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## Original Articles

### SOME ASPECTS OF NEUROLOGY TO GENERAL PRACTICE\*

BY WILLIAM ALDREN TURNER, M.D., OF LONDON.

Mr. President and Gentlemen:—

My first duty, a most agreeable one, is to express to you, sir, my cordial thanks for the invitation which you have given me to deliver the address in Medicine before the Ontario Medical Association at its thirty-second Annual Meeting.

In selecting a subject on which to address you, it has seemed to me that some of the aspects of Neurology to general practice would not be considered out of place. This choice has in consequence permitted me, among other matters, to make a few remarks upon psycho-therapeutics, a subject which is claiming much attention at the present time, especially on this side.

DR. HUGHLINGS JACKSON.

I cannot, however, pass to the subject of my address without paying my tribute to the loss which clinical medicine, and more especially that branch of it which claims my attention, namely, the Diseases of the Nervous System, has sustained in the death of Dr. Hughlings Jackson, which took place last autumn.

He was the father of British Neurology, and all those whose activities are devoted towards this subject, whether as physiologists, pathologists or practitioners, claim him as their Master. His influence with his colleagues and upon his pupils was great, but his studious nature and retiring habits rendered him little known in the public life of the profession in London.

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He possessed a rare combination of mental qualities, keen clinical instinct with a strong philosophic bent. His teaching illumined many dark places and obscure corners of the Nervous System, and his original views upon the "levels" into which he theoretically divided that System, did much to clarify the study of its diseases. His name will long be perpetuated in that variety of localised convulsion which he described, and which is known as Jacksonian Epilepsy.

#### THE CLINICAL LABORATORY.

When a comparison is made between the practice of twelve or fifteen years ago and that of to-day, the most striking feature of difference will be found in the assistance which various auxiliary methods, more especially the clinical laboratory and the Röntgen Rays, have rendered to both the diagnosis and the treatment of disease.

The introduction of laboratory methods upon modern lines may be said to date from the investigations of Pasteur upon rabies and Koch upon the tubercle bacillus, and more particularly from the introduction by the latter of tuberculin injections.

It is only, however, within comparatively recent years that these methods have been so developed and extended as to form almost a separate department of practical medicine. So extensive, indeed, has been their application and so efficacious the uses of the laboratory in clinical work, that a new class of highly-trained and specialized practitioners has been solved.

There are many who think that clinical medicine is becoming too dependent upon the observations made in the laboratory, and that the old time method of studying the patient as the soil in which disease takes root and growth, is being too often replaced by examination upon disease in test-tubes. It will, I think, be generally admitted that the laboratory investigation is in many cases a most useful aid to the bedside examination, but should never be allowed to replace it.

In my own branch of clinical medicine, much useful information may be obtained with the co-operation of the clinical pathologist, but there are very few organic diseases of the nervous system, even in the early stages, a diagnosis of which cannot be made by a careful bedside examination along well-recognized lines. The readiness and completeness with which an opinion may be formed from an investigation of the cerebro-spinal fluid, should not be allowed to replace, but only augment, the usual bedside observations. But, notwithstanding, there are many morbid conditions in

which such an examination is desirable, and even essential to complete the diagnosis.

*Lumbar Puncture*, by means of which the cerebro-spinal fluid is obtained, was introduced originally by Quinke<sup>1</sup> in 1891. In the early days following its introduction, the cerebro-spinal fluid was examined with a view more especially to the differential diagnosis of the various forms of acute meningitis, and it still finds one of its most helpful applications in these diseases.

By its aid the cellular and bacterial elements of the fluid are examined and valuable information is obtained as to the precise form of meningitis and the nature of the infective agent.

In cerebro-spinal meningitis, Weichselbaum demonstrated the meningo-coccus in connection with a large polymorpho-nuclear increase. In tuberculous meningitis Widal and others showed that mono-nuclear lymphocytes predominate, while in the purulent forms of acute meningitis the polymorpho-nuclear cells are increased, and cultivation reveals the presence of staphylo, strepto and pneumococci.

The presence, however, of polymorpho-nuclear cells should not be regarded as proving the existence of suppurative meningitis, as they may be found in brain abscess, suppurative labyrinthitis and sinus phlebitis, without any direct implication of the cerebral membranes.

The bacteriological examination of the fluid also is far-reaching, for the absence of bacilli in serous meningitis, cerebral tumor and hydrocephalus would serve to distinguish these conditions from meningitis, notwithstanding the similarity of symptoms in some cases.

At a later date the investigations of Widal<sup>2</sup>, Sicard and others of the French school, demonstrated the almost constant increase of the lymphocytes in certain chronic degenerative diseases of syphilitic origin, such as paralytic dementia and tabes dorsalis. According to Nouné<sup>3</sup>, a marked lymphocytosis is present in 100 per cent. of the former and 90 per cent. of the latter.

The constant increase of the lymphocyte count in these diseases, even in the early stages, was used as a means of diagnosis, when the usual clinical symptoms were not obtrusive. I have seen a few cases in which such an examination was necessary to establish a diagnosis, but in the majority, even in an early stage, some clinical signs will be found if carefully looked for.

The association of a slight increase in the lymphocyte count along with Argyll-Robertson pupils, (or loss of the pupillary light reaction), in a case presenting neurasthenic or other symptoms of

nervous breakdown, but without definite physical signs of tabes dorsalis, would scarcely be sufficient ground on which to base a diagnosis of this disease. This combination of symptoms is not uncommon, and considerable difficulty may be experienced in forming a differential diagnosis as to whether the case in question is of a functional or organic character.

