones for us, inasmuch as we are still in ignorance of their cause.

Although there have been a few chronic cases of pre-vesical inflammation in which there were no apparent symptoms until the appearance of the tumor, still in most cases the illness begins with symptoms of severe gastric and bowel disturbance. There is usually constipation accompanied by colicky pain and vomiting, these symptoms being sometimes so severe as to cause a considerable degree of collapse. The constipation shortly gives place to a persistent diarrhea, which is accompanied by loss of appetite and a general feeling of discomfort and uneasiness. These symptoms, referable to the stomach and bowels, are of sufficient severity to send the patient to bed. Within two weeks, and generally within a few days, from the beginning of the illness, the pain, which may have been the only symptom, up to this time, which in any way localized the disturbance, and which may have been present either as a dull, heavy feeling in the lower abdomen or as a sharper pain in the pre-vesical region, becomes more severe and more sharply localized, the fever is more marked, and a tumor manifests itself above the symphysis, generally symmetrical in shape, and looking very much like a full bladder. The catheter demonstrates an empty bladder, and the diagnosis is made if one has followed the previous history of the case. The tumor may be rather asymmetrical in shape, owing, no doubt, to the more rapid spread of the inflammatory process on one side than on the other, but it is usually symmetrical and its upper border is flat and sharply defined, so that the tumor is commonly described as being triangular in shape, with the base of the triangle upwards and the point disappearing behind the symphysis pubis. Examination by rectum, or in women by vagina, will not, as a rule, demonstrate the presence of any swelling, unless the trouble has been present for some time. Occasionally, the downward extension of the inflammation can be felt in this way. Disturbance of micturition is almost the rule in these cases, as one would expect, and yet a few cases are recorded where the micturition was so nearly normal as to be scarcely an inconvenience, while in one case there was no such disturbance at all. Complete retention is not common, the disturbance being generally a constant vesical tenesmus, with frequent and somewhat difficult micturition. The urine itself is generally normal, although in cases of long standing a cystitis more or less severe is apt to develop, with its attendant changes in the urine.

The inflammatory process terminates either in resolution, or more

commonly in suppuration. If the trouble subsides without suppuration, the further history of the case is simply a gradual diminution in the severity of all symptoms, so that at the end of five or six weeks no trouble remains, and physical examination reveals nothing except perhaps a little induration in the anterior abdominal wall, or, as felt per rectum, at the base of the bladder in the neighborhood of the prostate and seminal vesicles. These areas of induration may remain unresolved for months, and if present at the base of the bladder may give rise to further disturbance of micturition.

If the process ends in suppuration, the beginning of pus formation is indicated by a sudden increase in the pain and fever, with perhaps a well-marked chill. The trouble with micturition may also increase in severity; and in some cases an edema of the skin just above the pubes appears, and may be the first indication of abscess formation. The abscess may break through its walls and carry the inflammation into any of the surrounding tissues or organs.

Most commonly, it makes its way through the anterior abdominal wall and appears close under the skin, as a rule in or near the median line, the pus pointing in two places in some cases.

The pus may work down to the front of the thigh through the inguinal opening; it may break into the bladder, urethra, rectum, or vagina; or it may perforate the peritoneum and get into the peritoneal cavity. Several cases of fecal fistula are reported, the bowel wall having tied itself down to the wall of the cavity by adhesions, and then the perforation taking place. This complication may render the diagnosis very difficult, as in the case which the writer examined at the Boston City Hospital, in which such a fistula existed. This case, although one of pre-vesical suppuration, is not reported in detail because its history shows conclusively that the pre-vesical abscess was merely an extension downward of an inflammation which began higher up in the abdominal wall, probably as an extravasation of blood in the right rectus muscle which was the nucleus of an abscess which broke through into the pre-vesical space.

The prognosis in these cases is not necessarily a bad one, as is commonly stated. Out of thirty-three cases collected by Englisch, including ten of his own, there were but four deaths, and in these four cases the abscess broke through into the peritoneal cavity and the patient died of a purulent peritonitis in each instance. In but one of these four cases was any attempt made to liberate the pent-up pus by operation. This one was undoubtedly of tubercular origin. Of these thirty-three cases of idiopathic pre-vesical inflammation (and I have been unable to find any others recorded), fourteen subsided without operation or any but symptomatic treatment; seven were incised and slowly recovered; and the

other twelve opened themselves spontaneously, four through the anterior abdominal wall, two into the rectum, two into the bladder or urethra, and four into the peritoneal cavity (one of these in spite of the fact that a vent for the pus had already been provided by an operation).

The cause of these inflammations is at present unknown to us, and we are not in a position to make any assertions with regard to it. Many surgeons believe that the process is a tubercular one, but there seems to be no proof of this at present beyond the fact that a goodly percentage, perhaps about thirty per cent. of the cases, have a tubercular history, either personal or family. As for the treatment, it should be symptomatic and antiphlogistic until pus demonstrates its presence, and then the sooner an incision is made the better. In women the attempt has been made once or twice to drain these abscesses through the vagina, but the cases have proved troublesome, and the suprapubic incision seems to be the best means for drainage at our disposal. An early incision is advisable, of course, in view of the fact that twelve per cent. of these cases have died from a purulent peritonitis resulting from perforation.

The question of a laparotomy for the relief of a peritonitis following perforation was not considered in any of these four cases.

Besides the class of cases just described, there are many reported instances of pre-vesical suppuration, similar in history to those already mentioned; but in all of them some very evident cause has been apparent. All have been either a result of external traumatism, or dependent upon pathological conditions of neighboring organs. The cases which are directly attributed to external violence are few in number, and in them the injuries received have varied so much in kind and in severity that but little can be done in the way of classifying them or making deductions from them. Among the accidents resulting in pre-vesical suppuration may be mentioned a fall upon the abdomen from a horse; rupture of the gravid uterus during labor as a result of attempted version; rupture of the full bladder; suprapubic puncture of the bladder in a case of retention of urine; goring by the horns of a cow; gunshot wound of the pelvis with the bullet imbedded somewhere in this region. In this last case a fall served as the immediate cause of the inflammation, which resulted in the formation of the abscess about the bullet after it had been in the pelvis for six years. Some of these traumatic cases have started as extravasations of blood, and some have been purulent inflammations of the pre-vesical connective tissue. The cases run about the same course as the so-called idiopathic ones, and among the few which proved fatal were those of ruptured uterus, ruptured bladder, and the suprapubic vesical puncture. In the first two of these there was a large extravasation of blood into the pre-vesical space.

Whether some of the traumatic cases start *in* the abdominal wall and break into the pre-vesical space or not, it is impossible to say. A very small number (3 or 4) of cases are recorded where a pre-vesical inflammation appeared in the course of a typhoid fever. They may have started as blood extravasations in the recti muscles, due to diseased vessel walls, and then may have broken through the thin anterior layer of the transversalis fascia into the pre-vesical cavity. Of the three cases of which I have records, two recovered and one died from peritonitis following perforation into the general peritoneal cavity. It is suggested by several writers that pre-vesical abscesses probably do occur occasionally as metastases in pyemia just as do peri-urethral abscesses. I have not found a report of any such case.

There still remain for mention the cases of pre-vesical inflammation which are direct extensions of pathological processes in neighboring organs or tissues. Most of these occur in the male in the course of some vesical, prostatic, or urethral trouble. Occasionally they follow uterine or peri-uterine inflammations. Cases of this sort are reported following chronic cystitis with and without the presence of calculi in the bladder; perforation of a bladder which contained a stone; stricture of the urethra; gonorrhoea and various forms of pelvic inflammation in the female. One case is recorded where the phlegmon followed an abscess in the joint at the symphysis pubis, which came on after a labor. Another very curious case is that of an inflammation of the umbilical veins in a newly-born infant, followed by a pre-vesical abscess and death on the thirteenth day. The autopsy showed all the pelvic organs healthy, but a purulent thrombosis of the umbilical vein. Still another interesting case is reported by Guyon, in which the autopsy, made five weeks after an internal urethrotomy for stricture, showed an abscess of the prostate, a perforation at the neck of the bladder into the pre-vesical space, and a large pre-vesical abscess. Of twenty-four cases tabulated by Englisch (of course by no means all that there are recorded), eight died ($33\frac{1}{3}$ per cent.); but the cases resulted from such a variety of causes, and the accompanying conditions were so different in different instances, that these deaths must not be ascribed to the pre-vesical abscess itself, which in some of these cases was only an incident.

To sum up, then: There are a large number of reported cases of undoubted pre-vesical inflammation, of which rather less than half subside without suppuration, and rather more than half result in abscess formations. Many of these cases occur as a direct extension of an inflammatory process from neighboring organs, chiefly the bladder, prostate, and urethra. A few occur as a result of traumatism, and an occasional one is metastatic.

The remaining cases may be classed at present as idiopathic cases. These have been carefully studied by Englisch, who reports thirty-three as follows: Thirty-three cases with four deaths (12½ per cent.), all from a general purulent peritonitis following perforation of the abscess into the peritoneal cavity. Of these thirty-three cases,

- 14 subsided without operation and without spontaneous opening.
- 7 were incised and slowly recovered.
- 12 opened spontaneously.
- 4 through the anterior abdominal wall.
- 2 into the rectum.
- 2 in the bladder or urethra, and
- 4 into the peritoneal cavity.

It is believed by many surgeons, though without proof, so far as the writer is aware, that these abscesses are of tubercular origin. Of Englisch's 10 cases (from his personal experience), 4 had tubercular histories.

The prognosis is not necessarily unfavorable, as is commonly stated, for of the 33 idiopathic cases but 4 died (12 per cent.), and, of these 4, all died from a perforation into the general peritoneal cavity, and in only one of these 4 cases was an attempt made to liberate the pent-up pus by operation.—*Journal of Cutaneous and Genito-Urinary Diseases.*

(ABSTRACT.)

THE WORK OF A PHYSICIAN.*

BY SIR JAMES CRICHTON-BROWNE, M.D., LL.D., F.R.S.

WORK has always been recommended as a shelter from the anguish of the spirit. "*Cultivons notre jardin*" was the advice of Voltaire. "Toil, young men, toil," cries Zola. "I beseech you, put your trust and your faith in your work. I am a witness," he goes on, "to its marvellously soothing effects upon the soul. How often, in the morning, have I taken my place at my table, my head, so to say, lost, my mouth bitter, my mind tortured by some terrible suffering, and every time, in spite of the feelings of rebellion after the first minutes of agony, my task proved a balm and consolation."

To you, gentlemen—and I am now speaking to the students of the Sheffield Medical School—toil, abundance of toil, will not be wanting. In your time of pupilage you will have to toil manfully to surmount suc-

*Conclusion of address on "Biology and Ethics," delivered at the opening of the Sheffield Medical School, and published in the *Quarterly Medical Journal* for Yorkshire and adjoining counties.

cessfully the mountains of examination that lie before you ; and in your professional pilgrimage you will have to toil patiently to perform your duty in the state to which you are called, and your work will always yield you a rich return, if not of lucre, yet of satisfaction. But I fervently trust that your work will always be performed with a higher motive than that which M. Zola indicates. Relief your work will bring you if you are suffering ; but you will have comparatively little suffering to require relief if you undertake your work, not as a personal pick-me-up, but for the public benefit. Toil, young men, toil, I would say, not because your work is a "sweet, oblivious antidote" to yourselves, but because it carries assuagement to your suffering fellow-creatures ; not for the apotheosis of anesthesia, but for a quickened vision of life. Toil to make a beneficent use of your attainments, to perfect your own powers, to do credit to your profession, to serve your country, and to ward off from your race any degeneracy with which it may be threatened. A wide and promising field stretches out before you ; for to the medical toilers of the future will be given more and more power, not only to restore and prop up bent and cankered stems, but to shield the whole crop from blight, and forward its lusty growth. Plants of prey—for so we may call the fission fungi—will be hunted down as beasts of prey have been ; sanitary science will promote the reign of health, and mental and moral hygiene will perhaps reconcile natural and ethical evolution.

But while you toil and toil diligently, and with noble aims, rest too, and rest diligently, and with set purpose, for rest, no less than toil, is necessary to happiness. Your professional experience will teach you the dangers of immoderacy, and show you crowds

"Of mortals on the earth who do become
Old in their youth and die ere middle age,
Some perishing of pleasure, some of study,
Some worn with toil, some of mere weariness,
And some of withered and of broken hearts."

Your professional experience will convince you that toil and rest must alternate if the one is to be productive and the other restorative, and there is assuredly, at the present time, room for the redistribution of toil and rest, or labor and leisure. There are some amongst us who have too much leisure, and who would be all the better for a little more labor ; there are many amongst us who have too much labor, and would be greatly benefited by a little more leisure. Do not, however, run away with the notion that those who have too much leisure have the best of it, for leisure in itself is not good or profitable, but only as a relief from labor, and as affording the opportunity of varying it. There are few more wretched beings than those whose lives are all leisure, who have never learned to

labor and to love labor, and who have not the resolution to devise labor for themselves, but lead an inane and vapid existence—long nights of sleep, long days of drowsiness, days in which dinner is the central event, contemplated beforehand, lovingly dwelt on, and ruminated on afterwards. This way madness lies ; nay, rather imbecility—drivelling imbecility.

Too much labor makes a man hard and brittle. Too much leisure leaves him soft and spongy. It is in the just balance of these that the true temper of manhood is to be found.

When I began this address I proposed to myself to sketch, for the benefit of the younger brethren assembled here, an outline of medical ethics, or the code which should regulate the conduct of the medical man in the several relationships in which he is professionally placed ; but my theme has run away with me, and I now find that the large hand of the clock has gone round the dial while my preamble has crowded out my clauses, so that medical ethics must stand adjourned. Let me just say, however, that the rules, traditions, and laws of etiquette to which the members of the medical profession owe allegiance seem to me to require revision from time to time, to adapt them to the ever-changing conditions of modern life. Fixed and immutable as regards the principles on which they are founded—principles of justice, honor, truth, and good feeling—they are yet, as regards some of their practical applications, susceptible of amendment now and again as circumstances alter. And, indeed, insensibly and without formal legislation by any professional parliament, or judgment by any professional tribunal, they do alter as the years roll on. The explanatory candor and winning suavity of our *fin de siècle* physician in his dealings with his patients is as different from the rigid reserve and verbal mystification of the physician of a century ago as is skirt-dancing from the *minuet de la cour*. And, in the matter of advertising, or the means used to make known professional qualifications or pretensions, there has been, in recent years, a distinct change in our notions of what is and is not legitimate. No doubt in certain directions some relaxation of old customs and opinions regulating professional conduct and intercourse is desirable ; but, on the whole, it would seem that some stiffening of professional sentiment is what is most needed. Rivalry is more intense than ever it was before, and the success that attends the rampant and devouring quackery by which we are surrounded tempts struggling men to stoop to the arts by which quackery secures its ill-gotten gains. The *Times* said truly, the other day, that “a medical practitioner who discovered a means of preventing diphtheria would for a time be talked about and admired by the public, but they would leave him to starve, while they would hasten to pour gold into the lap of any impostor who proclaimed loudly enough that he had invented a pill which would cure it.” The vast majority of the

medical profession is, I would maintain, notwithstanding discreditable cases that are sometimes brought to light, and even the medicated wine scandal, well able to withstand the seductions of charlatanry, and, sound in conscience, to pursue the path of rectitude without monitions or fear of penalties. But for the weaker brethren—and there are weaker brethren in all professions—a code of honor supplemental to the general ethical code is an admirable tonic. And, indeed, for the profession as a whole, such a code has its value, raises the standard of work, and exalts the sense of duty. The sustaining influence of a code of professional honor, in moments of supreme trial, was brilliantly illustrated in the charge of Balaclava, and in the wreck of the "Victoria," only three months ago, when bands of men were dauntless, steadfast, and heroic, standing face to face with sudden death; and the same influence is, less conspicuously, but not less truly, manifested in the self-denying devotion with which medical men carry on daily their incessant guerilla warfare with disease. The moral qualities displayed by the profession should, I think, be its charter to public esteem, and protect it from the humiliation which the present widespread patronage of quackery really amounts to. For quackery is patronized in high places, and is supported not only by the dull and ignorant, but by the presumably educated and intelligent. It flourishes, no doubt, in our great manufacturing towns like Sheffield, but the very hotbeds of it are our fashionable watering places and health resorts, and I am assured that, while our skilled artisans are least of all given to quackery, our learned clerics are most addicted to it. Well, I think our learned clerics should seriously reflect that, in giving countenance to the nostrums of the empiric, they exhibit a credulity and superstition that must seriously impair their usefulness in their sacred calling with all thoughtful men. Great may be the faith, but small must be the wisdom, of the man who believes he derives benefit from a non-electric belt! What exegetical insight is possible in him who swallows patent pills? They should remember—these learned clerics—the commendation of the Bereans, and search the scriptures—the scriptures of science and common sense—to see whether these things be so.

Above and beyond, however, any special code of honor appertaining to the medical profession, there is the general code of ethics to which that and all professions are amenable, and, as regards that general code, I would say that medical practice is daily demonstrating to those engaged in it its reasonableness and wisdom. To those who faithfully pursue it, medical practice affords an ethical training and discipline of the best kind; it opens a refuge from pessimism in the opportunities it gives for the relief of sorrow and suffering; it unveils, in the tender ministrations of the sick room, some token of the angel as plainly as competition discloses

vestiges of the tiger and the ape, and it fosters that wide sympathy that yields hope for the future of our race. "The man shall die," said David, not because he did this wrong, but "because he had no pity." Surely one of the most moving of texts is this: "He had compassion on the multitude," which, translated into my native language as it has been by Scott Riddell, becomes even more expressive in the words, "He was wae for the folk." To bread-winning industry, to an honorable ambition, the medical man must add compassion for the multitude if he would make his work fruitful to his patients, to the public, and to himself.

(*ABSTRACT.*)

AUSCULTATION OF THE LIVER.

BY DR. R. B. NEVITT.

(Translated from an article by Piazza Martini in *Clinica Medica.*)

THE normal respiratory and cardiac sounds are not rarely transmitted and heard over the hepatic area. Pathological murmurs are also frequently transmitted from the heart. Friction sounds may be heard and felt, due to rubbing of the opposed liver and peritoneal surfaces, roughened by inflammatory deposit, or from neoplastic nodules, or from inflammatory products about the gall bladder. A peculiar metallic rustling may be heard when the bladder contains a number of calculi.

