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Original Communications.

THE NECESSITY OF PRODUCTIVE WORK IN MEDICINE.*

By E. R. LeCOENT, M.D.,

Associate Professor of Pathology, Rush Medical College, Chicago.

One of the questions frequently heard is, "Where shall I study in Europe?" This inquiry proceeds for the most part from two rather distinct classes of physicians. With us in Chicago, I doubt if our position is at all exceptional, a considerable proportion go to Europe immediately following their hospital service as internes; such seekers after more post-graduate work in medicine constitute one of these classes. The procession has been, I believe, a fairly steady one from most of our large cities, filing through our medical schools into our hospitals and then to Europe.

Inquiries are also received from a second and smaller class of graduates who have been in practice for some time, who either had no hospital training or for divers reasons began practice immediately following hospital service.

There are a number of problems in connection with the advice sought by representatives of both classes, and discussion of them at various times and for a number of years have made them both clearer and more vital. Such discussions may be, and often are, devoted to the relative merits of the different European clinics, the peculiar advantages of the material in

* An address delivered before the Faculty and Students of the Medical Department of the Western University, London, Ont., on December 19th, 1906.

various places and the opportunity of intimate contact with teachers of authority. In any thoughtful consideration, however, such problems give way to the more weighty one of how the post-graduate work should be undertaken to insure the greatest benefit—the question of method becomes the all-important one.

The process by which the various details connected with such work became centered about such a single issue has been quite natural in its development. We, for I am sure the members of this faculty enjoy similar opportunities, meet not infrequently the practitioner who has succeeded after a number of years in obtaining a considerable practice, who nevertheless is dissatisfied with his ability to progress in the direction, it may be, of a larger consultation practice or of more scientific work. His ambition aspires to more than a mediocre position; there are others more conspicuous in medicine or surgery with whom he desires to be numbered.

Often these individuals have had exceptional hospital training supplemented by the usual post-graduate study abroad; they have incomes with which they are satisfied and, it may be, considerable referred work. It may happen that after a second period of "walking the wards" of English or Continental hospitals that the desired success remains still elusive and their inability to obtain greater recognition mystifying.

It is in considering such difficulties as these, their origin and the remedy, if there be any, which has directed the discussion of post-graduate study into pedagogical channels.

You may be pleased, therefore, to learn that it is not my intention to compare foreign clinics and laboratories or to contrast them with home facilities. The stationary condition alluded to in which certain graduates find themselves after some years of practice, affords a theme of far greater interest.

There are, without doubt, numerous factors to account for this disappointment, this failure to attain the higher rungs of the ladder. One, however, is very conspicuous and demands first consideration, that is, the absence in these matured petitioners for the key to larger success of the faculty of being productive as compared with those they would rival. This factor concerns the teaching of medicine as well as post-graduate work; in fact, its relations to both are so many and varied that only a few of them can be briefly referred to.

To obtain the attention of the profession in medicine there must be evidence of good work offered from time to time for their inspection. This productivity carries with it of neces-

sity an investigative faculty. Unfortunately the spirit of research and ability to carry on investigation in medicine is not always combined with a desirable and proportionate ease in announcing the result of such studies. Oral reports may lose the attention they deserve through poor presentation, and an absence of training in writing for publication may delay or seriously mar the heralding of important studies; the faculty of being productive includes in itself diverse qualifications.

Real investigation leading to the discovery of new and valuable truths will always bring great reward, but to produce brilliant investigators whose studies are allied to the work of genius is unfortunately impossible as a routine in medical education. It is, however, entirely proper to seriously contemplate an education which shall include training in production. An ever-present reminder of its necessity is the graduate referred to, who having demonstrated his success as a practitioner, a success often including exceptional ability as a teacher, remains handicapped through his sterility.

The problem, therefore, is not the graduation of classes of phenomenal investigators, but one of instruction, in which the "warp and woof of the weaving" shall be the dependence of progress upon investigation and the careful preparation of its results.

To graduate, have the training a good hospital affords, or its equivalent in other forms of post-graduate work, to learn a few years later that ambitions remain, ambitions difficult of realization through inability to do the scientific work of investigation which alone promises the craved recognition or advancement, is, to say the least, not a promising outlook, not a desirable experience. The conditions permitting such occurrences are serious indictments of medical education.

It is of questionable utility to attempt to repair such faulty training late in the medical career, but thoughtful discussion of post-graduate work leads invariably to the serious contemplation of its possibility, the question of method, of how post-graduate work should be undertaken to afford the greatest gain. To imbue the candidate for medical honors with the necessity of research, to cultivate the "research habit" in the beginning of his career, to maintain a teaching impregnating all his studies with it, to develop a highly critical attitude and continue the bestowal of such qualifications throughout his hospital training are obviously more promising undertakings; if successfully carried out, the discussion of further study will drift naturally to the advantages possessed for research work

in various places instead of opportunity to see the work of others.

In order to bring about such improvements, the preparation of men whose aims shall always include contributing to medical knowledge, production must begin at early periods. We have witnessed the subsidence in value of the amphitheatrical clinic and didactic lecture as teaching methods, the growing importance of laboratory and other means of instruction to small classes.* Nor is there anything new in the advocacy of research methods in the undergraduate work in medicine.† There have always existed real teachers whose very presence bespoke independence of thought and action unhampered by routine, but they have been investigators and unfortunately relatively few.

A great advance in this regard, the increased contact between students and men whose time is in large part devoted to investigation, has been accomplished by the change in many of the better medical schools to a university basis of the teaching in the fundamental branches, anatomy, biology, chemistry, physiology, pharmacology and pathology. With similar changes in the clinical branches there would be incentive to productive investigation throughout the medical course. The impossibility of teaching medicine at present under such ideal advantages is the chief reason for the failure to graduate men with a firmly implanted research-habit.

It is not to be wondered at that men who have shown promise by completing investigations under capable leaders in physiology or anatomy, for example, return to these fields after graduation, or, entering practice, become buried in the industry of winning a large income.

The change from the laboratory atmosphere of these university-taught fundamental studies to the clinic and small dispensary classes as at present conducted in the last years of undergraduate work is characterized by curious phenomena. The transition is a startling one in the sudden presentation of the living and the dead human body for study; to attain skill in the recognition of the many illnesses it is liable to with knowledge of their therapy is enthusiastically begun. It is common to hear expression of relief that laboratory and experimental work are finished. More effectual, perhaps, than all other influences tending to stifle whatever of value obtained

* Bayard Holmes, "The Seminary Method in Teaching Surgery," *Journal American Medical Association*, 1896, xxvii., 317-318.

† J. M. Dodson, "The Research Idea and Methods in Medical Education and Practice," *Journal American Medical Association*, 1905, xlv., 81-87.

in the university atmosphere of investigation are those forces in our present clinical instruction leading to an implicit belief by students in the finality of diagnosis.

With the rapid growth of diagnosis as a science, the increased work in clinical laboratories devoted solely to its promotion and the relatively large amount of time occupied by its teaching, this is not surprising. It is not infrequently maintained that diagnosis in itself is investigation of a high order wherein all the faculties of observation, experimentation and deduction have full play. Certainly the demands for exertion of master intellects will in the future, as in the past, find full satisfaction in the prolonged labors of ingenious test and differentiation required by exact diagnosis. The careful, painstaking and involved manner by which it is step by step brought to a triumphant conclusion, and to its minutiae, so frequently verified by the post-mortem examination, is certainly one of the most astounding consequences of applied science. It should on the whole be expected that researches of this character, carried out as they are on the human body, would at once prove highly attractive to students fresh from the laboratory and class work of bacteriology, anatomy, physiology, etc.

In the university environment there is little difficulty in inducing students either as a part of the routine or through scholarships to undertake research work; their contributions form no small part of the contents of the increased number of high-class journals which have sprung up as a result of the transfer to the university of teaching in the first two years of medicine. The influence of instruction in the clinical branches is analogous in its result, the industry shown by the students, or more especially by hospital internes, to emulate the examples of intricate diagnosis, an industry deserving of the greatest praise, carried out as it is under the great disadvantages so common in many of the large charity institutions.

The futility of such work alone is shown by the sterility of later years and the predicament I have endeavored to depict of the dissatisfaction of really able physicians as regards productive work, by the character of the clinical protocols after a diagnosis has been made in the absence of daily annotations so valuable when a post-mortem examination reveals unexpected conditions, or essential for other reasons, also by the limitation of the interest in post-mortem examinations to determining the relation of the changes to the clinical diagnosis. It is no exaggeration to say that our large hospitals are, in the main, schools for diagnosis.

Nor does the effect of the preponderating influence of diagnosis under our present conditions cease with the termination of hospital service, for the steady procession to foreign clinics referred to, and which with us in Chicago is legendary, has been and is at present in the main for further studies in this fascinating science. The expression "post-Viennese positiveness" has been applied to the attitude often exhibited following return from that Mecca for ex-hospital internes, an attitude ridiculously shown at times by the absence of any deep interest except concerning diagnosis, in examples of disease of unknown etiology, a fetish-worship of a name or arbitrarily-constructed syndrome.

In surgery diagnosis has been followed by such prompt operative therapy in America, thanks to the skilful attainments of surgical technique, that on more than one occasion it has been necessary for more conservative surgeons of undaunted courage to protest against investigations limited to experimental human vivisection and the technical details thereto pertaining. With the present growth of small hospitals the especially lucrative nature of work in this field and the interminable graduation of men blinded to all else but diagnosis and therapy, American surgery is always in danger of the repetition of such world-echoing condemnations for attempting through skill what careful investigation might show the impropriety of.

Studies in diagnosis cannot be compared in value with those deeper researches of etiology which so often lead to newer conceptions or a more rational therapy. The constant change and modification of ideas, brought about by genuine investigation, always result in new additions to and re-classification of those groupings and syndromes of systematic diagnosis which in our unfortunate methods of teaching students learn to regard as fixed as the proofs of geometric deduction.

This statement hardly requires illustration, but I can scarcely forbear mentioning a few: Typhoid fever has in the last few years put forth a new branch, paratyphoid; dysentery stands revealed as at least bacillary and amœbic; the newer conceptions of some of the infectious diseases as bacteriæmia; the estimation of the opsonic index of the blood serum as an aid to the treatment of tuberculosis and other bacterial diseases. Many other examples will occur to you.

Unless you have already had a prolonged experience in post-mortem examinations and the laboratory work required to explain the changes revealed by such investigations, I would earnestly recommend that in the beginning post-graduate

studies be in such a field. This recommendation is somewhat hackneyed, but the conditions leading to its reiteration still obtain; the dead house remains the most valuable of all the attractions offered for your choice; in no other place can the convictions you may have acquired in the finality of diagnosis or the proficiency of therapy be so readily shaken. It is necessary, however, that your work there be patterned after the methods which have been found most effectual in practically all forms of education, *i.e.*, the execution by the student, and under supervision, of all the work he is capable of undertaking and the daily enlargement of this capacity. Courses in morbid anatomy devoted chiefly to the demonstration of the results of disease have a certain worth, but they are not comparable with those methods of teaching which necessitate some independence of thought and action on the part of the student. You should, therefore, be no idle on-looker, but a participator in all the details of the work of a pathological laboratory or institute.

To him who is privileged to examine the body dead through disease, the search for the beginning of the process, for its most remote effects and the contributing causes for its fatal termination, has an overmastering attraction; the relation of these to the diagnosis, course of the illness, and its treatment, furnish never-forgotten lessons. In such a training many of the fixed ideas, the result of inappropriate methods of instruction, the hard and fast notions of exact diagnosis, receive a fresh estimation, broader conceptions and a more critical spirit are developed.

Probably the most characteristic attribute possessed by the scientist is his critical manner of thought, leading to the careful examination of each proposition before it is accepted, to the use of a control for each experiment. All laboratory studies promote the development of this attribute. In the pathological laboratory, however, this spirit of criticism is developed in reconsidering previously accepted beliefs and learning somewhat of the limitations of diagnosis and therapy as well as their attainments. Therefore the advice that training in production should begin where post-mortem examinations are frequent and the material for study abundant, the production and repeated production which is to become a habit. There is a special technique for the literary preparation of the results of studies, taught where investigation prevails, although too infrequently, giving to published work its air of authority and modest conciseness. This should be added to the armamentarium with the same care and zeal as other forms of expertness or manual dexterity.

There is probably no greater stimulus to an improvement in further work than the birth of first achievements. It is to be regretted that we may never know the exact service rendered by some of the primitive and unimportant productions of genius in kindling the ambitions, leading later to their unique success. The effect upon the individual of seeing the results of his labors under his own name is usually a feeling of parental pride, and often there is a sense of camaradie aroused by their discussion at society or other gatherings quite startling in its novelty; such occasions form hallowed recollection. The study of an interesting process of disease, although previously completed by many others, may reveal facts new to you and intensely interesting to your colleagues. Productive work does not necessitate prolific writing, and to participate in the continued repetition in an already burdened literature is of doubtful value; a small gathering of students or practitioners may serve fully as well for the introduction to public notice of your latest efforts and to clear the way for new studies. The opinion is often expressed that research work in medicine can only be carried out in the ideal surroundings of endowed modern institutions for experimental medicine and by men devoting their entire time to such work. Such statements are offered to excuse and explain the failure to attend or participate in the proceedings of medical societies. A more valid excuse would be the failure of their medical education to cultivate in them either the ability or the desire for such activities.

These are some of the relations which, as before stated, are both varied and numerous, concerned with the sterility of many of our most promising graduates. They are all connected with, and subsidiary to, the absence of a proper spirit of inquiry concerning the processes of nature as manifested by disease; and it will continue to be in the future, as it has been in the past, the first and most important duty of medical schools, to educate men to recognize and treat disease. So long as training in medical inquiry is directed chiefly to the problems of diagnosis and treatment we can expect little else from our graduates except an intelligent routine practice of medicine or surgery.

Those who would progress in other directions than the acquirement of a large general practice or the care of an extensive clientele in some specialty, must add to their education a training in deeper inquiry and productive investigation. With the adoption of the university methods of teaching in the clinical branches, so well outlined by Barker,* and the rapid

* *The University Record* of the University of Chicago, 1902, vii., 83.

increase of independent institutions for research,† there will be added to the well-trodden field of pathological anatomy new and inviting means for acquiring such additional training. For these reasons, so imperfectly elaborated, the only advice in regard to post-graduate work is that it should be of a character leading to production in some form. To those who have not as yet been producers, there is the hope and belief that the habit may have some small beginning and perchance grow until, like other functions, it will require regular exercise. I can promise that after a brief period attractive problems will be found without number, and with an industry similar to that employed in the study of diagnosis, the necessary technical skill to undertake their solution; also that the content and self-satisfaction following the completion of a careful diagnosis will be replaced by an unrest of spirit so disconcerting that a desire for deeper inquiry will make more investigation imperative; this change in attitude will in some instances result in a more elaborate diagnosis, in others an entirely new one, and through it a fair comprehension of some processes not included in the usual disease-classifications may be confidently expected.