Since the introduction of the Wassermann test a further reaction of importance has been added to diagnosis; but there are some physicians who rely upon cyto-diagnosis as of equal value in the differentiation of these cases.

It should, however, be mentioned that a lymphocytosis has been found in certain diseases of a non-specific character such as herpes zoster, Landry's paralysis and enteric fever.

The observation of Mott<sup>4</sup> and Haliburton that cholin was present in the cerebro-spinal fluid in organic diseases was at one time regarded as a possible means of establishing a diagnosis between organic and functional disorders of the nervous system. As this observation has not assumed sufficient pathological importance, and as the technique is complicated and difficult, the method has been abandoned as a diagnostic resource.

Recently the examination of the cerebro-spinal fluid for the Wassermann reaction has been undertaken, especially in the early stages of those diseases in which a specific causation is probable, and when the usual physical signs are either not present or only to an uncertain or equivocal extent.

Most practitioners see from time to time cases having a definite neurological or mental aspect, in which it is difficult to say from the physical signs alone, such as Argyll-Robertson pupils and alterations in the reflexes, whether the symptoms are functional and temporary, or indicate the onset of serious organic disease.

The cases to which reference is made are usually of adult age and commonly of the male sex. They may show signs of neurasthenic breakdown, some degree of mental depression or excitement, or acute insomnia for which no obvious cause is apparent. On the other hand, persistent headache, progressive loss of memory, epilepsy, and eclamptic convulsions or symptoms of arterio-sclerosis may be the outstanding features.

In this type of case, the examination of the blood and cerebro-spinal fluid by the Wassermann test is regarded as being of great diagnostic value, and as throwing much light upon the underlying structural changes. It is also a means of differentiating between functional and organic nervous conditions, occurring in syphilitic subjects.

The existence of a positive Wassermann reaction of the blood serum in the type of case just described would be an indication merely of the constitutional state, but would not throw any light upon the condition of the central nervous system.

If, however, a positive Wassermann reaction was found in the cerebro-spinal fluid as well, and if with this there was associated a large increase in the lymphocyte count, a diagnosis of parasyphilitic disease, most likely general paralysis, might with confidence be made.

There is also evidence that the reaction of the blood serum may be negative while that of the cerebro-spinal fluid may be positive in these cases. There are also cases in which the lymphocyte count is above the normal, but does not reach the high number found in general paralysis. This latter type is usually associated with a positive cerebro-spinal reaction. The significance of this type is less certain, but it probably points to a chronic inflammatory condition of the central nervous system.

The proportion of cases of tabes dorsalis which show a positive Wassermann reaction of the cerebro-spinal fluid varies from 5 or 10 per cent. according to Nouné up to about 50 per cent. in Mott's<sup>5</sup> experience.

The examination, therefore, of the cerebro-spinal fluid by the Wassermann test has come to be of immense practical value in the differential diagnosis of functional and organic nervous conditions occurring in syphilitic subjects. Many cases occur, however, in which such an examination is unnecessary; it should, in fact, be reserved for cases in an early or equivocal stage, or for those in which the physical signs are not sufficiently characteristic.

Lumbar puncture has also been adopted as a therapeutic means, but its application for this purpose is limited and has been confined mainly to cerebro-spinal meningitis. The removal of a quantity of fluid is an operation not unattended by danger, and in disorders characterized by an increase of the intracranial pressure, such as cerebellar tumors, the risk would seem to be great. Removal of some fluid, however, is often of advantage in the coma of a cerebral hemorrhage, and in hydrocephalus. Lumbar puncture is also used to assist the effects of operation upon meningitis secondary to ear disease, when it acts as a temporary drainage for the removal of inflammatory products.

*Serotherapy.* The diseases of the nervous system do not lend themselves, so far as their study has yet gone, to treatment by themselves and vaccines. There are, however, two maladies—cerebro-spinal fever and acute poliomyelitis—whose symptoms indicate

nervous derangement, but whose pathology places them under the acute infectious disorders.

The infection of the central nervous system through the posterior nares and naso-pharynx, the probable similarity of the infective agent in both diseases, and the fact that they are known to occur in epidemic and sporadic forms, have opened the way for a better study and have led to the view that they are probably of the same or similar pathogenic nature.

The artificial production of poliomyelitis in monkeys by Flexner<sup>6</sup> and others has thrown fresh light upon its pathogeny, but attempts to prevent or cure it after experimental production by means of serum or vaccines have not been encouraging.

For cerebro-spinal meningitis, on the other hand, a number of serums have been prepared, and their administration during the early days of the fever would appear to be of service.

Flexner states that he has largely reduced the mortality by the use of his serum.

It is difficult to make any authentic statement upon the use of serum and vaccines in the meningitides secondary to ear disease. Their employment, however, would appear to be of some value as an auxiliary method in operative treatment. An autogenous vaccine ought to be prepared and employed in all these cases, although its direct influence cannot at present be estimated.

The Röntgen rays find little application for their use on diseases of the nervous system. It was at one time thought that they might be of value in the location of tumors within the cranial cavity. This has not been found of any real value. They are, however, of decided value in the diagnosis of morbid conditions of the bony tissues surrounding the central nervous system, especially with reference to pituitary and other lesions at the base of the skull.

