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Original Articles

VACCINE THERAPY; ITS ADMINISTRATION, VALUE AND LIMITATIONS.*

By George W. Ross, M.A., M.B. (Toronto), M.R.C.P. (London).

No more definite indication of the important place that vaccine therapy has come to occupy in British medicine can be found than in the circumstance that the Royal Society of Medicine of London debated this subject at six of its meetings during the months of May and June of this year. In all some thirty-four physicians, surgeons and scientists took part in the discussion. Their remarks have been incorporated in one large quarto volume of 216 pages. As this work is unavailable for the majority of the profession, it was thought that a resumé of the remarks of some, if not all, of the gentlemen who took part in the discussion would prove of considerable interest and instruction.

The subject, as set down in the title, was opened by an address from Sir E. Almroth Wright, who is the discoverer and chief protagonist of the method. Sir Almroth himself appreciated the great difficulty of thoroughly covering his subject, and proceeded first of all to discuss the rationale of vaccine therapy. Its fundamental principle is, according to his view, "to exploit in the interest of the infected tissues the unexercised immunizing capacities of the uninfected tissues," which means in short that all inoculations of a bacterial vaccine (consisting of devitalised bacteria) cause, near the site of inoculation or somewhere else in the tissues, the elaboration of anti-bacterial substances. These anti-bacterial substances are carried by the blood and lymph streams to the focus of infection,

*Being a Resume of a Discussion on this subject before the Royal Society of Medicine in London.

and are there directed towards the destruction of the microbes at work.

Sir Almroth Wright next refers to the necessity of increased knowledge for the successful utilization of this method. For example, a medical man who wishes to have recourse to vaccine therapy, ought at least to have a working acquaintance with the microbes which infect the human body. He also ought to understand the general principles of immunization, and be able in some way to arrive at the minimum effective dose of each particular vaccine. He ought further to have a knowledge of the conditions which obtain in the focus of infection, and of the best method of circumventing these difficulties.

The next part of the address is concerned with the question of the relative importance of bacteriology and clinical medicine. In this connection he projects the science of clinical bacteriology to the front. In passing on to it he expresses his astonishment that bacteriology should have taken so long to reach the important place that belongs to it, especially in the face of such discoveries as that of Lord Lister and the agglutination reaction in typhoid fever and of many others. He points out that these methods are clearly bacteriological.

Sir Almroth does not miss this opportunity of having a fling at the pure clinician. He admits that there was a time when the verdict of the pure clinician on a question of diagnosis was incontestable. Diphtheria then meant a condition when a particular kind of false membrane appeared in the throat, and phthisis a disease in which certain noises could be heard down the stethoscope. Now he says diphtheria means an invasion of the throat by the diphtheria bacillus, and phthisis an invasion of the lungs by the tubercle bacillus. One interesting fact is referred to. Physical signs in a given case of say pulmonary tuberculosis fall far short of indicating the true extent of the lesion, and further bacteriological methods discover pathogenic microbes in, for example, typhoid fever and other conditions before a diagnosis could possibly be arrived at by the methods of physical examination.

If one did not know Sir Almroth Wright's mental attitude one would be inclined to think that certain of the remarks which follow are unnecessarily harsh, but those who know him appreciate his keen sense of humor and delight in epigram. He refers in rather emphatic terms to what he considers the desire of the pure clinician to escape the labor of learning bacteriology by the delegation of his bacteriology to institutes or individuals who are concerned with this work, and the use of these same agencies for the production of

the requisite sera or vaccines. Sir Almroth does not believe that medical men can continue to do this indefinitely, probably for the reason that vaccine therapy and the skill and knowledge of the bacteriologist will ere long predominate in medicine, that is to say, the medical man will become more of a bacteriologist and less of a clinician.

Then follows a psychological analysis of certain questions of morality with respect to the delegation of work on the part of the physician, but this, though interesting, need not concern us at the present moment.

Sir Almroth next proceeds to discuss the limitations of vaccine therapy, and he does it from the following standpoints: (1) "As contended for by the clinician who regards vaccine therapy as an uncomfortable innovation;" (2) "Limitations contended for by the bacteriological worker who looks forward to vaccine therapy being applied in conformity with scientific principle."

He discusses the subject under the following headings:

1. "Limitations as contended for by the clinician who regards vaccine therapy as an uncomfortable innovation."	1. "Limitations as contended for by the bacteriological worker who looks forwards to vaccine therapy being applied in conformity with scientific principle."
1. "Vaccine therapy finds no useful application except in connection with furunculosis."	1. "Vaccine therapy can be applied only where an exact bacteriological diagnosis has been made, and where the diagnosis is kept up to date."
2. "Vaccine therapy is of limited utility, because it can be applied only by those who have devoted study to bacteriology and immunization."	2. "Vaccine therapy can be applied only by those who have some acquaintance with bacteriology, some understanding of the rationale of vaccine therapy, and a knowledge of the dose of the particular vaccine which it is proposed to employ."

3. "Vaccine therapy finds no useful application in connection with the graver infections, such as pneumonia, rheumatic fever, typhoid fever, phthisis, meningitis, and streptococcal endocarditis."	3. "A limit is placed to the efficacy of inoculations by the fact that there are definite limits to the responsive power of the patient."
4. "The proper sphere of vaccine therapy is not to take the place of any surgical operation, but to supplement it."	4. "Successful results can be obtained only where an efficient lymph stream can be conducted through the foci of infection."
5. "Vaccine therapy finds no useful application in connection with the ordinary infections of those regions of the body which fall within the sphere of the particular speciality which the critic happens to practise."	5. "In long-standing infections vaccine therapy can give definite results only after a long succession of inoculations, and there is no security against a relapse until the infection has been completely extinguished."
6. "Vaccine therapy is of limited utility because it is applicable only to disorders which are referable to bacterial infection."	6. "In a not inconsiderable percentage of cases it is essential to success that the dose of vaccine shall be controlled by measurements of the opsonic index."

Sir Almroth discusses the limitations, as contended for by the clinician, in detail, and we may say dismisses these contentions to the satisfaction of himself, and largely to the satisfaction of anyone who has a thorough working knowledge and practical experience of his method. One of his interesting statements is that vaccine therapy promises to be brilliantly successful in pneumonia, that it holds out some promise in typhoid fever and in many forms of rheumatism, and that it supplies the only real hope we have in endocarditis. He also points out that the bounds of vaccine therapy are being more and more extended as bacterial causes are put down for such things as certain forms of jaundice, bronchitis, common colds, many cases of asthma and many cases of cardiac disease. He denies that the bacteriologist is successful in finding a bacterial

origin for all sorts of disease, and presents certain examples of unusual conditions, which, to his surprise, proved to have a bacteriological origin. One of the cases recorded is that of an extensive X-ray dermatitis, which yielded a streptococcus in cultures and responded to streptococcus vaccine. Others were cases of toothache and pyorrhea, and one was a case of pruritis ani. He points out that the origin of urinary calculi is almost always in a microbic nucleus. He says that many cases of indigestion, vomiting, flatulence and distension of the stomach are due to bacterial infection of the stomach, most often due to streptococci which have been swallowed with the food. He says that much of the pain in cancer is also due to the secondary infection by the micrococcus neoformans of Doyen. He refers to the treatment of diabetes in one case by the administration of bacillus coli vaccine, and in several others of staphylococcus vaccine. Doubtless these cases were due to an infection of the pancreas by one or other of these micro-organisms.

He refers to enuria as being attributable in certain cases to an infection of the bladder by the bacillus coli or some other micro-organism.