Under such conditions, and no others, is it possible to hope for the progress and recognition which, if not your present aims, at some future time and to some of you will constitute your highest ambitions.

† See article by Welch, *Bulletin of the Johns Hopkins Hospital*, 1906, xvii., 247.

"ME AN' TH' DOCTOR."

Written expressly for THE CANADIAN PRACTITIONER AND REVIEW.

EXTRACTS FROM A "MIDWINTER'S NIGHT'S DREAM," IN WHICH
HANDWRITING WAS SEEN ON THE WALLS OF OUR TEMPLES

BY JAMES S. SPRAGUE, M.D., Stirling, Ont.
Author of Medical Ethics, Etc.

There was a period in the history of medicine, and probably not forgotten by those who for thirty or forty years have been in practice, and have been observing the many changes, some for, and many in opposition to, not only our own, but the profession's best interests, when the doctor stood unchallenged, not one daring to make him afraid or dispute his utterances. In that happy period much respect was given the profession, and that most blasphemous and low-bred salutation, "Doc," of modern origin and disrespect, would never have been tolerated. However, with lapsing years, medicine has achieved the highest honors, and all civilized governments have vied with each other in their munificent gifts and manifold interests in medical advancements, and never in the world's history has medicine occupied higher levels, eclipsing the brilliant age in which Pliny lived. So much literature, eulogistic of our profession is there preserved. "Cradled in story and nourished by song," that we need no proofs of our honored position among men. However, to those who admire the writings of Plato or his Dialogues of Eryximachus, the son of the physician, Acumenus, confirmation will be given my statements. I have not these Dialogues in my library. Yet many years since I most pleasurably read them in the original; and for the advancement of our best interests, will not a brother, resident of a city having a university with a library of the classical writers of Greece and Rome give in these columns a good translation of these Dialogues? Juvenal, in his Satires, names Archigenes (Satire VI., 290),

"'Tis she, that knows the time for feigned disease.
'Tis she that sends to fetch Archigenes."

Pliny names several doctors who were given pensions by emperors. The lowest pension given was 250 sesteria (more than \$10,000). During the reign of Claudius, Stertinus, although the recipient of 500 sesteria from the Emperor, com-

plained to this Emperor of the smallness of his annuity, stating that he could easily make 600 sestertia by city practice, and it is stated that Dr. Stertinius and his brother, equally honored, at death left a fortune of 300,000 sestertia. Radcliffes indeed were they in their day, yet not excelling in their receipts those of the late Dr. Sir Henry Thompson, which were \$60,000 for an operation on the late King Leopold of the Belgians. It is needless to mention those interests wherein finance has prominence, except to announce that the receivers were donors of great liberality, and according to the researches of Dr. Shelton Mackenzie, and including the Stertinius brothers in their many acts of beneficence and endowments, evidences are numerous of the nobility and generous characters of our medical forefathers in all ages, as they were left alone in possession of the practice of medicine, although surrounded by quackery equally as rampant as now, equally encouraged, as it is and has ever been, by the church. Yet with all these unrelenting and formidable discouragements and impediments that superstition now and ever has nursed; yet the progress of medicine has not been interrupted, and its disciples, as a rule, are and have been the world's benefactors in its enlightenment, and widespread exposition of credulity and worship of unknown gods, whereas, it is too noticeable "that churches were built to please the priests," as Burns so truly remarks. However, although err stalketh abroad in mid-day, it is evident, although much assailed by malicious and false theories, the doctor stands pre-eminently among men—the ideal man. Yet he is, and always has been, considered an "easy mark." He as an oak tree, deeply rooted, grown strong by exposure to inclement times and seasons, has encouraged parasites by nursing or inane toleration, and these parasites, metaphorically, are the leeches, epiphenous in character, that although marring the trunk's beautiful outline, cannot destroy the majesty of its highest and magnificent foliage. In this brief attempt in outlining the ideal status among men of the ideal personage denominated the *Doctor*, and intended as an introductory, an apology, or, better, as the first chapter, my wish is to illustrate with our best expression that the dignity, influence and exalted standing of medicine for generations has been well sustained by its many and able disciples.

In this, the second section or division of this paper, we will consider what may be held as our text: "The Doctor and Me." As the oak tree by its beauty, strength and age has

been introduced as a metaphor to illustrate that whereas it had its outlines disfigured by extraneous growths, but such, although unnoticed in their early history, became great and apparently attractive to those not observant, and the time approached when the poisonous tendrils grew so luxuriantly, yet lethally, in a manner, that although the sun-kissed summit of the giant oak was not obliterated, or its trunk concealed from the light of heaven, the "Me and the oak" period arrived. Thus with medicine, for its history is this, that either by negligence, love or indifference of its followers in practice, its satellites have grown so sleek, bold, unrelenting and forgetful of toleration that they consider it most unwarrantable to admit the first place for the doctor, "The Doctor and me" period in medicine is rapidly disappearing. The tendrils of the gigantic oak are not more effectively and assuredly obliterating its outlines than the followers, the nurslings of medicine are destroying and undermining the foundations of our very temples, dedicated throughout the ages to the master minds in medicine. This century has truly many encouraging promises to be considered the most brilliant, or among the most brilliant, of the centuries, and the historian who at its close, writes its history medical "in thoughts that breathe and words that burn," the doctor shall ever be named and placed as wisest of men, and among the wisest, and leaders of men, and of him it will be said: "Like Eros or like Athos bold and great, he shows his head divine; obscure in clouds he hides." Yes, "Continuous as the stars that shine and twinkle through the Milky Way," will the historian name his labors. "Stars of the first magnitude." As such will a Dr. Shelton Mackenzie name those who yet are in their medical youth? Yet we of all ages must assist, and age and experience especially must be heard, for there is, and will be, work for us, and toilsome and unrelenting must it be. For in our midst are those who, nursed by us at hospitals, and trained, too, who with egotistical arrogance are assuming not the expression, not "The Doctor and Me," nor "Me and the Doctor," but plain yet pompous "Me." Some several years since, the second expression I heard from one who had been graduated (?), and she wonders that *She*, or, as she stated, "Me and the doctor," did, will never be eclipsed, and the "Me" status of supremacy has been reached, and the *nutrix erudita* is actually assuming authority, even occupying the *sedes exaltissima*—at least, is trying zealously for a sitting, and we as easy marks are indifferent to such invasions of our rights, so ruthlessly assailed

and assumed by those whose duties were originally supposed to be those of assistants—plain assistants, not equals, disputants, critics, or fault-finders.

Yes, the "*Me*" order, for the honor which *Medicine* now enjoys, and which in great fulness is promised to her, must be warned of its unwarrantable ambition and its breaches of trust. However, there are those whose opportunities for the study of conditions herein named are great, who will be better prepared to finish this paper, and to them I leave the task—even the obligation, if our profession and its rights are worthy of maintenance.

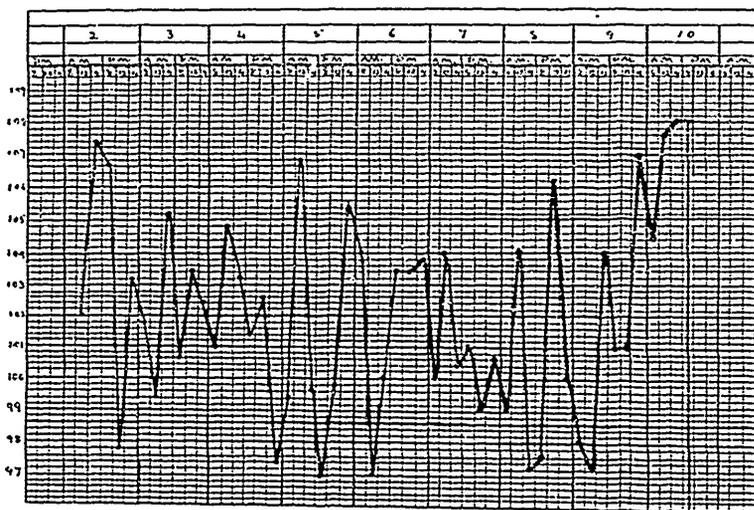
Clinical Note.

A CASE OF EMPYEMA WITH HYPERPYREXIA.

By F. W. ROLPH, B.A., M.D., C.M.,
Of the Resident Staff, Toronto General Hospital.

Harry G., a Russian Jew, aged 25, in Canada two and a half years, occupation tailor, entered the Toronto General Hospital on January 2, 1907, in the service of Dr. W. H. B. Aikins, complaining of feverishness, chills and severe sweating.

He had never been a strong man, but had no serious ill-health until Wednesday, December 26, when he developed a



pain in the right side of his abdomen, followed by headache, vomiting and diarrhoea. The pain became worse on the two following days, but on Saturday his symptoms abated, so much so that he thought he was getting well, until Sunday evening, when he had a pronounced chill, followed by profuse sweating, but no return of the abdominal pain. The following day he felt better again, but the chills returned on Tuesday and Wednesday, so he came to the hospital.

The patient was a fairly well developed man, appearance bright and cheerful, and not betokening severe illness. Examination revealed nothing abnormal in lungs, no pain, cough nor

sputum; apex beat inside nipple line, heart sounds clear, pulse good, though moderately fast, no abdominal tenderness, liver occupying normal limits, spleen not palpable. In the evening patient had a temperature of 107.2 deg., with severe chill, followed by profuse sweating, while the next morning saw the temperature at 97.2 deg. These septic symptoms kept up till Sunday before any localizing signs showed themselves. On that day he complained of pain in the right side, and examination showed a friction rub, just below the right nipple, with comparative dullness over the right base posteriorly. Breath sounds were suppressed, but expiration had a tubular quality, vocal fremitus markedly increased, and a few moist small râles over the dull area. Blood examination demonstrated a leucocytosis of 14,800, with 90 per cent. of polymorphonuclears; uranalysis normal; widal negative, diazo negative. The next day produced a flatter note over the right base; pus was found by the hypodermic needle, and smear examination showed the presence of diplococci. There was now slight bulging of the right side posteriorly, with a flat note as high as the sixth interspace; pain had gone, but respiratory embarrassment remained.

On January 10th a general anesthetic was given, and three inches of the seventh rib removed. About a pint of greenish, evil-smelling pus obtained; drainage put in, and free stimulation given. Following the operation the temperature rose gradually to 108 deg., the pulse gradually failed, and patient died on following night. Autopsy refused. Examination of pus showed a pure culture of the pneumococcus.

Selected Article.

THE DIFFERENTIAL DIAGNOSIS OF TYPHOID FEVER AND APPENDICITIS.

BY PROF. F. LEJARS, M.D.,

Of the Faculty of Medicine of Paris.

Some ten years ago one of my medical colleagues, a most careful observer, sent to me for operation a young woman who had been admitted to hospital two days previously. For three days she had been suffering from pain in the abdomen, more particularly in the right iliac fossa. She presented some swelling of the belly, and her temperature was 101.5 deg. F., with nausea and prostration. My colleague suspected appendicitis, calling for immediate operation, and as I was of the same opinion, I performed laparotomy, only to find a small, perfectly normal appendix, which, all the same, I thought advisable to remove. The cæcum was distended and gurgly, and was red in places. The wound was closed, but the prostration, insomnia and diarrhœa continued, and she developed a well-marked typhoid fever, from which in due course she recovered.

I have never forgotten the lesson, and since then I have more than once found myself face to face with doubtful cases of the same kind in which we were called upon to make the differential diagnosis between typhoid fever and appendicitis. Here is another case in which this problem presented itself under circumstances that lend themselves to the discussion we have in hand. In this instance the balance of opinion was in favor of its being typhoid fever, the diagnosis being based on what appeared good and sufficient reasons, yet the examination of the blood and the subsequent course proved it to be a case of appendicitis. A youth, æt. 20, was seized suddenly on September 27th with abdominal pain and colic, without any particular localization. There was diarrhœa, anorexia, and general discomfort. Three days later the pain became more acute, and there was vomiting. On October 1st the pain became still more severe, and now it was referred more particularly to the right iliac fossa. On the following day the patient was brought into my wards. He was extremely prostrated with stupor, and had a pale, anxious facies. He passed from six to eight yellow stools in the twenty-four hours, the belly was distended, and tender all over, but more so in the right iliac fossa. Temperature 100.5 deg. F., pulse 65, regular. No change occurred dur-

ing the next day or two. Examination of the blood showed: red corpuscles 3,600,000, leucocytes 19,000. Sero-diagnosis was negative. Some resistance was felt over the right iliac fossa; the diarrhoea and insomnia persisted. Matters remained about the same until the 5th, though the diarrhoea subsided somewhat. The iliac pain was very pronounced, the temperature oscillated between 100.5 deg. and 101 deg. F. On the 10th the blood examination gave 3,900,000 red and 28,000 white corpuscles, the pulse remained slow (64) and the general appearance was disquieting.

We were prepared to operate, but the absence of well-marked signs in the iliac fossa induced us to postpone the intervention, and the patient slowly recovered.

I shall discuss later on the assistance to be derived from the examination of the blood, but for the moment I wish to call attention to the extraordinary similarity between the symptoms of this abnormal appendicitis, and those of typhoid fever. Our view was that it was a case of acute enterocolitis with appendicitis, but for some days it was extremely difficult to form an opinion. Such cases are by no means rare, and they have on various occasions led to the abdomen being opened in typhoid fever, and on the other hand, we have been induced to withhold our intervention in cases of appendicitis until it was too late. This being so, such cases deserve our best attention.