Auscultation combined with percussion should be made between the anterior axillary line and the mid-clavicular line, prolonged to the end of the costal arch for the right lobe, and into the epigastric fossa for the left lobe. The percussion note elicited is very high-pitched for the liver; the note over the heart, spleen, and kidneys is lower; that over the lungs very much lower in tone. Care should be taken in percussing not to strike over the ribs. In this way the hepatic area can be differentiated from an infiltrated and hepatized lung, and from a pleural effusion. Visceral tumors can be defined with great exactness by this method, and abscess in the abdominal walls over the liver gives a very distinct note to that over the hepatic area.

When palpation and percussion cannot be practised or are indefinite, the lower margin of the liver may be defined by auscultating the patient in the sitting or supine position; then, placing the end of the stethoscope over the heart's apex, follow the sounds along the thoracic lines, the mid-axillary, mid-clavicular, and over the liver. The heart sounds will be clearly transmitted over the liver substance, ceasing to be heard exactly at

the lower border of the liver. Murmurs may be heard on auscultating the liver generated *in loco*, or transmitted from the abdominal vessels, or from compression or aneurism of the hepatic vessels. Arterial blowing murmurs may be heard in biliary colic from lithiasis, and, though very variable in doubtful cases, may be confirmatory. It is stronger in the accesses of pain, less intense when the pain ceases, and disappears altogether after the expulsion of the calculi. The presence of such a murmur in cases of biliary colic, when medical resources are exhausted, might urge the surgeon to operate. It is true such a murmur may be caused by carcinomatous enlargement of glands in the hilum of the liver, by aneurism of the hepatic artery, or by an echinococcus cyst of the inferior surface of the gland. The differentiation is made by the history, the objective examination, and the mode of onset of the symptoms. Venous murmurs may be heard, due to displacement of the liver, and consequent interference with the blood current through the inferior cava.

When the cavity of an hepatic abscess communicates with the bronchi or with the intestine, various sounds may be heard, due to the presence of gas in the cavity.

A NEW SIGN IN THE DIAGNOSIS OF TYPHOID FEVER.

In all cases of typhoid fever, in which he had an opportunity of observing during the two last big epidemics at Odessa, Dr. V. Filipovitch found a sign as yet not pointed out, which he has called the "palmo-plantar sign." This sign consists of callous condition of the palmar and plantar epithelium, along with a yellow coloration, which is sometimes orange or saffron-like, and this on the elevated portions of the palms and soles. In healthy subjects these are more or less rosy; in the cyanosed they become bluish.

He attributes this to a weak heart action, an incomplete filling of the capillaries, and to the dryness of the skin in typhoid cases.

Since this sign was so constantly present, Dr. Filipovitch looks on it as a possible pathognomonic sign of typhoid, which might be useful in diagnosis in the earlier stages of the disease.

Dr. A. Skibnevsky, another Russian physician, was able to confirm this observation during an epidemic of typhoid which broke out in the district of Moscow.

This sign disappears rapidly after convalescence sets in.—*La Revue Médicale*, August, 1893.

J.A.A.

Progress of Medicine.

MEDICINE

IN CHARGE OF

W. P. CAVEN, M.B. Tor.,

Lecturer in Clinical Medicine in the University of Toronto; Physician to
Home for Incurables.

THE BACILLUS OF LOEFFLER IN THE PHARYNX AFTER DIPHTHERIA.

Tobiesen (*Centralblatt f. Bakteriologie*, 1892, p. 587) publishes a study upon this interesting point. He states that the bacillus has been found in the throat after the fall of the membrane as long as six weeks by Roux and Yersin and by Ritter. He himself has frequently found it on the fourth, fifth, and sixth day, and in one case on the tenth, twenty-second, and thirty-first day after the fall of the membrane. The frequency of the bacillus under these conditions has no connection with the gravity of the case. Concerning the influence of complications in favoring the continued existence of the bacillus croup seems doubtful, but diphtheritic coryza certainly does favor it. Among nineteen guinea-pig inoculations with the bacillus thus derived, sixteen animals died within twenty-four to fifty hours, and the three remaining ones had either necrosis or paralysis. The natural conclusion of this study is that diphtheria patients, after leaving the hospital, are very liable to communicate the disease to others. As a matter of fact, upon following up such patients returning home carrying the bacillus in the secretions of the mouth, Tobiesen has been able to find but one case of the disease, and that one doubtfully, to be referred to such a source of contagion.—*American Journal of the Medical Sciences*.

PULMONARY ABSCESS; INCISION; RECOVERY.

Fairchild (*Chicago Clinical Review*, vol. ii., No. 23, p. 118) has reported the case of a miller, fifty-five years old, in which, after convalescence from an attack of pneumonia had apparently been established, febrile symptoms returned, with chills and cough and the expectoration of a small amount of extremely offensive matter, suggesting the existence of gangrene of the lung. Despite faithful stimulating and supporting treatment, the condition of the man grew steadily worse. The heart was found slightly displaced to the right. The pulmonary percussion resonance was found to be somewhat impaired anteriorly (it is not indicated upon which side, however) and the respiratory murmur enfeebled, while posteriorly the percussion note was absolutely dull, and the breath sounds could not be

heard at all. Change of posture occasioned no change in the physical signs. It was concluded that a pulmonary abscess existed, and operation was determined upon. After several unsuccessful punctures, the aspirating needle was introduced into the fifth intercostal space just anteriorly to the angle of the ribs, and a free flow of pus followed. With the needle as a guide, ample incision was made, and, as the ribs were too close to permit of a satisfactory entrance into the chest, the lower portion of the fifth rib was resected for a distance of about two inches. The visceral and parietal layers of the pleura were found adherent; so that, after a passageway had been made by means of the fingers, a dressing forceps was introduced, the blades widely separated, and about ten ounces of pus permitted to escape. A large perforated rubber drainage tube was introduced to the bottom of the abscess, and secured to the external wound by a suture. The cavity was thoroughly irrigated with a solution of boric acid, until the fluid returned clear. Iodoform gauze was loosely packed around the tube, and a generous dressing of borated gauze applied. The patient reacted well from the anesthetic and the operation. The dressings were for a time changed daily, the discharge of pus gradually lessening. Cough and expectoration soon ceased. At the end of a year the patient was perfectly well.—*American Journal of the Medical Sciences.*

THE DIAGNOSIS OF HYSTERIA.

Charcot has shown that hysteria is a definite neurosis with readily recognizable symptoms—hysterical stigmata, divisible into psychical and somatic. The manifestations of hysteria may be paroxysmal, but the stigmata are found between the attacks. The history of a fit is valuable evidence, but fits may be entirely absent in most serious forms of hysteria.

Psychical stigmata. The mental characteristic is impressionability, as evidenced by frequent alteration in disposition, habits, emotions, etc.; the characteristic fit—headache, palpitation, globus, etc.—ending with sighs, tears, or laughter; the hysterical often appear untruthful and vicious because they suffer from gaps in memory; they may forget all the events of a certain period; they are liable to vivid dreams, visions, etc. The existence of hysteria does not predispose to crime; neurasthenia and hereditary mental degeneration are not part of hysteria—they are added to and complicate it, and their presence is diagnosed by their own characteristic stigmata. By congenital deformities, asymmetry of skull, face, palate, etc., hypospadia, cryptorchismus in cases of hereditary degeneration. By the characteristic cerebral symptoms—headache with constriction aggravated by effort, tinnitus, intellectual asthenia, defective

accommodation, vertigo, character morose, irritable, and introspective, and spinal symptoms—weakness and aching pains in the legs, indigestion, palpitation—in neurasthenia.

Somatic stigmata. Anesthesias, hyperesthesias. The less valuable and constant phenomena of (1) diathesis of contracture, l'état d'opportunité de contracture (Charcot), (2) amyosthenia, and (3) tremor.

The anesthesia may be total, but is more usually incomplete, as analgesia, thermoanesthesia, anesthesia and thermoesthesia, electro-anesthesia, or anesthesia and electroesthesia.

The left side is more frequently affected (3 to 1); therefore it is well to begin an examination on that side. Distribution may be (1) general, (2) hemi-anesthesia, (3 and 4) anesthesia in islets or in geometrical areas. They do not follow the distribution of the nerves to the anesthetic areas. The superficial reflexes are usually abolished; the knee jerks present, often exaggerated. Certain organic reflexes are frequently preserved; "goose skin," and the "tache cerebrale" may be produced. Anesthesias of the mucous membranes of the conjunctiva, tongue, fauces, pharynx, epiglottis are frequent.

Special sense derangements. Restriction of the visual field is almost constant. Color blindness is common in hysterical women, rare in men. Red vision is usually preserved after all other colors, and is outside instead of inside in the perimetric tracing.

Hyperesthesias also may be general, unilateral, geometrical, or irregular in distribution. They may be found around a joint or an eye, and may be associated there with rigidity of joint or blepharospasm. Pressure of hyperesthetic zones may excite convulsive manifestations (hysterogenic) or restrain them (hysterofrenic).

Diathesis of contracture betrays itself in an abnormal irritability of muscle, contraction on tapping, supervention of rigidity, etc.

Amyosthenia, weakness of grasp, is very common. Hysterical tremor exists in many forms.—*R. T. Glynn, in Liverpool Med. and Chir. Journal.*

SPASTIC PARAPLEGIA.

"A contribution to the study of the family form of spastic paraplegia" appears in the *American Journal of the Medical Sciences*, April, 1893. This contribution is based on the observation of two families. In the first a brother and sister were affected with spastic paraplegia, and a first cousin suffered from bilateral spastic hemiplegia; in all three cases the affection was marked in early infancy. Several other members of the family presented a marked *increase of reflexes*.

The mother of the first two children presented exaggerated tendon reflexes. The grandmother had been almost deaf from childhood; her speech was abnormal; she was able to write, and was fond of reading, but was described as mentally deficient. Her physical development was good. The grandfather was married twice; in none of the descendants of the second wife were spastic rigidity and increased reflexes found.

In the second family, out of eight children living, three brothers present well-marked paraplegia, and the remainder all have very active reflexes and some rigidity of muscles. There is no proof of the direct hereditary transmission of a neurotic tendency in this family. At the birth of three children instruments were used and labor was prolonged, but in the other cases delivery was easy. All the children were born at term. In view of the etiology of these cases, their multiple occurrence in each of these families is a fact of much interest. The cause of the disease has been deemed to be external—abnormal parturition, difficult labor, premature birth, asphyxia neonatorum—but in a large number of cases perfectly healthy children are affected without any assignable cause; in the first family there was no trouble at the birth of either child. Hence the author concludes that it is evident from the history of these two families that spastic paraplegia may occur as a family disease due to a congenital tendency, and appear either in infancy, during childhood, or in adult life. It may be assumed that the complications and the difference in the age at onset correspond to variations in the extent and nature of the morbid process.—*Medical Chronicle.*

TRUE AND FALSE ANGINA PECTORIS.

Dr. Huchard gives the following table of differential diagnosis between true angina and hysterical pseudo-angina:

<i>True Angina.</i>	<i>Hysterical Pseudo-Angina.</i>
Most common between forty and fifty years.	At every age, even six years.
Most common in men. Attacks brought on by exertion.	Most common in women. Attacks spontaneous.
Attacks rarely periodical or nocturnal.	Often periodical and nocturnal.
Not associated with other symptoms.	Associated with nervous symptoms.
Vaso-motor form rare. Agonizing pain, and sensation of compression by a vice.	Vaso-motor form common. Pain less severe. Sensation of distension.
Pain generally short duration; attitude, silence; immobility.	Pain lasts one or two hours; agitation and activity.
<i>Lesion.</i> Sclerosis of coronary artery.	Neuralgia of nerves.
<i>Prognosis.</i> Grave, often fatal.	Never fatal.

Huchard also discusses the prognosis of angina: Sudden death may occur during the course or at the end of a painful paroxysm, or by sudden

syncope unattended by pain. Anginal patients are very liable to syncope; the patient falls as if struck by lightning. In other cases death is not so sudden, but rapid, and may be attended with symptoms of asphyxia instead of syncope. In other cases the disease may be terminated by intercurrent affections. The predisposing causes of sudden arrest of the heart in angina are probably lesions of the cardiac ganglia and local ischemia of the myocardium; the exciting causes are spasmodic contraction, or thrombosis of the coronary arteries. The author gives iodide of potash for three or four years in doses of forty-five to sixty grains daily, taking care to suspend it for eight or ten days each month. In rheumatic cases, sodium salicylate, rest, even temperature, and dietetic care are always important. The inhalation of nitrite of amyl (this drug relaxes the peripheral arterioles, lowers the blood pressure, and relieves the heart). Nitro-glycerine and hypodermic injection of morphia are also useful for the same purpose, and act much in the same way. Hot applications to the chest, faradization of the cardiac region, with internal administration of diffusible stimulants, belladonna, and small doses of opium have been recommended.—*Hospital Gazette*.

THE TREATMENT OF ASTHMA.

M. J. P. Nuel (*Bulletin de l'Académie Royal de Médecine de Belgique*) recognizes in the filaments described by Curschmann, in 1882, an important factor in the causation of bronchial asthma. Believing that these filaments, in the case of the eye, have their origin in a retarded elimination of corneal epithelium with a tendency to the formation of mucus, and noting that a two per cent. solution of chloride of ammonium favored this elimination and liquefied the mucus, he believes that the same remedy would benefit the bronchial asthmas, and this belief has been confirmed by the marked success attained by Dr. Delbovier.—*American Journal of the Medical Sciences*.

CARDIAC IRREGULARITY IN RHINO-PHARYNGEAL DISEASE.

In a paper upon "Irregular Heart," Dr. Sansom (*The Lancet*, 1892, No. 3616) presented some illustrative cases tending to show that a reflex from the rhino-pharyngeal tract and from the neighborhood of the auditory mechanism was often a potent cause of cardiac irregularity. He thought that the nasal and aural troubles were the commonest reflexes which started the cardiac derangement. Dr. Woakes testified that heart perturbation or cardialgia was a common consequent on nasal disease.—*American Journal of the Medical Sciences*.

THERAPEUTICS

IN CHARGE OF

GRAHAM CHAMBERS, B.A., M.B. Tor.,

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AND

WILLIAM LEHMANN, M.B. Tor.,

Physician to the Home for Incurables and House of Providence.

SALICYLIC ACID FOR TENIA.

Make the patient fast the entire day. At night give thirty grammes of castor oil. The following morning at 7 o'clock give fifteen grammes of oil, and at 8, 9, 10, 11, and 12, one gramme of salicylic acid—in all, five grammes; then fifteen grammes of castor oil. Recommended by Ozegowski.
—*Qaceta Médica de Catalana*. R.B.N.

OINTMENT FOR SCABIES.

Creolin 2 grammes.

Vaselin 40 grammes.

Apply freely to the affected parts every day. Four days suffice for a cure. Creolin is rapid in action, unirritative, and innocuous. The entire body may be covered with it without inconvenience.—*Qaceta Médica de Catalana*. R.B.N.

TO MASK THE TASTE OF DISAGREEABLE DRUGS.

It has happened to all at some time to have tried to mask the disagreeable taste of medicines with concentrated essences, pill and capsule, glycerine and saccharine. Nowadays the gustatory sensitiveness is benumbed by special substances. Amongst these a certain reputation has been achieved by gimnesic acid, extracted by Hooker from the *Asclepias ginnema*. It is a greenish white powder of harsh taste, soluble in alcohol. By covering the tongue with this powder the perception of sweet and bitter disappears for some hours, whilst that for harsh, disagreeable, sour, and sharp savors remains. When a bitter medicine is to be taken, paint the tongue with a twelve per cent. alcoholic solution of the acid.

The same thing occurs with eugenolacetic acid, a new anesthetic, which, applied to the tongue in the form of a fine powder, renders the part in contact insensitive for a variable length of time.—*La Cronica Médica*.

R.B.N.

NIGHT AIR.

Before we can hope to fight consumption with any chance of success, we have first to get rid of the night-air superstition: Like the dread of

cold water, raw fruit, etc., it is founded on mistrust of our instincts. It is probably the most prolific single cause of impaired health, even among the civilized nations of our enlightened age, though its absurdity rivals the grossest delusions of the witchcraft era. The subjection of holy reason to hearsays could hardly go further. "Beware of the night wind; be sure to close your windows after dark!" In other words, "Beware of God's free air; be sure to infect your lungs with the stagnant, azotized, and offensive atmosphere of your bedroom!" In other words, "Beware of the rock-spring; stick to sewage!" Is night air injurious? Since the day of creation that air has been breathed with impunity by millions of different animals—tender, delicate creatures, some of them—fawns, lambs, and young birds. The moist night air of the tropical forests is breathed with impunity by our next relatives, the anthropoid apes—the same apes that soon perish with consumption in the close, though generally well-warmed, atmosphere of our northern menageries. Thousands of soldiers, hunters, and lumbermen sleep every night in tents and open sheds without the least injurious consequences. Men in the last stage of consumption have recovered by adopting a semi-savage mode of life, and camping outdoors in all but the stormiest nights. Is it the draught you fear or the contrast of temperature? Blacksmiths and railroad conductors seem to thrive under such influences.—*Good Health*.

NEW PROPERTIES AND USES OF SALOL.

M. Reynier (*Gazette des Hôpitaux*) read to the Société de Chirurgie some notes on salol. At a temperature of 40° C. (104° F.), salol fuses and becomes liquid; it can then be easily injected with a Pravaz syringe. The liquefaction persists for fifteen or twenty minutes below 104° F., and at this temperature can be injected without danger. Besides combining with camphor, it also combines with iodoform and aristol, and if the mixtures be heated they become liquid and can be easily injected. M. Reynier has injected salol or salol combined with iodoform or aristol, as liquids, into the fistulous passages or purulent cavities with good results. He has also employed it as a dressing over sutured cutaneous incisions, and in drying the liquid salol and iodoform form a true antiseptic varnish over the wound.—*The Quarterly Medical Journal*.

ILL EFFECTS OF PHENAZONE, ACETANILIDE, AND PHENACETIN.

The Therapeutics Committee of the British Medical Association has conducted an inquiry into the alleged ill-effects of these antipyretic and anaesthetic agents, and reports as follows: "It would appear that the frequency and importance of these ill-effects have been considerably

exaggerated. The predominant opinion is that with one case, especially as regards the initial dosage, ill-effects other than those connected with idiosyncrasy are extremely infrequent, of little or no importance, and are not of such a character as to limit in any material way the usefulness of the drugs. This conclusion does not apply so fully to antifebrin, the action of which has been frequently followed by ill-effects. In the case of antifebrin the dosage employed has, in the majority of cases, been too large.—*British Medical Journal*.