A minor, but at the same time interesting observation, has been made from their universal application in all cases of muscular atrophy affecting the small muscles of the hands. It has been found by X-ray photographs of the neck in many of these cases, occurring especially in young women, how frequently the presence of an additional or cervical rib is the cause of the muscular atrophy, and how satisfactory the recovery may be after the removal of the accessory piece of bone.

In cases of neurasthenia, accompanied by gastro and enteroptosis, the examination of the size, shape, position and motor action of the stomach and intestines may be easily and satisfactorily determined by tracing the course of a bismuth meal through the digestive tract by X-ray examination.

Too much importance cannot be given to this method of examining a portion of the body whose functions have so far not been open to a closer examination than could be obtained through abdominal palpation.

#### THE BROMIDES IN THE TREATMENT OF EPILEPSY.

There exists a strong feeling in the popular mind that the prolonged use of the bromides in the treatment of epilepsy is not only useless, but actually harmful. One might even say that this feeling to some extent has taken hold of the medical mind. There is, in fact, in some quarters a reaction against the administration of bromides in the treatment of this disease.

There is no doubt that since the introduction of the bromides in 1857 in the treatment of epilepsy, most epileptics at some period in the course of their malady have been treated by these drugs. The almost universal prescribing of the bromides during the past half century, with more or less success, has to a large extent deprived such patients of the advantages which certainly may be obtained from hygienic, dietetic, and disciplinary lines of treatment.

The decision as to whether a particular case of epilepsy has been cured in the proper sense of that term is difficult to determine, as it is well known that attacks may recur even after an interval of twenty or more years. But it may be conceded that arrests of fits for a period of from five to ten years in a case which presents no mental stigmata and in which all treatment has been suspended may be deemed as cured.

It is just this difficulty in defining a cure which renders the discussion of the problem of the value of bromides so difficult. In the pre-bromide days—that is, before the year 1857—quite a number of cases of epilepsy were recorded by the French and English physicians as cured, the percentage varying from 5 to 13 per cent.<sup>7</sup> These are the results recorded by physicians who used remedies such as oxide of zinc, nitrate of silver, and belladonna, some of which have largely passed out of common use.

On the other hand, the statistics of those who have treated epilepsy with the bromides do not differ materially from those just mentioned. Since the introduction of the bromides the statistics of cured cases also vary from 4 or 5 to 12 per cent.<sup>7</sup> Medical writers, therefore, such as Pierce Clark,<sup>8</sup> of New York, and others, who favor the abolition of sedative drugs in the treatment of this disease, find in the above quoted figures a strong basis for their contention that the bromides are neither necessary nor desirable adjuvants to ordinary hygienic remedies.

It is therefore a matter of importance to ascertain whether any real basis exists for the feeling against the use of the bromides, or whether this view is only another instance of popular misconception, of which there are several examples in this disease.

My experience of the treatment of epilepsy extends over some sixteen or eighteen years, during which time I have prescribed for several thousands of epileptics in all stages and varieties of the malady.

I can without hesitation say that the influence of the bromides upon epileptic fits is both variable and uncertain. In a certain proportion of cases, amounting to about 25 per cent., so much benefit is derived that the attacks are either permanently or temporarily arrested. It is probable that the spontaneously curable cases of the disease are found in this group, cases which in the view of some writers are arrested not in consequence of, but in spite of, the remedy. The curable types of epilepsy are recognizable early in the disease, and in them I consider early and persistent use of small doses of the bromides most essential.

In a second group of cases, amounting to a further 25 per cent., some improvement is derived from the administration of the bromides, mainly in the direction of lessening the frequency and severity of the fits. This may be looked upon as the common temporary result of bromide treatment, and is what may with confidence be expected in many cases in the early stages of the disease.

In the remaining group, amounting to about 50 per cent., the bromides either have no influence at all upon the fits or are actually deleterious.

It is therefore obvious that about half the number of epileptics derive no benefit from the administration of the bromides, from which it might be argued that these salts are of little, if indeed any, use in the treatment of epilepsy. On the other hand, there is the 25-50 per cent. which derive great benefit from these drugs, including the 10 or 12 per cent. which are cured.

It is within the experience of most physicians, especially of those working amongst the hospital class, that no complete record can be obtained either of the number arrested or the duration of the arrest, as there is a tendency for the patient to cease attendance once he is relieved of his symptoms.

I hold that it is an error to say that the bromides are of no use in the treatment of epilepsy. If 50 per cent. of the cases derive some benefit from the administration of these drugs, then all cases of recent origin should be given the benefit of the remedy for a time.



I should, however, be the last person to neglect the value of diet, occupation, and general mental and physical hygiene in the sufferer from the disease. By these means the dose of the salt is kept at a minimum which will produce the desired effect; and the most successful and satisfactory cases of this malady are those in which a combination of sedative remedy, diet, and general hygiene are prescribed and administered under the care of a nurse, attendant, or other person, who will enter into every detail of the case and its treatment, both in the letter and in the spirit.

A few remarks upon some popular fallacies in connection with epilepsy may not be out of place.

In the first instance, as to "growing out" of fits. It has long been a popular idea that an epileptic on reaching a certain age or after a certain number of years of the disease, may outgrow his attacks. The age is variously stated, but 21 is frequently mentioned by the parents as having been the one given by the doctor.