It seems to happen more frequently that appendicitis is diagnosed when the patient is really suffering from typhoid fever than the converse. Nevertheless, in two instances we have diagnosed typhoid fever in patients sent to us for "appendicitis," and which turned out to be typhoid fever. But surgeons are not always equally fortunate. Kelly and Hurdon report several striking examples of this. A nurse, *æt.* 23, was seized with excruciating pain in the abdomen while on duty. The abdomen was found to be distended and resistant; there was nausea and then vomiting, and the temperature ran up to 106 deg. F. They diagnosed acute perforating appendicitis, and operated, but it turned out to be typhoid, from which she died. In another case a boy, *æt.* 8, suffered for two days from pain in the right iliac fossa with distension and muscular rigidity, and a temperature of 104 deg. F. He was operated on for appendicitis, but the appendix was healthy, and it again turned out to be typhoid, fortunately followed by recovery. A third case, with a less fortunate ending, was that of a medical man, who for two years had been suffering from attacks of colic thought to be appendicular; ultimately the pain in the right iliac fossa became so severe as to necessitate his taking to his bed. Matters

went on thus for some weeks, when the pain became localized exclusively in the right iliac fossa, and was diagnosed to be due to appendicitis. The belly, however, was flat and soft. He was operated on, the appendix was found adherent to the cæcum, but in no wise diseased. Six days later internal hemorrhage set in, rose-colored spots were detected, and the spleen could be felt. He died on the twelfth day. It would be easy to multiply similar observations.

Although it is less common for an appendicitis to be mistaken for typhoid fever than the converse, the consequences of the error are even more to be feared should the error persist. Box and Wallace (*Lancet*, June 6th, 1903) record the case of a man, æt. 50, who was suddenly seized with pain in the right iliac fossa; the temperature went up, the pulse was 120, with intermittent delirium at night and slight diarrhœa. During the third week there were three copious hemorrhages with bright red blood, and typhoid fever was diagnosed, although no rose-colored spots were seen and the sero-reaction was negative. Death occurred on the twenty-first day. Post-mortem they found an abscess in the right iliac fossa around the appendix, but no trace of typhoid ulceration.

From what precedes, it will be seen that the conditions under which the mistakes were made were very dissimilar. There were acute cases, with sudden onset, high fever and rapid pulse, a bad general state from the beginning, abdominal distension, an ill-defined pain in the right iliac fossa, which might be either typhoid fever or appendicitis. Generally, however, the onset was more gradual, corresponding fairly well to the period of invasion of enteric fever. In these doubtful forms what led to the diagnosis of appendicitis was the prominence of the iliac pain and the partial subsidence of the other signs. The weight of opinion was in favor of typhoid when there was diarrhœa, headache and stupor. In typical cases, of course, such an error could only arise in consequence of inadequate examination, but in the mixed cases under consideration certain signs are wanting, and those present can only be rightly interpreted by an attentive study in their totality, none of them viewed separately being pathognomonic.

In appendicitis the onset is usually more acute and severe. The pain sets in suddenly and forthwith increases in intensity. Nausea and vomiting usher in the scene, and the temperature goes up. Even in cases which, later, become obscure or in which unexpected accidents supervene, it is rare for this history not to be obtained. The pain may be moderate, it may not be just where we should expect to find it, it may be lower down, peri-

umbilical, or sub-hepatic, but it is quite exceptional for it not soon to become localized in one spot, usually at or in the immediate neighborhood of McBurney's point. It is not only sensitive to pressure, but the pain is there always. The wall is tense, rigid, and the least pressure accentuates the muscular resistance. We may get iliac tenderness at the onset of typhoid, and sometimes this tenderness assumes the character of genuine pain, but it is more diffuse, less fixed, it is specially marked on pressure, and when it is sought for the wall remains supple. Gurgling, of course, signifies little or nothing.

We know that diarrhœa is by no means rare in appendicitis, and that it is especially common in the very grave septic cases. It is consequently a grave element of prognosis. But diarrhœa from the onset usually indicates the crisis of entero-colitis, in the course of, or following which, the appendicitis has developed. It may be very copious during the first few days, and this is unusual in typhoid, in which the diarrhœa as a rule only sets in after a preliminary period of constipation. We meet with every variety, however, and no hard and fast rule can be laid down, but the significance of this inaugural diarrhœa must not be lost sight of.

The insomnia, headache and mental depression may, of course, be merely due to the fever, and we must not forget that these symptoms occasionally assume a very grave aspect, closely simulating, in fact, the symptoms of typhoid.

We must be on the lookout for the other signs, which, however, may be lacking—epistaxis, rose-colored spots, which anyhow do not make their appearance until the eighth day; and the sero-reaction which, if positive, settles the question, but if negative, merely leaves it open.

Albuminuria is commoner and more marked in typhoid fever than appendicitis, and the presence of albumen early in the case is not without significance. Then comes the blood examination, and its value is extreme. In non-complicated typhoid fever hypoleucocytosis is the rule; in appendicitis, especially when tending to suppuration, we find hyperleucocytosis. The existence of this hyperleucocytosis is a fact of the greatest importance in assisting us to arrive at a correct diagnosis. In my case it oscillated between 19,000 and 28,000, and this result, in the ascertained absence of any pleuro-pulmonary mischief or other focus of inflammation, militated strongly in favor of appendicitis. Of course, numerous examinations of the blood will be necessary for this information to possess its maximum value, but when the hyperleucocytosis persists and increases *pari passu* with the local mischief, there remains no room for

doubt. Even after the first examination our views underwent a change, and sundry phenomena, previously ill-understood, were seen in a new light. The importance of this line of research at an early stage cannot be too strongly insisted upon, but we must bear in mind that hyperleucocytosis may be absent in certain cases of hyperseptic appendicitis, and that certain inflammatory complications of typhoid fever, apart from appendicitis, may, on the other hand, give rise thereto. We must therefore be guided by the symptoms as a whole, but in this whole the hæmatological data occupy a conspicuous place.

It may happen that typhoid fever and appendicitis set in together in such wise that their symptomatology becomes mixed; indeed, this association is by no means rare, especially in children. It may, of course, be objected that in this event we are not dealing with appendicitis properly so-called, but rather with appendicular lesions of typhoid origin. The result in any case is to mask the symptoms of typhoid fever. It sometimes happens that in the course of an ordinary attack of typhoid fever during which at no time has attention been called to the appendix, grave accidents may supervene presenting all the appearances of typhoid perforation, but due in fact to an overlooked appendicitis. On the other hand, we may recall the cases of "ambulatory" typhoid in which peritonitis suddenly supervenes. This is diagnosed as acute appendicitis, and laparotomy is performed, only to find a typhoid perforation—if, indeed, anything at all is discovered, for the perforation may be very minute, and situated high up in the small intestine.

In the last-named contingencies, the practical question of the proper course to follow can be stated without hesitation. We must act, and act at once, however obscure the diagnosis.

In the cases first dealt with—those in which we have to ask ourselves whether the case is one of typhoid fever or appendicitis—it is quite otherwise. Unquestionably, when the accidents are not alarming, when there is no threatened generalization, and when, in spite of the diarrhœa and the general appearances, the pulse is of normal rapidity and is full and regular, we can take our time, and usually in a few days, with close observation, the problem will solve itself. It cannot be denied that the doctrine of immediate intervention in appendicitis has tended to increase the number of instances in which a healthy appendix has been removed from a typhoid patient in the initial stage. But there are cases in which the symptoms are so acute that we dare not delay, consequently, when in doubt; and in presence of pressing symptoms, it behooves us to operate, diagnosis or no diagnosis.—*Medical Press and Circular*.

Progress of Medical Science.

MEDICINE.

IN CHARGE OF W. H. B. ALKINS; H. J. HAMILTON, G. J. COPP,
F. A. CLARKSON AND BHEFNEY O'REILLY.

Sensation in the Abdominal Organs.

Meltzer and Kast have recently done considerable experimental work, in the Rockefeller Institute, New York, on the subject of the sensibility of the various abdominal organs, with special reference also to the effect of cocaine. Their preliminary communication is embodied in an article in the *Medical Record* of December 29, 1906. Lennander, the Swedish surgeon, Bier and others believed that from their numerous observations the stomach, intestines, spleen and the various other organs were completely devoid of the sensation of pain, and that the parietal peritoneum alone was sensitive. They believed that this applied to normal as well as to the inflamed. We must note, however, that in the majority of these experiments anesthesia was procured by Schleich's infiltration method, of which we know cocaine to be one of the active constituents. Lennander considers that what evidences of pain he was able to produce, during his manipulations, were referred from within the parietal peritoneum, or from irritation of the sensory nerves distributed over the posterior wall of the abdominal cavity.

If these organs were devoid of pain, what would be the object in our various methods of examination, such as for a painful liver, or as in abdominal localization?

Kast and Meltzer, in their work, produced anesthesia primarily with ether, and found undeniable evidence that the organs in question do possess sensibility to pain, and that it is considerably augmented by the presence of inflammation. They, believing that the anesthesia found by earlier writers was due to the cocaine employed, carried on another series of experiments with this drug, and came to the conclusion that, in addition to its local effect (as seen in infiltration anesthesia), it possesses the power of abolishing sensation in the organs of the abdomen, and also in the parietal peritoneum (but somewhat later in appearance and evanescent in duration), through the medium of the circulation.

Gelatine Method of Preserving Specimens.

W. H. Watters, Professor of Pathology in Boston University, describes the following method for the preservation of organic specimens in detail in the *Medical Record* of December 22, 1906:

The organ should, if possible, be transferred at once to the following solution, and arranged in the required position, as it is here that fixation occurs.

Potass. nitrate.....	15 grams
Potass. acetate.....	30 grams
Formalin.....	200 c.cm
Water.....	1'000 c.cm

Twelve hours' immersion in the above will usually suffice; the organ is immersed in water for several minutes, and then placed in alcohol. On removal from No. 1 solution, the color of the blood is a dark brown. This, after usually from one to five hours' submersion in alcohol, changes to the crimson of normal blood, when the specimen is again rinsed in water. The length of time required to produce the desired color by the alcohol varies greatly, and can only be satisfactorily determined by careful observation of each individual specimen. Next it is transferred to the following, where it may remain indefinitely as a permanent preparation (Kaiserling), or after a few hours may be continued to the final stage:

No. 3. Postass. acetate.....	100 grams
Glycerin.....	200 c.cm
Water.....	1'000 c.cm
No. 4. Gelatin.....	290 grams
Solution "No. 3".....	3'000 c.cm

Raise the temperature of the required amount of No. 3, after adding the gelatin, to 55 deg. C., add white of one egg to the mixture for every litre used, and render strongly acid with acetic acid, and filter. The medium should be colorless, and may be kept as a stock solution. A few grains of thymol placed on the top of the jelly, which results from cooling, will prevent fungus formation.

This jelly, when required for use, can be liquefied by heating to 45 or 50 deg. C.; then, after adding 1 cm. of formalin to each Cc. of fluid, a portion is poured, say, into a Petri dish, the specimen embedded in it. After cooling, the remaining part of the dish is filled with fresh liquefied jelly, and covered with a wet glass plate; finally this latter is cemented by means of balsam, around the edge of the dish; or, simpler still, fill a jar

or test tube with the liquefied jelly, suspend the organ in it, and allow it to solidify.

Treatment of Syphilis.

The intramuscular injection of mercury and its salts for the relief of syphilis is reviewed by S. T. Begg in the *Medical Press*, of December 19, 1906, based on 100 cases treated by him. It will be remembered that this method was brought into prominence by Lieut.-Col. Lambkin, R.A.M.C., of the British Army, and found by him to give great satisfaction. Certain advantages are evident: (1) Dose is definite; (2) fewer attendances required; (3) drug action is more rapid and certain; (4) it is more cleanly; (5) for the soluble salts their rapid effect and facility of administration; (6) for the insoluble, that the effects are more lasting, and that fewer injections are necessary. The dangers, which may all be avoided by proper technique, are: (1) Embolism; (2) Mercurial intoxication; (3) mercurial stases; (4) sepsis, inflammation and sloughing. The injection method is of special use where (1) rapid action is required; (2) in lesions of the nervous system; (3) when the gastro-intestinal tract is liable to be upset. The course usually consists of 10-20 injections when insoluble preparations are employed, repeated every seven to ten days; if a soluble salt is used, about 30 treatments daily or less frequently, depending on the individual case.

An injection of mercurial cream (1½ gr. Hg.) is said to equal 3 injections of a soluble salt, each containing 1-5 gr. Hg., = seven daily, (20 g. Hg.) inunctions of mercurial ointment = 21 pills (2 gr. Hydrarg. c. Creta. t.i.d.).

Lambkin's preparation is as follows:

R	Hydrargyri.....	ʒi
	Adeps lanae.....	ʒiv
	Paraffini liq. (carb. 2%).....	ad ʒx

(Hg. and fat by weight, paraffin by volume : 10 m. = 1 gr. Hg. pro dose).

The injection is usually made in the buttock, intramuscular, except in the "dangerous arc" of Möller, between the post-superior iliac spine, and great tuberosity of ischium, under aseptic conditions, care being taken that no vessels are wounded. The mercurial cream is used at a temperature of 80 deg. F. Before reinjecting, it is usual to examine for unabsorbed mercury, either by palpation or with aid of X-ray.

Bing finds that if the treatment is acting well, there is an increase in the urea excreted, the body weight rises, and percentage of hemaglobin is raised.

Microscopic Agglutination of the Typhoid Bacilli.

In this issue will be found an article by A. M. Stober, describing a practical application of the Widal test. This reaction is one of the most important of the single laboratory methods that have been suggested of late years in the clinical diagnosis of typhoid fever. As ordinarily performed, the test requires a good microscope and some skill in the application of laboratory methods, and what is more important, a pure culture of the typhoid bacillus. The test consists in observing the agglutination or clumping of the bacilli when brought in contact with the patient's blood. The test is not conclusive, as there are some cases in which the test is positive when typhoid is not present, and a few cases in which the characteristic reaction is absent in undoubted typhoid. Notwithstanding the few exceptions, the test is very reliable, and particularly so when the ordinary clinical picture of typhoid is found—as a confirmatory test.

Additional interest is lent to this test by the fact that it can be made without a microscope or laboratory. The dead bacilli may be kept in suspension in sealed tubes for an indefinite period, and when needed the serum of the blood can be added to the tube, and in a short time the clumping will be observed, providing the reaction is positive. No microscope is needed to observe the reaction.

Stober says that the Widal test performed in tubes and relying upon unaided vision is almost as delicate as the microscopic test. It is to be hoped that physicians will more generally avail themselves of this test. A practical and simple application of the method was devised by Parke, Davis & Co., who furnish the preserved dead bacilli in proper dilution in tubes contained in a convenient case, which can be carried in the pocket, and can be used at any time when the test is desired.—*Medicine*.

Philippowich's Sign in Typhoid Fever. MINICOTTI (*Gaz. d. Osped.*).