THE ABORTIVE TREATMENT OF ERYSIPELAS BY ICHTHYOL.

Hallopeau has had good results from a treatment devised by M. Juhel-Renoy, and which consists in painting round the patch of erysipelas a mixture of traumaticin (gutta percha dissolved in chloroform) and ichthyol. On the surface of the patch he applies an ointment composed of equal parts of vaseline and ichthyol. Cure is obtained in from twenty-four to forty-eight hours.—*Progrès Médicale*.

SOME OF THE RECENT ADVANCES IN MEDICINE AND THERAPEUTICS.

We extract the following from the address on medicine delivered before the American Medical Association in June by Dr. H. A. Hare, Professor of Therapeutics and Materia Medica in the Jefferson Medical College. In speaking of the practical advances made in medicine and therapeutics, he said :

A very important part of this advance has been recognition of the fact that many conditions heretofore regarded as distinct individual maladies, and treated accordingly, are in reality merely manifestations of functional disorder elsewhere. No more interesting example of this can be adduced than anemia. But a few years ago we were taught that anemia was a state in which the blood was impoverished, and these conditions of anemia might be divided into those which were simple and essential, or, in other words, those which would respond to treatment and those that would not. We had this empirical information, and we also knew by experience that while iron was useful in one form of simple anemia, independent of malignant disease, arsenic was more valuable in another. Later than this we came to regard anemia chiefly as a manifestation of disease in certain blood-making organs, or an important symptom of many perverted functions ; and, finally, the invention and employment of the hematocytometer and the hemoglobinometer has enabled us to separate anemia into a condition in which there is a decrease in the number of corpuscles or a decrease in the amount of hemoglobin in each corpuscle. In other words, we now know that pallor may be due to too few corpuscles or too

little hemoglobin, and this being known it is only a step to the understanding of the empiricism of years ago in regard to the use of iron and of arsenic—namely, that in that form of anemia due to a diminution in the number of blood cells arsenic did good, because by its alterative powers it increased cell activity in blood-cell making organs, while where hemoglobin was lacking iron came particularly into play. For these reasons we find that small doses of alteratives, such as corrosive sublimate and other mercurials, often overcome the anemia due to deficient manufacture of cells. We may, therefore, explain why arsenic usually fails to do good in chlorosis, an anemia of deficient hemoglobin, and succeeds in pernicious anemia, which is characterized by deficient corpuscles, but relatively increased hemoglobin.

It is, unfortunately, only too true that the entire subject of blood making and blood breaking is as yet very imperfectly understood, but our therapeutic facts rest on rational ground now, if not before; and if the pathologist will give us more information upon these subjects, other remedial measures will be introduced, or the empirical employment of others still further explained. Practically speaking, the therapist recognizes two very important points, the causes of which the pathologist must eventually solve, namely, that one class of anemias are due to defective or deficient hemogenesis and another to excessive hemolysis. The former are generally believed to form the simple class, and the latter the essential or pernicious class. It is in the deficient hemogenesis class that we fail. More than this, the causes of excessive hemolysis are so various that we can further divide them into removable and permanent, the removable being represented by the cases in which copremia or auto-intoxication takes place, and the others by the true pernicious anemia, about which we really know very little save that most observers find evidence of profound hemolysis in the percentage of iron in the liver, while in the dark-colored urine they believe a destructive agent exists which, prior to its excretion, has slaughtered many corpuscles. Unfortunately, it is at present impossible for us to separate clinically the hemogenous anemia from that of hemolytic excess unless we find evidence of great corpuscular disintegration in a copious elimination of hemoglobin in the urine, or a jaundice evidently hematogenous in character, or a large number of defective corpuscles, which would perhaps indicate defective hemogenesis rather than that they were scarred veterans of a battle with a poison in the liver cells or elsewhere. *Post-mortem* signs often aid us in the differential diagnosis, but this is too late to do any good to the doctor or patient.

There is one point, however, about which there can scarcely be any doubt, and that is that in many cases iron is greatly abused, being given when there is no indication for it, or more frequently given in excessive

dose. By excessive dose I refer to as much as six to ten grains in a day of reduced iron. The amount of iron in the human body is very small, and every study ever made of its absorption and elimination after absorption has shown that these processes are very slow. Hamburger recovered from the feces nearly all the iron administered, and Jacobi proved that even when the iron was injected into the veins ten per cent. was at once eliminated by the bowels, liver, and kidneys, and the remainder deposited in the liver, spleen, and other tissues in the same manner as is any metallic substance. The researches of Gottlieb have also been in confirmatory lines. When we consider that there is in the human blood only about thirty-nine grains of iron all told, we can see that the use of twelve grains a day in the course of a little over three days places a double quantity of the metal in the economy, which is not needed, and is either cast out, or deposited at any convenient spot, there to lie undisturbed until it can be extruded.

Much, of course, depends upon the cause of the anemia, but there is only one excuse for the use of the doses named, viz., a condition of the digestive apparatus which results in the formation of a sulphide of iron in great quantity, so that only an infinitesimal amount escapes into the system. This explains the empirical fact that in some cases of chlorosis or intense anemia iron has to be given in large doses to accomplish any good.

One of the best and most recent papers on this subject is that of Ralph Stockman, who gives a masterly summary of the subject of the absorption of iron in chlorosis. In this summary he points out that we have three chief theories as to the action of iron in anemia. The first—the absorption theory—is based on the fact that as iron is taken into the body with the food, the iron of the hemoglobin must be obtained from this source, and therefore that medicinal iron given by the mouth must be absorbed. The second theory rests upon the belief that iron is not absorbed when given by the mouth, in addition to that in the food, but simply acts as a stimulus to the mucous membrane of the alimentary canal, therefore increasing the digestion of food, and so overcoming anemia by the general improvement coincident upon proper nutrition. The third theory is that of Bunge, namely, that in chlorotic conditions there exists an excess of sulphur or sulphuretted hydrogen in the bowel which changes the iron in the food into a sulphide of iron, which Bunge states cannot be absorbed. He believes that the inorganic iron which is given as a medicine saves the organic iron of the food by combining with the sulphur, and so indirectly cures the anemia by the protection afforded the food iron. It is important to remember that each of these theories have been supported by many careful experiments, but it is also well to

bear in mind that both the hypotheses and the experiments supporting them may be erroneously based. Thus we have no right to imagine that the inorganic preparations of iron have a stimulating power over the alimentary mucous membrane, or, even if they have, that this power is exercised in the peculiar line of aiding in the absorption of the organic iron of the food. Again, the researches of Hamburger, Damaskin, Gottlieb, Müller, Jacobi, and Socin, which show that after the internal use of inorganic iron there is no increase in the iron in the urine, are valueless so far as the conclusions drawn by them are concerned, namely, that as there is no increase in iron in the urine there is none in the blood, and therefore it is not absorbed. These conclusions are not justified, because they are based on the erroneous view that because iron is not in the urine it is not in the blood, and because it is not in the blood it is not absorbed. Every one knows that in the case of chronic lead poisoning, when the body is saturated with the metal, there is often no lead in the urine, the poison being deposited in the tissues; and if this is true of lead it may be of iron. Particularly is this to be remembered when we find Stockman quoting the researches of Mayer, Bidder, and Schmidt, and a host of others, who have proved that we are not to look to the kidneys as the path for the excretion of iron, but to the intestinal walls. Finally, Stockman has proved that when iron is used hypodermically it cures anemia when it cannot stimulate the digestion or counteract sulphides.

OBSTETRICS

IN CHARGE OF

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TUBERCULOSIS AND PREGNANCY.

The author (Dr. Jules Bizourard, in his Thesis at Lyons in 1892) has exhaustively studied the effects of pregnancy on pulmonary tuberculosis and against the transmission of tuberculosis from the parents to the offspring.

The following are his conclusions on these two points:

I. (1) Pregnancy in a woman that is predisposed by hereditary or by bad hygienic surroundings favors the outbreak of tuberculosis.

(2) If a tuberculous woman becomes pregnant, the progress of the disease is nearly always accelerated.

(3) If signs of tuberculosis come on after marriage, advise against pregnancy, and particularly against repeated ones.

(4) Tuberculous women are subject to abortion and to premature labor.

(5) If the woman has just been delivered, advise against the nursing of the child.

II. (1) The theory of the transmission of the germ by the placenta is undeniable, but still it is the exception.

(2) As yet, there have not appeared any positive proofs that the fetus can be procreated tuberculous by the father, or that the tuberculous fetus can infect its mother.

(3) That there is not heredity to the germ of tuberculosis itself (with a few exceptions), but that there is contracted a simple predisposition to tubercular infection.

(4) Contagion takes a large part in the infection of the infant after birth, and the more to be feared is this contagion since the soil has been so well prepared in the child born of tuberculous parents.

(5) There should, then, be given to the child born of tuberculous parents the best possible nursing, and, above all, being careful to withdraw him from all chance of tuberculous infection.

J.A.A.

CHLORAL IN THE TREATMENT OF ECLAMPSIA.

Charpentier strongly recommends the administration of chloral in all cases of eclampsia. His method is to give rectal injections of one drachm in two ounces of mucilage of quinces; if this be returned, a second, and, if needed, a third is given until the drug is tolerated, regardless whether the attack continues or not. An interval with no chloral is then allowed for five or six hours; it is then administered, dose one drachm, and another interval allowed. He rarely exceeds three drachms in eighteen or twenty-four hours, but has used four drachms at times. If the attack ceases after the first series of doses, the medication is slowly withdrawn; if not, the doses are approximated. The medication is never to be abruptly withdrawn, but, after the injections are dropped, doses by the mouth are continued. Usually, labor comes on spontaneously, and if the contractions are vigorous it is let alone; if not, the forceps are used. His conclusions in the article referred to (*Nouvelles Archives d'Obstetrique et Gynecologie; American Journal of the Medical Sciences*) are:

(1) All pregnant women with albuminuria are subject (liable?) to eclampsia. Always examine the urine of a pregnant woman, and if a trace even of albumen is found put her on absolute milk diet. This is the preventive treatment.

(2) If patient be strong and vigorous, and if cyanosis is present, bleed 12 to 16 ounces; then administer chloral, and put on milk diet.

(3) If patient be not strong, bleeding should not be done; chloral should be used.

(4) Await spontaneous labor, if possible; if not, use forceps or version.

(5) Induced labor to be held in reserve.

(6) Reject Cesarean section and all forcible interference.

DIAGNOSIS OF BREECH PRESENTATIONS BEFORE LABOR.

Pinard (*Revue Médicale*, Louvain, August 31, 1893) lays great stress on tenderness of the fundus. In some pregnant subjects who have passed the sixth month, pressure of the hand on the fundus causes sharp pain. Sometimes the patient feels pain without the part being touched. In both cases the evidence of breech presentation is strong. This pain, or tenderness, is solely due to the pressure of the fetal head, which is harder and more bulky than any other part of the uterus, and distends the upper segment irregularly. That segment is not naturally designed to receive the head. Pinard especially notes that the pain disappears after version. The tenderness is influenced by the size of the head, the amount of liquor amnii, and the flaccidity of the uterine walls. This tenderness of the fundus is present in 70 per cent. of breech presentations.—*British Medical Journal*.

ALBUMINURIA AFTER LABOR.

Aufrecht (*Centralbl. f. klin. Med.*, No. 22, 1893) examined the urine in thirty-two patients, in good health and without gonorrhœa, before labor, immediately after, and again twenty-four hours later. The catheter was always made use of and precautions as to cleanliness employed, the result being that no albumen was found before or twenty-four hours after labor, but eighteen of the above patients showed albumen, varying in quantities from 0.002 to 0.0005 per cent. in the urine drawn off immediately after parturition. Boiling, nitric acid, and Erbach's quantitative test were applied to each specimen, and microscopically the albuminous urine contained epithelial cells and in one case blood corpuscles, but never casts. The labors were all normal, and the puerperal period gave no trouble. The author considers that the violent expiratory efforts cause a temporary venous obstruction and consequent albuminuria. From these observations he draws the following practical conclusions: (1) As regards labor, the urine should be examined immediately beforehand; if albumen be present, labor should not be allowed to continue too long, in view of the probable increase of albumen; should eclampsia occur, its cause may lie in the state of the urine, and parturition, if practicable, should be

accelerated. (2) As regards the pathology of the kidney, it is shown that albumen may exist without casts; these are, therefore, probably an accompaniment of a congested kidney, and a product of inflamed epithelial cells.
—*British Medical Journal*.

THE TREATMENT OF RETROVERSION OF THE GRAVID UTERUS.

I have had a series of six cases of backward displacement of the gravid uterus in the obstetric ward of the Queen's Hospital under my care during the past twelve months; and the divergent rules laid down in text-books for dealing with this condition have led me to think that a brief summary of the different methods advised may not be considered out of place.

For cases of retention of urine Denman lays down precise directions as to the method of emptying the bladder, advising the use of a flexible male catheter, and drawing attention to an important point which is not referred to in many later text-books, namely, that in some cases the flow of urine ceases before the distension is removed, and says that this sometimes happens in such a manner as to give us the idea that the bladder is divided into two cavities.

In a case reported by Dr. Halliday Croom in the *Edinburgh Medical Journal*, April, 1890, in which death ensued, and in which frozen sections were made *post mortem*, it was found that the urethra was not compressed or distorted, but that the retroverted uterus had compressed the bladder walls against the pubes. The part compressed included the trigone, except a small part under the left ureter, which opened into the distended portion; the right ureter opened into the compressed portion. In this case, a catheter passed its whole length, but no urine was withdrawn, what probably happened being that the catheter coiled itself up in the portion of bladder below the compression; in consequence of this, the abdominal swelling was thought not to be a distended bladder. The pressure in this case was due to the fundus, the cervix being thinned out and soft; and this is probably usually the case, the mere position of the cervix having no effect on the results, and the division into retroflexion and retroversion being practically immaterial.

Playfair, in his treatise on "Midwifery," advises that, after emptying the bladder, the method of replacement to be adopted should be the introduction of an india-rubber bag into the vagina, which is to be distended with water and so exercise constant pressure. Failing this, he advises that the patient should be placed in the usual obstetric position at the edge of the bed and thoroughly anesthetized, and one or more fingers or the whole hand passed into the rectum, and so replacement effected; and

with reference to the genu-pectoral position he says—and I would especially draw attention to this point, as his book is accepted as a guide to midwifery practice by many: “Others recommend the hand and knee position as facilitating reposition; but this prevents the administration of chloroform, which is of more assistance than any change of position can possibly be.” And it is this statement that suggested to me that I should narrate the cases I mentioned at the beginning of this paper, as in them the superiority of the treatment by position was very marked. Of these cases, in three there was incarceration with retention of urine and distended bladder, and in the other three there was no incarceration. I will venture to give briefly the history of the first case, as it is interesting as bearing on the pathology of the condition. As I mentioned before, it is generally held that the condition is due to pregnancy taking place in an already retroverted uterus, and in nearly all cases as the uterus enlarges there are various symptoms preceding the absolute retention of urine, the most prominent being bearing-down sensation and irritability of the bladder; but in this case the retention came on suddenly, and was not preceded or accompanied by any other symptoms.

CASE 1. The patient, aged 27, had had four children, and had last menstruated fourteen weeks before admission. She was admitted at 6 p.m. on August 1st, 1892, and stated that she passed water without any inconvenience or pain at 11 a.m. the previous day; on attempting to do so again at 3 p.m. on the same day, she found she could not, and did not pass any more until admission. She had gradually increasing painful desire to micturate, but no other symptom. On admission, the bladder formed an abdominal tumor, and the retroverted fundus could be felt on vaginal examination. Fifty ounces of urine were drawn off by catheter, and with patient in left lateral position an attempt was made to replace fundus with fingers first in vagina and then in rectum, but without effect. The advisability of giving chloroform was considered, but meanwhile it was determined to try the genu-pectoral position. Patient was placed in that position, and immediately felt something move, and on examining her it was found that the uterus had completely righted itself. She passed water naturally a few hours afterwards. She was kept in bed a few days afterwards, being enjoined to lie on face or side and not on back. An elastic ring pessary was introduced. She was allowed to go home. She was kept under observation for two months afterwards, and had no further difficulty with micturition.

CASE 2. In this case the patient had had retention for a week, but had had the catheter passed twice daily by the medical man who was attending her. The same method was adopted with a satisfactory result.

CASE 3. A primipara, aged 19; she had not menstruated for about

three months and a half, and had been complaining of gradually increasing difficulty of micturition for a fortnight, and of complete stoppage for thirty-six hours. She had been under a medical man, and had been treated by medicine, but no examination had been made. The catheter was passed, and 60 ozs. of urine withdrawn; the patient was then placed in the genu-pectoral position, and pressure made on fundus with fingers first in vagina and then in rectum. The fundus could be elevated just above the brim, but could not be made to resume a completely normal position. She was directed to lie on her face, and in a few hours passed water herself, and the next day the uterus was found to have gone back into a normal position.

Of the three cases in which there was no incarceration, in one the uterus was replaced in the genu-pectoral position, and in the other two the mere assumption of the prone position by the patient was sufficient. One of these cases was interesting, inasmuch as there was so great an amount of prolapse associated with the retroflexion that the cervix protruded externally. To sum up, I would say that in all cases of backward displacement of the gravid uterus (retroversion or flexion) associated with retention of urine, after passing the catheter, an attempt should be made to replace the uterus with the patient in the genu-pectoral position before proceeding to administer an anesthetic, and that should this not be successful it is probably better to keep the patient in bed lying as much as possible on the face, and to use the catheter at regular intervals, repeating the attempts at replacement in the genu-pectoral position for a day or two, rather than to place her under an anesthetic and use considerable force in endeavoring to secure replacement.

The subsequent treatment after replacement has been effected is, I think, important, and consists in keeping the patient in bed for a few days, strictly forbidding her to lie on her back, and the insertion of a ring pessary before she is allowed to get up, with subsequent strict injunctions as to the necessity of not neglecting the calls of nature. In all the cases in which these precautions were observed, there was no recurrence of the displacement or subsequent bladder trouble. The pessary may be removed at the termination of the fifth month of pregnancy, after which date the size of the uterus will preclude the possibility of its again descending into the pelvis.—*C. E. Purslow, M.D., in British Medical Journal.*

THE NEUROSES OF THE MENOPAUSE.