There are two age-periods when "growing out" may be looked for. The first is the period of childhood between 4 or 5 and 7 or 8 years in those whose fits commence in infancy. In addition to being a period when fits may with some certainty be expected to cease, at all events for a time, it is also an epoch during which the onset of epilepsy is relatively uncommon.

The second is between the ages of 21 and 25 or 26 (adolescence) in those whose fits have commenced during puberty. I have elsewhere<sup>9</sup> shown that the quinquennial period, 21 to 25 years of age, is that one which seems most favorable for the arrest of epilepsy in those whose fits commenced between 15 and 20. This bears out a further observation that epileptic fits are more prone to arrest during the first three to five years following their onset. If therefore there is another period in which a patient may "outgrow" his fits, it is between the ages of 21 and 25 or 26, in those cases in which the disease has commenced during puberty.

There is no evidence that the climacteric period has any influence upon the arrest of epilepsy, except perhaps in a few isolated cases.

Secondly, as to the influence of the catamenia. The popular belief that the satisfactory and regular establishment of the menstrual functions will arrest the disease has no scientific basis. The onset of fits in girls is commonly accompanied by irregularity in the period, but it is rare to find any amelioration when the periods become regularly established. Physiological amenorrhoea may or may not have a beneficial effect.

Thirdly, as to marriage. There would appear to be no real foundation for the widespread belief, mainly held by the less educated section of the community, that the marriage of an epileptic girl, especially if pregnancy results, favors the cure of the disease. On the contrary, although isolated instances of such a cure occur, the consequences of matrimony tend to the production of circumstances distinctly unfavorable to the arrest of the disease. That there is no certainty in the influence of marriage upon epilepsy is the result of the observation of most writers on this subject.

The influence, however, upon the individual is relatively small as compared with that upon the offspring, and the consequent transmission of the disease. In definitely hereditary cases it is probable that one or more children out of several will become epileptic; there is no certainty that any of the offspring will suffer, although it is unlikely that all will escape.

#### MIND AND BODY—HYSTERIA.

It has been the custom in the teaching of the schools largely to disregard the mental side of disease, and to consider as altogether a special study symptoms and diseases based upon a psychical foundation.

Perhaps, under existing arrangements, such a dissociation is necessary, but the close inter-relation between mental and physical symptoms is all-pervading, and there will be an advance in clinical teaching when this aspect is more decidedly brought before the attention of students during their hospital career.

In the first place, there is no physical disorder, however slight, which does not produce some effect upon the mind, though varying in degree according to the temperament. Every practitioner is aware how much the course and treatment of an acute inflammatory or other malady depends upon the mental attitude of the patient, according as he regards his condition from a hopeful or a pessimistic aspect.

There are many persons who consider that the onset of some unpleasant or unaccustomed sensation in any part of the body signifies the development of a serious disease, a form of spurious hypochondriasis, which only requires the *ipse dixit* of their physician to dispel. But a type of case is occasionally met with in which the commencement of a grave and incurable malady may be preceded or accompanied by fears in the patient's mind that such a calamity is in store for him. It is, in fact, a presentiment of actual physical disorder, and sometimes of dissolution.

Then there is the genuine hypochondriasis, a morbid fear of disease affecting one's body, which is a mental disease *sui generis*. It may develop, as Freud<sup>10</sup> has explained, out of an anxiety neurosis, or a more permanent state of hypochondriasis may issue out of a temporary neurasthenia or physical breakdown.

Further, we recognize the influence of nervous and physical emotions in the causation of physical symptoms. According as an emotion is pleasurable or painful, we find respectively increase of the heart's action, increased muscular energy and a sense of well-being, or inhibition of the gastro-intestinal functions, a keen sense of fatigue, and a decrease of muscular energy.

The effect of an emotional influence upon the physical condition has been ingeniously shown by the experimental researches of Pawlow<sup>11</sup> on the salivary secretion of dogs.

In the course of his experiments it appeared that all the phenomena which were seen in the salivary glands under physiological conditions reappeared in exactly the same manner under the influence of psychological conditions. Thus when he pretended to throw pebbles into the dog's mouth or to cast in sand, or to pour in something disagreeable, or when it was offered this or that kind of food, a secretion either immediately appeared or it did not appear, in accordance with the properties of the substance, which he had previously seen to regulate the quantity and nature of the juice when physiologically excited to flow. If he pretended to throw in sand a watery saliva escaped from the mucous glands; if food, a slimy saliva; if the food were dry, a large quantity of saliva flowed out, even when it excited no special interest on the part of the dog. When a moist food was presented, less saliva appeared, however eagerly the dog may have desired the food.

When this subject is viewed more especially from the clinico-neurological standpoint, it becomes evident that many depressive states, characterized by hesitations, doubts, scruples, anxiety, apprehensions, and morbid fears, are associated with derangements of the bodily functions, such as dryness of the mouth, furring of the tongue, flatulence, constipation, and the like.

Owing to the lessened vascular tone of the emotional depressive states, the body also is more prone to physical disorder and more ready to receive the encroachments of infective organisms.

Mental influences may so modify the appearance of disease that a wrong impression sometimes may be conveyed to the physician's mind. Most of us may recall occasions when it has seemed as if a fatal termination were imminent, when in reality the gravity of the

situation was dependent upon a depressive mental state rather than upon true physical weakness.