In 1893 Philippowich called attention to a symptom which he considered pathognomonic for typhoid fever. It consisted of a dirty yellow discoloration of the skin on the palms of the hands and the soles of the feet, suggesting the stain produced by picric or nitric acid. The importance of this sign has been recognized chiefly by French authors. It seems to occur most markedly and frequently in children, less so in women, and least in men. The writer again calls attention to this somewhat neglected sign, and reports in detail a case in which it was accompanied by violent pain in the affected areas. From a

study of his cases, he concludes that while most frequently found in typhoid fever, and, therefore, of some diagnostic importance, it may also occur in anthrax, miliary tuberculosis and empyema.—*Interstate Med. Jour.*

Early Diagnosis of Infectious Diseases.

An original article by Vipond, of Montreal, appears in the *British Medical Journal* of December 15, 1906, on the above subject, with special reference to enlargement of the lymphnodes.

He comes to the conclusion, by clinical observation, that the various superficial lymphatic glands are enlarged in all acute infectious diseases, the larger the period of inoculation the earlier do we find this present. For example, in measles, rubella, mumps and chicken-pox considerable enlargement is almost invariably present several days (in measles as early as seven days) before the appearance of the rash or other pathognomonic sign. The swellings are due to absorption of the toxine, and not to irritation of the rash. They are usually isolated, freely movable, tender, but do not suppurate. The inguinal, cervical or axillary chains show the greatest enlargement.

He believes that by examining the children of a family, one of whose members is a victim of an infectious fever, one may be able at a very early date to determine the probability of its becoming a victim to the same disease, and thus to be able to do away with the practice of "billeting" of infected children on friends, as is a frequent custom, and also to largely limit school epidemics by isolating children found to be suffering with infected nodes.

Newer Idea of the Cause and the Treatment of Bright's Disease.

Croftan (*Cleveland Medical Journal*) thinks the term, Bright's disease, should be confined to those cases where the changes about the heart and arteries predominate, and not infrequently precede the development of the renal signs. The high arterial tension and circulatory disturbances lead to nutritional disorders, particularly in those organs supplied by end arteries—kidney, retina and brain. Careful studies of the heart and the blood-pressure show that the cardiovascular changes are first; in fact, Bright's disease may occur without nephritis. The blood-pressure is increased most probably by circulating toxins, the most important source of which is the bowel contents, containing a large number of pressor substances. Treatment, therefore, must be directed to the diet and to intestinal

antisepsis. The best remedies for the latter purpose are the bile acid salts and zinc sulphocarbolate. The amount of putrefaction in the intestine may be gauged by the indican in the urine; or, if the fermentation is small, bismuth subnitrate, when given by the mouth, together with intestinal antisepsis, should not color the stools black.

A case of Bright's disease should, broadly speaking, be treated as a heart case, not as a kidney case, for death comes most often from the failure of the heart. The measures at our disposal for regulating the blood pressure are dietetic, hydrotherapeutic and medicinal. The diet should contain no preformed pressor principles, which means a minimum of nuclein-containing foods and extractives. Alcohol, tea, coffee, cocoa and tobacco should be avoided. A simple warm bath every evening is most beneficial. All nitrites and preparations of nitroglycerine do good, but are rarely needed, if sensible hydrotherapy be instituted. A very small dose of digitalis (one or two drops of a good tincture), for many months at a time, is of great value, and does not deprive the heart of a vigorous digitalis stimulation, when required in later emergencies. Exclusive milk diet is gentle starvation, and must be avoided. Patients must be taught to take a hopeful view of their condition, for mental depression throws more work on the circulatory system.

Splitting of the kidney capsule is altogether irrational in this condition, giving only temporary relief. Bright's disease is a systemic disorder, and nephritis is merely one of its symptoms. Any treatment of the kidneys alone is, therefore, purely symptomatic, and one might as well amputate the rose spots in typhoid fever and expect a cure, as to decapsulate the kidney in this condition.

Chloride of Sodium.

The dechloridation treatment of nephritis was considered at length last year. Hare, in an editorial article on this subject, reminds us that the old views that the existence of nephritis could be determined either by the presence of albuminuria or a diminished output of urea no longer hold true. That there are strong grounds for assuming that the continued diminished elimination of chlorides is indicative of acute or chronic parenchymatous nephritis, he believes to be fairly well established. In addition to the diagnostic significance of this fact, it is of therapeutic importance, for if the diseased kidney fails to eliminate the chlorides, then, if the views of Widal, Achard,

Juval and others are correct, edema or dropsy will occur, as the tissues will require a greater amount of water to maintain the salt solution. A patient who eliminates less chlorides than normal owing to diseased kidney will eventually, unless the ingestion of the chlorides be cut down or entirely suspended, develop what Hare terms a cumulative effect. This, if the present view be correct, will lead to the formation of dropsy.

The fact that nephritic patients rapidly gain weight, if large quantities of salt are taken because of the resulting edema, has largely been observed. Boyd has had such an experience. He suggests that the value of a milk diet in nephritis is probably due to the small quantity of sodium chloride which it contains. Furthermore, the diuresis which follows the use of milk aids in relieving the edema.

The diet recommended by Widal (quoted by Hare) for dechloridation consists in the administration of a half a pound of meat, a pound of potato, three ounces of sugar, three ounces of unsalted butter, and two and one-half quarts of fluid.

Pater has been using a salt-free diet in the treatment of scarlet fever. He obtained better results in the group of patients fed with a liberal diet (bread, rice, potatoes, eggs, butter, sugar and milk, all without a trace of salt) than in those kept on an absolute milk diet. The nutrition was better, gain in weight greater and convalescence more rapid in the patients on a liberal diet. He believes that this is additional evidence against the exclusive milk diet in many of the febrile diseases, particularly in typhoid.

On the other hand, Zeigler found that of 100 cases treated with an exclusive milk diet not one developed nephritis. Of 115 cases treated in various ways, half of them developed nephritis, and of this number five died. Hare has drawn attention to these results to show that, while the exclusive use of milk in all forms of nephritis is not necessary, this is not the case in acute nephritis, particularly that due to the infectious diseases. Then, too, milk is taken much better by children than adults.

For several years Grumer has been observing the effect of sodium chloride in kidney affections. His studies have convinced him that the diseased kidney does not eliminate sodium chloride readily, and that even in healthy infants if the daily intake of sodium chloride be suddenly increased there is retention of both chlorides and water and an increase of weight due to the retention of the water. For these reasons he thinks that in renal and cardiac dropsies and where there is a tendency to their development the patient should be put on a diet as free as possible from sodium chloride.

Richardson has written a review of the therapeutics of sodium chloride. He points out that this salt is one of the physiological necessities, and that it should never be reduced below that point, viz., an elimination by the urine of from five to six grams. The elimination of the chlorides from the diet of epileptics for the purpose of reducing the quantity of bromides used is condemned by Richardson. He states that the physiological value of sodium chloride is too great to be neglected, and its elimination from the diet will produce a pathological condition. For this reason it cannot be good therapy to treat one pathological condition by the creation of another.—*Progressive Medicine*, Dec. 1st.

Cheyne-Stokes Respiration.

The peculiar type of periodic respiration first accurately described by the great Irish clinicians, has long been known to the profession as a not infrequent accompaniment of certain forms of uncompensated heart disease and of cerebral compression. The sign, *per se*, so far has not been of any great diagnostic significance, though from a standpoint of prognosis it has usually been regarded as a distinctly unfavorable portent, often unjustly. It has been universally held that the mechanism of the sign, though obscure, was doubtless the same in all cases, no matter what the character of the primary disease. The recent work of Eyster is of interest in this connection, as it shows that the form of Cheyne-Stokes breathing which accompanies cerebral compression differs from that which occurs in connection with cardiac and renal diseases. In Cheyne-Stokes respiration due to cerebral compression, the period of respiratory activity is associated with a rise of blood pressure, while in that due to the other conditions the rise in blood pressure corresponds to the period of apnea. The observation may have more than theoretical importance, for it can be imagined that in semi-conscious patients with this form of breathing the relation between the blood pressure and the phase of respiration may incline the clinician to regard the condition as cerebral or otherwise, as the case may be.—*J. A. M. A.*

SURGERY.

IN CHARGE OF EDMUND E. KING, GEORGE A. BINGHAM,
C. B. SHUTTLEWORTH AND F. W. MARLOW.

A Lecture on Present Views on Diseases of the Joints.

"A Lecture on Present Views on Diseases of the Joints," by Mr. Howard Marsh, which appears in the *British Medical Journal* of December 8, 1906, is indicative of recent great advances in the recognition and treatment of various diseases of the joints which until recent years were overshadowed by obscurity.

The heterogeneous conglomeration of terms formerly applied in such diseases shows how little was known of their true pathology. At present, however, owing to the early work of Brodie, followed by that of Charcot, and more recently of other eminent surgeons, including Mr. Marsh himself, an appreciable state of order prevails, and a classification of the various inflammatory diseases of the joints has been arrived at, which relegates most of the commoner forms of such diseases to classes, of which the true pathology is more or less clearly understood.

Mr. Marsh points out that the synovial membranes bear a resemblance to the lungs, the cerebral meninges and the peritoneum, in being composed of vascular connective tissue, and are alike prone to infections of various kinds.

In the paper he does not deal with those cases of infective arthritis, which are readily recognized, viz., those resulting from wounds, acute infective osteomyelitis, or pyæmia, or complicating the specific fevers, especially acute rheumatism, or, more rarely, scarlet fever, typhoid or influenza. Instead he devotes his attention to a far more important group of cases, such as are caused by the common organisms, as staphylococci, streptococci, or gonococci, and which present such features as are not ordinarily associated with their activity.

Their importance, he affirms, lies in the fact that they are apt to lead to serious oversight and mistakes. Such a statement as follows here in his own words can scarcely be read by any one without strengthening his guard against errors. He says: "Undoubtedly many cases—for instance, of disease of the knee joint—are diagnosed and treated as tuberculous, when in reality they are not tuberculous but septic in their origin."

Cases are cited which substantiate the view that the gonococcus, when deprived of much of its original virulence, as it is in a case of gleet of long standing, produces a degree of irritation which is practically identical with that to which the

bacillus tuberculosis gives rise. The symptoms and signs produced are so much alike that only the discovery of a possible gonorrhœal infection will clear up the diagnosis, and it is not only necessary to inquire as to the existence of a urethral discharge, but if there is the slightest possible chance of a previous infection, the condition of the urethra should be ascertained, and examination may reveal signs of a stricture, and perhaps of a slight discharge, which may contain the distinctive organisms.

In one case of a man, aged 29, who had been under treatment for nine months as having tuberculous disease of the knee, and who denied the existence of gleet or the possibility of a gonorrhœal infection, Mr. Marsh considered that the man, so perfectly healthy-looking and of such an age, was more likely to be the subject of urethral infection than of tuberculous disease, and on investigating the urethra, found a slight stricture and a slight secretion containing gonococci. This patient recovered, but, needless to say, the treatment adopted was entirely opposed to that which had previously been carried out.

In referring to other sources of joint infection, the writer states that wherever, in any organ, or any part of the body, a septic process exists, joint infection may result. Amongst other causes, he mentions tonsillar affections, absorption through pharyngeal lymphatics, tooth necrosis, septic cavities in the lungs, empyema, infective processes in the skin, as boils or septic abrasions, vaginal discharges gonorrhœal or otherwise infective, infection following parturition, and intestinal absorption of infective materials.

The value of an accurate diagnosis in such cases is without doubt of the utmost importance. One can readily realize how great a misfortune it would be to relegate the patient to the treatment of tuberculous affections of joints. Besides, in order to avoid the occurrence of firm fibrous ankylosis, which often takes place in a few weeks, it is essential that the proper treatment should be undertaken at as early a time as possible. Consequently it is one's duty to search out and give heed to every possible source of infection, and especially when a patient's history and general condition does not favor tuberculosis.

Briefly stated, the treatment of such cases consists in rectifying the possible source of infection, hot douching, movements and massage. Recovery is often slow, and the treatment must be persistent.

Altogether, the paper under consideration is most instructive, and its careful perusal in its entirety should be very beneficial.

OPHTHALMOLOGY AND OTOTOLOGY.

IN CHARGE OF J. T. DUNCAN.

Cases Illustrating the Value of the Ophthalmoscope as an Aid in the Diagnosis of the Cause of Brain Lesions.

Dr. J. Dunn (*Virginia Medical Semi-Monthly*) has an interesting article on the above subject. He gives several instances:

Some months ago, a lady came to my office to have her glasses changed. As she entered the room, I was struck with her pallor. Deeming its cause as beyond the object of her visit to me, I turned to the examination of her eyes, and for the moment, the lady's lack of healthy color passed from my mind. As a matter of routine, I looked into the background of her eyes, and found there two choroidal patches strongly suggestive of syphilis as their cause. I know not whether she read my thoughts, but after I laid down the ophthalmoscope, she said: "Doctor, I have two chronic sores in my mouth, one on either side, and nothing I put on them will heal them." On another occasion, a gentleman consulted me to find why his glasses were no longer satisfactory; they had been entirely so until a few weeks before. He could give no reason why his reading vision was less perfect with these glasses than formerly. So far as he knew, his health was not impaired. A single glance at his fundus showed that much-feared picture, extensive albuminuric retinitis. Another time there happened to come to my office with a friend a lady who had formerly been a patient of mine. While talking to her, she mentioned that within the past six months she had had several epileptic fits: that their cause was unknown to her physician, and that no medicine could dispel the awful depression which followed these attacks. I asked to be permitted to look into her eyes. Double optic neuritis, and the reason no medicine could relieve her was clear.

Short chapters similar to the three just read are common in the ophthalmologist's year-book—so common, that he himself at times forgets the importance of the ocular fundus as a diagnostic vantage point.

Two other cases are given, the first being a case of paralysis of the left orbicular muscle. The condition was evident enough, but what caused the paralysis? The examination of the urine gave no clue. The heart had no demonstrable lesion. The patient, whose health had been excellent, could give no cause for the facial trouble—indeed, she had been unconscious of any disturbance other than the overflow of tears, and, for a few hours, of a slight stiffness in the right side of the mouth. The fundus of the eye was examined, and changes were revealed

due to arterio-sclerosis, most noticeable in the smaller vessels. Here, then, was practically the key to the proper understanding of the paralysis. The paralysis disappeared in a few weeks.

The second case was that of Dr. B. He complained of imperfect vision, of which he had only become aware suddenly, a few months ago. He had his eyes examined, and his glasses changed several times, but they had given him no relief. His distant vision was normal, and, with his glasses, he could read the smallest type. The muscular equilibrium by the visual tests was normal. And yet he asserted that his vision was most imperfect.