Dr. Gustavus Eliot, of New Haven, contributes to the September number of the *American Journal of the Medical Sciences* an article entitled "The Disorders of the Nervous System associated with the Change of Life." After mentioning women's habitual disregard of their health in

their earlier life and the frequency of the occurrences calculated to beget emotional disturbances between the fortieth and fiftieth years of age, he says :

If you inquire carefully in regard to the clinical history of one of these patients, you will find that she suffers from more or less of the following symptoms: Indisposition for exertion, inability to work, forgetfulness, headache, dizziness, insomnia, flushes of heat followed by chilly sensations, sweating, palpitation, flatulence, abdominal distension, constipation, intercostal neuralgia, frequent backaches, and tender spots may be detected in her head, back, and chest.

In the management of these cases, it is necessary to combine very careful hygienic regimen with appropriate medical treatment. Worry and care must be avoided as far as possible. Regular and prolonged rest must be secured. A moderate amount of mental occupation during waking hours is useful. Abundance of fresh air and moderate exercise are essential. Food which can be easily digested, and which has been properly prepared, must be taken regularly and in sufficient quantity. It must be eaten slowly and chewed thoroughly, and time must be allowed for the process of digestion to become fairly established before the resumption of mental or physical exertion. Tea and coffee must be entirely abandoned, and abundance of milk and water must be taken. Bathing and rubbing influence very favorably the circulation and the processes of nutrition. The body must be properly protected, so as to maintain an equable degree of warmth throughout, care being taken to avoid the extremes of an excess or a deficiency of clothing.

The digestive organs are perhaps more frequently deranged than any others, and require most careful attention to secure a proper performance of their functions. Constipation, flatulence, anorexia are the most common and the most important indications for treatment. If constipation exists alone, a pill of aloes and myrrh taken at night, and followed, if necessary, by another in the morning, will generally produce a pleasant effect. Another excellent pill under these circumstances is one containing one-fifth grain of aloin and one-sixtieth grain of sulphate of strychnine. Two or three of these may be taken at different times through the day, if one at night is not sufficient. The object to be aimed at is to secure one easy movement of the bowels each day, unaccompanied by nausea or griping, by means of small doses, repeated, if necessary, of some not very irritating laxative.

If anorexia, constipation, and flatulence are all present, a bitter mixture will generally prove useful—a combination of *nux vomica*, *cascara sagrada*, *cardamom*, and *gentian*, with aromatics, is exceedingly valuable under these circumstances.

If anemia is well marked, iron and arsenic are very useful. If there is no, or only a slight, disturbance of the digestion, pills containing sulphate of iron with carbonate of potash, known as Bland's pills, with the addition of arsenious acid, produce excellent results.

If constipation accompanies anemia, a pill or capsule containing arsenious acid, aloes, nux vomica, and reduced iron may be advantageously prescribed.

If neuralgia is a prominent symptom, five-drop doses of fluid extract of gelsemium will give relief in many cases. In connection with gelsemium, or in place of it, benefit will often be obtained from the use of sulphate of quinine with extract of hyoscyamus.

The use of arsenic has already been mentioned in connection with the management of cases in which anemia is an important factor. In the treatment of certain forms of anemia it is of great value. In combination with iron and nux vomica it is exceedingly useful.

The utility of phosphorus as a nerve tonic has long been recognized. A combination in pill form of one-hundredth grain of phosphorus with one-quarter grain of extract of nux vomica has been used extensively, and with excellent effect. One great drawback to its use is the difficulty of securing pills which have been properly made, and in which the original characteristics of the drugs have been retained.

Phosphide of zinc is frequently substituted for phosphorus. One-tenth grain of this compound with one-fourth grain of extract of nux vomica will often prove of benefit.

The compound syrup of hypophosphites is another preparation which is very popular with the profession, and which has positive value as a nerve tonic.

As a palliative agent, to produce sleep, to equalize the circulation, and to relieve the condition of nervous irritability, commonly call nervousness, no drug is more useful than bromide of sodium. This salt is preferable to the other bromides because it is less unpleasant to take, and is less irritating to the stomach, while at the same time it is not inferior in therapeutic value. In prescribing this very valuable drug, one should never forget that it does not increase the strength or nutrition of the nervous system. It should not, therefore, be relied upon for continuous prolonged administration to the exclusion of other remedies. On the contrary, its use should be supplemented by the administration of general tonics and of special nerve tonics. Iron and arsenic are especially well adapted for this purpose.—*Abstract New York Medical Journal.*

GYNECOLOGY

IN CHARGE OF

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EXPLORATORY LAPAROTOMY IN PREGNANCY.

In the August number of the *Buffalo Medical and Surgical Journal*, Dr. Mann, of Buffalo, reports a case of which the following is an abstract :

A patient was brought, concerning whose condition an indefinite history was given, with the request that an exploratory operation should be done. There was a long history of invalidism. The patient was examined under ether, and with the exception of a cystic mass to be found in front of the cervix not much was made out ; there did not seem to be anything inside of the uterus. The cervix had been dilated forcibly within a short time, the cavity had been curetted, the sound had been passed, and every evidence had shown that the uterus was empty. The cervix was hard and firm. The patient was flowing at the time, and had menstruated only a short time before. The abdomen was opened. A cyst was found, evidently not ovarian from its appearance, and, on pulling up the omentum over it, it was found to be the uterus. The whole hand was then introduced, and it was found that the case was one of pregnancy about the fourth month. Even with the abdomen open the uterus was so thin walled, so soft, and so flaccid, that it was difficult to recognize it. It was owing to this extreme flaccidity of the uterus that he was unable to recognize the pregnancy by bimanual palpation with the patient under ether. The patient miscarried and made a good recovery.

In the September number of the *Journal of Surgery, Gynecology, and Obstetrics*, a case of exploratory incision on a pregnant woman is reported by Dr. J. F. W. Ross, of which we give an extract :

A young woman, half idiotic, totally deaf, and so near-sighted as to be almost blind, was brought to his out-patient clinic at the Toronto General Hospital by an old man claiming to be her father. She came, he said, according to instructions given nearly two years before to have a tumor removed that was then present, and had been growing since. She had been at that time under Dr. Ross' care in another hospital for a lump in the right side low down, and had been discharged, with the instructions to return if it enlarged. Menstruation had been regular, she stated, and the last time occurred six weeks before. As she was frequently irregular, no stress was laid upon the fact that she had gone six weeks. Owing to her deaf condition she was readily recognized, and her case was readily recalled

to memory. The presence of a mass was distinctly found on the previous examination, but this mass had, to a large extent, disappeared before she left the hospital. She now returned with an enlarged abdomen, with a very flaccid, fluctuating tumor, lying apparently more toward the right side than toward the left. With menstruation continuing, with a hard cervix, and what appeared to be the fundus of a small uterus behind the tumor, the conclusion was jumped at that the case was one of ovarian tumor, and immediate operation decided on.

The patient having been for several weeks under observation on a previous occasion, her conduct had been exemplary, and there was not the slightest suspicion of any want of virtue. Three or four others present at the time of the last examination felt the uterus behind the tumor, and thought the tumor was apparently lying more toward the right than toward the left side. The father stated that he knew the tumor was growing because he had felt it himself—a somewhat strange procedure.

On opening the abdomen next morning the tumor presented a peculiar appearance, owing to the presence of large vessels on its surface; these vessels proved, however, to be in the omentum, spread out in a very thin layer over the tumor. The tumor within looked glistening in appearance, red, and looked neither like an ovarian cyst nor a fibroid. On passing two fingers to one side one ovary was discovered, and, passing them toward the other side, the other ovary was discovered, and it was concluded that the case was one of pregnancy; the abdomen was closed, from six to eight minutes after the first incision was made. On squeezing the nipples, milk was found present in the breasts. The patient made an uninterrupted recovery, and did not miscarry. No fetal heart sounds could be heard during convalescence, but placental bruit could be obtained with the stethoscope in the vagina. The tumor was so flaccid that one could hardly believe that it was nothing but a pregnant uterus.

In subsequent conversation with the father, it was found that a young man had been sent to penitentiary for a rape committed on the patient in England some two or three years before. He could not believe it was possible that she was pregnant. After carrying on a difficult correspondence with the girl by means of letters printed in large type, it was ascertained, with the usual amount of indignation on the part of the patient, that no intercourse had taken place since her arrival in this country. After informing her that she was not speaking the truth, she acknowledged that she had been criminally assaulted just as she had been in England. She said she had screamed very loudly, and further stated, on further questioning, that she had been assaulted four or five different times in different localities and by different people, and that each time she had

screamed. Assertion was then ventured that this must be a very bad and a very deaf city, and she cordially agreed with these sentiments.

In conclusion, the writer states that the surest method of diagnosing pregnancy that can be adopted is to calmly await developments.

GYNECOLOGY AND ABDOMINAL SURGERY.

In the August number of *The American Gynecological Journal*, Eastman says that the contention between antiseptic and aseptic surgeons is an absurd one, for many reasons, and that the antiseptic surgeon is an aseptic surgeon, and the aseptic surgeon is an antiseptic surgeon. He says the aseptic surgeons use chemicals for the purpose of purifying their sponges, for the purpose of washing their hands, and for the purpose of cleaning their clothes they use soap, ammonia, ether, and benzine. It requires chemicals to secure cleanliness.

The difference between those favoring and those opposed to antiseptics is largely imaginary—a play of words. “We can obtain cleanliness, but not without chemicals, and by this I do not mean such agents as are usually considered germicides. I doubt the propriety of killing germs, lest we irritate the tissues. These pretended differences between asepsis and antiseptics can but confuse the average general practitioner, or the beginner in surgery. For example, my friend who had located in the far west, and who had been doing some surgery, returned on a visit. He found his way to my operating room, and was noticing our preparations for work. As I had once been his teacher, I began answering his questions by explaining to him that the hands were the most frequent source by which we convey septic material into the peritoneal cavity, and that for the last ten years I had been studying how to clean my hands; that now I had a soap made by a chemist of olive oil and caustic potash, practically the green soap of the pharmacopeia. I showed him my scrub brush for the hands, which is boiled every time after being used, and then kept in alcohol ready for use again. With this soap and brush, and a stream of running water from a spigot, I could scour my hands with only the hope of making the microbes so blinded, sickened, and weakened that the running water would wash them off the deck of our surgical ship. I explained how it takes repeated rinsings to get rid of the soapsuds from the pores of the skin before we dare venture within the abdomen. He answered me: “I have no use for all your details. I simply put my hands in the bichloride of mercury, and then I know I am safe.” This doctor believed there were two factions, and he had chosen the chemical side of the question. Further, he considered that the washing with oxalic acid and permanganate of potash, when it produces a redness of the

skin, showed that acid was still retained in the pores. This he had proven by using aqua-ammonia and obtaining a lather like soapsuds. "The nearer we stick to the religion and soap of our grandmothers, the nearer we will approach the moral and physical cleanliness of body and mind."

After relating how doctors frequently change everything but their gloves after waiting on a septic case, he says: "This doctor's antiseptic precautions were faulty because of too implicit reliance in germicides, which led him to overlook the fact that any microbe having a particle of self-respect would, not attempt to stay where soft water, clean scrub brushes, plenty of elbow grease, and repeated changings of the clothing were customary." It requires the utmost painstaking to have our chain of antiseptic precautions strong in its entirety. This being true of those who are especially engaged in intraperitoneal work, so that the least deviation from the strictest asepsis will be detected in the results obtained, how much more likely is he who is engaged in general work to overlook some important detail in the change of clothing, and especially in what he is handling with his hands, including his gloves.

SURGERY

IN CHARGE OF

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REMOVAL OF CANCEROUS INGUINAL GLANDS.

Dr. Rupprecht calls attention to the necessity of a radical removal of the inguinal glands in cases of carcinoma of the umbilicus, the penis, the vulva, the anus, and the lower extremity, and also in many instances of cutaneous sarcoma on the thigh. This practice he has carried out during the past ten years in every case of cancer in the above-mentioned regions, in which a prolonged operation was not contraindicated by debility of the patient, or advanced age. In the groin, as in the armpit, in cases of cancer of the breast, the glands, it is held, should be removed, even though not appreciably enlarged. In cases of cancer either on the right or the left side, only the corresponding inguinal glands are removed; but in cases in which the primary disease is seated in the median line of the

body, the author clears out both groins. The operation, like that for removal of the axillary glands, is an extensive one. A skin incision is made from the spine of the pubes to the antero-superior spine of the ilium, and a second is carried downward from the middle of this along the course of the femoral vessels. The skin is then separated from the subjacent soft parts as far as the aponeurosis of the external oblique muscle above, the fascia lata on the outer side, and the adductor muscles on the inner side. The triangular mass of fat and glands thus circumscribed is then carefully detached from the deep fascia by using as far as possible a blunt instrument. In the course of the dissection, it is necessary to divide the saphenous vein. It is often necessary to remove the fat and glands from the fossa ovalis after division of the falciform process, and also to reach deep-seated glands by incising Poupart's ligament.—*Centralblatt für Chirurgie.*

FRACTURE OF THE ACROMION PROCESS OF THE SCAPULA.*

This injury occurred to a man about sixty years of age. He was knocked over by a falling fence, and was thrown upon his left shoulder. The acromion process was fractured at its base, *i.e.*, at the point of juncture with the spine of the scapula. The signs of fracture were: (1) Crepitus on movement being made at the shoulder joint; (2) exquisite tenderness on pressure, limited to the point of fracture; (3) the line of fracture could readily be detected on manipulation at the point indicated. This last sign was easily detected, the bone being subcutaneous at this point. There was little or no deformity, and the only treatment necessary was to provide rest for the injured part by fixing the arm to the chest by means of a wide roller bandage.

The fracture is sufficiently rare to place the case on record. We find in "Hamilton on Fractures and Dislocations," edited by Stephen Smith, the following statement: "There is some reason to believe, I think, that fracture of the acromion process is much more rare than surgeons have supposed, and that in a considerable number of cases reported there was merely a separation of the epiphysis, the bony union never having been completed." The age of this patient precludes the possibility of a separation of the epiphysis. Bony union of the epiphysis with the spine occurs usually about the twenty-fifth year.

THE PHYSIOLOGICAL CHARACTERS OF CARCINOMATA.

"The Physiological Characters of Carcinomata (Primary and Secondary)" is the title of a paper by H. J. Waring, M.B., B.S., B.Sc., F.R.C.S., in *The Journal of Anatomy and Physiology*.

*Under the care of A. Primrose, M.B., in the Toronto General Hospital.

Investigations were carried out with the object of determining whether or not the cells of carcinomatous growths produce, by their metabolism and vital activity, ferments similar to those which are produced by the epithelial cells of the organ in which the primary cancerous growth takes its origin, or whether they produce substances which are peculiar to themselves, or if they have definite physiological characters which are the same as or different from those of the normal epithelium.

Three cases of carcinoma of the pancreas, each with secondary deposits in the liver, and two cases of carcinoma of the stomach, were examined. In all the cases the cancerous material was removed from the cadaver some hours after death (varying from twelve to twenty-four).

Elaborate chemical analyses were made of the carcinomatous masses, and from the results of these series of investigations the following conclusions were arrived at :

(1) The cellular elements of the primary and secondary carcinomata of the pancreas possess the property of producing, as a result of their growth and metabolism, the same or similar ferments, viz., trypsin, amyl-opsin, steapsin, and rennin, as are produced by the normal secreting cells of the gland.

(2) The primary carcinomata of the stomach produce the ferments pepsin and rennin, which are the normal physiological products of the secreting cells of the mucous membrane of the stomach. Taking the pancreas and stomach as typical examples of secreting glandular structures by analogy, it may be assumed, with a fair amount of probability, that when carcinomatous growths start from a glandular structure the epithelial elements of these growths will, by their growth and metabolism, produce the same or similar physiological products as are formed by the gland cells when in their normal state.

If these conclusions hold good for all carcinomatous growths, it will be difficult to believe in the sporozoa theory of cancer, unless it can be shown that the parasites act in one of the following ways, viz.:

(1) That by their presence in the cells whence a carcinoma takes its origin, they so stimulate the reproductive elements of the cells as to give rise to the formation of a large mass of cells which grow and divide rapidly; and in which the protoplasm still retains the physiological properties of the parent cells from which it has been derived.

(2) That the cancerous cells themselves consist chiefly or entirely of sporozoa and their products, and that their sporozoa acquire the physiological properties of whatever epithelium they happen to locate themselves. The second possibility is very unlikely, and the first is difficult to accept unless it can be shown that their so-called psorosperms or sporozoa are very powerful stimulants to the division and multiplication of cellular structures.

SOME REMARKS ON THE USE OF IODOFORM IN SURGERY.

Now that the use of iodoform in surgery bids fair to be discontinued in the practices of some surgeons—the complaints being in some cases directed against its objectionable odor ; in others to the circumstance that doubts have been entertained as to its efficacy as an antiseptic substance—it was with no small measure of interest that I recently read an article in *The Lancet*, entitled “One of the Best Applications of Iodoform in Surgery,” from the pen of Mr. Arbuthnot Lane.* In his paper he brings forward its claims in a new light. His method of “stamping in” the purified powder into carious bone cavities, as a dentist would fill a tooth, is alike ingenious and novel, and adds a more or less mechanical application to its more customary usages. Not only does he claim for his method the advantage of displacing the blood-clot, which would of necessity form and be a source of great danger in tuberculous cases, but also that of its being capable of entering into the formation of a restored osseous framework. That such does seem to be the case the citation of his cases, so eminently successful, goes far towards establishing. One of the reasons which urges me to write this paper is that the subject has been for some time of particular interest to myself. So long ago as the autumn of 1886, when I enjoyed the privilege of being housesurgeon to Professor Macewen, in Glasgow, I learned in a measure this use of iodoform. It was then the custom, and I know it was for some considerable time later, for that surgeon to fill up all the existing cavities in bones which entered into the articulations excised for tuberculous disease with a powder consisting of one part of iodoform and four of naphthaline. The powder was, however, not “stamped in,” but gently pressed in, the objects being, in the first place, to obviate the necessity for removing any more of the bone than was absolutely indicated, lest the growing parts were endangered, as obviously might be the case in the knee joint; and, in the second, to take the place of the blood-clot which would afford a very suitable soil for the growth of the tubercle bacillus ; and, thirdly, to directly inhibit the growth of the bacillus. After the operation the wound was drained with a decalcified chicken-bone drainage tube, and with a dry dressing, left, as a rule, for a month or six weeks before it was again examined. Presumably, the iodoform remained where it was placed whenever the wound healed by primary union. Another advantage of the iodoform here is that it acts as a mild styptic and checks the oozing from the capillaries in the inflamed bone, a quality of much service when aiming at primary union in resections. From that time until the present I have used iodoform for these purposes, sometimes alone, at others mixed in varying proportions with either naphthaline or boracic acid powder. I never had any cause to change this practice.