How far the persistence of emotional and mental influences when continued for many years may predispose to organic disease by permanently impairing the secretions, and altering the vascular tone, is a subject less clearly defined.

Probably the most characteristic effect of an acute emotional shock, acting upon the mind of a person predisposed to such influences, is the production of those physical and mental symptoms, paroxysmal or paralytic, which go towards the make-up of a case of acute hysteria.

*Hysteria* is a disease which has excited interest and curiosity throughout all time. Its nature and causation were as much a source of speculation to the ancients as to ourselves. As its name implies, the disease was supposed to originate in the womb. As a later development, this idea was supplanted by the view that the sexual organs in general were concerned in the production of hysterical phenomena. The most recent hypothesis, enunciated only during the last few years, again places the causation of hysteria in sexual disturbances, but based in this case upon a psychical and not a physical foundation.

Our modern conceptions of hysteria, however, are mainly founded upon the observations and writings of Briquet, Charcot, and the Salpetriere School. It was recognized by them that hysteria was no privilege of the female sex, but that its origin had to be sought for in disturbances of the psychical functions of the brain. Charcot expressed his strong belief in the psychical nature of hysteria, and demonstrated the possibility of reproducing hysterical symptoms by hypnotic suggestion and of effecting their disappearance by a similar means.

Since his time the psychical side of hysteria has been greatly developed, and this aspect of the subject is the one which now commands the most respect.

The theories of "Nervous Mimicry" (Paget) or of "Paralysis from Idea" (Reynolds) have been displaced, and replaced, by the broader view of the subconscious mind and of the dissociation of the personality.

I shall now refer very briefly to the three chief theories of hysteria, which at the present time attract most attention. They all view the malady from the psychical side, two of them make use of the theory of the subconscious mind (Janet, Freud), and the third emphasizes the cardinal importance of suggestion (Babinski).

Let us look first at the theory of Janet,<sup>12</sup> the distinguished psychologist of the College de France. His theory is based on the view that just as a normal person sees objects in the peripheral portions of his field of vision, as well as in the centre, so the normal mind can take in and arrange sensations, memories, ideas, and emotions, the comprehensiveness of his perception being the field of normal consciousness.

Janet's definition of hysteria implies a retraction or limitation of this field of personal consciousness, and a tendency to the dissociation and emancipation of the systems of ideas and functions that constitute personality. In other words, "in proportion as the field of personal consciousness diminishes so do the subconscious mental conditions tend to flourish and abound." (Ormerod.)<sup>13</sup>

By this means Janet explains most of the characteristic symptoms of hysteria. "The crises or fits of hysteria are somnambulistic states in which the patient lives some scene over again, goes through some action, or gives himself over to some idea and obeys it to the exclusion of all others. He is in a dream, living for the moment in a small world of his own. All this is forgotten when the attack is over, and he returns to normal consciousness." (Wilson.)<sup>14</sup>

Such is the explanation of those cases of hysterical fugue or lapse of memory which are met with from time to time. It would also appear to offer an explanation of the classical hysterical fit which is more commonly seen amongst the Latin peoples, a fit characterized by much display of pantomime and histrionic effort. On the other hand, as suggested by Ormerod, it hardly offers a sufficient explanation of the simple hysterical fit or "attack of hysterics" which forms the common type of the seizure in our patients.

The same idea may be traced in the motor and sensory symptoms—the paralyses and the anesthetics. In the former, the memory, the idea, or the function of movement, may be lost; in the latter, the systems of sensations, or some of them coming from the anesthetic area are no longer connected with the main consciousness."

According to many writers, Janet's view of hysteria, thus briefly and imperfectly mentioned, is the most satisfying, and that one which harmonizes the varied and multiform symptoms of the disease. But even those who support it most warmly feel that it does not explain every variety of the malady.

The second theory is that associated with the name of Babinski,<sup>15</sup> the physician of La Pitie, who has done more than any living clinician, by his observation on the plantar reflex and by other tests, to assist us to distinguish between functional and organic

paralysis. He holds that hysteria is a special psychical state, giving rise to certain symptoms, which can be reproduced by suggestion with rigorous exactness in certain subjects and be made to disappear under the sole influence of persuasion.

By this means Babinski confines the symptoms of classical hysteria to those which can be reproduced by suggestion. These are the convulsions, paralyzes, contractures, tremors, and anesthetics, and to them he has given the term "pithiatic." He has, in fact, taken one of Charcot's main contentions, that to be hypnotisable is to be hysterical, and that exaltation of suggestibility is common to hypnosis and hysteria, and made it his criterion of hysteria.

One of the most interesting deductions from the Babinski view is that hysterical hemi-anesthesia does not really exist, but that when present it has been suggested to the patient by maladroit examination on the part of the physician.

In one hundred consecutive cases of hysteria Babinski failed to discover a single instance of hemi-anesthesia. There is, however, a general consensus of opinion that this explanation is only true for a limited number of cases.

Babinski's views have been strongly criticized, chiefly in the direction of the value of suggestibility as a crucial test of hysteria. It has been stated that the majority of normal persons are suggestible. "To be suggestible and to be hysterical are not synonymous. It is generally agreed that suggestibility cannot be utilized to describe sufficiently and exclusively the hysterical mind. Hence we are led to consider hyper-suggestibility as a symptom and effect rather than a cause of the mental state associated with hysteria." (Wilson.)