Ophthalmoscopically, the lens, iris, vitreous, nerve-head and adjacent iris and choroid showed no diseased condition. "Tell me," I said, "more about your loss of vision." "Well," said he, "for instance, I often, in driving along the road, run into some vehicle without seeing it." At once, the trouble was apparent. He had a defect in the field of vision. Examined with the perimeter, there was found to be a complete left-sided hemianopsia, i.e., the patient was blind for the entire left half of each field of vision.

The trouble had come on suddenly and painlessly. No heart or kidney lesion was demonstrable. The blood vessels of the fundus were normal in appearance. Dr. B. admitted that in his earlier life he had visited the maidens of the Red Queen, but, so far as he knew, no one of them had left him a lasting memento. Some fifteen or more years ago he had discovered a small painless sore on his penis. He had visited a well-known venereal specialist, in Baltimore, who had assured him it was merely herpes. He had paid no further attention to it, for it was soon gone and, to his knowledge, no evidence of syphilis had afterward appeared. Examination revealed no paralysis. There was no vertigo, no vomiting, no headache. The patellar reflexes were, however markedly increased, so much so as to be a source of some uncertainty at times in his gait. A more careful examination of his fundus was then made, and in the outermost portion of the choroid of the right eye were found several patches of old choroiditis, making it practically certain that the patch of "herpes" was a chancre, and that occlusion of the right posterior cerebral artery, probably by syphilitic disease of the vessel's wall, was the cause of the hemianopsia.

Treatment of Convergent Squint in Young Children.

Dr. L. Emerson, in the *Annals of Ophthalmology*, gives the result of his observation and experience. His methods are founded upon those of Claude Worth, of London, England.

The author addresses his paper chiefly to the general practitioner, as the family physician's advice is generally obtained first as to the advisability of beginning treatment. He says: "In my opinion, the physician who advises 'waiting for the child to outgrow the squint,' says 'the child is too young to wear glasses,' is as remiss as he who advises a waiting policy in acute appendicitis. No child is too young to begin treatment or to wear glasses, if said glasses are properly fitted optically and mechanically."

In cases of monolateral convergent squint, the usual routine treatment by glasses and operation gives extremely unsatisfactory results. In about one-third of these cases the wearing of glasses causes the eyes after a time to become straight.

In the other two-thirds, the deformity may be more or less removed by operation, but more often than not the deviating eye becomes very blind, and acquisition of any sort of binocular vision is quite the exception. On the other hand, cases of monolateral squint in which treatment is commenced early and carried out by the methods described (Dr. Worth's) are nearly always perfectly cured. The plan of treatment in these cases is as follows:

1. Optical correction.
2. Occlusion of the fixing eye.
3. The use of atropia in the fixing eye.
4. Training of the fusion sense.
5. Operation.

This plan of treatment in no wise interferes with any operation procedure to be taken up later. In fact, the chance of parallelism following an operation later is much enhanced by previous orthoptic training.

The treatment should be instituted before the fourth year, as most of the cases between the second and fourth years yield rapidly to treatment. It would seem that Worth's claims are modest, and that with improved technique from 85 to 90 per cent. of cases of convergent squint under five years of age can be cured by methods other than operation.

In the face of these facts it seems hardly possible that any practitioner of medicine will permit any of his little patients to go untreated until the squinting eye becomes hopelessly blind.

Amaurosis Following Acute Anemia from Hemorrhage.

Carlini, of Livorno, Italy, has written extensively on the subject of blindness incident to exsanguination (*La Clinica Oculistica*, February, 1906, translated by Raia, of Providence, R.I., *Annals of Ophthalmology*, April, 1906). Ninety-six

case were tabulated by Fries, in some of which the blindness resulted from the hemorrhage after venesection and two cases after leeching. In many there was an insignificant amount of blood lost, and the amount of amaurosis was out of proportion to the amount of blood lost. It is a notable fact that blindness rarely resulted from traumatic loss of blood, as was observed by De Wecker and Knies in the Franco-Prussian war, where much blood was spilt, and no cases of resulting blindness were observed by them. Stirling, in 1904, reported a case of blindness resulting in a hemophiliac after a tooth extraction. Carlini adds his case, which was that of a man, aged twenty-three, in good previous health, who accidentally severed his radial artery while at work at his trade (carriage-making). Within a half-hour after the accident he reached the hospital, when he was unconscious, extremely pale, with thready pulse, dilated pupils, etc. The wounded vessel was ligated and hypodermoclysis promptly resorted to. There was rapid improvement in his general condition, but on recovering consciousness the next day he was aware of complete blindness. The pupils were dilated and fixed. The ophthalmoscopic examination was entirely negative. Optic disk appeared normal. The urine was free from abnormal ingredients. There was gradual improvement of sight, with marked irregular contraction of the visual field, which, however, soon improved, but did not reach the normal limitations. The visual acuity improved to 20-200 only, in spite of the fact that his anemia passed away and a fair condition of general health returned.

In the cases previously reported there were generally observed more or less fundus changes, such as optic nerve inflammation, retinal exudation, retinal hemorrhage, etc. In three fatal cases where post-mortem examination was made by Hirschberg, Ziegler and Rählmann respectively (*loc. cit.*) there was found considerable edema in the optic substance and retina, with fatty degeneration of the optic nerve fibres, especially marked in the region of the lamina cribrosa.

Von Graefe, in 1860, advanced the theory that there were hemorrhages in the optic nerve substance behind the eyeball, basing his conclusion on the appearance of retinal hemorrhages seen in these cases. But in the case reported by Carlini (see above) there were no retinal hemorrhages. Samuelsohn presented the theory that owing to the great volume of blood lost, the non-collapsible blood-vessel walls and sinuses of the brain are rapidly filled with lymph and cerebro-spinal fluid, which is forced into the perineural sheaths on return of the blood pressure, thus producing blindness by compression.

OBSTETRICS AND GYNECOLOGY.

IN CHARGE OF ADAM H. WRIGHT, K. C. McILWRAITH, FRED.
FENTON AND HELEN MACMURCHY.

Treatment of General Puerperal Peritonitis.

Cyrille Jeamin tells us that the treatment of general puerperal peritonitis has made great strides in advancement since surgical methods have been employed. The author has collected from medical literature 118 cases that have been operated upon. He finds that there have been 60 recoveries and 61 deaths after operation; that is, nearly one-half of the patients have recovered. The prognosis in such cases depends on the character of the peritonitis. In the hyper-acute cases death always ensues, while in the more chronic cases the patients are often cured by operation. Post-partum peritonitis is more serious than post-abortion peritonitis.—(*L'Obst., Amer. Jour. Obst.*)

The Diagnostic Significance of Decidual Tissue.

Dr. W. P. Graves states that the passage of the decidual membrane in a patient with symptoms of pregnancy, and with a mass on one side, together with a history of flooding, is extremely significant of an extra uterine pregnancy, but cases do occur where this seemingly conclusive chain of evidence is not proof of an extra uterine gestation. An ordinary miscarriage may be preceded by the exfoliation of a part or the whole of the decidua vera. A pathologist who receives a specimen of decidual tissue should make his report with extreme reservation to avoid the commission of a serious surgical blunder. It may be impossible to differentiate, even with great microscopical care, between an exfoliated dysmenorrhoeic membrane and the decidua of an extra uterine pregnancy.—(*Boston Med. and Surg. Jour., Amer. Jour. Obst.*)

Puerperal Sepsis.

Dr. S. Marx maintains that practically all cases of puerperal septic infection arise from ulcers in some part of the genital canal. He places these ulcers in two classes: (1) desquamative, (2) exudative. When an ulcer is visible it should be cauterized with pure carbolic acid, and the action of this stopped in a minute or two by alcohol. This is repeated every 24 to 36 hours. When the ulcers are confined to the lower genital tract, the uterus is not to be invaded.—(*Med. Rec., Amer. Jour. Obst.*)

Management of Breech Presentations.

Dr. Henry F. Lewis, in a paper on this subject (*Surg., Gyn. and Obst.*, Oct.), tells us that Williams used the term, "frank breech," meaning presentation of the breech alone, with the legs extended against the belly of the fœtus. He also calls a complete breech that condition in which the breech presents with the legs flexed. A half-breech means one where one leg is down, and a complete footling one where both feet are down.

The greater difficulty of delivery of an after-coming head with the face anterior and under the pubes, makes it the duty of the obstetrician to watch his cases with the greatest care. If he takes the proper precautions, he will almost always be able to steer the body, with its back towards the front, and so maintain it in the most favorable relations for the final passage of the head.

The prognosis for the fœtus is greatly affected for the worse by breech presentation. The reasons are various. In seven per cent. of the breech labors the cord prolapses. In many cases, owing to the retraction of the almost empty uterus after most of the body has been born, the placenta becomes prematurely detached, and the child consequently becomes asphyxiated. When the shoulders are passing the inferior strait, that is, about the time the scapulæ come into view, the cord is very likely to be compressed between the head and the pelvic walls. Therefore, it may be said that there is about from eight to ten minutes after that time in which the head must be delivered in order to save the child. Deep asphyxia often comes on in a shorter time.

Opinions vary as to treatment. Probably the majority of authorities, especially in Germany, advise that no interference be attempted unless some indication of danger to the mother or to the child arises. Others, especially the French and some Americans, advise that prophylactic external cephalic version be performed before the end of pregnancy, or at the beginning of labor.

Dr. Lewis is opposed to such interference, and says (and we entirely agree with him) that external version performed during pregnancy or even at the beginning of labor, does not insure that the presentation will remain corrected. Indeed, it is certain that when done during pregnancy the version is usually without permanent result. Even when the operator waits until labor pains have begun before attempting version, he cannot be sure that the vertex presentation thus artificially produced will not soon be changed into the original breech.

When we consider the causes of breech presentations, we can understand why it is so difficult to secure permanent results from external version. Excessive amniotic fluid, abnormal shape of the uterus, abnormal lay of that organ, excessive size of the child's head, placenta prævia, irregularity in the contractions, etc., are not changed by the version. Then again, there is another danger: external version may proceed well up to a certain point, and then fail, leaving the fœtus in a transverse presentation, which is especially dangerous after any form of manipulative procedure.

Editorials.

HOSPITAL CONSTRUCTION.

In studying hospital construction, one naturally turns to those hospitals which have been built in various parts of the New and the Old World during the last thirty or forty years, but one can get very little valuable information from such sources. The great majority of hospitals at present in existence are essentially bad, while many of those which are considered good are unsatisfactory in many respects. And yet the world knew much about the most essential points in hospital construction fifty years ago. Mr. Bertrand Taylor, of Boston, expresses the opinion that Florence Nightingale's "Notes on Hospitals," published in 1859, contained a very clear enumeration of the vital principles of hospital construction. He thinks "with such a start we should have arrived at the perfect hospital, perfect in general scheme, perfect in all subsidiary arrangements and conveniences, and perfect in details and equipment, long ago." And yet Mr. Taylor doubts whether a single hospital in the world can be found which fulfills all the requirements beyond criticism. One of the reasons for faulty construction is the fact that most hospitals are built on what might be called the instalment plan; that is, a comparatively small building is first erected, and additions are made from time to time.

There are three plans of hospital construction which are worthy of consideration.

First. The hospital composed of one-story pavilions. When the isolation theory was the chief consideration, something like thirty years ago, it was considered that an ideal condition would be established if each patient could occupy a separate building supplied with all conveniences. As such an idea was impracticable, there came into existence the system of one-story pavilions, which is even now popular in some parts of the

world. One of the finest modern hospitals in the world, which has recently been built in Berlin, is chiefly a series of one-story pavilions.

Second. The hospital of two or three-story pavilions. One of the best examples is the Royal Victoria Hospital of Montreal. It is composed of three main buildings, connected by stone bridges; an administration block in the centre, and a wing on the east side for Medicine and a wing on the west side for Surgery. Special laboratories are prepared for pathologic chemistry, experimental pathology, bacteriology and photography. This hospital, which was designed about twenty years ago, and opened about thirteen years ago, was generally considered an ideal structure for hospital purposes. Osler to-day considers it one of the finest hospitals in the world.

Third. A hospital of many stories. Ochsner, of Chicago, appears to favor about eight stories. These high hospitals must be absolutely fireproof, and must have a complete elevator system. Fortunately, the cost of such buildings has diminished greatly in recent years by the use of the so-called "armored concrete" construction. It is said that some of these buildings are the equal of any construction known, and Ochsner says that they cost very little more, if any, than first-class frame constructions in larger buildings. The advantages claimed for the many-storied buildings are: Economy of ground space; the possibility of having trees around the hospital building; economy in matters pertaining to cost of management in all respects, and especially as to heating and ventilation; comparative, or complete absence, of dust, smoke, and noise, above the first story; purity of the air in the higher stories, etc.

We consider that the property which has been chosen by the governing board of the Toronto General Hospital for their new buildings on the corner of College and University Streets, comprising eight acres, is peculiarly well suited for hospital purposes, in view of its central location, and its propinquity to Queen's Park and College Street.

THE MODE OF ENTRY OF THE TUBERCLE BACILLUS.

Some months ago we recorded the result of experiments carried out on the Continent, showing that India ink, injected into the tonsil, could be identified afterwards in the pleural cavity: One observer, indeed, found the colored particles in the pericardium, six hours after introduction into the tonsil. These facts were brought forward as evidence to prove the tonsillar and lymphatic origin of pulmonary tuberculosis, and were thoroughly in accord with the pathological conclusions of Anfrecht and others, who had approached the subject from the microscopical appearance of the primary lesions in the lung.

During the year just past, Calmette and his pupils have produced experimental anthracosis in the lungs of guinea pigs, and have come to the conclusion that the coal dust found in the bronchial glands was originally swallowed, and not inhaled. When they ligated the œsophagus, no anthracosis could be produced. In other cases, they plugged one bronchus, and after exposing the animal to an atmosphere laden with dust they found that both lungs contained coal particles.

Although Calmette made no specific application of these observations to the tubercle bacillus, yet the conclusion was obvious, and tended to confirm a theory which was formulated some years ago—that tuberculosis was always of intestinal origin, and often from milk.

But before accepting Calmette's work at par, it is well to remember that similar experiments, carried out on a larger scale, were made more than twenty years ago by Arnold, and led to entirely different conclusions. These experiments have been repeated many times since, by such competent scientists as Aschoff and Schultze, with results diametrically opposed to those of Calmette.

At present we must be content to cling to the inhalation theory of tuberculosis, and to take precautions which experience has suggested, and which practice has shown are of the utmost value.

THE TRUNK SEWER BY-LAW.

The medical profession of Toronto deplore the unfortunate vote on the trunk sewer by-law. Why the majority of voters should not deplore it, we know not. The attitude of the public with reference to matters pertaining to health, sickness and death is frequently remarkable, not in Canada only, but in all parts of the world.