When he comes to discuss the limitations, as contended for by the bacteriologist, he points out the necessity of an exact and complete bacteriological diagnosis as a *sine qua non* for a proper understanding of the condition and for its appropriate treatment. He draws attention to certain tests which can be used to determine whether or not a cure has been effected in any given case. These tests have to do with the estimation of the opsonic index of the blood at certain stages during the course of the treatment, from which his deductions are made, but these considerations need not detain us here.

He says that the only one of the contentions in column two which is in any sense of the word controversial, is that it is not infrequently essential to success that the doses of vaccine shall be controlled by the measurements of the opsonic index, and he proceeds to take up the cudgels on behalf of his method of measuring this index. We will just mention his conclusions:

"I have satisfied myself, and all my fellow-workers have satisfied themselves, and I am glad to say a very large and increasing number of bacteriological workers all over the world have satisfied themselves, that when the 'functional error' has been reduced, as it can be by practice and patience, to small dimensions, and when, in connection with tubercle, the customary counts of 100 or more leucocytes are made, the 'mathematical limit of error' of the opsonic index is such as need not seriously be taken into account. In

view of this, I suggest that those critics who have put forward figures showing enormous working errors in opsonic estimations may have supplied to the world data with regard to the magnitude of their own functional errors, instead of—as self-esteem assured them—data with regard to errors in the opsonic method."

Sir Almroth next brings forward certain evidence to prove that the rise and fall of the opsonic power of the blood is correlated with improvement and aggravation in the condition of the patient, although admitting that his method is only a partial evaluation of the anti-bacterial powers of the blood.

The question as to whether the measurement of the opsonic index can be dispensed with, and whether there is any other guide which can take its place, has exercised the minds of almost all who have undertaken the practical application of opsonic therapy to the treatment of disease. Sir Almroth Wright considers this in some detail, and I think we cannot do better than to quote his conclusions.

"Let me briefly describe to you what our practice is in connection with the control of inoculation by the opsonic index in the case of the out-patients and in-patients in the Inoculation Department of St. Mary's Hospital. In an ordinary case of localised streptococcus or staphylococcus infection we practically never have recourse to the opsonic index. In connection with these infections we know the appropriate doses of vaccine, and the clinical symptoms furnish any further guide that may be required. The same holds true of acne. It holds true again of croupous pneumonia.

"When we have to deal with a case of staphylococcus infection, such as sycosis, which has obtained a firm hold upon the patient and which offers considerable resistance to the treatment, and which we can only hope to overcome by a succession of effective inoculations, it is often necessary to regulate the dose by means of estimation of the opsonic index.

"The same holds true of the very chronic streptococcus infections which are associated with tuberculous disease of bone. It holds true again of the chronic coliform infections.

"In the cases of tuberculous infection we make a distinction. We make it a practice in every case of phthisis to control the effects of the inoculations by the opsonic index, but employing, as we do in the case of phthisical out-patients, only doses which give no negative phases, we find it sufficient to determine by blood examination, undertaken on the day before the patient returns for inoculation, whether the dose has been adequate to keep the opsonic index up to the normal. In the case of phthisical patients who are treated

in the wards, more frequent examinations are undertaken. In the case of tubercular adenitis and other localised forms of tubercular infection we limit our opsonic examinations if satisfactory progress is being made. As a rule, we undertake these only where the question of increasing the dose presents itself. In cases which do not make such satisfactory progress the opsonic index is estimated much more frequently.

"In cases of septicemia and in cases of advanced phthisis, and, in short, all cases where the condition of the patient is undergoing constant and rapid changes under the influence of continuous auto-inoculations, we find that the measurement of the opsonic index does not render any very valuable services.

"In conclusion, I may mention, in connection with the question as to whether the temperature in a pyrexic case can be taken as a guide to the opsonic index, that we have over and over again verified that, except in those unfortunately more or less rare cases where a pyrexic infection is being definitely got under by inoculation, we do not find any of that inverse correlation of temperature to the opsonic index which is illustrated in some of our published charts, and which Dr. Latham, generalising apparently from very few cases, has alleged to constitute the general rule. The temperature cannot therefore be depended upon as a guide in immunization."

Sir Almroth next deals with the results of vaccine therapy. He contends at the outset that it would be impossible for him in the time at his disposal to give even a summary of his results, and so he satisfies himself with the explanation of certain cases which have been quoted as failures for vaccine therapy. His most interesting address concludes with a description of the mode of administration of the vaccine, and he expresses his belief that the hypodermic method is much to be preferred to that of oral administration, chiefly because precision of dosage is more certainly obtained by the former than by the latter method.

(To be continued.)

THE RELATION BETWEEN ORGANIC AND FUNCTIONAL NERVOUS DISEASES.*

By Ernest Jones, M.D., M.R.C.P.
Associate in Psychiatry, University of Toronto.

Ladies and Gentlemen,—I am to speak to you on the relations between organic and functional diseases, and as I wish to confine my remarks principally to questions of diagnosis, it will first be necessary shortly to consider what we understand by these terms. Under the term functional nervous disease, two different groups of conditions are included, and I must here express my grave doubt as to whether either group concerns functional nervous disease in the sense ordinarily implied by this, that is, a disorder of nervous function apart from alteration in nervous tissue; in my opinion, the evidence points to the one class being of a truly organic nature, while the other is not truly a nervous disorder. I can best make my meaning clear by recalling to your mind the following groups of conditions in a scheme which will illustrate the point at issue:

A. Nervous diseases with a gross macroscopic lesion. (Tabes dorsalis, disseminate sclerosis, etc.)

B. Nervous diseases with no gross macroscopic lesion. (Chorea, Parkinson's disease, some forms of epilepsy, etc.)

C. Actual Neuroses.
1. Neurasthenia.
2. Anxiety Neuroses.

D. Psycho-Neuroses.
1. Hysteria.
2. Obsessional States.

E. Psychoses. (Dementia præcox, General paralysis of the insane, etc.)

It has been established that in the case of the diseases in group B there are definite changes demonstrable by the aid of the microscope, though much remains to be learned concerning the nature and distribution of these; properly speaking, therefore, these diseases are truly organic in nature, and the term "functional" should not be applied to them. On the other hand, the

*Summary of a Lecture delivered at the Post-Graduate Clinic of the Toronto Orthopedic Hospital, Nov. 12th, 1910.

diseases in groups C and D can hardly be called primarily nervous diseases, since they take their origin in a more general source, namely, in deviations, perversions and erroneous functioning of certain of the biological instincts—principally those that relate to the adaptation of the person to his environment. As, however, the central nervous system is essentially concerned in this, it is readily comprehensible that the manifestations of such disorders should reveal themselves by means of perturbations of this system. In the same way, Graves' disease is not now regarded as a true nervous disease, for the nervous alterations and symptoms are only *secondary* to affections of the thyroid gland.

A word must be said on the differences between the actual neuroses and the psycho-neuroses. The main three are these: (1) The injurious trauma is a physical one in the former case, a mental one in the latter. (2) In the former case the cause is still operative at the actual moment, and the neurosis ceases when it is removed. In the latter case the ultimate cause lies in the patient's past, in early childhood. (3) In the former case the individual symptoms cannot be further reduced or explained by any form of psychological analysis, whereas in the latter it is found that each separate symptom has a psychological meaning, is in fact a condensed symbolic expression of a great number of mental experiences.