The third theory of hysteria to which reference is made is that elaborated by Freud,<sup>16</sup> the Viennese psychologist. His view is based on the acceptance of certain doctrines—the determination of mental processes by unconscious physical factors, the existence of what he calls emotional "complexes" which are often in antagonism with each other, and the causation of many mental phenomena as a result of repression. In this, as in Janet's view, there is a recognition of the sub-conscious mind.

Freud's psychology of hysteria is, briefly, as follows: If in a person two sets of mental or emotional "complexes" are present in opposition to each other, or a mental, or moral, or emotional shock is received, for example, a physical trauma, a painful impression is made upon the mind. If relief is not obtained in an ordinary way, as by giving vent to the feelings, or forgetting, the painful emotion is repressed into the sub-conscious strata of the mind. There it is

kept and prevented from returning to consciousness by the action of a resisting force, which is the same as that which originally brought about the repression. The repressed complex remains in the sub-conscious mind behaving somewhat in the nature of a foreign body, capable of influencing consciousness, but in a distorted or indirect way. In hysteria it is converted into the physical manifestations of the disease, such as the paralyses and the anesthetics. How this "conversion" is produced is a complicated and elaborate subject, which cannot be entered into here.

The outstanding feature of Freud's hypothesis is that the repressed complexes are invariably of a sexual character. In his own words: "He who can interpret the language of hysteria can understand that the neurosis deals only with repressed sexuality." "In a normal *vita sexualis* no neurosis is possible."<sup>17</sup>

"In the hysterical we find all sex components which exist in the undeveloped sexual constitution of the child in a state of repression. The essential basis of hysteria is thus the preservation of an infantile form of sexuality and the failure of the latter to develop into the normal adult type. The hysterical symptom is produced as a compromise between the normal outlet, the abnormal outlet, and the repressing forces exerted by education and environment." (Hart.)<sup>18</sup>

It is difficult at the present time to express an opinion upon the value of Freud's views upon hysteria. He has revived the oldest doctrine of the disease (its sexual origin), but upon a psychological basis. In reintroducing the sexual element as the sole factor in hysteria and allied neuroses he has opened the floodgates for a veritable torrent of criticism. He has been attacked vigorously by his opponents and as strenuously supported by his disciples and admirers.

Any criticism, however, of Freud's view ought to separate the hypothesis which he has enunciated, such as his conceptions of conflict, repression, and the influence of the sub-conscious mind from the method of psycho-analysis, by which he has arrived at his conclusions. There is a strong body of opinion against the universal application and acceptance of the sexual origin of hysterical symptoms. Moreover, his views upon the "conversion" of a repressed idea into the physical symptoms of hysteria would require some further explanation than has yet been given.

#### PSYCHO-THERAPEUTICS.

In view of the generally accepted psychical origin of all hysterical symptoms, as well as those of the closely allied psycho-

neuroses, such as the mental symptoms of neurasthenia, morbid fears, dreads, obsessions, and the like, it is not unnatural that the present-day methods of treating those conditions should consist in the main of psychological measures.

The influence of some kind of suggestion in the treatment of functional nervous disorders has been admitted from time immemorial; witness the influence of religious faith. But apart from this, have we not the cures effected by charlatans, by the pseudo-scientific methods of metallo-therapy and the like, and by the wonder-workers in all countries.

The moral influence of medical men over their patients has, of course, been long recognized, but there would seem to be something more than verbal encouragement or reassurance necessary in the psycho-therapeutics of to-day.

As Mills<sup>19</sup> says: "In a sense, mystic medicine is psychological medicine, though the converse is not true. In the incantation of medicine men, in the appeals to omens and oracles, in the resort to healing shrines, and in the ministrations of the Christian Scientist, the psychological element is discoverable. The psychological medicine of to-day, however, is that in which the use of mental influence is resorted to on the same scientific lines, as is the use of water, medicines, electricity, or the surgeon's knife."

The modern methods of psycho-therapeutics are limited to the following:

First, *direct suggestion*. Of this there are two kinds, in one of which suggestion is effected during hypnotic sleep, in the other during the waking state. During hypnosis the physician introduces new ideas into the patient's consciousness or effects the destruction of existing ideas without the consent or judgment of the sufferer. In suggestion during the waking state the patient voluntarily places himself in a receptive condition to receive and accept suggestions made to him by the physician without argument or reason.

Suggestion during the waking state was introduced as a therapeutic method by Bernheim of Nancy, as a development out of hypnotic suggestion. According to Dejerine,<sup>20</sup> its good effects are based partly on wonder-working and partly on auto-suggestion. In most cases, however, it is really a form of persuasion. Dubois<sup>21</sup> holds that between suggestion and persuasion there is the same difference as exists between a piece of good advice and a practical joke. "Both may produce the desired result. Suggestion acts like a draught which is merely capable of producing an effect on the imagination. It is sometimes excusable, but it is not conscientious." (Dubois.)



There is no doubt, however, that in practice suggestion during the waking state may be of distinct value in certain early and mild cases of psychical upset.

Secondly, *persuasion*. This implies the re-education of the patient's mind by reasoning and argument. This method was introduced by Dubois of Berne, and in various modified ways is the remedy applied by many physicians who work along psycho-therapeutic lines. The physician endeavors to reason with and educate his patient in the causation and production of his symptoms. It is, in fact, what may be called the method of *therapeutic conversation*. Its object is to teach and convince the patient "what he has, what he has not, what he seems to have, what he can do, what he cannot do, and what he simply believes he cannot do." (Mills.)