Dr. Wm. Oldright, of Toronto, published in the daily papers, December 27th, an excellent and reasonable letter on the subject. He called attention to the fact that the pollution of our waterfront was condemned by the Provincial Board of Health more than twenty years ago. Toronto has received expert opinions from some of the best engineers in the world, including Shanley, Tully, Sproat, McAlpin, Hering, Gray, Jennings, Keating, Mansergh, Rust, Strachan. All these authorities, without exception, considered that a trunk sewer was a necessity for the city. Medical men, both here and abroad, such as Carpenter, Osler, Gleicester and countless others, without exception, hold the opinion similar to that given by the engineers.

Dr. Oldright also referred to one of the objections; that is, that exact details had not been settled as to the treatment of sewage, after it has been carried through the sewer. He says, correctly, that this should not prevent the commencement of the trunk and intercepting sewers, as there is a consensus of opinion as to the proper location of this, and he expresses the opinion that the mode of disposal should be settled long before we are ready for that end of the work.

In referring to certain other improvements, he says that sanitary experts think our water supply must ultimately be filtered, but this should not be allowed to militate against the proper disposal of our sewage. He concludes as follows: "We do not in any case wish to perpetuate the present disgraceful and dangerous fouling of our waterfront, and we should not rest quietly under the stigma that we are not doing our duty towards the suppressing of typhoid fever and other filthy dis-

cases; that we are causing disease and death by our neglect; the corporation is doing what, if done by individuals, would expose them to the chances of action for manslaughter."

THE WANDERING NEEDLE FETISH.

'In a November issue, the *Journal of the American Medical Association*, published, under the above heading, an interesting editorial, to show that a great many of the stories of needles being found in the body at great distance from their point of entry, were the fabrication of hysterical women. As the fable is usually narrated, the needle disappears for from one to twenty years, is felt under the skin in a part of the body far removed from the original site of injury, and when removed is as bright and shiny as on the hour when it hid itself away in the human tissues.

The very fact that the offending member retains its lustre and smoothness, would put any experienced physician upon his guard, but nevertheless, the article to which we referred has brought upon the head of the editor a great deal of criticism, and a flood of letters from medical men, who, having seen the needle and the patient, believed.

Some of these communications were very interesting, but the climax was reached by Dr. R. T. Morris, the well-known surgeon, of New York, who "tells the tale as was told to him" by a trapper: "Me and Larry was trapping one winter, and we slept together. He got a porcupine quill in his leg in the fall, and in the spring it came out of *my* shoulder."

But for the very height of credulity, we commend the following, from Oklahoma, where many strange things come to pass: "A married woman, 35 years old, stuck a needle in the middle finger of the left hand. Sixteen months later she gave birth to twins, and one-half of that needle was in the corresponding finger of each twin at birth" (!)

F. A. C.

TOO MUCH TYPHOID.

This is the typhoid year in Ontario. Not since the old days, when there were twenty-five beds in one of the medical wards of the Toronto General Hospital, and thirty cases of typhoid in them in a month, some of the poor patients having gone, as Dr. McPhedran used to say, to sleep in still narrower beds, have we had such a disgraceful record. Well might Dr. Osler, in his recent visit, joining in a discussion on Dr. McPhedran's paper on "Perforation in Typhoid Fever," before the Toronto Medical Society, call the typhoid morbidity and death rate in Canada and the United States, the reproach of the medical profession.

Yet we have called and they (the public) have not answered. Toronto is well to the front in this bad eminence. It is probable that when in November, 1905, a passing vessel in Lake Superior broke Fort William's intake pipe, and the town uncomplainingly took its water, or diluted sewage, from a depth of thirteen feet, and twenty feet from the sewer, and then paid for it, in a few weeks, by a typhoid epidemic, in the course of which 161 cases were reported in a single week, and about 700 cases occurred altogether—it is probable, we repeat, that just about that time Toronto people, with a superior sniff, said: "Toronto water is good water."

History repeats itself. The pipe-breaking vessel reached Toronto Bay the next November—November, 1906. The *Cataract* came into the Bay at night, and about 90 feet from the end of the western dock, met the pipe and broke a hole 14 x 4 inches in it. That was on November 19th, and though all speed was made to mend the pipe, it was not till November 26th that the hole was closed, and meantime the citizens drank more or less sewage.

"Boil the water," said Dr. Sheard and Dr. Shuttleworth. But many a person knew better! Even employees in the City Hall gaily said they did not and would not. Some of them paid the penalty later in weary weeks of typhoid. Just as soon as the incubation period of a fortnight passed, the number of typhoid cases went up by leaps and bounds. There were six

times as many as before. When will people lay the lesson to heart! How can the profession persuade them?

During a terrible November gale last year the steambarge *Resolute* sought refuge in Toronto harbor, and, to the everlasting disgrace of us all, and especially of the Government at Ottawa, *there was not enough of water either in Eastern Gap or Western Gap to let her make her harbor.* Death reaped a great harvest. The souls of six Canadian sailors went out on that storm-wind. It was right to call a public meeting of citizens to protest. It is right that we shall long remember the horror and the guilt of it. But far more than six lives are lost every year by typhoid, and what are we doing to bring this fact home?

NOTES.

Ontario Medical Association.

The Committee on Expenses and Business, of the Ontario Medical Association, for the current year is composed of the following members, under the chairmanship of Dr. D. J. Gibb Wishart: Drs. Ingersoll Olmsted, Hamilton; N. W. Woods, Bayfield; W. J. Bradley, St. Thomas; Angus Graham, London, and H. B. Anderson, R. D. Rudolf, J. S. Hart, T. F. McMahon and F. N. G. Starr, of Toronto. It is proposed to reinstate the plan of sectional meetings at the next annual gathering, which will be in Toronto a week earlier than usual—May 28, 29 and 30, 1907. The committee have secured the promise of Dr. Crile, of Cleveland, to deliver the address in surgery. Dr. Crile is the Professor of Clinical Surgery at the Western Reserve University. It is intended to secure, if possible, some prominent physician of the United States to give the address in medicine. While it is too early to speak definitely, it is hoped that we will have some one of the English physicians who will attend the meeting of the American Medical Association, which will meet a few days later at Atlantic City. The committee has partially drafted a programme which will surely interest every practitioner of the Province.

We have to announce that the title of the *Journal of the Association of Military Surgeons* was changed in the issue for January to *The Military Surgeon*. We note with pleasure that this journal, which is, we believe, the pioneer military journal in the English language, has been highly successful in the past, and we wish for it still greater success in the future.

The success of our dear friend, *The Canadian Nurse*, up to the present time has been phenomenal. In consequence of such success it has become still more ambitious, and in January made its first appearance as a monthly magazine. We are glad to note that it is receiving hearty support from the nurses in all parts of Canada. Congratulations to the editor, Miss Helen MacMurchy, and to her associates!

Ophthalmic Charlatanism.

Gould makes ten types of these common fakes:

1. The confidence-man, as a spectacle peddler, who travels usually with accomplices, and extracts fabulous sums for worthless glasses.
2. The surgical criminal, who dusts some irritating powder into the eye, pinches the lids of the poor dupe, shows a piece of leather as an extracted cataract, collects \$25 and decamps.
3. The itinerant professor, examining eyes free at the hotel, "grinds his own glasses," etc.
4. The itinerant ophthalmologist, with a real medical diploma, chooses small cities for his hunting grounds, and is after big game. He operates for any and all diseases.
5. The jeweler-optician will also examine eyes free, and fit glasses. Most of them are commercially honest, and frequently they are as accurate in their refractions as the famous oculist of the place, because the latter does not use a cycloplegic. These are the least criticizable of the ten types, and the farmer and village folk are to a great measure dependent upon them, on account of the high fees of the city specialist.
6. The "doctor of optics," "doctor of refraction," "ophthalmotrician," etc., is another product of the neglect and quackery of the medical profession, but may in some cases do good. He is, however, usurping the physician's office.
7. The department store opticians and city "eyes-examined-free" opticians are a "pretty bad lot," because they pretend to give some things with the lenses which they do not give. They claim to give correct refraction, and also a mysteriously incorporated medical quality or diagnosis. As regards physiologic

optics, they are always wrong; as for rightly adjusted spectacles, these are not to be had. Money-making, regardless, is the sole justification of these frauds. No person should wear a pair of lenses without the diagnosis and prescription of a medical man, who may sometimes be wrong, who is sometimes as bunglesome and commercial as the optician, but it is only the M.D. degree which can be held responsible for ruinous blunders.

8. The physician turned quack, in partnership with the opticians. Some of these are in connection with "optical institutes," which seek to teach ignorant mechanics, workmen, office-boys, etc., by lectures at night and on Sunday how to become "expert refractionists."

9. The tenotomomaniac, who operates on the eye muscles for everything, at \$1 a snip. He operates on every patient that enters his office—an ophthalmic quack in the profession, tolerated by the law, and probably a member of the local medical society.

10. The ophthalmic success-hunters, professional judges, consultation-seekers, etc., are a pernicious source of evil and professional disgrace. Their offices are merely sand-screens for sorting out the surgical practice which makes fame—and money.

F. A. C.

For Readers of Canadian Practitioner and Review.

Will some brother, thoroughly acquainted with prescription writing and incompatibilities, give a full criticism of the following:

R. Liquoris ferri perchlor.....	℥v
Ammonii carbonatis.....	℥iiss
Sodii salicylatis.....	℥ijss
Glycerini.....	℥i
Aquam ad.....	℥viiij

Mix well.

Sig: ℥ss Employed every three hours as a gargarism.

J. W D.

Jan. 3rd, 1906.

THE UNVEILING OF THE PORTRAIT OF THE LATE J. E. GRAHAM.

On December 18th, many of the members and friends of the Ontario Medical Library Association assembled at the Library Building to do honor to the memory of the late Dr. J. E. Graham, and to witness the unveiling of his portrait. It was very opportune that Dr. Osler was able to be present to perform the ceremony, as they had not only been life-long friends, but in thorough sympathy with each other's work.

From the time the Ontario Medical Library was in its infancy, without funds and without many volumes, Dr. Graham was to a large extent the source from which the members drew their encouragement. Through the generosity of Dr. Osler and other warm-hearted friends the library has an assured position to-day.

Dr. Joseph Graham, on behalf of his mother, presented the portrait to the Ontario Medical Library Association. Dr. Osler, in his address, paid a warm tribute to a dear friend, which was greatly appreciated by all who knew and loved Dr. Graham. He spoke as follows:

"In only one way does the mutability associated so indissolubly with human affairs wring the heart of any sensible man, and that is in the passing of the individuals through whom these changes have been wrought. Return after a few years to a place you have known well, or to an institution which you may have served, and in these progressive days you rejoice to find the improvements for which perhaps you had worked, for which you had longed, but which were not for you to see accomplished; but in the sunshine of your joy will come a dark cloud as memory recalls the men responsible for this progress, and who have not been spared to see the fruits of their labor. Circumstances have so determined my lot that I have been able to keep in close touch with the places in which I have lived as student and teacher; and one of the great pleasures of my life has been to see the steady growth of the Schools of Medicine in this city, in Montreal, in Philadelphia and in Baltimore.

"But for these transformations the fleeting years exact a heavy tribute in loss of the old teachers and dear friends who clothed these places with human interest. How brief is the space of time in which the personnel of a place alters. As I look back it seems but as yesterday since I was here as a student, and not the wonderful transformation which we see on the University Campus, not that we have gained, but that we

have lost, the old familiar faces, makes one appreciate the greatness of the change that a few years may make, and the truth of the poet's line, 'Naught may endure but mutability.'

"In my repeated visits to Toronto, there was one man whom I rarely failed to visit, as we had been fellow-students, and had the same professional interests, and had much in common. James E. Graham had gradually reached the enviable position of the leading physician in this Province, and when cut off prematurely in his fifty-second year, was one of the best known teachers of medicine on this continent. We are gathered here to do honor to his memory in the presentation to this library of a portrait, which I have been asked formally to accept, and to unveil, and which I hereby do. Though my senior in the medical School, I was early brought in contact with Dr. Graham, through his association with my teacher, Dr. Bovell. In the session of 1868-69 every Saturday was devoted to special microscopic work, and Graham, Arthur Jukes Johnson and myself converted the doctor's study into a laboratory. Patients were forgotten by him, and we were busy all day, staining tissues with Beal's carmine, or striving to fathom the mysteries of protoplasm. They were most interesting and instructive days, and we got much more out of them than the histological technique, and I have often heard Graham express his gratitude to Dr. Bovell for the inspiration of those quiet mornings. Then for some years we drifted apart, and I did not see much of him, until the meetings of the Canada Medical Association brought us together, and after 1880 I began to become intimate with him. This is not an occasion for an elaborate tribute of words—that has already been paid, but I would like to indicate one or two features in his character and career which are of interest and instructive.

"Of a quiet, retiring disposition, he reached the top of his profession by steady, earnest work. He never sought what has been called the best insult to a great man, popularity. He reached the public largely through his colleagues, and he has the distinction of being the first Canadian to have had the courage to cut off all family practice and confine himself to consultation. His success should be an encouragement to others who recognize that the way to the top is through hard work in the profession. He had in full measure that deep love of his calling, which is the salt savoring of a man's whole professional life, without which the practice of medicine becomes a wretched trade. As that good old Frenchman, Ballonius, in the sixteenth century remarked, 'Medicine is a science of devoted service,

and it cannot be loved properly without a deep love of man—and men are fickle, uncertain, sometimes ungrateful, very often unjust.' He had a keen sense of professional responsibility, and devoted much time to promoting the welfare of the Medical Societies in this country and the United States. He was always a welcome member at the meeting of the Association of American Physicians and the Dermatological Society, of both of which he became President.

"This library was very close to his heart, and he felt the importance of it in the development of medicine in this province. It was a sad calamity that he should have been cut off in the prime of life, at the very time when he had become of the greatest value to the community and to the profession. It is most appropriate that his picture should hang on these walls. From it we may recall the features of our dear friend, and can read his mind's complexion in the benign yet strong face. And here we may leave him surrounded by the books he loved so well, and we, his intimates, who knew the sterling worth of the man, know that here we leave him "Still loftier than the world suspects, doing and dying."

Dr. J. F. W. Ross received the portrait on behalf of the library. He spoke of the pleasure it gave the Board of having a portrait of one so much beloved, hanging on their walls, trusting that others might adorn the home of the medical profession with portraits of those who had helped to make its history. He referred to the progress of the Association, stating that the heirs of the late Dr. John Fulton had generously given his library to form the nucleus. He thanked those who had done so much on behalf of the Board, inviting them to inspect the result of their stewardship. Dr. Ross concluded by thanking Professor Osler for his presence, and for all he had done in the past.