It is frequently observed in practice that a given patient may present signs of both a neurosis and an organic affection. No doubt this occurrence is frequently a coincidence, for there is nothing in the nature of a neurosis that precludes the patient from acquiring a tumour of the brain or other organic trouble. Every neurologist will agree, however, that in many cases there is a causal connection between the two conditions, in that the presence of an organic affection, perhaps of some more than of others, seem to favour the occurrence of certain neuroses. It is to be noted that the organic affection should be regarded as the cause of the *outbreak* of the neurosis, not of the neurosis itself. To understand the explanation of this, we have to remember that in the etiology of the neuroses, just as in that of all other diseases, there have to be distinguished specific, essential factors, in the absence of which the condition cannot arise, and accessory, adjuvant or exciting factors; the latter, such as overwork, strain, grief, and accidents, are often erroneously thought to be the essential factors. Now you are familiar with the fact that with various infections disease will result if the dose of the specific virus is sufficient, but that disease may also result from a smaller dose,

provided that adjuvant factors (general ill-health, etc.) are also in action. The specific causes of the neuroses are widespread, and we have all had to contend, more or less successfully, with some of them; with many persons their harmful effect can be averted only so long as no other noxious factor intervenes. Dealing with the accessory factors, which have evoked the outbreak of symptoms, is in most cases merely a temporary postponement of the trouble; on the other hand, satisfactorily dealing with the specific factors means making the patient free, strong and independent, so that he is in a position to resist the action of any of the accessory influences. Organic nervous disease is one of the accessory factors; it alone can produce no neurosis, but it can favour the outbreak of neurotic symptoms in a patient with whom the specific causes of neurosis are acting.

In regard to the differential diagnosis of the neuroses, I wish to lay down one principal thesis: one should never make such a diagnosis on merely negative grounds, but only when the characteristic features of neurotic symptoms are present. It is an only too common practice to examine for certain signs that are generally considered pathognomonic of organic changes in the nervous system, and, when these are not found, to declare the case one of "functional disease." A little consideration shows that in many cases this procedure must inevitably lead the observer into error, for, on the one hand, many cases of organic nervous disease do not show in their early stage the particular signs just referred to, and so would incorrectly be labelled "functional," while, on the other hand, when a neurosis co-exists with an organic affection, it will necessarily be overlooked. When a patient complains of headache and fatigue, one does not make the diagnosis of Bright's disease merely by excluding other diseases; one looks for the characteristic evidences of this affection. In spite of the obviousness of this truth, it is remarkable how frequently it is ignored when it is a question of recognising a neurosis. I must insist that the features of neurotic symptoms are as typical and clearly defined as those of most other diseases, so that, in the absence of these features, one should refuse to pronounce a given case one of neurosis.

It is only possible here to select a few of the commonest errors in diagnosis, and thus to illustrate the principles on which such diagnosis should be founded. In the case of the actual neuroses, the mistakes made are commonly due, not to errors in judgement, but to ignorance of the cardinal features of each form. For instance, the mistake of confounding the early stage of a general

paralysis or dementia præcox with neurasthenia is not so frequent as the ignorant confounding under this term of conditions which are fundamentally different one from the other. Affections so disparate as obsessional states, cyclothymia (a mild form of manic-depressive insanity), anxiety states, and neurasthenia proper are frequently brought together under a single heading, whereas, in reality, the etiology, course, prognosis, and treatment are totally different with each of these.* Even the two forms of actual neuroses have to be very clearly distinguished from each other, for the cause and treatment is almost exactly opposite in the two cases; neurasthenia is due to the combination of deficient afferent excitation with excessive efferent outflow, while the anxiety neurosis is due to the combination of excessive afferent excitation with deficient efferent outflow. With the anxiety neurosis the mistake most frequently made is to confound the condition, not with any organic nervous disease, but with affections of some other system. This is due to the fact that so many of the cases are atypical, some symptoms of the complete syndrome being much more pronounced than others. For instance, when these are mainly cardiac, such as palpitation, increased frequency, irregularity and sudden stoppage of the heart's action, pain of cardiac distribution, deep sighing respiration, apparent dyspnœa, etc., they may easily be thought to proceed from some mural or valvular lesion; the attacks of nausea or vomiting, with chronic diarrhœa, often mislead the observer into concentrating his attention on the alimentary tract; the pollakuria, precipitancy of micturition and polyuria may give rise to the suspicion of granular kidney, and so on.

Obsessional states, if they are not erroneously thought to be neurasthenic, should as a rule be easily recognised. They are rarely mistaken for any organic nervous disease, but they are sometimes difficult to distinguish from certain forms of hysteria, and especially from dementia præcox.

Hysteria is the neurosis that is most frequently confounded with organic nervous disease; one of the chief reasons for this is neglect of the principle above referred to, for a knowledge of the exceedingly characteristic traits presented by hysterical symptoms would prevent the majority of such mistakes. One or two instances only will be given. In the case of a paralysis, possibly due to hysteria, one, of course, examines for the most valuable indications of organic change in the nervous system, such as Babinski's sign,

*In a recent paper, "A Modern Conception of the Psychoneuroses," *Canada Lancet*, Feb., 1910, I have briefly indicated some of the main features of the actual neuroses.

Mendel's sign, etc., but the absence of these by no means proves the case to be one of hysteria, neither does the presence of them exclude the co-existence of hysteria. If the paralysis is due to hysteria, then it will present at least some of the features characteristic of hysterical paralysis; these do not occur in cerebral paralysis, and it is with this that the differential diagnosis is largely concerned. It may, for instance, affect the proximal part of the limb to a greater extent than the distal, contrary to the rule of cerebral palsies. It is frequently more intense than is seen with these, and yet at the same time may be strikingly localised. When this combination of excessive intensity and limited distribution is present, it is highly characteristic of hysteria. One may formulate the rule that a cerebral paralysis is never at the same time complete and partial, as a hysterical one frequently is. When a cerebral lesion causes complete paralysis of a limb, then the paralysis will not be altogether confined to that limb. In hysteria, the limitation may proceed still further, to what is called dissociation of a given function; thus a limb may be absolutely paralysed for one purpose, as in the syndrome known as astasia abasia, and yet may function normally in other respects.

This curious combination of excessive intensity and strict limitation is seen in other regions than that of motility. In hysteria, an absolute aphasia may be observed quite confined to the sensory side, an occurrence never met with in organic disease. Remarkable dissociations are here also not infrequently met with; a patient may lose the power of comprehending his native tongue while retaining that in regard to foreign languages. This is in sharp contrast to the less striking forms of dissociation produced by organic disease, where the function lost is always the most complex or latest acquired.

Similar features may be observed in connection with the sensory symptoms. Absolute loss of one form of sensibility, *e.g.*, pain, with perfect retention of all other forms, is an occurrence rarely if ever found in organic disease, but frequently in hysteria. Here the dissociation, or electivity, may be so pronounced as to be quite distinctive of the affection; a patient may for instance be quite unable to recognise by touch certain objects at a time when he can readily distinguish others. The function lost may as before be less complex than that retained in contrast to the rule of organic disease; I have seen a patient recognise the shape and nature of an object placed in his totally anæsthetic hand, a paradox the explanation of which leads us far into the understanding of the pathogenesis of hysteria.

These few examples must suffice to illustrate the principle above laid down, that neurotic symptoms have their peculiar characteristics as well as organic ones, and that the diagnosis of them, to be accurate, must rest on a knowledge of these characteristics.

An evident corollary from these considerations is that in neurological diagnosis a knowledge is necessary of the typical features, not only of organic diseases, but also of the neuroses. May I add a few other reasons why some knowledge of the neuroses is an important matter? In the first place, on account of their great frequency; when the numerous errors in diagnosis are taken in consideration, it is probable that hysteria alone is the most frequent single disease calling for medical treatment. In the next place, it is obviously important to recognise affections in regard to which our therapeutic measures have most avail. In this connection I wish to call attention to the importance of making an early diagnosis of these affections. You have often heard stress laid, with right, on the urgency of the early recognition of pulmonary tuberculosis, of appendicitis, perforative peritonitis, and other maladies in which therapeutic success largely depends on the time of intervention. One hears very little about the desirability of recognising a neurosis in its early stages. Yet it is far from being a matter of indifference as to whether the radical treatment of a neurosis is begun early or late. I would remind you that the treatment of an advanced case of neurosis, when the patient is in a state of inveterate invalidism, is a formidable, laborious and often disappointing task; all such cases, however, were at one time in an early stage, and it is very difficult to foretell whether any given mild case will evolve in this direction or not. Last, but not least, is the consideration that a study of the conditions favouring the development of a neurosis is perhaps more instructive than any other medical study in regard to various sociological and educative problems which every medical practitioner must face no less than any other thoughtful citizen.