But there would appear to be something more in the method than mere verbal explanation. In Dejerine's words, persuasion reasserts the patient's confidence in himself, and revives those elements which make him master of himself. The physician's part lies in redirecting the patient's thoughts; there is nothing bordering on suggestion and nothing to clash with his convictions and reason. Its good effects are due to the confidence which the physician inspires in his patient.

It is therefore obvious that it can only be effective in sane persons, and is of no value in severe obsessional conditions or melancholia.

Thirdly, *psycho-analysis*. Re-education of the patient, in the meaning and significance of his symptoms implies some degree of psycho-analysis on the part of the physician. In a general sense, it is nothing more than a careful and exhaustive investigation into the origin, relation, and importance of existing symptoms.

In the sense employed by Freud,<sup>22</sup> however, psycho-analysis is a more elaborate proceeding, and requires skill, patience, and perseverance. It is not my intention to describe the method, but merely to point out that its object is to get behind the "censure," or repressing force which originally repressed and keeps suppressed the pathogenic idea in the sub-conscious strata of the mind. This pathogenic idea, it will be remembered, is that which gives rise, in Freud's view, to the symptoms of hysteria and the psycho-neuroses. Having by psycho-analysis overcome this resistance and given the "affect" an opportunity of flowing out through speech, the repressed idea is "brought into associative correction by drawing it into normal consciousness through the suggestion of the physician." (Freud.)

In the hands of Freud himself and of his disciples, both in Europe and on this side, the method is stated to be of practical value, but one cannot help feeling that, owing to the prominence given to the sexual side in the causation of hysterical symptoms, harm may accrue by recalling sexual memories, in themselves perhaps harmless, which had long been forgotten.

During the analysis it is not unlikely that the physician may unwittingly suggest to his patient, and in turn may himself be misled.

In Freud's sense, therefore, psycho-analysis is the evacuation of a repressed idea by a form of confession, and the re-conduction to the patient's consciousness of the thoughts underlying the symptoms. It would appear to be of great use in hysteria and some of the psycho-neuroses, but to be of little value in neurasthenia and states of anxiety.

I do not think that it requires much experience of the practical application of these methods of psycho-therapy to realize that they have their limitations. There are some psycho-neuroses of short duration and slight degree, which are readily cured by a little reasoning and convincing on the part of the physician; but there are many instances of obsessions, hesitations, doubts, anxiety, and morbid fears, which are difficult to cure by psychical means alone. On the part of the physician a knowledge of the causes and symptoms of hysteria and allied neuroses is essential, as well as a clear insight into the temperament of the patient. On the patient's part, faith in the method and in the man behind the method are essential to success.

I do not imply that it is not in the power of every earnest physician to so influence the mind of his patient by dissipating pessimism and by encouraging a healthy outlook to materially aid a cure.

But for the successful treatment of the psycho-neuroses by psychical means, a thorough knowledge both of the diseases and of the means of treatment is essential. A special class of practitioner has, in consequence, arisen; but it would seem to me as if those who give their attention to mental and nervous diseases are those best qualified to undertake this work.

I am, therefore, in complete agreement with those who advocate the necessity of physical means in conjunction with psycho-therapeutic efforts. The isolation of the patient in a home, institution, or special ward, the deprivation of visits from relatives and friends during the course of treatment, the cutting off of correspondence and the like, are all essential adjuvants to a successful issue. Rest

in bed, either indoors or in the open air, abundance of milk, massage, and regulated exercises are desirable in the majority of cases.

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## CARDIAC ASTHMA.

Rosin (*Deutsch. med. Woch.*) says treatment must be rapid and heart tonics should be given by subcutaneous, intramuscular or intravenous injection, as drugs given by the mouth disturb respiration and are defectively absorbed. Camphor in a 10 per cent. oil solution is very useful and indispensable during attacks. The injections can be repeated every fifteen minutes.

**TETANUS\***

A. MOIR, M.R.C.S. (ENG.), L.R.C.P. (LOND.), DUNNVILLE, ONT.

It is not my intention to enter into a comprehensive discussion of tetanus, but merely to report a case which occurred in my own practice a few months ago.

On December 28th, 1911, I was called out to see G. S., a farmer, fifty years of age, who had got his left thumb crushed in the gearing of a gasoline engine, which he used for cutting feed for his stock, and also for sawing wood. The engine was therefore used around the barn or in the woodyard, two very likely places to find the tetanus bacillus.

As he lived a considerable distance out in the country, and at the time the roads were bad, it was about two hours after the accident before I was able to see him. In the meantime they had wrapped the injured part up in some old cotton, which, though not sterilized, had been recently washed. As the bleeding was very profuse, they made no attempt to cleanse the wound, but merely wrapped it up in the oil and dirt, of which there was a liberal supply. On examination I found the terminal phalanx and about  $\frac{1}{4}$  inch of the distal end of the first phalanx ground to a pulp. The fleshy part of the thumb was very badly mangled and a large amount of oil and dust was ground into it. The bone was absolutely bare as far as the metacarpophalangeal joint.

I cleansed the wound first with gasoline, to remove as much of the oil as possible, then scrubbed it with a sterile nail brush and 1-60 carbolic acid solution until all dirt was apparently removed. I then rounded off the distal end of the remaining part of the first phalanx with bone forceps and succeeded in getting enough tissue to cover it very nicely. I dressed it with bismuth formic iodide and plain sterile gauze, applied a splint, and kept the hand in a sling.