Personals.

Dr. W. A. Kelly, of Florence, has been appointed an Associate Coroner for Lambton County.

Dr. Wm. C. Barber, of the Hospital for Insane, Kingston, visited Toronto twice in the latter part of December.

Dr. David Jamieson, M.P.P., of Durham, has come to Toronto with his family for the winter, and is now living at 151 Crescent Road.

Dr. John Malloch, of Toronto, has been appointed Pathologist to Victoria Park Hospital, London, England. He expects to return to Toronto next September.

Dr. A. H. Caulfield, resident pathologist, Toronto General Hospital, has gone to London, England, where he will be engaged in post-graduate work for some months.

Dr. Geoffrey Boyd, 167 Bloor Street East, Toronto, relinquished general practice January 1st, and is now devoting his attention to the treatment of diseases of the ear, nose and throat.

Appointments to the Toronto General Hospital: Dr. F. V. Hamlin, Dr. D. D. Boddington and W. B. Clark have been appointed Intern Surgeons in the places of Drs. J. H. Soady, J. H. Kidd and Jackson, retiring.

Dr. D. A. L. Graham has been appointed Assistant Pathologist in the place of Dr. Caulfield, who is now doing post graduate work in London, England; and Dr. R. B. Burwell has been appointed Clinical Pathologist.

Dr. Gilbert Royce (Tor., '97), Intern Surgeon, Toronto General Hospital, 1897-8, went to Ottawa in the fall of 1898, and practiced there for six years. He then went to New York, received certain hospital appointments in that city, and spent about two and a half years in special work connected with the eye, ear, throat and nose. He paid a visit to his relatives in West Toronto Junction, Jan. 13th.

Dr. W. H. Lowry (Tor., '01), one of the Intern Surgeons of the Toronto General Hospital, 1901-02, was engaged in special work in connection with the eye in England for some time, chiefly in the Birmingham Eye Hospital, where he was resident about two years. He has returned from England, and commenced practice in Toronto on College Street, corner Yonge Street, and is making a specialty of ophthalmology.

Dr. Alex. C. Lambert (Trin. '95), who, after graduating, acted as resident intern of Toronto General Hospital for one year, and afterwards surgeon on the SS. Empress of China, is now at the head of the English Hospital in Nankin, China. He sent the following cable message to Mr. Beverley Jones, of Toronto, January 3rd: "Can you secure co-operation of newspapers to start the funds at once for the famine, there is urgent need of supplies for the winter months."

We have much pleasure in announcing that Dr. D. G. Fitzgerald has been appointed clinical director and pathologist in the Asylum for Insane, Toronto. Dr. Fitzgerald is a Canadian, was born in Wellington County, and a graduate of the University of Toronto. After graduating he was for a time a member of the staff of the Asylum for Insane, Buffalo, and then went to Baltimore, where he spent two years, studying especially pathology and psychology at the Johns Hopkins University and the Sheppard and Enoch Pratt Hospital. This is perhaps the most important appointment that has been made in many years in connection with our Provincial Asylum. It shows that the authorities are anxious to be abreast of the times, so far as research work is concerned, especially as to the cause and treatment of insane patients. It is only fair to say that the general character of the work done by the staffs in our Hospitals for Insane in this Province has been greatly improved during the last few years.

Obituary.

ROBINSON BRITTON PRICE, M.D.

Dr. R. B. Price died in Chicago, January 2nd, from pneumonia, aged 69. After graduating from Queen's University, Kingston, he practiced for a time in Bath, then in Kingston, and finally in Lonsdale.

CHARLES NEVILLE, M.D.

Dr. Neville died at Sutton, Surrey, England, December 10th. He was for many years a surgeon on the SS. Parisian, of the Allan Line, and was especially well known in Montreal and St. John, N.B.

JAMES HENDERSON, M.D.

Dr. Henderson, of Cobourg, was killed about one o'clock in the morning, Dec. 21st. While driving over a railway crossing in the town his vehicle was struck by a train. He was born near Warkworth, Northumberland County, and after receiving his medical degree from McGill University in 1892, practiced for some years at Grafton. About four years ago he entered into partnership with the late Dr. W. J. Douglas, who died suddenly from heart disease in his carriage when on his way to see a sick patient in March last. It is a sad and singular coincidence that death came suddenly to the two partners, while making sick calls, within one year. Dr. Henderson was about 40 years of age, and unmarried.

A. E. MACDONALD, M.D.

We regret to announce the death, on December 7th, of Dr. A. E. Macdonald, of New York, one of the most celebrated alienists in the United States, from tuberculosis. Dr. Macdonald was well known to the profession in Canada, and especially to some of the physicians in Toronto.

Book Reviews.

PROGRESSIVE MEDICINE. A quarterly digest of advances, discoveries and improvements in the medical and surgical sciences. Edited by H. A. Hare, Professor of Therapeutics and Materia Medica in Jefferson Medical College, Philadelphia, and H. R. M. Sandis, M.D. December 1st, 1906. Philadelphia and New York: Lea Bros. & Co. \$6 per annum.

The last volume for 1906 comes to hand as full of interesting material as ever. Dr. Stee'e writes on diseases of the digestive tract and allied organs; Dr. Belfield, on genito-urinary diseases; Dr. Rose Bradford, on the kidneys, while Dr. Bloodgood has an article on anæsthetics, fractures, dislocations, etc. The practical therapeutic referendum is by Dr. Landis. No other work in the English language covers the ground so well as Progressive Medicine.

WELLCOME'S MEDICAL DIARY AND VISITING LIST. 1907. London, New York, Montreal, Sydney and Cape Town: Burroughs Wellcome & Co.

The above is a small, neatly bound volume comprising therapeutic notes on the various drugs in common use, including the newest preparations; following this, a section on diseases, with general indications for treatment, pathological table, and a synopsis of poisons and their antidotes; much useful information, including diet and weight tables, examination of secretions, etc., and extracts relating legal information are also given. The remainder of the book consists of a daily case and visit record, cash and account ledger, etc., for the present year, which will, no doubt, be a useful addition to the equipment of many busy practitioners. We congratulate Burroughs Wellcome & Co. on the production.

ELEMENTS OF PRACTICAL MEDICINE. By Alfred H. Carter, M.D., N.Sc., Fellow of Royal College of Physicians, London; Professor of Medicine, University of Birmingham; Senior Physician to Queen's Hospital, Birmingham; Emeritus Professor of Physiology, Queen's College, Birmingham; Consulting Physician to the Corbett Hospital, Stourbridge, the Bromsgrave Hospital, the Smallwood Hospital, Redditch, and Guest Hospital, Dudley, etc. Ninth edition. Published by H. K. Lewis, 136 Gower Street, London, W.C. 1906.

The above is a volume of about 600 pages, written in a style useful to a beginner in the study of medicine; it is essentially

an elementary introduction. It differs in several respects from the many short students' treatises one sees in that are included a chapter embracing a review of general pathological principles, and one devoted to the various diseases of the skin, largely written by Emery, and in this edition revised by Douglas Heath, of Birmingham General Hospital. The section on diseases of the nervous system is especially good; in fact, the whole book is one which is deserving of attention. The fact that it is now in its ninth edition speaks for itself.

THE PHYSICIAN'S VISITING LIST. 1907. Fifty-sixth year of its publication. Philadelphia: P. Blakiston's Sons & Co., 1012 Walnut Street.

This handy book has been so long a part of a physician's outfit that it scarcely needs an introduction. With the Visiting List in his pocket, and a card-index ledger at home, the work of bookkeeping is diminished by half, the accounts are better kept, and the doctor's income is materially increased. Having once used it, one can never be without it again.

PREVALENT DISEASES OF THE EYE. By Samuel Theobald, M.D., Clinical Professor of Ophthalmology and Otology, Johns Hopkins University. Octavo of 551 pages, with 219 text-illustrations, and 10 colored plates. Philadelphia and London: W. B. Saunders Co. 1906. Cloth, \$4.50 net; half morocco, \$5.50 net.

To the general practitioner, this book has the advantage of having been written specially for him. Discussions of theoretical points are avoided, but practical questions are treated in sufficient detail. The subjects considered are those usually seen in books on the eye, but special emphasis is placed on those parts likely to be of the greatest use to students and practitioners. Each chapter gives full information on its own subject, and on most of the subjects the author has given such clear descriptions as to enable those who carefully study them to diagnose the different conditions. In this the illustrations will be a valuable assistance, for there are many text figures, as well as excellent colored plates. The treatment, although often original with the author, is always full, clear and practical. As showing the value of his lines of treatment, the chapter on the management of *deeryo-cystitis* may be referred to. Dr. Theobald has always been an apostle of the "large probe" method, and his success with this method, as described in this chapter, will induce many to follow him. The same may be said of his

chapter on the operative treatment of esophoria and exophoria. One of the objects for which the author has striven is not to make specialists, but rather to make it clear when a general practitioner may fairly treat a case, and when he should refer the patient to a specialist. This is an important matter, both for the practitioner and the patient. In this Dr. Theobald has succeeded well. But the book, although written for the medical man, has a distinct value to the specialist. So valuable, indeed, is it to him that no one who desires to be up to date can afford to neglect it. In the paper, the binding and the illustrations the book leaves nothing to be desired. The Canadian agents are J. A. Carveth & Co., Toronto.

Timeliness of interest, aside from any other condition, lends especial importance to the announcement of the early publication of *Foods and Their Adulterations*, by Harvey W. Wiley, M.D., to be immediately followed by a companion volume, *Beverages and their Adulterations*. Dr. Wiley is Chief Chemist to the United States Department of Agriculture, at Washington, and his wide researches in the interests of purity in food commodities give anything he might write on the subject an authoritativeness that is unquestioned. The fact that the new National Food and Drugs Law becomes effective after January 1st, and that public interest in it is now at white heat, will no doubt result in quite a demand for both volumes. The books will be generously illustrated from original photographs and drawings.

We have received a number of valuable reprints from Dr. Carl Beck, Prof. of Surgery in the Post Graduate Medical School and Hospital, Surgeon to St. Mark's Hospital, and also the German Poliklinik, New York. The following are the titles of Dr. Beck's papers: "Surgical Importance of the Cervical Rib" (*Jl. A.M.A.*); "On the Use of the Temporal Fascia to Cover Cranial Defects" (*An. of Surg.*); "Further Observations on Extensive Separation of the Periosteum in Displaced Bone Fragments" (*Surg. Gyn. and Obst.*); "A New Method of Incision for Removal of the Breast" (*Med. Rec.*); "The Modern Treatment of Fractures" (*Med. Rec.*); "Skiagraphic and Therapeutic Factors in Tuberculosis of the Bones and Joints, with some reference to the Iodoform Treatment" (*N.Y. Med. Jl.*); "The Influence of American Surgery on Europe" (*Univ. Bulletin*); "Experimental Studies on the Density of Calculi of the Urinary Tract" (*Archives of Physl. Therapy*); "Cholelithiasis" (*N.Y. Med. Jl.*).

Selections.

Duration of Immunization after Injection of Diphtheria Antitoxin.

Sittler states that the protection conferred lasts for three or five weeks, or more, when the immunized children are not in frequent contact with diphtheria patients or convalescents. When they are with them constantly the immunization cannot be relied on for more than from ten to fourteen days. Catarrhal affections of any kind and injuries of the mucosæ afford a strong predisposition for diphtheria, even in immunized children, which is able at times to shorten materially the period of protection conferred by the injection of antitoxin. After diphtheria plus injection of antitoxin, the child is liable to contract the disease again, if opportunity offers, as soon as after injection of antitoxin alone. General exanthemata resembling scarlet fever, even when they run an afebrile course and the throat is not much affected, must be regarded as genuine scarlet fever in the majority of cases. It is wiser to take proper measures for isolation rather than to submit the child to repeated injections of diphtheria antitoxin, for fear of developing the phenomenon of "anaphylaxis," or oversusceptibility. The communication issues from Koht's pediatric clinic at Strasburg.
—*J. A. M. A.*

Physiology and Pathology of the Thymus.

Basch gives the findings in 64 illustrations on a dozen plates showing the effects of removal of the thymus on the growth of animals, also on the healing of fractures and other injuries of the bones. The results all indicate a connection between normal growth of the bones and the functioning of the thymus. When the growth is defective, at an age when the thymus is still progressively developing, the deficiency in growth may be due to some disturbance in the functioning of the thymus, and the development of the thymus should be studied with greater care.
—*Jahrbuch f. Kinderheil, and J. A. M. A.*

Röntgen Treatment of Leukemia and Pseudoleukemia.

Joachim relates the details of 28 cases, and discusses the various aspects of Röntgen treatment, and the results to be anticipated. He thinks that a cure is out of the question, but that in many cases the improvement is such as to restore the feeling of health for years. The fact that Röntgen treatment does not help in all cases, and may do harm in some, is a fea-

ture common to many other therapeutic measures. The prognosis depends essentially on the more or less pronounced anemia, and the way in which the anemia is influenced by treatment. In cases of myelemia, the prognosis depends chiefly on the resistance of myelocytes. In any event, the cases of myelemia in which the number of leucocytes does not correspond to the size of the spleen should be regarded as the least favorable. He advocates a trial of Röntgen treatment in every case, without fail. It should be suspended or restricted in case the anemia increases or the general health shows serious changes. It may be possible, he adds, that cases in which Röntgen treatment does not seem to help, may be modified by other measures, such as a course of arsenic, so that after a time the Röntgen treatment may be resumed with good results. In one case of myelemia the patient was so much improved that she passed through a subsequent pregnancy without exacerbation of her condition, and is still, two years later, free from noticeable disturbances. The results were better when the spleen and lymph glands were exposed rather than the bones.—*Zeitschrift f. Kl. Med.*

The Prophylaxis of Syphilis. MM. METCHNIKOFF AND ROUX.