Medicine

GRAHAM CHAMBERS, R. J. DWYER, GOLDWIN HOWLAND,
GEO. W. ROSS, WM. D. YOUNG.

A Critical Review of Existing Theories and the Presentation of a New Theory of the Etiology of Achylia Gastrica. GEORGE EDWARD BARNES, B.A., M.D., Herkimer, N.Y. *New York Med. J.*, August 20, '10.

Achylia gastrica means gastric juicelessness and implies non-digestion of proteids in the stomach. Three main conditions are related as causes, namely: (1) Primary atrophy of the mucous membrane, as in pernicious anemia; (2) secondary, due to conditions as gastric carcinoma; (3) nervous origin—in functional diseases. Authors differ as to their views as to the latter cause, and Barnes himself does not lay any stress on such nervous causes. But he suggests a neuritis of the vagi nerves supplying the stomach, and calls to our attention cases of gastric ptosis as probably causal of the strain on the vagi and the consequent achylia gastrica.

G. W. H.

The New Test for Cancer of the Stomach, with Suggested Improvements. J. W. WEINSTEIN, M.D., NEW YORK. *Journal A. M. A.*, Sept. 24, '10.

In normal digestion proteins are changed by stages to amino-acids, but in the stomach itself the transformation only reaches the peptone form, which passes on further duodenal action into a "peptid" before terminating in the amino-acid condition.

Glycyltryptophan is a dipeptid of synthetic origin, formed from glycin and tryptophan (two amino-acids), and if the filtrate from a specimen of gastric contents is added to a solution of this dipeptid and the mixture warmed for 24 hours there will be found present glycin and tryptophan *in cases of gastric carcinoma,* since cancer ferment is able to accomplish this.

To test for amino-acids, it is necessary to acidify by acetic acid and then to a *few c.c.s.* of the gastric fluid to add Bromine or

Bromine water, when one will perceive as a positive test, the production of a red-violet color.

Bacterial agency, blood and regurgitated trypsin may, according to authors, invalidate the test.

Weinstein claims that the use of glycoltryptophan is uncalled for, as in the presence of cancer the ordinary food proteids are changed into these amino-acids. Accordingly he only uses ordinary stomach contents without the addition of this acid.

Free hydrochloric acid may invalidate the test so that it may be necessary to wash the stomach out before giving the test meal; also any coloring substance contained in the food will modify the result.

G. W. H.

Atony of the Stomach. J. W. WEINSTEIN, M.D., New York.

Atony of the stomach is that condition in which the motility of the organ is impaired.

Weinstein gives his patient a meal of meat, soup, bread and potatoes, and considers a stomach as atonic which shows food present seven hours after the meal was taken.

Disturbances of the motility of the stomach must depend on the movements, or on the disturbance of the action of the pyloric sphincter, and dilatation, according to the writer, is rare in atony.

Etiologically there is congenital and acquired weakness of the wall, to the latter of which causes belong overfeeding, surplus fluid ingestion, milk cures, emotional disturbances, defective mastication and secondary obstruction. The symptoms are manifold, hyperacidity, distension, pain, belching of gas, constipation, splashing stomach, and so forth.

G. W. H.

Duodenal Regurgitation Due to Fatty Foods and Oils as a Clinical Entity. Fat Intolerance of Gastric Origin. ANTHONY BASSLER, M.D., New York.

Fatty foods and oils are counterindicated in poor fat digestion, absorption, and metabolic difficulty in assimilating; in icterus, pancreatic disease, disease of the intestinal wall, diabetes and phthisis.

Bassler adds the following type of case as an addition to this non-fat digesting class.

Sharp pain in the epigastrium of acute onset, radiating to the back; duration minutes to days. No relation to food, no vomiting and no special subjective signs aided the diagnosis.

Objectively no tender areas, muscular spasms, pressure pains nor stool symptoms were present, so that pylorospasm was a natural diagnosis.

Ordinary diets, bromides and oils before meals were ordered with no success.

The examination of gastric contents showed presence of pancreatic juice and oil, evidently due to regurgitation, and changing diet to fat-free class rapidly cured the cases. G. W. H.

Bier's Textbook of Hyperemia. By PROF. DR. AUGUST BIER. Translation from the 6th German Revised Edition by Dr. G. M. Blech. Published by Rebman Co.

It is quite unnecessary to review the sixth edition of a standard work, except to recall the volume to the attention of younger practitioners. Bier's work and methods have been largely adopted by every first-class physician, and any active worker who has not read this classic work or is ignorant of the methods is losing manifold opportunities of assisting nature in his everyday practice. There is not a more helpful book or a more satisfactory method that can be used to-day, in suitable cases, than the system of treatment taught by Bier. G. W. H.

Morphology of the Human Body. By PROF. ACHILLE DE GIOVANNI, Director of the General Medical Clinic, University of Padua. Translated by John Joseph Eyre, M.R.C.P., L.R.C.S.I., D.P.H., Cambridge. Published by Rebman Co.

This book is intended to stimulate clinical work along a new line of thought, namely, the form of the body and the form of its constituent parts.

The professor has deduced his facts largely from actual measurements of the body and its contained organs, and he endeavors to deduce information as to the nature of the individual in multiform ways by this clinical research.

There are many interesting points and valuable ideas locked up in these pages, which must be searched for, but the volume as a whole is quite unsuited for the normal reader.

The work is taken up in a most verbose manner, and it is seem-

ingly most difficult to understand what the author is trying to impart, a fact perhaps largely due to its being a translation from the Italian. Much of his own ideas he negatives, and there is a frequent repetition of material, and to such an extent is this carried and so difficult to follow is the general meaning that it is doubtful if many readers would be willing to peruse the book throughout.

Yet there are some pearls among the vast amount of undesirable matter, and to a very patient reader some benefit may result.

G. W. H.

Surgery

WALTER McKEOWN, HERBERT A. BRUCE, W. J. O. MALLOCH, WALLACE A. SCOTT, GEORGE EWART WILSON.

On Occluding and Subocclusding Ligatures. VICTOR BONNEY. *The Lancet.*

The writer likens the condition of the tissues distal to the ligature to artificial infarction. If the whole of the tissues be occluded, then the infarction is of the white variety, while if only partial, that is subocclusion, a red infarct results.

He further points out that subocclusding ligatures result in great pain, while the occluding ones are painless. Examples of the former and latter respectively are seen in the twisting of an ovarian cyst pedicle and the tying up of same.

Practically then subocclusding ligatures should never be used, as they are not reliable, bends being responsible for numerous adhesions. G. E. W.

Obstetrics

CHAS. J. C. O. HASTINGS, ARTHUR C. HENDRICK.

Sterility: Its Etiology and Treatment. By R. A. GIBBONS, F.R.C.S.E.

The writer, after alluding to the great importance and far-reaching effects of this condition, defines sterility as the inability on the part of a married couple to bring about conception.

Sterility is dependent not alone upon the woman, as latent gonorrhea in the male, as Nœggerath has shown, is more prevalent and far-reaching than was once suspected.

Etiology.—First in the woman. This may be either 1, structural, e.g., vaginismus, vaginitis, diseases of the tubes, etc. 2, functional, e.g., dysmenorrhea, general diseases, obesity, alcoholism, etc.