* *The Lancet*. July 15, 1893.

A case may be mentioned here which bears out entirely Mr. Lane's experience :

A girl, aged fifteen, with a tuberculous history, three years ago came under my care. A suspected focus of caseation existed in her right os calcis. I accordingly separated the soft parts from the outer side of the bone, and finding it softened gouged out almost the whole of its interior, leaving but a shell of bone enveloped in its thickened periosteum. The cavity was carefully dried, and packed more or less loosely with a mixture of iodoform and boracic acid (1 part in 2), and drawing the edges of the wound together I sealed it up. The result was excellent, the wound healed with a single dressing ; and the patient can now walk satisfactorily on her heel. How much of the resulting solidity is due to the powder and how much (possibly all) is due to regeneration of bone from the inflamed periosteum is a matter of mere conjecture. I have also used the powder, with satisfactory results, for filling spaces in the soft tissues where tight bandaging was impracticable. That the principles of treatment involved in Mr. Lane's practice are scientific as well as practical I am convinced, and will be of the greatest service in a large number of cases. He has shown their adaptability to cases of erosion. I hope that in again drawing attention to the subject, and in showing how very useful iodoform can be in the treatment of excision, as well as of the wounds of the soft parts, others may be the more readily induced to use it. In my experience it has proved more effectual in powder than in emulsion. It seems rather a fashion to decry its value without sufficient cause.—*R. H. Anglin White-lock, M.B., F.R.C.S., in The Lancet.*

PYLORECTOMY.

At a recent meeting of the National Medical Society of Lyons, M. Maurice Pollosson exhibited a patient from whom he had two months previously removed the pylorus for stenosis.

The patient had been for some time before the operation unable to digest anything. The stomach was markedly dilated. He would vomit food that he had taken fifteen days previously. He had become marasmic. He was but thirty years of age. "

The classic median incision for laparotomy was made above the umbilicus. On exposing the pylorus a small, hard tumor, the size of a large almond, was found. On account of the limited size and sharp limitation of the tumor, pylorectomy was decided on. The pylorus was resected between two long forceps, and the stomach and duodenum united by a double plane of sutures—muco-mucous, sero-muscular, musculo-serous. The patient was kept for six days with absolutely no food by the stomach, except some small pieces of ice.

When shown, the patient had recovered completely; he ate and digested well, and had increased in weight to such an extent that his surgeon did not know him after a month.

Speaking of the operation, M. Pollosson insisted on: (1) The necessity of inserting a large number of sutures in the gastro-intestinal operations; (2) the great part taken by spasm in pyloric stenosis: the growth did not fully obstruct the pylorus, for at the time of operation, and under the relaxing influence of the anesthetic, the index finger could be passed through the pyloric opening; (3) on the importance of early operation, so that the whole of the tumor might be removed and the operation be not merely a palliative one.

On examination, the tumor was found to be a cylinder-cell epithelioma.
—*Lyon Médica.* J.A.A.

GENITO-URINARY AND RECTAL SURGERY

IN CHARGE OF

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URINARY ABSCESSSES, THEIR PATHOLOGY AND TREATMENT.

M. Bazy, in a clinical lecture (*Progrès Médical*), gives the following views on urinary abscesses. Urinary abscesses are often seen during the course of gonorrhœa, and are then either penile abscesses or abscesses in Cowper's glands. In the latter case the abscess is lateral, and has a marked tendency to terminate by a fistula. It was formerly taught that these abscesses were due to lesions of the urethral mucous membrane behind the seat of a stricture; but since Pasteur has taught that urine is an aseptic liquid, it was very evident that the so-called urinary abscess was due to microbes. The invasion of the peri-urethral tissues by microbes is certainly favored by the presence of a stricture, but is not the mechanical consequence of a stricture and does not depend upon the tightness of the stricture, and the abscess often arises, not from the part of the urethra behind the narrowing, but often at the seat of the stricture itself. The conditions which actually determine the formation of an abscess are the degree of infection of the urethra and the urine, and the degree of resistance possessed by the organism against the causes of infection; it is certain that all patients are not alike in this respect, as some seem very liable to take gonorrhœa.

Urinary abscesses do not, in most cases, communicate with the canal of the urethra but will do so secondarily if incision be delayed.

As regards the treatment, he recommends early and deep incision to avoid the formation of a fistula, and says it is not necessary to perform internal urethrotomy to prevent the formation of a fistula.—*Medical Chronicle*.

A METHOD OF PASSING A GUM-ELASTIC CATHETER IN CASES OF PROSTATIC ENLARGEMENT.

To overcome the obstruction met with in passing gum-elastic catheters in cases of prostatic enlargement, Dr. Phélip has devised the following simple, and at the same time ingenious, method :

He passes a needle armed with a stout thread by the eye of the catheter to the apex, and pushes it through on the concave side. The thread is then pulled through to the knot at its end. The catheter thus threaded is passed into the urethra until the obstruction is met ; then, by gently drawing on the thread, the point of the catheter is raised above the obstruction and passed into the bladder easily.

If the prostate be very large, pressing over the hypogastrium with the hand, the passage is facilitated.—*Lyon Médica*. J.A.A.

NEPHRECTOMY FOR URETERITIS.

James Israel (*Berliner klin. Wochenschr.*, 1893, No. 27, p. 641) has reported the case of a man, twenty-eight years old, who for eight years had attacks of left-sided renal colic recurring at intervals of three weeks, with pain in the course of the ureter in the intervals between the paroxysms. Hematuria was frequent, and red blood corpuscles were at all times to be found in the urine. A definite history of gonorrhoea could not be obtained. In the belief that the trouble was due to a renal calculus, the kidney was exposed and incised, but no foreign body was found, although the pelvis and calices were dilated. The wound in the kidney was closed by means of five catgut sutures, and united by first intention. The operation was followed by no improvement in the man's condition, so that, as soon as recovery had taken place, the ureter was exposed and found to be inflamed, thickened, adherent, and stenotic. At a loss as to how to proceed, the wound was left open, but as the colic persisted the kidney was extirpated two days later. The removed organ was of normal size, but, upon section, displayed marked hydronephrotic dilatation of pelvis and calices. The relief was immediate and maintained.—*Medical News*.

PEDIATRICS AND ORTHOPEDICS

IN CHARGE OF

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A NEW REMEDY FOR PERTUSSIS.

In the *Medical Times and Register* (1893, xxvi., 273), Dr. Sidney B. Straley introduces a new remedy for pertussis.

He urges the use of a tincture of thymus serpyllum, made from the fresh green plant. His investigations have led to the following conclusions:

- (1) Thymus serpyllum is a specific for pertussis.
- (2) It acts in any stage of the disease.
- (3) It is necessary to use the green plant.
- (4) It is also a nerve sedative and gastric stimulant.
- (5) It is perfectly harmless in doses as large as a teaspoonful of the tincture for a child eight years of age. The usual dose is from xx. *m* to xxx. of the green tincture.
- (6) The action is fully established in twenty-four hours, and completed in five days.
- (7) Indications are that there will be no recurrence subsequently; at least not more often than in cases which run their full course.

HEART STRAIN IN PERTUSSIS; ITS EFFECTS; ITS TREATMENT. (THE HEART, THE PULSE, THE GENERAL CIRCULATION, THE KIDNEYS.)

In a most instructive paper read before the American Pediatric Society, Dr. Henry Koplik directs attention to the frequency with which heart strain accompanies pertussis. The author considers that there is established a condition of persistent over-distension which gives evidence of its presence, first, by a puffy and swollen condition of the face, and frequently the evidence is found to be in association with a heart murmur, certain changes in the pulse tracings, and with the diminished secretion of urine containing albumen. In the investigation fifty cases were carefully watched, both during the paroxysmal and convalescent stage. The heart murmur is thought to be due to slight incompetence of a mechanical nature. The little patients show the strain upon the heart by a desire to keep quiet, to sleep, and by a disinclination to exertion; as, for example, going upstairs.

Continuing, the author tries to demonstrate that not only is the heart badly hampered in its action and overstrained during the convulsive paroxysm, but that the direct result of the recurrence of the paroxysms was to generate a condition of overstrain in the right ventricle. This condition in pertussis might be called acute overstrain of the heart. The acuity of the condition precludes the possibility of compensation being at once created. The result is that various disturbances which will be pointed out to exist in pertussis after the beginning of the convulsive stage are the result, not of the immediate paroxysm, but rather the condition which exists in the heart in the intervals of the paroxysms. The venous stasis during the paroxysms does not cause the edema of the face, the pallor, the cyanosis, the general edema of the surface. For, if the heart were in a sound condition between the paroxysms, a few contractions would soon restore the mean arterial pressure, and relieve the venous stasis and increased mean venous pressure.

The significance of albuminous urine is next considered. The author believes it to be due, not to the action of the product of infective organisms, as in scarlet fever, but due simply to passive venous congestion, especially that present during the intervals between the paroxysms.

Treatment. In his chapter on treatment Dr. Koplik contents himself with alternating the use of digitalis in conjunction with whatever drug may be used for the control of the paroxysm. He says: "In the simple use of digitalis combined with our other remedies, I found that a very useful and now, to me, absolutely necessary drug has been long neglected. No textbook mentions its use in simple pertussis. I think the use of digitalis, in any form agreeable, is indicated, with the ordinary pertussis remedies, as soon as we see the first indication of heart strain. This is the swelling about the face and eyes. The tincture, a minim for every year up to the second year and then a half minim additional, as indicated every two or three hours, is a great support to the heart muscle."

THE MANAGEMENT OF SUPPURATION COMPLICATING TUBERCULOUS DISEASE OF BONES AND JOINTS.

Dr. Gibney, of New York, in an article published in the *Medical and Surgical Reporter* (1893, lxviii., 240), gives the following rules:

(1) Protect the joint about which the bone lesion exists in the early stage and in the later stages, whether the abscess is let alone, aspirated, or incised.

(2) In cases where the suppurative process is confined to a small area, it is good surgery to leave the small abscesses alone if the protective appliance is adequate.

(3) It is good practice to aspirate where the abscess is in the way of the proper adjustment of apparatus, and by such procedure one may expect good results in at least fifty per cent. of the cases aspirated.

(4) The simple incision of an abscess dependent upon bone disease depends for good result upon the extent of the bone lesion.

(5) Excision of the hip is not a measure to be employed in all cases where extensive suppuration exists, but must depend largely upon the condition of the patient and the location and the extent of abscesses.

(6) Expectant treatment for the knee and ankle joint in children yields the best results for life and limb.

(7) Amputation of the ankle in a child is rarely ever justifiable except when amyloid disease of liver or kidneys threatens or is present; of a hip, after a thorough excision has failed.

(8) The long-continued employment of a good fitting splint to the back in Pott's disease of the spine will yield better results than any operative procedures on the bone with which I am familiar.

DIPHThERIAL HEMIPLEGIA.

Donath reports this case. On the third day of convalescence from pharyngeal diphtheria, the patient, a boy aged 8 years, was seized, during sleep, with right hemiplegia. The face was implicated, and for several days there was complete motor aphasia. The speech faculty underwent considerable improvement, though at the end of five months signs of typical hemiplegia, with contracture, persisted; the right eye showed hypermetropia 7 D, with internal strabismus; the left eye, slight myopia.—*Neurol. Centralb.*

FIXATION AFTER EXCISION OF THE KNEE.

Dr. H. Augustus Wilson (*American Journal of the Medical Sciences*, March, 1893) gives a review of the literature of this subject, and points out the frequency of deformity after excision. Of one hundred and eleven cases, firm, straight union was obtained in twenty-one, flexion in four, posterior displacement of tibia in two, no union in nine, death in nineteen, re-excision in seven, subsequent amputation in eight, ultimate condition of leg not stated in fifteen. It is considered that a more or less serviceable leg was obtained in thirty-seven cases out of one hundred and four.

He arrives at the following conclusions:

(a) That metallic bone-sutures will secure the most efficient internal approximation.

(b) That they should never be removed unless some serious conditions demand it.

(c) That the entire leg should be kept free from the patient's control by external splint for from four to six weeks.

(d) That the most important element in the treatment is the prolonged use of a rigid brace.

TRANSMISSION OF TYPHOID FEVER FROM MOTHER TO FETUS.

An interesting case demonstrating conclusively that typhoid bacilli may pass from the maternal to the fetal circulation is reported by Janiszewski (*Münch. Med. Woch.*, Sept. 18th, 1893). A woman, æt. 38, gave birth, in the third week of a typical attack of enteric fever, to an eight months' child. The infant died in five days' time. At the necropsy, there were hemorrhages in the kidneys, and patches of consolidation in the lungs. The spleen was enlarged, but the intestine showed no change. Portions of the lungs, spleen, kidney, mesenteric glands, and intestine in the neighborhood of the ileo-cecal valve showed the presence of bacilli. These bacilli were proved both morphologically and by the usual cultivation experiments to be typhoid bacilli.

SUTURING THE TENDO-ACHILLIS IN CORRECTION OF DEFORMITIES OF THE FOOT.

(2) In the *International Medical Magazine* for August, 1893, Dr. Wilson has an article on "Suturing the Tendo-Achillis in the Correction of Deformities of the Foot."

The operation is performed by splitting the tendon in the middle for a distance nearly twice as great as the amount of lengthening required, and making section of the opposite halves at the ends of this incision. The split halves are then slid past each other as far as may be desired, and are then sutured together with catgut.

The result is a definite lengthening, and Dr. Wilson employs the same method for shortening the tendon in talipes calcaneus.

This method of operation was first employed by Wm. Anderson, F.R.C.S., October 18th, 1889, and was described by him in a lecture before the Royal College of Surgeons, June 10th, 1891, and published in *The Lancet*, July 18th, 1891.

Dr. Keen, at the suggestion of Dr. Weir Mitchell, performed a similar operation on the hand, Nov. 29th, 1890, and described it in a paper read before the College of Physicians of Philadelphia, March 4th, 1891.

FORCIBLE CORRECTION OF ANGULAR DEFORMITIES OF THE KNEE.

Goldthwaite, in *Boston Medical and Surgical Journal*, Sept. 7th, 1893, says: Cases are divided clinically:

(a) Those in acute or subacute stage, deformity maintained by muscular spasm.

(b) Those having complete bony ankylosis, as the result of extensive osteo-arthritis.

(c) Those in which malposition is maintained by adhesions about the joint.

Only the last class of cases are treated by the apparatus described. Under anesthesia, the adhesions are broken up as much as possible by the hands; then the apparatus is applied, and forcible straightening is effected by the action of a lever. The apparatus presses with one end of the lever, which constitutes the fulcrum, upon the lower end of the femur, exposed by the backward displacement of the tibia, which occurs in these cases, while a band, attached to the same lever, passes behind the tibia in its upper part. The instrument is continued downward several inches below the foot. As its lower end is carried forward, it carries with it the displaced tibia, and also extends the leg.

Cases illustrating the use of the apparatus and the results of treatment are figured. Its use is indicated where all acute conditions have subsided, and there is not bony ankylosis.

TREATMENT OF LATERAL CURVATURE BY MEANS OF PRESSURE CORRECTION.

There are certain resistant cases in which there are shortened ligaments that prevent the patient from straightening out by any muscular effort. In such cases forcible correction must either take the place of or must be made to precede and aid the treatment by gymnastic exercises.

An appliance is figured by means of which, while extension is made upon the spine, the projecting portions of the thorax are forced by pressure into an improved position, and are retained by wearing a plaster jacket, applied while the apparatus is being employed.

The objects of the treatment are: (1) To increase the flexibility of the spine in parts where this is abnormally limited; (2) to maintain the improved attitude by retention apparatus.—*Bradford and Brackett, in Boston Medical and Surgical Journal*, May 11th.

PATHOLOGY

IN CHARGE OF

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RESEARCHES ON THE MICROBE OF VACCINE, AND, IN PARTICULAR, ON THE COCCUS OF RED VACCINE.

After prolonged researches on the micro-organisms of vaccine, Dr. Maljean has come to the following conclusions :

(1) In nearly all the red papules of vaccination a pure culture of a special micrococcus is found ;

(2) The micrococcus is found in the pustule of both the man and the heifer, sometimes associated with other microbes ;

(3) It is again found in the glycerined vaccine pulp ;

(4) When a heifer is inoculated with a pure culture, this microbe produces the classical vaccine lesion and confers immunity ;

(5) After a second passage through the heifer, this microbe gives rise to a vaccine that is very active and purified of any material that would produce inflammatory action not that of vaccine.—*Gaz. Méd. Picardie*, August, 1893.

J.A.A.

PERITONITIS WITHOUT PERFORATION OF INTESTINES AND BACILLUS COLI COMMUNIS.

L. Sordoillet concludes from observation that the bacillus coli communis often gives rise to peritonitis without perforation of the intestine. The passage of the bacillus through the intestinal walls is favored by simple desquamation of epithelium from the mucosa of the gut, accompanied by high intra-intestinal tension, by more profound alterations of the walls, and also by a simple falling off in nutrition. Once having reached the peritoneum, the bacillus diffuses itself rapidly through the different organs of the body. It can be found in the liver, spleen, kidneys, lungs, thyroid body, and the meninges. In these it may excite inflammation, even suppuration.—*Rev. Intern. de Bibliog. Méd.*

CONSTANT PRESENCE OF BACILLUS COLI COMMUNIS IN COW'S MILK.

The injection of cow's milk beneath the skin in rabbits constantly gives rise to the formation of abscesses which contain the bacillus coli communis. The same germ having been shown to be the cause of many cases of suppuration in man, the writer advises careful cleaning of the cow's

udder, and also of the milker's hands, before milking, and the absolute avoidance of the use of uncooked milk.

Amongst the micro-organisms which were found in milk by Fiorentini and Parietti, and spoken of as the bacilli of rabbit septicemia, Abba believes that he recognizes the bacillus coli communis.—*Abba, in Centralb. f. Bakt. u. Parasit.*, August 14th, 1893.

CAN LIVING CHOLERA BACILLI BE CARRIED WITH DUST THROUGH THE AIR?