At the last meeting of the Academie de Medicine, MM. Metchnikoff and Roux communicated the results of recent experiments made to show that the inoculation of man with the virus of syphilis is harmless if certain preliminary precautions are taken. Experiments on the monkey showed that rubbing in calomel ointment at the seat of inoculation of the virus prevented the development of syphilis if the inunction is done a few hours after inoculation. Thirteen experiments on monkeys having given positive results, the authors considered an experiment on a human subject was permissible. A medical student, free from any syphilitic taint, either hereditary or acquired, offered himself for the experiment. He was inoculated with the virus from two hard chancres, one of eight to ten days' duration, the other a month old. The seat of inoculation was at the junction of the glands and prepuce. At the same time they inoculated with the same virus four macaques and one chimpanzee. One hour after the inoculation the medical student and one of the macaques were given an inunction for eight minutes with calomel ointment 1 in 3. A second macaque received the same treatment after an interval of twenty hours. The two remaining macaques were kept to control the experiment, and did not receive any treatment. These two animals developed the primary sore 17 days after inoculation. The

monkey treated 20 hours after inoculation developed a chancre on the thirty-second day. No symptoms appeared in the medical student, either on the skin or mucous surfaces, and no change took place in the lymphatic glands or viscera. The same result was obtained in the macaque treated with calomel ointment under same conditions. Three months having now passed since the beginning of the experiment, Metchuikoff and Roux consider it conclusive for calomel ointment as a prophylaxis for syphilis. M. Neisser has confirmed these observations on monkeys. The latter asked Metchuikoff if the calomel ointment used in such strengths produced irritation, but this Metchuikoff claims is, however, not the case.—*The British Medical Journal*.

Dionin in Affections of the Respiratory Organs.

The advantages of dionin, as previously discussed by Mayor and Hoff in connection with the affections of the respiratory organs, and especially in whooping-cough, have been emphatically confirmed by J. Winterberg's description of its therapeutic value. The author records cases of cough in which dionin adduced the desired results when all other remedies had proved unavailing. He emphasizes, moreover, the absence of unpleasant secondary effects, as well as the fact that dionin may frequently be taken daily for many weeks without losing effect or inducing craving, which renders it unnecessary to increase the dose or to change the remedy. It is this property of the preparation, which renders it so valuable in chronic affections of the bronchi; and, in addition, it exercises scarcely any influence upon the blood-pressure, and retards the respiration but slightly. It is accordingly one of the comparatively innocuous morphine derivatives, whereas morphine itself, and especially heroin, give rise to a considerable depression of the respiratory centre.

This accords with the therapeutic observations of V. Valerani, whose comparative experiments with dionin and codeine led him to formulate the following conclusions. Dionin can hardly be described as cumulative in its action, and loses but rarely its efficacy by long-continued use. At the same time, it is a prompter sedative in cough than codeine. It is preferable to the latter in that its prolonged use does not give rise to unpleasant secondary effects upon the organs of digestion, the heart and the nervous system. It surpasses codeine, moreover, as a hypnotic and analgetic in all painful forms of asthma and agrypnia. It is also a valuable aid in the treatment of the morphine habit.

Deutsch combined in whooping-cough dionin with creosotal, and secured thereby very notable results. In numerous cases of laryngitis, tracheitis, and bronchitis of children he administered dionin in the following doses: At the end of the first year 1-6 grn., in the second year 1-2 grn, in the third and fourth years 1-2 to 2-3 grn., in the fifth to eighth year 5-6 grn. dionin per 3 1-3 oz. of aqua dest. (1 teaspoonful every three hours), or 1 1-2 grn. dionin per 3 1-3 oz. of syrapi simpl. (1-2 teaspoonful two to three times daily). He invariably found its use to be followed by a prompt alleviation of the cough and improved night rest.

In conjunction with creosotal, it is prescribed thus:

Dionin	gr. $\frac{1}{4}$ to iss
Dissolve in	
Syrupi simpl.....	ʒi
Creosot. carbon.....	gr. xlv
Ol. amygdal. dulc.....	gr. cl
Gummi arab. pulv.....	gr. lxxv
Aq. dest.....	ʒiiss

Prepare as an emulsion. A teaspoonful to be taken several times daily.—*E. Merck's Ann. Rpt.*, XIX., 1906.

Pankreon.

Pankreon, according to a report from the "Lancet Laboratory," is prepared from fresh pancreatic glands, the active principle being subsequently combined with tannic acid, the combination being proof against the action of the gastric juice. It has been administered in cases of carcinoma of the pancreas. After giving pankreon daily for six days the absorption of nutrient material is said to have been increased by 50 per cent., and the output of sugar diminished by nearly a third. Opium, too, diminished the amount of sugar, but the absorption of food material was only increased by 10 per cent.—*The Lancet*, Oct. 20, 1906.

Stypticin in Dental Surgery.

The application of stypticin in dental surgery is commented on by Levy and Klein. It effectually stops bleeding and after-bleeding, when applied in a suitable manner to the bleeding part in the form of a powder, gauze or wadding. It may also be administered internally in cases where extraction of teeth are found to regularly give rise to violent bleeding. In cases of this kind Klein prescribed three days before the operation. in the morning and evening, 5-6 grn. of stypticin, and found this treatment to keep the hemorrhage within bounds.—*E. Merck's Ann. Rpt.*, XIX., 1906.

Mr. Jonathan Hutchinson and the Outbreak of Leprosy in Switzerland.

Mr. Jonathan Hutchinson's indefatigable industry in endeavoring to convince people of the truth of his well-known fish hypothesis of the causation of leprosy is once more in evidence. To his recent journeys of investigation in Africa and India he has now added a short visit to the Rhone Valley to investigate an outbreak of leprosy there. The result of his inquiry has been to confirm prognostication which he expressed previously in the *Times*. He finds that in the villages in which the disease is present cured fish of poor quality is imported and eaten in considerable quantities. It is consumed not by the well-to-do, but by the peasants. It is imported to add something savory to the vegetable diet of the fast days, especially of Lent. He hopes soon to be able to supply custom-house statistics as to the quantity of cured fish imported into the Valais. He already knows that it is large and of two qualities—high-class and coarse—and that the latter makes up the bulk, and entirely goes to the peasants. It consists chiefly of herrings, but "stock fish"—that is, dried cod, tunny or some large fish cut up into blocks—are also used. Another fact which he regards as ominous was disclosed: The fish comes only in the winter and spring months, because it will not keep in warm weather. There is every reason to believe that the development of railroads has much increased the supply. That the supply on the present scale is recent may be inferred from the fact that it is not known of except on the spot. Mr. Hutchinson was assured in the most positive terms before reaching Leuk that there was no fish-eating by the Swiss peasantry. They were said to be too poor to buy the imported article, while the fresh fish of the streams are too valuable for the peasantry to think of eating them. He was told it would be useless to seek fish eaters in the mountains. His informants were leading physicians in the cities and high officials, who believed themselves well informed. Not until he got to Leuk itself had he any hint as to the reality. When he got there it was with the belief that it was hopeless to expect to obtain any direct evidence in support of the fish hypothesis of leprosy. In India a precisely parallel experience repeatedly fell to his lot. When the custom-house officials in Berne, at his request, for the first time, attempted to estimate the quantity of fish destined for the Valais, they were astonished. There are no cases of leprosy in the town of Leuk itself, but in two or three of the adjacent villages. All were

comparatively recent, none of more than five or six years' duration. The little village of Guttet, in which the cases of leprosy have recently been recognized, is on the mountain side, nearly a two hours' climb above the town of Leuk, and contains about 200 inhabitants. The chalets are neat and comfortable. There was not the slightest reason for suggesting that either poverty or neglect of cleanliness had taken any share in producing the disease. It is doubtful how long leprosy has existed there. Its medical recognition dates back only ten years. But the two families in which alone it occurred until quite recently may have had cases nearly half a century ago. At any rate, none of the more remote cases has survived. Of the present four cases one patient is not related to either of the families concerned, and a fourth had no connection with the village. On the supposition that the disease has been present in two families in Guttet for fifty years without spreading to others, the facts are much better explained by the hypothesis of commensal communication than that of contagion in the proper sense. It has been suggested that the cases are a survival from the middle ages. Mr. Hutchinson agrees with Prof. Judassohn, who has twice at the request of the Swiss Government examined the facts, that this is a most improbable supposition. Mr. Hutchinson thinks that in consequence of the use of decomposing fish the Swiss Catholic cantons are incurring the danger of leprosy.—*J. A. M. A.*

The Basle Anatomical Nomenclature.

The crudities in anatomical nomenclature have long been recognized, but it was not until 1895, at the meeting of the Anatomical Society in Basle, that definite order was evolved by the adoption of 4,500 anatomical names. Since that time the system adopted has been known as the Basle anatomical nomenclature, or, as it is abbreviated, B. N. A., the *nomina anatomica*. The reasons for the adopting of these names and their more extended use, both in teaching and in writing, are fully explained in Dr. Llewellys F. Barker's forthcoming book on "Anatomical Terminology," advance sheets of which have been recently issued by P. Blakiston's Son & Company. The reason for the simplification of anatomical terms is obvious. According to Barker, the larger text-books on gross anatomy contain as many as 10,000 names, at least half of which are synonyms. If the anatomical terms used in various standard text-books are collected into one list, the total number amounts to more than 30,000. It is looked upon as a remarkable

achievement that the necessary number of names in gross anatomy can be reduced to less than 5,000. Even more important than mere reduction in number is the elimination of obscure and ambiguous terms. Barker gives an exceedingly interesting account of the haphazard manner in which anatomical structures had been christened. Each investigator gave names as he would to the parts studied, and as one investigator was often ignorant of the work done by others, different names were given to the same structures. The multiplicity of names found expression in such triplicates as pneumogastric nerve, vagus nerve, and eighth cerebral nerve. The laryngeal prominence was also known as Adam's apple, and the use of proper names still further burdened the memory, such as the valvula coli, which were known variously as the valvula ileocecalus, valvula Bohini, valvula Tulpii, valvula Fallopiæ.

An immense labor was performed by the committee, covering a period of over five years. The general principles formulated by them were that each part should have only one name; each name should be in Latin, and be philologically correct; each name should be short and simple as possible. The names should be merely memory signs, and need lay no claim to description or to speculative interpretation. Related names should, as far as possible, be similar, and adjectives should in general be arranged as far as possible as opposites. In a few instances these rules have been disregarded, as, for example, in the mitral valve, correctly known as the valvula bicuspidalis, valvula mitralis being retained as a concession to the clinicians. The great names in anatomy, such as Fallopiæ, Eustachi, Malpighi, have been retained. Poupart's ligament becomes ligamentum inguinale (Pouparti). Comparatively few names had to be coined, the labors of the committee having been restricted to the selection of the best term available.—*Medicine.*

The Treatment of Fetid Feet.

Sabouraud (*Journal de Pharmacie et de Chimie*) recommends a four per cent. solution of chromic acid in distilled water in cases of profuse perspiration of the feet with foul odor. The solution is applied quickly with a pledget of cotton, care being taken that it penetrates between the toes. The application should be made each day for several days, and then every second day following, and later once a week until the cure is completed. The lotion should not be applied twice on the same day lest it cause some erythema.—*Medicine.*

Primary Ether Anesthesia.

Sudeck has modified his technique of operating under primary ether anesthesia as described by him some years ago. At that time he caused the patient to inhale as deeply and rapidly as possible the concentrated vapor from a mask on which 30-50 gm. of ether had been poured at once. Sudeck now considers this method unnecessarily heroic, and states that he has been able to obtain equally good results by the drop method. An open mask is placed in position, and the patient is allowed to draw a few breaths through it before the administration of the anesthetic is begun. At first one drop, is allowed to fall every two or three breaths, gradually the rate of the flow is increased to a drop with every breath, and, as toleration is established, rapid dropping is begun. The patient's sensibility is tested by using alternately the point and head of a pin, and causing him to specify sharp or blunt. When the answers become incorrect the time to operate has arrived. Sudeck states that when properly carried out, failure is encountered only very rarely. When the method is successful the patient is still sufficiently conscious at the beginning of the operation to obey the commands of the operator, and, if he wishes, to observe all the steps of the operation. He experiences no pain, but only tactile sensations, and immediately on the termination of the anesthesia is able to arise without any disagreeable sequelæ.—*Medical Record.*

Dipsomania

The writer defines dipsomania as an abnormal demand of the nervous system, either constant or periodic, for the drug action of alcohol—a demand so strong that the patient takes the alcohol in spite of his earnest wish and effort to avoid it. Dipsomania partakes of the nature of both a neurosis and a psychosis, the predisposing cause being a nervous system that is peculiarly susceptible to the poisonous or intoxicating action of alcohol. Dipsomania is a curable disease and not a mere habit. The patient should be removed from home, with all of its customary surroundings, and devote himself to the business of being cured. In the majority of cases the writer administers some remedies hypodermically at stated hours. He usually prescribes alcoholic liquors during the first few days of treatment, gradually withdrawing them. Milk and raw eggs are probably the best nutriment. Apomorphine is the most prompt and effective hypnotic.—*C. T. Douglas, Medical Record.*

Miscellaneous.

The Street Noises of London.

The street noises of London have been greatly increased by the recent introduction of the motor bus, and in many neighborhoods constitute a great nuisance. A "Noise Abatement Committee," consisting principally of physicians, held a meeting at the rooms of the Medical Society of London. Among those present were Sir Dyce Duckworth, Mr. Mayo Robson and Dr. Radcliffe Crocker. The following resolutions were adopted: 1. The present excess of noise in the public thoroughfares of London is such as to cause disastrous consequences to the health and vitality of the people, and legislation in respect to the growing evil of street noises is urgently needed, and should be promoted without delay. 2. Legislation should provide for prevention by the police of street shouting by coal or other hawkers, costermongers, milkmen, and vendors of newspapers, of organ grinding and of itinerant brass bands and other forms of music; it should also provide for the effective supervision, regulation and control as to speed and otherwise of all classes of vehicles used for the carriage of passengers or goods, such as motor omnibuses, traction engines, lorries and trucks; the routes through which such vehicles should be allowed to pass should be directed: and noisy traffic through purely residential streets should be prohibited at least between midnight and 6 a.m.

Pneumonia Following Stab-Wound. BY J. A. DAVIS, M.D., of Norman, Oklahoma.

On January 11th, 1905, Mr. C., aged 20, was stabbed in the back below the scapula, and when I saw him twenty minutes after the affray, he was suffering from profound shock. I carried out the usual operative procedures, and the patient rallied, doing well until the night of the eighth day, when he had a severe chill, presaging pneumonia.

I feared a fatal result, as the left pleural cavity contained considerable bloody serum, and immediately applied a thick dressing of Antiphlogistine, ten inches wide, from the spinal column to the median line, in the front, and kept up this treatment for three weeks, changing the dressing every morning. By this time the lung was perfectly clear, and there was no further use for the external application.

The Antiphlogistine was covered by a cotton jacket, and held in place with a cloth bandage. The pain was relieved by hypodermics of morphine and atropine, and the heart was sustained by strychnine. Outside of a little calomel and some laxatives,