Among important causes the writer very correctly attributes much to the excessive secretions which are poured into the vagina in certain conditions, which are toxic to the spermatozoa. Again inflammatory conditions of the tubes are important, especially appendicitis,—both tubes may become involved and sealed up,—and gonorrhea.

Another affection is puerperal inflammation, which accounts for most "one-child sterility."

Affections of the ovaries are important, but even a badly damaged cystic ovary may produce an egg.

Amongst general diseases, tubercle, mumps, drug habits, are noted.

Sterility in Man.—Gonorrhea is important in causing epididymitis and consequent sterility. X-rays and radium may also cause azoöspermia.

Treatment.—Apart from attending to the general health, surgical intervention, as dilating, curetting and curing a severe discharge are indicated. Retroflexion does not cause sterility, but severe lacerations of the cervix do, and should be repaired.

If after all these indications have been followed and conception does not follow, the husband should be examined by the bacteriologist, to ascertain the presence of sperm or otherwise.

A. C. H.

Psychiatry

W. C. Herriman, Ernest Jones.

Some Aspects of Heredity in Relation to Mind. By H. B. Donkin, *Lancet,* Oct. 22, 1910, p. 1188.

This interesting paper, the contents of which formed the Harveian oration for 1910, is of an academic and general character. The chief point on which stress is laid is the vagueness of thought and ignorance of biological conceptions prevalent in the medical profession on the subject of heredity. Referring to the recent Royal Commission on the Control of the Feeble-minded, the author writes: "So apparent, indeed, even to the non-medical members of the Commission, were the confusion of thought and the inaccurate language which pervaded much of the evidence on this head, that the report expressed the unanimous opinion that the important subject of heredity should be especially emphasized in the medical curriculum." Those who have specially studied the question know that we need far more evidence than we at present possess before we can be in a position to dogmatise about the relations of heredity to insanity, as is often so lightly done. One thing at least is established, that the offspring does not inherit any effect of a harmful influence *acquired* by the parent, such as alcohol. E. J.

A Plan for the Prophylaxis of Mental Disorders and the After-care of Convalescent Patients by Organized Social Service. A. P. Herring. *Maryland Med. Jour.,* November, 1910, p. 364.

Most of the matters dealt with in this paper are chiefly of local interest, concerning arrangements being made in Maryland for the after-care of discharged patients. Stress is laid on the importance of conducting asylums on hospital lines, and of counteracting the popular prejudices on the subject of insanity which prevent patients from receiving treatment whilst in the early stages. It is evident that this is impossible so long as the asylum is the only place for treatment, and in fact the key to the new situation in Maryland is the establishment of an acute hospital, or psychiatric clinic. No progress can be made in the prevention, treatment or investigation of insanity without such a clinic. E. J.

Rhinology, Laryngology and Otology

GEOFFREY BOYD, GILBERT ROYCE.

Enucleation of the Faucial Tonsils. Its Difficulties and Contraindications. By B. R. SHURLY, M.D., Detroit. *Jour. A. M. A.*, October 20, 1910.

In this excellent paper the author gives a brief review of the history of operations upon the tonsil. Celsus recognized the value of enucleation by the finger. Boxelli, an Italian surgeon, fifty years ago, describes his revival of the method of Celsus. The American furore for complete enucleation is little more than a revival. The author states that enucleation is seldom done outside of America at the present time. The two predominating factors that influence the question of conservative or radical tonsil enucleation, seem to be, first, the latent doubt of a possible important function which the tonsil tissue may possess; second, the belief that complete removal is unnecessary. It is permissible to believe with Bordley, that these glands in early infancy act as governors over the system of ductless glands and possess an internal secretion from the normal tissue which regulates various parts of polymorphonuclear and mononuclear blood-cells.

The author thus summarizes his conclusions:

1. The normal tonsil should not be disturbed, particularly in early infancy.
2. Simply hypertrophied tonsils may be removed satisfactorily with the tonsillotome.
3. Pathologic tonsils, especially those of the submerged type that produce well-defined local or general symptoms, should be completely removed within the capsule.
4. In children, tonsillectomy requires a general anesthetic, preferably ether. This should be a hospital operation when possible.
5. Tonsillectomy is an operation that should be restricted to those who are specially qualified.
6. The removal of the velar lobe and the complete separation of the pillars are the most important parts of the tonsil operation.
7. Tonsillectomy is not indicated in all cases of so-called rheumatism.

8. Complete enucleation is usually attended by more pain, a longer period of convalescence, and greater danger of infection than tonsillotomy.
9. When tonsillectomy is properly performed the hemorrhage is less than when the average tonsillectomy is done.
10. Tonsils which have been involved in recent acute inflammation should not be operated on until all evidence of the acute condition has subsided.
11. Many tonsils seen by the general practitioner with every appearance of serious pathologic condition never develop local systemic symptoms. G. R.

THERAPEUTIC TIPS.

ACUTE GONORRHEA.

Prophylactic treatment administered within eight hours of exposure almost certainly ensures protection, and may be of good value up to forty-eight hours. According to Christian (Philadelphia), local treatment is best conducted with permanganate of potash, though that alone will not cure a case. The damage done to the mucous membrane by the gonococcus must be repaired by something that acts like an astringent. Macy Brooks (Philadelphia) says a case cured within two or three weeks has been aborted. A daily injection within this time, by the physician, is sufficient.

SYPHILIS.

The *Berliner Klinische Wochenschrift* says physicians must apply the Ehrlich-Hata "606" remedy only upon the strictest indications. It should be used only in cases of severe type, especially those refractory to mercury or where mercurials are not tolerated; in relapsing cases, after or during mercury cure; in incipient cases before the appearance of the roseola and in cases never treated with mercurials. Its use in parasyphilitic diseases is yet a matter of careful experiment.

LUMBAGO.

Howard Humphries (London) says the ideal treatment of lumbago is to move bowels freely by mercury and salines; sodium salicylate and sodium citrate 20 grains each in a glass of hot water every four, five or six hours. Light should be applied from a 500-candle-power for fifteen or twenty minutes, to be followed by static wave current for same length of time.

HEMORRHAGE IN TYPHOID.

In *Am. Med.*, C. J. Strong, New York, advises ice bags locally and calcium lactate twenty grains every three hours. Undue irritation and distension are to be avoided by careful diet. Occasionally codeine or morphine, if patient is restless, may be administered, but never in pain or where there are areas of local tenderness, as evidences of perforation might be masked. Has not as yet tried normal bone serum.

Reviews

W. B. Saunders Company now have going through their presses a three-volume work on Practical Treatment, written by international authorities and edited by those able clinicians, Dr. John H. Musser and Dr. A. O. J. Kelly, both of the University of Pennsylvania.

In looking over the list of contributors we can come to but one conclusion, namely, that this work will undoubtedly take rank as the very best on Treatment extant. The names of the authors carry with them the positive assurance of thoroughness. Indeed, each chapter is a complete monograph, presenting the most recent therapeutic measures in a really practical way.

As the general practitioner is required to know certain therapeutic measures more or less of a surgical nature, leading surgeons have been selected to present such subjects. This is an important feature, and, to our knowledge, not included in any similar work.

In every case the men have been most aptly chosen for their respective tasks, and under the wise editorship of Drs. Musser and Kelly there has been produced a work on Treatment that will remain for many years the last word—a source of practical information, easily obtained and readily digested.

The work will sell for $6.00 per volume, in sets only.

Insanity in Everyday Practice. Second Edition. By E. G. YOUNGER, M.D. London: Bailliére, Tyndall & Cox.

In our October issue, through a regrettable error, the reviewer entered this book as published by Mr. H. K. Lewis, London.