Thin layers of finely-powdered garden earth, fine white sand, street and floor sweepings, and mixtures of dust and diarrheal discharges, were moistened with cultures of cholera bacilli. They dried in fourteen to sixteen hours, and were then pulverized. At various intervals of time, cultures from these mixtures were obtained by inoculation, and by allowing the dust disturbed by being blown upon to settle on gelatine plates. The results of all the experiments were the same. While the bacilli died rapidly during the process of drying, some of them were still alive after the lapse of twenty to twenty-four hours, if sunlight were excluded, were carried about with the dust, and developed colonies. As an exception, solitary bacilli survived three days. The lesson is clear. Although the slight liability of the materials soiled by choleric discharges to the formation of dust, and the rapid death of the bacilli in drying substances (materially hastened by the action of sunlight), render the propagation of cholera in this mode exceptional, it is, nevertheless, possible for living cholera bacilli to be carried with dust through the air, and to infect food, water of streams, etc., or to enter our mouths.—*Uffelmann, J., in Berliner klin. Wochens.*, June 24th, 1893.

SOME POINTS IN CONNECTION WITH THE ETIOLOGY OF TUBERCULOSIS.

A fact of very great interest regarding the alleged interdependence of human and bovine tuberculosis has recently been brought to light by Professor Jansen, of the Veterinary School in Tokio.* As is well known, the view that there is a distinct etiological relationship between the disease in man and in cattle was very widely adopted a few years ago, and, indeed, it is mainly owing to that belief that the disease as it affects cattle has recently received so much public attention. Jansen's observations are of interest, because they show that human phthisis may be quite as prevalent in a country where the cattle are free from tuberculosis as it is here or in any other part of Europe.

Until a few years ago tuberculosis existed in Japan only among the human population, the native cattle being quite free from the disease.

*Archiv. f. wissen, u. prakt. Thierheilkunde.

According to a report by Dr. Baelz (quoted by Jansen), tuberculosis was and is more prevalent among the Japanese than it is in Germany; and, contrary to what is the case in the latter country, most of its victims are claimed from among the upper classes. And then comes the interesting fact: "The Japanese cattle are completely free from the disease; neither in the slaughter-houses at Yokohama and Tokio, nor on any other occasion, has the slightest trace of tuberculosis yet been found among cattle of the pure Japanese breed. But matters are quite different in the case of the foreign breeds and crosses. Since the opening up of the country, partly with the view of improving the breed, partly for milk production, more cattle have been from year to year imported, and until recently exclusively from California. Among these it is especially the Shorthorns, Devons, and Ayrshires that are represented, and also American breeds, and these breeds have been used in part to propagate their own kind; in part also for crossing Japanese cattle. Facts disclosed in the slaughter-houses and observations made at the Veterinary School show that with few exceptions the animals imported from America and their progeny are more or less tuberculous, and, of the crosses, 50 per cent. are already affected with the disease."

Here, then, is a most conclusive proof that tuberculosis may be extremely prevalent in man, even where the source of infection which some have thought to be the most important is not in existence. Of course, this does not prove that infection from cattle to man is not of frequent occurrence here, but it is an element of proof in that direction. Indeed, every other consideration points in the same way, and goes to show that, while there may be occasional cases of infection of human beings from cattle, and *vice versa*, still in the two species the disease is practically independent—cattle are infected from cattle, and human beings from human beings.—*Editor, in Jour. of Comp. Path. and Therap., Sept. '93.*

MICROBICIDAL FUNCTION OF THE DIGESTIVE JUICES AND CONTAGION THROUGH FECAL MATTER.

We have endeavored to elucidate the microbicidal function of the digestive juices by studying their action on the vitality or the virulence of three different kinds of microbes—the bacillus pyocyaneus, the anthrax bacillus, and the bacillus of tuberculosis—when allowed to remain a certain length of time in the stomach, or when allowed to pass through the whole alimentary tract of certain animals.

The ingestion of food such as soup, containing a considerable number of germs, gave us the following results as to the action of the gastric juices:

The bacillus pyocyaneus, taken by the dog in his food, loses its chromogenic function after being in the stomach five hours. In the guinea-pig they are found unchanged in the feces.

The bacillus of anthrax retains its virulence after a sojourn of eight hours in the dog's stomach. In the dog, too, the bacillus of tuberculosis was unchanged in virulence after twelve hours; the same fact was observed in the rabbit and in birds.

The action of the intestinal juices was studied on the bacillus pyocyaneus in the guinea-pig, and on the bacillus of tuberculosis in the dog and pigeon. The former passed through the whole alimentary tract of the guinea-pig without losing its virulence; the latter comported itself in the same way in the dog. It is quite easy to stain it in the feces by Ehrlich's method. Tuberculosis can also be transmitted by the fecal matter. The results in the pigeon were identical with those in the dog.

It follows from these experiments that the animals, the dog and pigeon, might become dangerous agents in the dissemination of tuberculosis if allowed to feed on substances coming from subjects of this disease.
—*MM. Cadiac and J. Bourney, in Lyon Médica.* J.A.A.

HYGIENE AND PUBLIC HEALTH

IN CHARGE OF

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AND

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

THE *Medical Record* states that the board of health of New York city has, during the past year, destroyed four million pounds of bad meat, fish, fruit, and vegetables.

URETHRITIS OF VELOCIPEDISTS.

M. Millée, in a report to the Société de Médecine et de Chirurgie Pratiques, at its session held on February 16th last, mentioned numerous cases of urethritis in velocipedists, which he attributed as due to want of care in exposing the perineum to unusual irritation on the saddle of the bicycle.
—*The Sanitarian.*

OPIUM HABIT.

According to some recently published statistics, every tenth adult in Paris is a victim of the morphine habit.—*Medical Press.*

ANTI-EXPECTORATION.

The Women's Health Protective Association of Pittsburg, Pa., have started an anti-spitting crusade. By means of pamphlets and placards they are endeavoring to educate the public, and especially consumptives, as to the danger of expectorating on floors and sidewalks.

THE LASTING CHARACTER OF SOIL POLLUTION.

Dr. Lanciani, in his work on ancient Rome, says that, while a system of garbage collection existed under Roman rule, the disposal of refuse was as crude as it is in many modern towns and cities. Dr. Lanciani, in his excavations, dug up some stones on which were written some of the sanitary ordinances of the times. The text of one of these reads: "C. Centius, son of Caius the Prætor, by order of the Senate, has set up this line of terminal stones to mark the extent of ground that must be kept absolutely free from dirt, and from carcases and from corpses. Here also the burning of corpses is strictly forbidden." When Dr. Lanciani dug up these stones on June 25th, 1884, and about two thousand years after the use of this area for sewage disposal, the soil was still so polluted and the stench from it so horrible that even his workmen, inured to such work as they were, found it absolutely unbearable, and had to be relieved at frequent intervals.—*Engineering News*.

MICRO-ORGANISMS IN THE MILK OF HEALTHY LYING-IN WOMEN.

Palleske (*Virchow's Archiv.*) concludes, as the result of a series of researches, that micro-organisms are to be found in the milk of many healthy women—possibly fifty per cent. These germs belong to the cocci, and solely, as far as Palleske has himself determined, to the variety known as staphylococcus pyogenes albus. It is doubted whether the germ reaches the mammary gland through the blood current from without. It is certain that the staphylococcus may actually abound in milk fresh from the mammary gland without the simultaneous or consequent occurrence of inflamed breast or general symptoms of fever.—*The Sanitarian*.

SECRET AND POISONOUS MEDICINES.

Hunter McGuire, in his presidential address at the last meeting of the American Medical Association, stated that he thought the association owes to the people of this country an earnest effort to stop the sale of secret and poisonous medicines. Free trade in physic is permitted only in America, so far as he could learn, and any quack can advertise in the reading and other columns of our newspapers his so-called patent medi-

cines. Many of these nostrums are known to be poisonous and, of course, hurtful. All over continental Europe, grocers are forbidden to sell any pharmaceutical preparations or compounds. This right is restricted to the pharmacist or apothecary, and he is often subjected to rigorous inspection, to very rigid laws, and to heavy penalties for their violation. He thought that if each state would require the vendor of any secret remedy to subject his formula to a board appointed by the state for this purpose, said board having the power to grant or refuse a license to sell, this already great and growing evil would be materially lessened or stopped. It is high time that something was done in reference to this matter in Canada.

ERRONEOUS IDEA ON PTOMAINES.

The *British Medical Journal* points out that not only the community at large, but also many physicians, seem to have wrong ideas about the chemical products of bacteria. The principal error consists in supposing that the toxic properties of these substances can be destroyed by heat such as is sufficient to destroy the bacteria themselves. Many of these toxins are very stable against heat; and although the bacteria which produced them may be entirely destroyed, the poisonous properties of the substance may remain. Canned goods, if they contained these products when they were put up, may be poisonous even though sterile. Another mistake is to suppose that the ptomaines are necessarily dissolved or distilled by boiling: they may remain hidden in the centre of a piece of meat. It is perfectly possible to suppose that one sardine only out of a box may be poisonous.—*The Sanitarian*.

BILL AGAINST THE ADULTERATION OF FOOD.

The State Board of Health of Rhode Island is endeavoring to have the General Assembly enact a law which defines the adulteration of food products as follows:

(1) If any substance or substances have been mixed with it so as to reduce or lower or injuriously affect its quality or strength.

(2) If any inferior or cheaper substances have been substituted wholly or in part for it.

(3) If any valuable constituent has been wholly or in part abstracted from it.

(4) If it is an imitation of, or is sold under the name of, another article.

(5) If it consists wholly or in part of a diseased, decomposed, putrid,

or rotten animal or vegetable substance, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal.

(6) If it is colored, coated, polished, or powdered, whereby damage is concealed, or if it is made to appear better or of greater value than it really is.

(7) If it contains any added poisonous ingredient, or any ingredient which may render it injurious to the health of a person consuming it.

RESPONSIBLE FOR THE CHOLERA.

Mr. Ernest Hart, in his address before the American Medical Association, said: "Cholera comes from India, and only India, although it sometimes hibernates in Europe."

The above statement of Mr. Hart is unquestionably true. It is likewise true that India is a dependency of and absolutely governed by England. Such being the case, and her leading sanitarians aware of the conditions and situation, it becomes the highest moral and sanitary duty of the English Government to take arbitrary measures for the eradication of this disease, that ever and anon menaces the civilized world with a dread epidemic.—*Lancet-Clinic*.

PREVENTIVE MEDICINE AT OXFORD.

Our oldest university has at last awakened to the necessity of taking part in the progress of preventive medicine, and of rendering her degree in Public Health less exclusively restricted. Following the wake of Cambridge, this is now proposed to be open to all registered medical practitioners. A statute embodying this important change will be promulgated before Convocation on May 2nd next. There is to be an annual examination by four examiners, presided over by the Regius Professor of Medicine. The subjects will comprise (a) General Hygiene; (b) General Pathology, with special reference to infectious diseases; (c) Laws relating to Public Health; (d) Sanitary Engineering; (e) Vital Statistics. Every candidate must have been registered for a twelvemonth, must have spent six months working in a Public Health Laboratory, and another six months as assistant to a health officer of a town or county of at least 50,000 inhabitants. We trust that the statute will meet with no opposition, and that the Oxford Diploma in Public Health will be eagerly sought after, and confer the same distinction as the other degrees of this university.—*London Lancet*.

THE INTERNATIONAL CONGRESS ON PUBLIC HEALTH.

This congress was held in conjunction with the annual meeting of the American Public Health Association in Chicago, from the 9th to the 14th ult.

Europeans were somewhat conspicuous by their absence, although Sir Joseph Fayrer and Sir Charles Cameron sent papers to be read. Russia and Norway had one representative each, as also Japan. From Mexico there was a large contingent, and many papers were read in Spanish, to the intense edification of the audience. All sections of the United States were well represented. Of Canadians there were five, besides some who have become residents of the neighboring republic. The American Public Health Association did Canada the honor of selecting Montreal as the place of meeting next year, and electing Dr. Lachapelle president. It is to be hoped that Canadians interested in the maintenance and improvement of health and the advancement of scientific studies along this line will show their appreciation by arranging to attend.

A very large number of papers appeared on the programme—too large to permit even of the briefest synopsis here. Five were written by women, three of them describing means taken for interesting women in sanitary work, and advancing sanitary knowledge and practice among women and in the household; one was on food. This is a field in which more women can be usefully engaged, and to which we would gladly welcome them even should some of them be obliged to forego the scalpel and the court room in order to enter it!

Quarantine was, of course, fully considered, and the efforts made by Canada were referred to with marked appreciation. Texas could not say as much for Mexico, but commended what advancement had there been made; whilst some of the Mexicans owned that their system was not what it should be, but seemed hopeful of further improvement.

Dr. Benjamin Lee, secretary of the State Board of Health of Pennsylvania, in a paper entitled "Shall Our Lepers be Cared For?" advocated special institutions for them; whilst Dr. C. N. Hewitt, of Minnesota, stated that the experiment has been tried for many years of allowing lepers to go at large in that state, keeping them under observation, and that the disease has not spread. He considers that it can only be communicated by inoculation through an abraded surface. He cited Dr. Hansen, of Norway, as supporting this view. He thought the infection should not be placed in the same category with that of scarlatina or measles, but rather with that of syphilis; that if the leper is made to confine himself to his own clothing, bedding, and eating utensils, and not to allow them to be used by others, there will be no spread of the disease. The value of this opinion lies in the fact of its being supported by direct observation of lepers. Whether

similar observation elsewhere supports this opinion must be seen before we can afford to throw aside the views and precautions of other lands and times.

Many of our readers are aware that an experiment station has been in operation at Lawrence, Mass., for some years. Some very interesting information was given in a paper by Mr. Geo. W. Fuller, biologist to the station, in regard to the purification of water by filtration on the large scale. Results showed that after applying water mixed with bacterial cultures, between 99 and 100 per cent. of the bacteria were removed by the experimental filters. Applying these results practically to the water supplies of the state, it is found that from the water supplied to Lawrence itself a filter two and a half acres in extent removes from 96 to 98 per cent. of the bacteria in the natural water. The population of Lawrence is 50,000. In the discussion statistics were given showing similar results in connection with the filtration of some of the water supplies of London, England.

A paper on tuberculosis in cattle was read by D. E. Salmon, D.V.M., chief of the Bureau of Animal Industry at Washington. He gave the results of hypodermic injections of tuberculin, which were similar to those recorded by Mr. J. J. McKenzie, biologist to the Board of Health of this province. Contrary to a view he once held, he does not think pulmonary tuberculosis is caused primarily by ingestion of bacilli into the alimentary canal. This, of course, does not mean that abdominal tuberculosis is not produced in this way. Dr. Salmon also stated that he had never been able to demonstrate the existence of spores in the bacillus of tubercle, thus supporting the observations of Sternberg.

Very intensely practical exhibits were the disposal of the sewage and garbage of the World's Fair. The sewage is treated on the plan designed by Mr. Kinebuhler, at Dortmund, Germany. In a building are four tanks, reaching from below the ground floor up to a raised scaffolding in the second story. Each tank is fifty-two feet high, and thirty-two feet in diameter in its upper portion. The shape of the lower twenty-two feet is that of an inverted cone. In the centre of the tank, and concentric with its wall, is a cylindrical tube, six feet in diameter, running almost to the bottom. The sewage, as it enters the tank, receives and is mixed with a solution of lime and alum. These assist in the formation of a precipitate, which settles in the cone-shaped bottom after passing down through the cylinder, whilst the partially clarified liquid rises through the outer portion of the tank and flows off. As the precipitate settles to the bottom, it is forced into a set of filter presses, the fluid being squeezed out and the solids pressed into cakes, which are then removed, and may be disposed of on the soil or cremated. At the World's Fair it is sent over to the Engle crematory, which forms the other exhibit referred to. As this, with some other forms

of crematory, were described by the writer before the Ontario Medical Association two or three years ago, we will merely say here that this is the one in which the matter to be destroyed is played upon by two fires, one above and the other below. In the present instance the action is intensified by means of an oil blast to each fire, a small stream of oil being forced in and driven over the fire space in the form of a fiery spray by the aid of an air blast—something after the manner of a coarse atomizer.

The Rumford kitchen was an exhibit of a series of scientific dietaries and food preparations. It was under the superintendence of Mrs. Ellen Richards, M.S., of the Massachusetts Institute of Technology, and of Miss Daniels.

Since the time of my former article in July, a number of Pasteur filters have been set to work in the grounds as well as in the buildings.

There were some exhibits of sterilizing and disinfecting apparatus. Of those on the larger scale, there were none as effective as that invented by our fellow-citizen of Toronto, Mr. B. McEvoy.

In conclusion, I may be permitted to say that whilst the World's Fair far exceeded our expectations, this result was not due to the hygienic exhibit. The contributions in this department might have been more numerous and better. It is to be hoped that at the next World's Fair there will be an improvement in these respects. All honor to those who did their share in the meantime!

W.O.

Editorials.

MEDICAL MARTYRS.

A COMPLETE list of medical martyrs who have fallen victims to disease contracted in discharge of their professional duties would be a very long one. The *British Medical Journal* of October 21st announces the deaths of two promising young practitioners who died from diphtheria contracted in their ordinary practice. Dr. Herbert Ashdown, as a student, had an exceptionally brilliant career, and his work as a teacher in the University of Edinburgh, where he had made a reputation as an original investigator, was greatly appreciated. Mr. Lucas also died from the same disease under peculiarly sad circumstances. He had distinguished him-

self both at Epsom College and at the Middlesex Hospital, and his prospects for the future were of the brightest sort.

Shortly previous to this issue, the same journal recorded the premature death of Mr. Arthur Durham. The *Journal*, in commenting on these and other deaths from similar causes, says: "The loss is ours; to them has been given the privilege of meeting the death which waits for us all under the most enviable conditions. As Goethe says: 'Happy is he who dies 'mid battle's splendor,' and it may be said doubly happy are those who fall on so glorious a battlefield as that of medicine against disease."

In connection with this subject, we have to record the serious illness of Dr. Roswell Park, of Buffalo, as reported in the *Buffalo Medical and Surgical Journal* of this month. Dr. Park contracted diphtheria in operating on two children of Dr. V. Mott Pierce, and was removed to the Kimberly Cottage of the Buffalo General Hospital. It has been our pleasure in this province to receive Dr. Park as a visitor to the meetings of our Ontario Medical Association on two or three different occasions, and it is needless to say that we have formed a high opinion of him. We are glad to learn, at the time of writing, that Dr. Park is improving, and has passed the principal dangers of the malady, and we sincerely hope that he may have a speedy return to full health and strength.

ONTARIO MEDICAL COUNCIL.