Dominion Medical Monthly

And Ontario Medical Journal

EDITED BY

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GEORGE ELLIOTT, MANAGING EDITOR

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COMMENT FROM MONTH TO MONTH.

Dr. J. Algernon Temple was tendered a complimentary banquet and presentation on the evening of the 26th of November, in the York Club, Toronto. Over seventy medical friends and some others participated in the function, which was a well-deserved tribute to a teacher and practitioner of over forty years' standing in this city.

Dr. John T. Fotheringham presided. Dr. Arthur Jukes Johnson made the presentation of a handsomely bound-in-morocco illuminated address. Needless to say, this address expressed the strongest admiration for the splendid qualities which have always been exemplified in Dr. Temple as a man, a teacher and a practitioner.

Dr. R. B. Nevitt, one of Dr. Temple's oldest students, made the presentation of a solid silver tea and coffee service, whilst others who made congratulatory speeches were Drs. J. F. W. Ross, Charles Sheard, G. Sterling Ryerson, and Messrs. E. B. Osler, M.P., and D. R. Wilkie.

The occasion of Dr. Temple's retirement from the active teaching of obstetrics and gynecology was seized as a fitting and proper time to give expression to that universal confidence and esteem in which he has always been held by the student body and the pro-

fession at large. It is doubtful if any teacher of medicine in Canada ever commanded the respect and confidence of the student body better than Dr. Temple. There never was any "sloping" when he had to lecture. In the profession which Dr. Temple loves exceedingly he has always stood for all that was honorable and dignified.

His many admirers and friends throughout Canada will be gratified at this testimonial to his worth, and will wish for him happy days in his retirement from academic work.

Bread in paper bags is something very much needed. Everything now comes to the table pretty suitably protected except the staff of life. It is inconceivable that we go on day after day eating our bread just as it is handed in by the driver of a bread wagon. It is about the only article for the table which is not properly protected. The housewives of Toronto would certainly rise up and call the Medical Health Officer blessed if he would bring about a reform in this direction. Just think of the delicate bread of a pink tea, a few minutes before handed in by a driver who may not be over-particular as to what he handles while on his route during the course of a day. The silly label has gone, and surely it is high time to banish unbagged bread.

Cholera.—In view of the fact that a case of cholera has been discovered entering Canada at Grosse Isle, according to Professor Adami and Director-General of Public Health Dr. Montizambert, the public can be assured that the federal health authorities are keeping a close watch to prevent the introduction of this Asiatic disease into Canada.

Cholera has not gained an entrance into this country or the United States since the fourth pandemic of 1864-1875. The exact year it last visited Canada and the United States to any extent was 1866, following upon the infection of Germany and England. A few cases, however, occurred in Jersey City and New York in 1893. It also visited Canada in 1837-38.

It was in 1883 Koch demonstrated Asiatic cholera to be an intestinal disease caused by the comma-shaped bacillus. These were found in the contents or wall of the intestine.

The disease often varies in its clinical picture. A severe case of

fulminant cholera sicca will prove fatal in a few hours. The bacillus carrier will walk around with no symptoms.

A picture of a case of classical type will present vomiting, diarrhea of rice water character, abdominal cramps, cramps in legs and arms, subnormal temperature, loss of voice, failure of pulse, cyanosis and suppression of urine and bile, and collapse. Typical cases like these would be easy of diagnosis. There are, however, atypical cases, and in cholera sicca there is no diarrhea, the cases fatal in a few hours.

Treatment is considered under two headings, the treatment of collapse and the treatment of uremia. For the former there is no better treatment than the intravenous injection of salt solution, as the great need of the patient is for fluid, and the fluid must be rushed into the blood path at once.

Epidemic Poliomyelitis.—Acute anterior poliomyelitis formerly, would, under present understanding, according to Holt, be better designated "epidemic myeloencephalitis." It is for all practical purposes now considered a contagious disease, and numerous Boards of Health have placed it on the lists of reportable diseases.

That it has been very widespread in its incidence, especially since 1907, everybody knows. Over eight thousand cases have been reported from 1905 to 1909, and of the five thousand cases in the United States practically all occurred in the three years, 1907-1909, when in the former year the cases were very definitely confined to New York City.

In a paper on the subject Passed Assistant Surgeon Frost of the U. S. Public Health and Marine Hospital service gives the following suggestions as to what the health officer can do towards the prophylaxis of the disease:

1. Isolation of the patient, with isolation of the contacts so far as practicable—certainly to the extent of excluding members of the patient's family from school for at least two weeks. Exclusion of insects and animals from the room.

2. Disinfection of the secretions of the nose and mouth and of the stools and urine. Disinfection of all articles which might have been contaminated by the patient.

3. Fumigation of premises after recovery.

In framing our expectation of results from these measures we must consider several circumstances:

1. The disease is already disseminated over a wide area. Experience with other widespread contagious diseases, such as scarlet

fever, for the control of which we have to depend solely on isolation and disinfection, has demonstrated that we can hardly expect to eradicate such a disease by present methods, but that much may be done in the way of limiting its spread.

2. Epidemic poliomyelitis presents unusual difficulties in the recognition of even typical cases in their early stage and of abortive cases in all stages.

3. It will be difficult to estimate the effect of preventive measures, since the disease often fails to spread in communities where conditions seem most favorable for an epidemic.

Medical Expert Testimony is again brought before the notice of the profession of Ontario through one or two noted cases, and through an address by Mr. Justice Riddell to the medical faculty in Toronto.

To judges, lawyers and physicians the subject has long been somewhat puzzling of solution, and whilst eminent jurists may wax sarcastic at the expense of the medical profession, we doubt if any one has practically a clear conception of how the problem should be solved.

Even great legal luminaries have not as yet evolved any practical idea which could be advanced towards solving what is manifestly bringing the medical profession into disrepute with the public at large.

In the United States it has also been a perplexing question. There two States have, however, done something towards enacting expert testimony laws, namely, Michigan and Rhode Island, and now Missouri is moving in a similar direction.

In Ontario something might be set on foot by the Ontario Medical Association promoting joint co-operation with the Ontario Bar Association. These two organizations should get together for joint discussion and work.

Medical conceit possibly plays a large part in medical expert testimony, and this is probably more in evidence in insanity cases than elsewhere. A case with a surgical or otological or ophthalmical or psychiatrical turning should surely be far better served by a specialist in either of these special departments of the practice of medicine than by a medical expert so-called taken from the ranks of general medicine.

The abuse will, therefore, continue just so long as surgeons consider they are qualified to place their opinions alongside of psychiatrists, or gynecologists attempt to give expert testimony on otology.

News Items

DR. MURRAY MACLAREN, St. John, N.B., has returned from England.

AN unopposed eye, ear, nose and throat practice and property is for sale in smaller city. Particulars will be furnished through this office.

A MILD case of Asiatic Cholera is reported to have reached Canada, it having been promptly detected and quarantined at Grosse Isle.

THE report of Judge Winchester into the Toronto Isolation Hospital highly compliments Dr. Charles Sheard on his administration of that institution.

OUT-OF-TOWN practitioners referring cases for confinement to Toronto will hear of a good home under charge of an experienced and competent nurse by applying to this office.