MUCH interest is likely to be taken in the elections of the College of Physicians and Surgeons of Ontario, which will take place some time during next year. The Medical Defence Association has certainly done much good in removing the apathy which has heretofore existed in the minds of a large majority of the profession with reference to matters pertaining to the Medical Council. Most of the present members will be candidates for re-election. In nearly all cases opponents will be placed in the field, and many of the contests are likely to wax loud and warm. In consequence of the redistribution of the territorial divisions, which has been designated a "gerrymander," the constituencies of some of the members have been materially changed. Among the most important of such changes are those which bring Drs. Bergin and Rogers in one division in the east, and Drs. Williams and Fulton in another division in the west. This singular and serious (from a certain point of view) condition of things is said to be due to the manipulative skill of certain members of the Defence Association who appeared before a committee during the last meeting of the Ontario Legislature. 2

It is a matter of deep regret among many friends as well as foes of the council that Dr. Day, of Belleville, so well known for many years as one of the ablest members of that body, has decided not to be a candidate for re-election, because he holds the position of registrar of the county of Hastings. The name of Dr. Gibson, of Belleville, has been mentioned as his successor.

We think it will not be difficult to give a correct forecast as far as Toronto is concerned. Dr. Arthur Jukes Johnson will probably be re-elected as a member for a new division, that is, the western portion of Toronto, which forms only a part of his former constituency; in fact, it seems doubtful if he will meet with any serious opposition. For the eastern division of Toronto, Dr. E. J. Barrick is likely to be the representative. The fact that his nomination paper has been signed by a considerable majority of the electors precludes the possibility of the success of any would-be opponent. Dr. James Thorburn, the representative of the Toronto School of Medicine, and Dr. William Britton, the representative of the University of Toronto, have proved themselves such capable and efficient members that, so far as we know, it seems to be a matter of course that they will be re-elected.

A SURGEON OF FORMER TIMES.

AMONG the greatest of American surgeons was Dr. Dudley, who practised during the first half of this century in Lexington, Kentucky. His record is, in many respects, a remarkable one. He performed the operation of lateral lithotomy two hundred and twenty-five times with the loss of only three cases, and was equally successfully in various other branches of surgery. We learn from Dr. Bedford Brown's memorial address, delivered last year in Louisville at the meeting of the Southern Surgical and Gynecological Association, that Dr. Dudley, after graduating in Pennsylvania University, spent four years in the schools and hospitals of Paris and London, where he had the advantages of the teachings of such surgeons as Baron Larrey, Sir Astley Cooper, and Abernethy. His methods in preparing his patients for operation, and practising asepsis in its most minute details, were remarkably like those of our most careful and scientific surgeons of the present day. We cannot do better than quote Dr. Brown's words: "While in these times bacteriology was a science unknown, and sepsis and antisepsis were things unheard of, Dudley understood the principles of asepsis, and he knew that all dirt and filth contained the seeds of disease, and to place his patient beyond the pale of disease was to preserve him in an absolute state of cleanliness." He took

the greatest pains, in preparing his patient, to see first that the general health was as good as possible, and that the various secreting and excreting organs were normal. The patient was always thoroughly cleansed by means of soap and warm water. All instruments and other articles which came in contact with the patient were cleansed with warm water.

- All sorts of wounds and injuries were treated by copious applications of hot water, such applications being continued sometimes for hours. The operator and assistants were expected to make themselves thoroughly clean by the free use of hot water and soap. In all cases the hot water had previously been boiled for a considerable length of time. Unfavorable results, such as suppurative fever, erysipelas, or gangrene, Dr. Brown says, were unknown in his practice.

Are the methods of to-day better than those of Dr. Dudley fifty years ago? Why is it that methods so simple, and yet so effective, were not more generally carried out at an intervening period, say, twenty-five years ago? Will our aseptic and antiseptic methods of to-day be forgotten in twenty-five or fifty years hence? We will not attempt to answer all these questions, but simply express the hope that our knowledge of the ways to prevent septicemia to-day, being founded on definite scientific principles, will not, in the future, be replaced by ignorance of such life-saving methods.

Another remarkable thing in the practice of Dr. Dudley was the fact that he treated peritonitis more than half a century ago by the administration of cathartics alone, *i.e.*, the method now in vogue amongst the majority of practitioners.

RECIPROCITY IN MEDICAL REGISTRATION.

WE publish in this issue a letter from a correspondent on "Reciprocity in Medical Registration." The opinions expressed deserve consideration, although they are by no means new. It seems to be not generally known, or at least appreciated, that a very important conference was held in Ottawa in September of last year, where this knotty question was discussed in all its aspects. There were present representatives of the medical councils of Ontario, Quebec, and British Columbia, together with a representative from the Northwest Territories.

There was a general consensus of opinion that reciprocity was desirable, and a hope expressed that it might be obtained in the not distant future. The delegates generally favored the adoption, in each of the provinces, of a medical act similar to that of Ontario. The following resolutions were carried unanimously: "(1) That in the opinion of this conference there:

should be especially, in each province in Canada, a central examining board to examine all candidates for medical registration therein. (2) That, as soon as a central examining board is formed in each province, a committee should be appointed from each provincial medical council in order to have established a uniform standard of matriculation and of medical education throughout Canada, and also reciprocity between the provinces in regard to medical registration."

The principal obstacle exists in Quebec, where the universities are opposed or object to handing over their licensing powers to a central examining board. At the last session of the Quebec Parliament, a motion to establish such an examining board was defeated by a majority of one. We understand that the matter will again be brought up at the next session of the legislature, when it is hoped that an act will be passed similar to that of Ontario. With such an act in force in Quebec, there is reason to believe that machinery can soon be set in motion by which there will be established the much-desired reciprocity in medical registration. The Ontario Medical Council has already passed a statute with this desirable object in view, as follows: "When and as soon as it appears that there has been established a 'central examining board' similar to that constituted by this act, or an institution duly recognized by the legislature of any of the provinces forming the Dominion of Canada, other than Ontario, as the sole examining body for the purpose of granting certificates of qualification, and wherein the curriculum is equal to that established in Ontario, the holder of any such certificate shall, upon due proof, be entitled to registration by the council of Ontario, if the same privilege is accorded by such examining board or institution to those holding certificates in Ontario."

Correspondence.

A DOMINION LICENSING BODY.

To the Editor of THE CANADIAN PRACTITIONER :

SIR,—It is strange that no definite action has been decided on regarding the license for practising medicine in the Dominion of Canada. From Atlantic to Pacific, the individual states forming the Dominion contain many medical men of intelligence who are anxious to see a standard

adopted that will allow each properly educated doctor to practise in his own country. Surely a doctor can ask no less?

From a letter from Dr. Macneill in the *Maritime Medical News* for June, 1893, I extract the following: "What is required is uniformity and fusion of standards in the various provinces of this Dominion—their reciprocity by the various councils, so that a man who has been years in practice in Nova Scotia can carry credentials with him that will be accepted in Ontario or British Columbia, or any other province of the Dominion. The possession of diplomas of England or Scotland is no barrier to quackery, and in this Dominion the existing laws have done much good in the suppression of quacks and quackery, but there is a great deal to be done yet. We require the assistance of every intelligent man to set legislatures and people right in this matter. Cease from calling our efforts a monopoly, and advocate higher and uniform laws regarding medical education, so that all interprovincial friction in these matters will cease, and be a thing of the past. Then the doctor who desires to go to the Pacific coast will have a passport from the Nova Scotia council that will admit him as readily as a demit from one church to another church.

"The Maritime Medical Association for the maritime provinces will meet this year at Charlottetown. This question may come before it, and much may be done by it to disseminate sounder views on the changes and modifications required in the medical laws of the three provinces."

These words are full of truth, and excellent as far as they go, but the difficulty is that in the past action has ended in nothing but words. Motion after motion has been carried in different medical bodies regarding this matter, but the only way in which it can be carried out is by direct representation on a committee of delegates from the different licensing bodies, such committee to meet in Ottawa, and the delegates sent with full power to act for the provincial licensing bodies represented by them. The expenses of such delegates should be paid by the licensing bodies for the time consumed in the general conference, and expenses of travel. There should be considerable give and take in such a meeting, and the result of their conference, after having been thoroughly outlined and adopted, should be laid before the Dominion Government. Committees from medical societies are worse than useless, because they are not clothed with authority from the licensing bodies themselves. I hope that this conference may be brought about in the near future, and that then every practitioner who is duly qualified to practise in his own locality will be able to practise without let or hindrance in any part of this fair Dominion.

THE QUESTION OF ALCOHOL IN TREATMENT
OF DISEASE.

To the Editor of THE CANADIAN PRACTITIONER :

SIR,—In your issue of October you publish such a report of my remarks on Dr. Harrison's paper on alcohol that I fear any one reading it will think I have taken leave of my senses. I therefore request that you will do me the favor to allow me to correct any such impression.

As your readers will see, Dr. Harrison had introduced the subject in an excellent article, entitled, "Is alcohol in all cases, and in all doses, a sedative and depressant?" I took exception to this statement of the question, as no drug ever did or ever could be expected to act exactly alike in all cases, and under every circumstance. I said that even water or milk under certain circumstances proved very harmful. I said that the profession are divided over a question which is not an absurdity, but the plain, simple question, Is the general action of alcohol that of a stimulant or a sedative? In other words, does alcohol stimulate and strengthen a patient, or does it merely produce a false appearance of improvement by rendering the patient less sensitive to morbid impressions? I said that not only was the general profession divided, but that eminent authors are divided, and that even hospitals are divided; as, for instance, the temperance hospital in London, England, and another in Chicago. In proof that those holding the stimulant theory do not have it all their own way, I pointed to the paper by Professor Wilkes, of Guy's Hospital, read before the British Medical Association in 1891, in which he says: "Those medical men who, according to preconceived or ancient notions, have styled alcohol a stimulant have really been watching its sedative action." I remarked that during the spirited discussion which followed, no one questioned this statement. Hundreds of medical men, especially in the old country, hold the sedative theory, as well as very many of the profession in this country.

To show that the authors are divided, I pointed to "Whitla's *Materia Medica and Therapeutics*," now held to be one of the best, if not the best, book on the subject for students. It says: "We will never understand the action of alcohol as long as we regard it as a stimulant."

I might also have cited among the authors Dr. B. W. Richardson, who has expended more time and labor over the question than any other man, living or dead. Also Dr. Norman Kerr, of London; Dr. Davis, of Chicago, author of "Principles and Practice of Medicine"; and many others of less note.

I also tried to point out that whilst many would agree that alcohol is a sedative, as evidenced by their prescribing it to procure sleep or to soothe

an excited nervous system, yet these very men would prescribe it as a stimulant in the next case to which they were called. The same babel of ideas was exhibited during the discussion of Dr. Harrison's paper. One distinguished professor said that alcohol acted as a stimulant, a narcotic, and an anodyne all in the same case and at the same time. There may be reason in this, but it lies too deep for me. It reminds me of the Irishman who invented a gun to shoot out of both ends, but when he had it completed he never could be sure which end it would go off at. I pointed out this confusion of ideas, and urged for free, full, and kindly discussion.

The truth seems to be that those who hold such views, when they want a narcotic effect, prescribe alcohol; when they want a stimulant effect, they prescribe alcohol; and when they would soothe pain, they prescribe alcohol—like the juggler, who will give you any kind of drink you call for out of one bottle. Of course, there is no authority for such loose views, as most of the old authors manfully take the stand that alcohol is a food and a stimulant. It requires little reflection to see that this will not hold water; for surely, if it be a food and a stimulant, it should be valuable in all tests of endurance.

Yet Ringer says: "Varied, repeated, severe, and prolonged experience and the testimony of army medical men prove that troops endure fatigue and the extremes of climate better if alcohol is altogether abstained from." Many other quotations might be given to show the inconsistency of those who advocate the stimulant theory.

I would here also take exception to Dr. Harrison's statement that he "finds a considerable number of conscientious and able medical men who claim that alcohol is not of the slightest use in the cases in which we have been in the habit of prescribing it; that it is not only not a stimulant, but a powerful sedative and depressant." The statement is self-contradictory. I presume that all medical men agree that sedatives are frequently useful. How, then, could any one, after admitting that alcohol is a powerful sedative, claim that it is of no use? I think the doctor has misunderstood what was meant.

I know that there are many able men who claim that even as a sedative or narcotic alcohol is inferior to others which we have at our command. Those who have embraced the sedative theory have generally done so after years of painful groping for the truth, and will not be found to be entirely devoid of intelligence. The main argument on which the stimulant theory rests is that of individual experience, than which I claim there is nothing more delusive. It has nothing more than a suggestive or confirmatory value. While individual experience is one of the tests to which every question must be submitted, yet it is only one, and that one of the least importance. All sorts of absurdities have found refuge under

its wings ; such as Chaulmoogra oil, Chian turpentine, elixir of life, etc., etc.

Why did profuse bleeding hold its own so long? Because the experience of the patient and the physician showed that it gave relief to present suffering. And it would have held its own yet if a clever mind had not demonstrated that a much larger number died of those who were bled than of those who were not.

Let a similar test be applied to alcohol ; have a hundred cases of a certain disease treated with the ordinary doses of alcohol, and a similar number without. I, for one, will bow to a test like that, if fairly conducted. I would also bow to clinical experience if it were backed by reason ; but individual experience alone, which for ages refused a mouthful of cold water to a fever-parched patient and sheltered so many abominations as cures, I must decline to follow blindly. Dr. Harrison has rather an original argument to which I wish to direct attention. He says " When your patient is nearly moribund, when it is evident that the weight of a feather thrown into the wrong scale must be fatal, and you give a decided dose of brandy, if brandy be a sedative, its effects must necessarily be fatal. The mere fact that the patient rallies under its effects in this frightfully low condition shows that it cannot be a depressant." I must admit that the doctor has prognosis down to a finer point than any other man I ever saw when he can tell to a feather's weight how near a patient is to death.

I have seen a number of able and experienced practitioners at a patient's bedside decide that there was not the slightest chance of recovery, and yet they were wrong ; and *vice versa*.

The assured way in which he speaks of patients so nearly dead being snatched from the grave by alcohol would lead young practitioners to believe that many patients at death's door will recover if they administer brandy enough. Allow me to tell them that I tried that dodge for many years, and it fooled me every time. Up till a few years ago few of my patients went to heaven sober, yet I failed to observe in any single case such a marvellous result. And now I think I see more patients rescued simply by conserving the powers of nature. But that is only my " individual experience." Moreover, the doctor has not told us of what his patients were dying. If it were of nervous shock, I might be inclined to agree with him that alcohol might seem to do good, and in some cases have real value. But a patient dying of exhaustion of the forces of nature can hardly be helped by the administration of a drug which will cause a well man to stagger, or even put him asleep.

Sir William Gull, in 1877, said : " The advantage of alcohol is its effect on the nervous system, for the time being rendering the patient more

indifferent to the process going on." And the *Encyclopedia Britannica* says: "Alcohol relieves weariness by paralyzing the power to feel it." So, in a similar manner, does alcohol cause a patient to feel better by taking away or diminishing, for the time, his power to feel the unpleasant effects of the disease. I grant that in this way it may occasionally be useful when given for a short time only, but, when given for a length of time, I believe it does a great deal of harm; and when we require a sedative we have others which, in most cases, are far superior to alcohol. I trust I have said nothing which could give offence to the gentleman who was so good as to introduce the subject and to devote so much care to it. My only desire is to set myself right, and to have this subject thoroughly ventilated.

London, October 26th, 1893.

H. ARNOTT.

Book Reviews.

THAT admirable medical quarterly, the *Sheffield Medical Journal*, was successful beyond all expectations during the first year of its existence, and in the second year has expanded into *The Quarterly Medical Journal* for Yorkshire and the adjoining counties.

Books received too late for review:

A SYSTEM OF GENITO-URINARY DISEASE, SYPHILOLOGY, AND DERMATOLOGY. By various authors. Edited by Prince A. Morrow, A.M., M.D. In three volumes. Published by D. Appleton & Co., New York. Toronto agency, Geo. N. Morany, 63 Yonge street. Subscription only. Volume II., "Syphilology."

AMERICAN TEXT-BOOK OF GYNECOLOGY.

Mr. W. B. Saunders, publisher, of Philadelphia, Pa., announces this work as ready for early issue. It is the joint work of Drs. Howard Kelley, Pryor, Byford, Baldy, Tuttle, and other well-known gynecologists. The work will contain operations not before described in any book, and will be well illustrated.

SUPPLEMENT TO THE REFERENCE HANDBOOK OF THE MEDICAL SCIENCES.

By various authors. Illustrated by chromo-lithographs and fine wood engravings. Edited by Albert H. Buck, M.D., New York city. New York: William Wood & Company, 10th street. Subscription only.

This supplement is really up to date. Many of the subjects written upon in the former volumes have been much dilated upon in this number, and many that were omitted from the original eight volumes have been taken up in this.

Several Canadians have contributed articles, amongst whom we noticed Dr. J. E. Graham, M.R.C.P., London, Dr. Beaumont Small, Dr. A. D. Blackadder, Dr. W. H. Hingston, Dr. Wesley Mills, and Dr. Wyatt Johnston. Even to this supplement an addendum has been added on plasmodia malaria, which carries the subject complete to the end of 1892. Every subscriber for the Reference Handbook will, undoubtedly, be pleased to know that the publishers have issued the supplement, and complete the set by subscribing at once.

A HANDBOOK OF OPHTHALMIC SCIENCE AND PRACTICE. By Henry E. Juler, F.R.C.S., Ophthalmic Surgeon to St. Mary's Hospital; Surgeon to the Royal Westminster Ophthalmic Hospital, London. New (second) edition, revised and enlarged. In one handsome octavo volume of 562 pages, with 201 engravings, 17 colored plates, test-types, and color-blindness test. Cloth, \$5.50; leather, \$6.50.

This new work on the eye is, it is gladly noticed, filled with illustrations, so to speak. In describing the diseases of the various parts of the eye, an object demonstration is given in the form of an illustration, clearly cut and fully described. This is one great merit of the book, and it is in this respect superior to many lately published works on the eye. The divisions and subdivisions under which the different diseases are taught are clear and not too redundant, avoiding in this way repetition and confusion. The author has evidently made every effort to meet the wants that have been expressed as present in the works of different authors as fully as possible in a work of this size. It is especially adapted to the needs of the general physician and medical student. The concise, yet clear, description of disease and its treatment, the clear type, its portable size, its many and good illustrations, and the fullness of the index, are some of the grounds on which it asks for and should be given the liberal support of the profession.

LEONARD'S PHYSICIAN'S POCKET DAY-BOOK. Bound in red morocco, with flap, pocket, and pencil loop. Price, postpaid, \$1.00. Published annually by the *Illustrated Medical Journal Co.*, Detroit, Mich.