SPECIAL SOUTHERN NUMBER.—The January issue of the *American Journal of Surgery* will be composed entirely of original contributions from the pens of well known Southern surgeons. Among those to appear we would mention: "Pyuria," by Howard A. Kelly, M.D., Baltimore, Md.; "Transfusion of the Blood, Its Indication and Technic," by J. Shelton Horsley, M.D., Richmond, Va.; "Tumors of the Lower Jaw, The Form Most Frequently Found in the Negro," by Willis F. Westmoreland, M.D., Atlanta, Ga.; "Pylorospasm," by Stuart McGuire, M.D., Richmond, Va.; "Prevention of Immediate Post-Operative Pain by Quinine Injections," by Drs. V. and V. W. Pleth, Seguin, Texas; "The Importance of Educating the Public in Regard to Cancer," by Southgate Leigh, M.D., Norfolk, Va.; "Aerogenes Infections," by George R. White, M.D., Richmond, Va.; "Stricture of the Rectum, Complicating Fistule," by C. S. Venable, M.D., San Antonia, Texas; "Gastric Symptoms from a Surgical Viewpoint," by Louis Frank, M.D., Louisville, Ky. Dr. Edgar E. Capps of Ft. Worth, Texas, and H. Berlin, M.D., of Chattanooga, Tenn., will also contribute original articles to this number.

ONTARIO MEDICAL COUNCIL.—The following have been elected as territorial members of the Ontario Medical Council by acclamation. Those marked with a star were members of the last Council: Dr. G. R. Cruickshanks, Windsor, Division No. 1; Dr. A. B. Welford, Woodstock, Division No. 2; *Dr. J. McArthur, London, Division No. 3; *Dr. T. W. Vardon, Galt, Division No. 5; *Dr. H. S. Griffin, Hamilton, Division No. 7; *Dr. W. H. Merritt, St. Catharines, Division No. 8; *Dr. R. J. Gibson, Sault Ste. Marie, Division No. 9; Dr. Alex. D. Stewart, Fort William, Division No. 10; *Dr. J. S. Hart, Toronto, Division No. 12; *Dr. H. Bascom, Uxbridge, Division No. 13; Dr. T. W. G. Young, Peterborough, Division No. 14; *Dr. W. Spankie, Wolfe Island, Division No. 16; *Dr. J. Lane, Mallorytown, Division No. 17; *Dr. M. O. Klotz, Ottawa, Division No. 18.

Dr. C. W. Hoare, Walkerville, has been succeeded by Dr. G. R. Cruickshanks, Windsor, in No. 1 Division. Dr. J. H. Cormack, St. Thomas, has been succeeded by Dr. A. B. Welford, Woodstock, in No. 2 Division. Dr. Alex. D. Stewart is returned as the first representative of a new constituency, Division No. 10. Dr. S. C. Hillier, Bowmanville, has been succeeded by Dr. T. W. G. Young, Peterborough, in what is now known as Division No. 14. On December 5th, 1910, contests will take place in Divisions Nos. 4, 6, 11 and 15. In Division No. 4, the candidates are: Dr. J. A. Robertson, Stratford, the former member, and Dr. A. T. Emmerson, Goderich. In Division No. 6, the candidates are: Dr. J. Henry, Orangeville, the former member; Dr. Taylor, Waubaushene, and Dr. McCollum, Thornbury. In Division No. 11, the candidates are: Dr. E. E. King, Toronto, the former member, and Dr. J. J. Cassidy, Toronto. In Division No. 15, the candidates are: Dr. A. E. MacColl, Belleville, the former member, and Dr. T. S. Tarncomb, Trenton.

MISS STUBBERFIELD, a graduate of St. Michael's Hospital, Toronto, has a well-appointed private hospital at 64 Gloucester St., this city.

DR. O. R. MABEE, Assistant Pathologist to the Toronto General Hospital, announces that he will be able to treat syphilis with Ehrlich's "606" about January 1st, 1911. Owing to the careful technique required in its preparation for use, and in giving the injection, it will be necessary for physicians who have cases for treatment to send them into a hospital.

Correspondence.

AMERICAN PUBLIC HEALTH ASSOCIATION.

Office of the Secretary, Washington, D.C.
November 5, 1910.

To the Editor,—

The American Public Health Association will hold its 1911 meeting in Havana, Cuba, from December 4 to 9. The prospect of having the association again in Havana has aroused the warmest interest among the physicians there, the Secretary of Sanitation, Dr. Varona, being particularly interested. The Academy of Medicine has offered its building for the general section meetings. The Hotel Sevilla will be the headquarters of the association. A few years ago a meeting in Havana would probably have discussed yellow fever. The changed situation in Cuba with respect to that disease is shown by the fact that yellow fever has been so completely extinguished on the island that the local physicians desire rather that tuberculosis be given the most prominent place. The question of the milk supply will also be considered.

It is hoped at this meeting that the recently organized Sociological Section, and the Section on Sanitary Engineering, which was tentatively authorized by the Milwaukee meeting, may be put upon substantial foundations.

Release at once.

WM. C. WOODWARD, *Secretary,*
Washington, D.C.

Publishers' Department

A THERAPEUTIC MAINSTAY.—The distinct and definite therapeutic value of iron, in anemic and chlorotic conditions and as a general tonic in systemic devitalization from whatever cause, is one of the certainties of medicine that modern scepticism and therapeutic nihilism cannot deny or controvert. The only difference of opinion is as to the best method of administering this metal and as to the most generally eligible preparation of same. Modern pharmaceutical skill has replaced the tincture of the olden times, prepared from iron filings, with the non-irritant and thoroughly tolerable combinations with organic substances. None of these products have proved as generally acceptable, promptly assimilable or therapeutically efficient as Pepto-Mangan (Gude), the first and best preparation of the peptonates of iron and manganese in organoplastic form. Its remedial value is unquestioned and unquestionable. It is suitable for administration to patients of all ages. It is thoroughly palatable and acceptable. It does not irritate the gastric mucous membrane or disturb the digestion. It does not induce constipation. Pepto-Mangan (Gude) rapidly restores oxygenating power to the circulating fluid and fulfils every possible therapeutic indication that can reasonably be expected of it.

THE DIFFERENCE BETWEEN MORPHINE AND CODEINE AND HEROIN.—A short time ago the Board of Health of the city of New York, promulgated an ordinance providing that "No cocaine or salt of cocaine, and no morphine or salt of morphine, either alone or in combination with other substances, shall be sold at retail by any person in the city of New York, except upon the prescription of a physician." Immediately every druggist in the city stopped the sale of all preparations containing any derivative of opium and raised such a furore, that the Acting Commissioner of the Board of Health felt called upon to explain what every druggist ought to have known, viz., that "Heroin and Codeine are not salts of morphine, and therefore are not included in the proscribed list." In order to make this matter perfectly clear, the following on the subject of opium is submitted for the information of the many who have been laboring under the misapprehension that Codeine and Heroin

are salts of opium or of morphine. Opium, besides wax, fat, glucose, gum, pectin, resin, etc., contains about 20 alkaloids, among them being Morphine, Codeine, Thebaine, Narceine, Papaverine, Pseudo-morphine, Narcotine, etc., all occurring in varying amounts according to the grade of opium. While Morphine is an analgesic, it does not follow that Trebaine is an analgesic simply because it is also derived from opium. One might equally as well say that Acetanilid and Diamond Dyes have similar therapeutic effects, because both are derived from coal tar. Heroin, as is well known to every druggist, is a synthetic preparation and is not alkaloid of opium. There are no salts of opium; there are active principles or alkaloids from which, by the addition of acids, salts are formed, which become, not salts of opium, but salts of morphine, salts of codeine, etc. All chemists know this and all druggists probably know it, but fear of transgressing the law made the New York druggists take a position contrary to that which their knowledge of chemistry would indicate to be the correct one. Codeine and Heroin are not salts, either of opium or of morphine, the one being an active principle, and the other a synthetic compound. Furthermore, Morphine and Codeine have widely different properties; Codeine being entirely devoid of the evil effects of Morphine, not locking up the secretions or causing constipation; and the Codeine habit is a thing unknown in medical literature. In fact, all authorities agree that Codeine does not create habit. From all the above we glean the following facts: 1. Opium and derivatives of Opium, except Morphine and its salts are not in the proscribed list under the Regulation of the New York Board of Health. 2. Codeine and Heroin are not salts of Opium. 3. Codeine and Heroin are not salts of Morphine.—*Apothecary and New England Druggist*, Oct., 1910.

Five Cesarean Sections on One Woman.—The case which Dr. Davis reports in the *Bulletin of the Lying-in Hospital* and which is printed in this issue of the *Critic and Guide* is indeed a very interesting one. It shows what a human being may go through and still live. And we rejoice at the continuous improvement in surgical technique and the skill of our abdominal surgeons, who can perform a Cesarean section with about as little danger to mother and child as is entailed by an ordinary delivery. And we agree with the author of the report that the case fully and convincingly illustrates the possibility of repeatedly emptying the full-term uterus, successfully for both mother and child, by the Cesarean

method. But to our mind this case illustrates something more. It illustrates the low moral standard of our society. It illustrates that many men are detestable brutes, and that many women are pitiable, miserable, abject, slaves. Here is a young woman, who was unable to give birth to a living child by the natural way, because her pelvis was so narrow and contracted. The first child had to be killed and its skull crushed, before it could be delivered. Craniotomy is a serious operation for the mother and her life was in jeopardy. Did she object to become soon pregnant again and did the husband take care not to risk her life? No. Five months after the craniotomy, she was already pregnant again, and nine months later her abdomen and womb had to be cut open in order to deliver her of a living child. We are very skilful nowadays, but a Cesarean section is a capital operation, the woman's life is always in jeopardy, and a man who will subject his wife to the dangers of such an operation more than once (or even once, if he knows beforehand that it would become necessary), is unqualifiedly a brute. We know of cases where the wife was fully aware of the danger and insisted on taking it—so strong was the maternal instinct, the desire to have a child; that is a different matter. But even then the husband has no right to risk his wife's life more than once. But this poor woman, besides having to undergo one delivery by craniotomy, besides having one abortion produced on herself, had to submit five times to the opening of her abdomen and uterus, had to undergo five capital operations. And all for what? Only after the fifth Cesarean section did the doctor decide that it would be unsafe for her to bear any more children, and therefore attempted to suture up the Fallopian tubes. He stitched up the left one, but did not succeed in getting hold of the right tube, and the woman is still in danger of another pregnancy and another Cesarean section. In our opinion the doctor should have closed the tubes after the first or second section. But this is an individual opinion, the opinion of a man who considers the life of the adult woman infinitely more important, more precious than the life of the prospective and problematical child. Yes, the case reported by Dr. Davis, which is very interesting from a medical point of view, gives rise to many reflections, and the reflections are not of a very inspiring character. —*Critic and Guide.*

Sir Jonathan Hutchinson on Syphilis and Marriage.—Among the lenient and optimistic syphilologists Jonathan Hutchinson occupies first place. He still believes that grey powder is

the best and most efficient method of treating syphilis and that an interval of two years between the active manifestations of the disease and marriage is sufficient. He says that this two years' rule has never given him cause for regret, and in an experience of over fifty years he has not yet seen a case of congenital syphilis as a result of marriages which were contracted with his sanction.

"I most unhesitatingly record my conviction," he says, "that of an old man who has had much social experience—that, provided the two years' interval be observed, the dangers to society from needlessly prolonged celibacy infinitely exceed the risks of the communication of syphilis. Such diseases as insanity, tuberculosis, and even gout are far more real dangers to the race than is syphilis. If in reference to them, like rules as regards marriage were enforced as those which some would impose in reference to syphilis, it would be disastrous to social progress and would greatly reduce the sum of human happiness."—*Critic and Guide.*

THE HYPODERMATIC TABLET AS AN EMERGENCY AGENT.—If there is one class of therapeutic agents which more than another should be chosen with discretion and judgment, the hypodermatic tablet represents that class. When he administers a preparation hypodermatically the physician wants prompt action, and he wants to be certain that he is going to get it. To have that assurance he must use a tablet that is active, that has definite strength, that dissolves promptly and wholly. Cheap tablets, poorly made tablets, tablets concerning which there is the slightest doubt as to medicinal quality, may well be left alone. And there is no need to err in the matter of selection. Hypodermatic tablets of the better sort are easily obtainable. Perhaps the brand which comes readily to mind is the brand which is exploited so extensively to physicians under the familiar caption of "Five Seconds by the Watch." The makers, it is hardly necessary to add, are Messrs. Parke, Davis & Co., who guarantee their hypodermatic tablets unequivocally as to purity, solubility, activity and stability.

SIR WILLIAM RAMSAY recently announced that radium now costs $2,100,000 an ounce, which price is slightly less than the value given by him about a year ago, as $2,500,000. A year ago there was said to be about one-quarter of a pound of radium in the world.

As a matter of fact, the actual quantity is not now much greater. Radium banks have been established in Paris and London for the purpose of lending radium at a price. As much as $200 has been charged for the use of 100 milligrammes for a single day.—*Sc. Am.*

WHAT IS AGAR-AGAR?—*The Physicians' Drug News* gives the following description of this substance, which has recently come into prominence in the treatment of constipation. Agar-agar, also known as vegetable gelatine and gelosine, is a gelatine-like substance obtained in the East Indies from several species of sea weeds. It is obtainable largely in China, but the best product is said to come from Japan. The product is extracted from the sea weeds with hot water, evaporated and dried. It is obtained in bundles of shreds about two feet long, in sticks a foot long and an inch wide or in thin sheets or small cakes. Agar-agar jelly is prepared by dissolving one part of agar powder in 29 parts of water, using a water bath for the purpose, and adding to the resulting solution 1 per cent. of bicarbonate of soda to neutralize the slight acidity of the solution. In a paper on agar-agar in the treatment of constipation in children, by Dr. J. L. Morse (*Journal A. M. A.*), we find the following in reference to the properties and methods of use: Agar-agar has the property not only of absorbing water, but also of retaining it in its passage through the intestinal canal. It thus increases the bulk of the feces and prevents the formation of hard, fecal masses. This peculiarity, together with its resistance to bacterial decomposition, suggests its use in the treatment of that form of constipation which is due to complete digestion of the food and to complete absorption of the water from the intestinal tract, the stools being as the result small and very dry. The doses given have varied from ½ to 1 ounce daily. Owing to the nature of its action, no habit is produced and it is not necessary to increase the dose. In fact, it is usually possible to diminish the dose and in some instances to entirely discontinue it. In spite of the fact that agar-agar alters the character of the feces, it does not always induce a spontaneous evacuation of the bowels. This is because it does not exert an irritant action on the intestinal wall as do the products of putrefaction usually formed in the intestine. Schmidt called attention to this fact and added a small quantity of the extract of cascara to the agar-agar in order to supply this chemical irritant. A preparation of this sort is sold under the name of "regulin." This is made with one of the tasteless forms of cascara and is both taste-

less and odorless. Whether the tasteless forms of cascara are as active as the others is a moot question. However this may be, a serious objection to this preparation is that it contains two substances having different actions, one acting mechanically by softening the feces, the other as an irritant to the intestinal wall. It is impossible to increase the dose of one without increasing that of the other also. It is much more rational, therefore, if both agar-agar and cascara are indicated, to give them separately, in order to be able to vary the doses of each independently. Agar-agar is sometimes eaten dry in the stick form, but is more often cut up into small pieces and eaten like a cereal with cream and sugar. It has almost no taste but a rather characteristic gelatinous feel in the mouth. In other instances it is mixed with cereals or cooked in with soups or broths. Schmidt cautions against using it in a too finely divided form, as the rapid swelling from the absorption of moisture in the stomach may cause colic and diarrhea.—*Medical Standard.*