This popular day-book is now in its sixteenth year of publication. It is good for thirteen months from the first of any month that it may be begun, and accommodates charges for fifty patients daily for that time, besides having cash department, and complete obstetric records. There is space for the diagnosis of each case, or for brief records of the treatment adopted, following each name-space. Name of each patient needs to be written but three times in a month. It has the usual printed matter, such as: Dose List; Poisons and Antidotes; Urinary Tests; Exanthematicæ; Disinfectants; Weights and Measures. The book is $7\frac{1}{2}$ inches long and $3\frac{1}{2}$ inches wide, so that it will carry bill-heads or currency bills without folding. It is bound in flexible covers, and weighs but five ounces, so that it is easily carried in the pocket.

The style and make-up of this compact little day-book is just what the busy physician needs. The writer has used for the past eight years in his regular practice the larger size day-book, and can speak from experience. It is one that has all the necessary space for any information you need to accurately post from to your ledger. At this season of the year, when a change may be beneficial, we feel sure that a trial of Leonard's system will fill the need.

TRANSACTIONS OF THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION. Volume V. Fifth session. Held at Louisville, Kentucky, on November 16th, 17th, and 18th, 1892.

The Southern Surgical and Gynecological Society is an admirable society, and, though young in years, its work will compare favorably with that of any medical or surgical society in the world. The fifth volume, containing four hundred and twenty-eight pages of reading matter, is fully equal, if not superior, to any which have preceded it. It contains the excellent address of the president, Dr. J. M. McFadden Gaston, of Atlanta, Georgia, and a number of interesting papers on subjects surgical and gynecological, with accompanying discussions conducted with marked ability.

One of the most interesting papers presented was that of Dr. Bedford Brown, of Alexandria, Virginia, the president for the coming year, the subject being "Personal Recollections of the late Dr. Benjamin W. Dudley, of Lexington, Ky., and of his Surgical Methods and Works," to which reference is made in another column. The members of the association were so well pleased with Dr. Brown's address that they decided to allot a place in the "Transactions" for the purpose of recording the works and deeds of prominent Southern men, and appoint one of the fellows each year to prepare a memorial address to the memory and career of some deceased eminent surgeon or gynecologist. They selected Dr. McMurtry, of Louisville, to deliver such tribute to Dr. Ephraim McDowell at the next meeting to be held this month in the city of New Orleans. A happy custom has thus been inaugurated, and it is likely that in the future the memorial address will be among the most interesting features of their annual meetings. The association is fortunate in retaining the services of Dr. W. E. B. Davis, of Birmingham, Alabama, as secretary. His great executive ability, untiring energy, and genial manners have done much toward placing the organization in the distinguished position which it now occupies.

A DICTIONARY OF MEDICAL SCIENCE. Containing a full explanation of the various subjects and terms of anatomy, physiology, medical chemistry, pharmacy, pharmacology, therapeutics, medicine, hygiene, dietetics, pathology, surgery, bacteriology, ophthalmology, otology, laryngology, dermatology, gynecology, obstetrics, pediatrics, medical jurisprudence, and dentistry, etc. By Robley Dunglison, M.D., LL.D., late Professor of Institutes of Medicine in the Jefferson Medical College of Philadelphia. Edited by Richard J. Dunglison, A.M., M.D. New (21st) edition, thoroughly revised, greatly enlarged and improved, with the pronunciation, accentuation, and derivation of the terms. In one magnificent imperial octavo volume of 1181 pages. Cloth, \$7; leather, \$8. Philadelphia: Lea Brothers & Co., 1893.

Any book that from public demand and appreciation reaches a twenty-first edition may safely be recognized as a credit to both its author and publisher. Dunglison's Medical Dictionary has reached that high position. It was always a favorite; the definitions were accurate, clear, and concise, making it an easy, yet thorough, book for the busy student or practitioner to refresh his memory from. There have been some improvements made in this edition. Pronunciation is now for the first time introduced. It is indicated by a simple and obvious system of phonetic spelling, fully explained in the introduction. Derivation has

been expanded, and Greek derivations are printed in English letters, and thus an acquaintance with the Greek alphabet is unnecessary as a key to the knowledge afforded by derivation. Definitions have always distinguished the work as a most valuable feature; it has been systematized in this edition; for instance: Chemistry, formulæ and properties; Drugs, preparation, doses, and effects; Poisons, symptoms, treatment, and antidotes, etc., etc. A vast amount of information will be found in the compiled tables, etc. The work should be in the hands of every student and physician, and will be found a most useful companion.

A MANUAL OF MEDICAL TREATMENT OR CLINICAL THERAPEUTICS. By J. Burney Yeo, M.D., F.R.C.P., Professor of Clinical Therapeutics in King's College, London, and Physician to King's College Hospital. With illustrations; in two volumes, 630 and 740 pages. Philadelphia: Lea Brothers & Co., 1893.

This work is one that should be in every physician's hands. It is based on the proper method of therapeutics. The study of disease is pursued from the point of view of treatment; the therapeutic effect of drugs is worked out rationally from the study of disease. We quote a paragraph from the preface: "It is by examining into the mode of *causation* of disease by investigating the true nature of the morbid changes what underlie the *phenomena* of disease, and by an exact knowledge of the properties and mode of action of the agencies we introduce for the purpose of influencing favorably the course, that what are termed *rational indications* for treatment are arrived at." The foundation for the work was the author's clinical experience in King's College Hospital. The work is not intended as a "rapid reference," but is one that will require to be pondered over and digested. Volume I. is divided into three parts. The first takes up the treatment of diseases of the organs of digestion; second, treatment of diseases of the heart and blood vessels, and of the blood and ductless glands; third, the treatment of diseases of the organs of respiration. Volume II. is divided into six parts. First, the treatment of phthisic or consumption. In this part Dr. Yeo's great clinical experience in Brompton Hospital stands him in good service. He was always recognized as a keen diagnostician, and his treatment was always rational, yet advanced. The treatment of diseases of the liver, the treatment of urinary and renal affections, diseases of the nervous system, constitutional diseases, and specific infective diseases all follow in succession. The whole is a work on which the author should be congratulated, and the profession should show their appreciation by rapidly exhausting the edition. The publishers have done all in their power to make the work attractive; the type is pleasant to the eye, the press work clean, and the binding neat and durable.

Medical Items.

DR. P. D. WOODS, of London, was in the city this month.

DR. GOWAN FERGUSON, of Grand Forks, Dakota, was in town in October.

MR. CHARLES CLAY, of Manchester, England, died September 19th at the age of ninety-one.

DR. JAMES F. BELL, of Portland, Oregon, was in Toronto visiting his relatives last month.

DR. CHARLES H. FISHER, secretary of the Rhode Island State Board of Health, died October 21st.

DR. E. P. GORDON, formerly of the C.P.R. ss. *Empress of Japan*, is spending a few weeks in Toronto.

DR. J. W. E. BROWN, formerly house surgeon at the Toronto General Hospital, is about to locate in Toronto.

THE infant daughter, and only child, of Dr. L. M. Sweetnam, Toronto, died October 29, after a short illness.

DR. JOHNSTON SYMINGTON, of Edinburgh, has been appointed professor of anatomy in the Queen's College, Belfast.

DR. J. A. C. GRANT, formerly house physician at the Home for Incurables, has gone to England for a post-graduate course.

MRS. WARDLAW, wife of Dr. James S. Wardlaw, Galt, and daughter of Dr. J. B. Lundy, Preston, died in Galt, October 22.

SIR JOSEPH LISTER delivered an address on "Essentials in Antiseptic Treatment" before the King's College Society, October 7.

THE Bradshawe lecture before the Royal College of Surgeons, England, will be delivered by Sir William MacCormac, December 7th.

DR. E. P. GORDON (Victoria, 1890) paid a visit to his friends in Toronto in the latter part of October. We understand he intends to practise in British Columbia.

THE total number of medical students in the universities of the German Empire in the summer semester of 1893 was eight thousand eight hundred and thirty-eight.

SIR ANDREW CLARK, London, England, was suddenly seized with apoplexy on October 20th. He was conversing with a patient in his office at the time, and two days previously had occupied the chair as president of the Royal College of Physicians on the occasion of the Harveian oration.

AT the two hundred and eighty-third regular meeting of the Clinical Society of Maryland the following officers were elected for the ensuing year : President, Dr. J. Edwin Michael ; vice-president, Dr. Herbert Harlan ; recording secretary, Dr. H. C. Reid ; corresponding secretary, Dr. Wm. T. Watson.

DR. LACHAPELLE, of Montreal, has been elected president of the American Public Health Association, which will hold its annual meeting for next year in Montreal. We congratulate Dr. Lachapelle, and join in the appreciation of the honor done to Canada in again selecting one of its cities as the meeting place of this large and influential association, and electing a Canadian to preside.

THE SOCIETY OF ANESTHETISTS.—A society with the above designation has been organized in London, England, with the object of undertaking "valuable work upon the science, and improving the practice of anesthetics, as well as such subjects that are germane." The officers elected are : President, Mr. Woodhouse Braine ; treasurer, Dr. Dudley Buxton ; secretary, Dr. Silk ; council, Messrs. Stallard and Norton.

DR. GRAILY HEWITT, so well known as one of London's most distinguished gynecologists, died August 27. For some years he had suffered from asthma and bronchitis, and last year he relinquished practice on the advice of his friends, and spent the winter in Egypt. During the last few months symptoms of renal disease developed, and culminated in an attack of uremia, which soon proved fatal.

IN the September number of the *Maritime Medical News*, in an editorial, we find the following : "Canadian Medical Association meets at London, Ontario, on the 20th and 21st of September next. In the selection of a place for the meeting of '94 the claims of the maritime provinces should not be overlooked, as nearly twenty years have elapsed since the association has met in this section of Canada." The maritime provinces will be pleased to know that St. John, New Brunswick, has been selected as the next place of meeting of this association.

PIXOL, A NEW DISINFECTANT.—The *Lancet's* Russian correspondent cites a report published in a supplement to the *Army Medical Journal*, by Dr. Eberman, on pixol, a cheap disinfectant introduced by Dr. Raptchevski. It is prepared by dissolving a pound of green soap in three pounds of tar, and slowly adding a solution of a little over three ounces and a half of either potash or soda in three pounds of water. At the time of using, one part of the syrupy liquid thus formed is added to nineteen parts of water, forming a five-per-cent. solution of pixol, and it is used of this strength for disinfecting linen and for washing the hands ; for the disinfection of dejecta a ten-per-cent. solution is recommended. Such a solution has been proved to be fatal to the *Bacillus anthracis*, to the bacilli of typhoid fever and cholera, and to the cocci of sup-puration. It is said that the preparation costs only about two cents a pound. —*New York Medical Journal*.

VICARIOUS SYMPTOMS.—The Wife :—“There is a prescription that the doctor left for you to-day when he called and found you out.”

The Husband :—“How did he know what to give me?”

The Wife :—“He said that from my appearance and symptoms he knew you were suffering from chronic dyspepsia.”

LAST year much joy was given to the Parisians by a man with a musical anus. This year medicine supplies the curiosity. At the close of the Congress for the Advancement of Science the members of the Section of Medicine had a banquet. At dessert the “venerable Dr. Schiff, of Geneva, who presided,” entertained the company by playing the “Marseillaise” with the abductor muscles of his feet. Strong rhythmic contractions produced a sound audible for two or three metres. He is said to be the only possessor of this accomplishment in society, which, however, does not prevent him from being a gallant gentleman and a scholar—*Au contraire!*—*Cor. Boston Medical and Surgical Journal.*

COUNCIL FINAL EXAMINATION.—The following candidates have passed the final examination of the College of Physicians and Surgeons of Ontario held in September, 1893: N. Anderson, Toronto; J. M. Armstrong, Walton; W. J. Arnott, Toronto; J. J. P. Armstrong, Moore; H. H. Alger, Colborne, A. N. Barker, Seeley's Bay; W. E. Brown, Rush, N.Y., U.S.A.; R. T. Corbett, Toronto; C. Carter, Toronto; Annie E. Carveth, Toronto; D. J. Dunn, Rosemont; J. R. Ferguson, Toronto; G. S. Glassco, Hamilton; E. W. Goode, Toronto; F. E. Grant, Richmond Hill; M. Haight, New Durham; J. P. Hubbard, Thamesford; J. E. King, Elder's Mills; James King, St. Thomas; S. H. Large, King City; L. Lapp, Toronto; R. B. Mackay, Toronto; J. A. Mitchell, Caistorville; J. A. McNaughton, Cornwall; W. F. Park, Chatham; F. G. E. Pearson, Weston; F. S. Ruttan, Sydenham; Eva J. Ryan, Trafalgar; W. P. Thompson, Toronto; P. B. Wood, London.

THE OLD COUNTRY DOCTOR.—The following pen picture is taken from *The Christian Herald*, the journal edited by the Rev. Dr. Talmage. It is not signed with his name, but it bears an exceedingly close resemblance to his writing. Especially worthy of the eloquent divine is his peroration, where he says of the overworked old country doctor: “He deserves every kindness at our hands.”

“Our country physicians,” says he, “have so many hardships, so many interruptions, so many annoyances, that I am glad they have so many encouragements. All doors open to them. They are welcome to mansion and to cot. Little children shout when they see them coming down the road, and the aged, recognizing the step, look up and say, ‘Doctor, is that you?’ They stand between our families and the grave, fighting back the troops of disorder that come up from their encampment by the cold river. No one hears such thanks, as the doctor hears. They are eyes to the blind, they are feet to the lame, their path is strewn with the benedictions of those whom they have befriended. One day there was a dreadful foreboding in our house. All hope was gone.

The doctor came four times that day. The children put away their toys and all walked on tiptoe, and at the least sound said 'Hush!' How loudly the clock did tick, and how the banister creaked, though we tried to keep it so still! That night the doctor stayed all night. He concentrated all his skill upon the sufferer. At last the restlessness of the sufferer subsided into a calm, sweet slumber, and the doctor looked up and smiled, and said: 'The crisis is past.' When propped up with pillows, in the easy chair, she sat, and the south wind tried to blow a rose-leaf into the faded cheek, and the children brought flowers—the one a red clover top, the other a violet from the lawn—to the lap of the convalescent, and Bertha stood on a high chair with a brush smoothing her mother's hair, and we were told in a day or two she might ride out, joy came back to our house.

"And as we helped the old country doctor into his gig, we noticed not that the step was broken, or the horse stiff in the knees, and we all realized for the first time in our life what doctors were worth. Encourage them. They deserve every kindness at our hands."—*New York Medical Journal*.

OBITUARY.

EDWARD W. MCGUYRE, M.D.—Dr. McGuyre was a resident of Guelph, where he practised medicine for about thirty years. He was highly respected by all classes, and was an active and worthy citizen until six months ago, when his mind became unhinged, and he was removed to the Toronto Asylum. He died in the Asylum, October 26, and the remains were taken to Guelph on the following day, and interred in the Union Cemetery.

THOS. A. FERGUSON, M.D.—Dr. T. A. Ferguson, during his student days, took his course in the Toronto School of Medicine and Medical Faculty of the University of Toronto; and became a member of the College of Physicians and Surgeons of Ontario in 1888. From that time he practised medicine in Parkdale until a few weeks before his death, which occurred October 14. He was highly successful in practice, and very popular among his acquaintances. He left a widow and one child.

SIR ANDREW CLARK.—Among all the distinguished physicians of foreign countries, probably none was so well known to Canadians as Sir Andrew Clark, of London, Eng. When news was received by cable that he had been seized with apoplexy on October 19th, it caused a feeling of profound regret in this country. From the medical journals since received, we learn that he was attacked with right hemiplegia and aphasia, with some mental confusion, but not actual loss of consciousness. For some days Cheyne-Stokes' respiration was present, but passed away completely. At the end of a week his condition was so much improved that recovery was hoped for. Serious symptoms, however, appeared a few days after, the nature of which we do not know exactly at the time of writing. All hope was abandoned on November 5th, and on the afternoon of November 6th he breathed his last, at the age of sixty-seven.

He received his education at Aberdeen and Edinburgh, and passed all his examinations with high honors. As a practitioner in the metropolis he was remarkably successful, and in 1883 was created a baronet. The *British Medi-*

al Journal thus speaks of him : " Sympathetic, public-spirited, indefatigable in the fulfilment of official duties, as all his private obligations ; profusely generous, with a wide tolerance bred of large understanding, but never tinted with indifference ; wise in counsel, free and fearless of speech, self-sacrificing, and spending himself all too freely in the service of his profession and his fellows. Sir Andrew Clark has risen from the ranks to the head of his profession by force of character, capacity, and unwearied industry, with a record unsullied in thought or act by a tinge of self-seeking."

DR. W. R. SHAW.—Dr. W. R. Shaw died at Brantford on September 10th, after an illness, due to tuberculosis, extending over a year and a half. He graduated with the degree of M.D. from the University of Victoria in 1887, and in 1888 obtained the license of the R.C.P., London. After a general course in several of the London hospitals, he became resident physician in the Victoria Park Hospital for diseases of the chest, and of the East London Hospital for children, in both of which positions he performed his duties with a fidelity that won unstinted praise from the visiting staffs of the two hospitals. His special studies were chest diseases of children, and in these departments his attainments were of the highest order, Dr. Eustace Smith describing him as "an expert upon the subject of disease in early life." Returning to America in 1889, he spent a year in studying pathology and bacteriology in the Johns Hopkins University Hospital, and, at the same time, continued his studies in diseases of children under the accomplished specialist in that department, Dr. W. D. Booker. In 1890, he commenced general practice in Toronto, with the intention of finally devoting himself to his specialty, diseases of children. He continued his studies in pathology and bacteriology, giving to these subjects several hours of work daily in the University Biological Department, and of the several investigations which he undertook then two led to results which he reported in papers in *THE PRACTITIONER* and in the *Transactions of the Canadian Institute*. The subjects of these were the pathology of molluscum contagiosum, and of the disease of peaches, known as the "Yellows," and his publications on these show that science has lost a careful, painstaking investigator. His record of attainments and of worth further indicates that, had he lived, a career such as is not ordinarily promised to the young practitioner would certainly have been his. All hopes were cut short, however, by an illness, to stay which residence in the Northwest and in California was of no avail.

To those with whom he was intimately acquainted, Dr. Shaw showed himself to be a warm-hearted, generous, manly friend ; and it is, perhaps, in this respect that many who were less conversant with his professional attainments, about which he exhibited a remarkable diffidence, will keep him in kindly memory in succeeding years.