I saw him on the following day and he was quite comfortable. Had rested well all night without an opiate, and his temperature and pulse were both normal. I saw him again on the second day. His temperature was then 100°, pulse 80. I removed the dressing, but the wound was perfectly dry; there was no swelling or pain, so I simply put on a fresh dressing similar to the previous one, and as his bowels had not moved since the accident I gave him a laxative, and the following day he reported that he was feeling much better.

\* Read at Ontario Medical Association, Toronto, May, 1912.

I did not see him again until the fifth day. His temperature was then 100°, pulse 96, and he complained of slight darting pains in the thumb, but more especially in the back of his neck. I removed the dressing, but the wound was apparently healing by first intention, so I simply dressed it again in the same manner as before. The following day his brother telephoned me that his jaws were stiff, was more or less chilly, and felt rather miserable in a general way. I went up immediately and found his jaws locked to such an extent that it was impossible to insert the handle of a spoon between his teeth. The muscles of his back and back of the neck were quite rigid. The muscles of the trunk were also involved to quite an extent and, to use his own expression, "He felt as if there were tight bands around him." The movements of the chest were certainly considerably restricted and the abdominal muscles were so rigid that it required quite heavy pressure to make any indentation in the abdomen. The muscles of the extremities were not much affected, although he said they felt stiff and he could use them only with difficulty. The muscles of expression were very markedly affected. The corners of the mouth were drawn back; the alae nasi were drawn out and more or less fixed; the eyes were widely open, the eyebrows arched and the forehead wrinkled, giving a fairly well-marked sardonic grin. The pulse at this time was 110 and the temperature 101°. On examining the wound I found a few drops of pus at the base of the stump on the palmar aspect; otherwise the wound looked perfectly healthy and had apparently healed throughout.

I told the patient's friends that he undoubtedly had tetanus and advised the use of anti-tetanic serum; but owing to the fact that the incubation period had only been six days and that there would necessarily be 24 to 36 hours more elapse before I could get the serum, I gave rather a gloomy prognosis. The patient's brother then informed me that the patient had a horse die of tetanus only a few weeks previously.

Though tetanus had been known to physicians since the time of Hippocrates, and the development of the disease in connection with wounds was well known, it was not until Nicolaier discovered the specific bacillus in 1884 that its infective nature was established. And it was not until Ehrlich, about 1890, showed experimentally that tetanus was an intoxication, and that the bacillus remained localized in the wound, that it began to be treated on a rational basis. Prior to Ehrlich's discovery it was considered necessary to excise the wound or amputate the infected part, but since it has been shown that the symptoms are due to the toxin absorbed

it has been found that strict antiseptic treatment of the wound is followed by as good results as the more heroic measures of excision or amputation.

For convenience I may take up the treatment under the four following heads:

1. Local treatment of the wound.
2. General treatment.
3. Specific or serum treatment.
4. Medicinal.

### 1. *Local Treatment.*

I removed all the stitches and freely opened up the wound at the point where suppuration was occurring, and thoroughly cauterized it with pure carbolic, and left the wound exposed to the air without any dressing. I also left a solution of carbolic acid 1-40 with the patient, with instructions to moisten the wound with it every two hours, but twice daily throughout the acute stage I swabbed the wound out thoroughly with hydrogen peroxide and then cauterized with pure carbolic acid.

### 2. *General.*

For the first day or two the patient was rather restless and irritable, but he occupied a room which was rather noisy. I had him removed to a quiet room, partially darkened, and excluded all except those who were actually nursing him. He seemed to appreciate the change very much, and when we remember that the tetanus toxin has a selective action on nervous tissue, and greatly increases its excitability, one of the first principles of treatment ought to be to avoid as far as possible all external stimuli. Some claim that blue light is much more soothing to these cases than ordinary light, but I found that modification of the light by drawing the ordinary blind was just as effectual in this case. Feeding is sometimes a matter of difficulty. In this case, however, he was able to take enough milk through his teeth to make rectal or nasal feeding unnecessary.

### 3. *Specific or Serum Therapy.*

It has been shown beyond doubt that the presence of pyogenic organisms greatly increases the virulence of the tetanus bacillus. It has also been shown that the toxins produced by the tetanus bacillus are absorbed largely along the nerve trunks and by them are conveyed to the spinal cord. Only comparatively small quantities of the toxin pass into the general circulation through the lymph

channels. And while it has been demonstrated beyond doubt that the tetanus antitoxin can neutralize absolutely the tetanus toxin outside the body or in the circulating fluids of the body, yet, unfortunately, it has been as clearly proven that the antitoxin in the blood or lymph stream can only neutralize in a very slight degree the toxin passing along the axis cylinder or in the nerve cell. These facts have a very important bearing on treatment, and undoubtedly go to show that the sooner the serum is given in a suspected case the better. Some claim that when the specific symptoms by which the disease is recognized have appeared it is already too late for the antitoxin to have any good effect, and while all are willing to admit that its efficiency is lessened the more advanced the case, it does not follow that it is of no effect at all. It is impossible to know in any given case whether the amount of toxin taken up by the nerves is sufficient to cause a fatal termination. Even in advanced cases, therefore, we may so limit further absorption by use of the serum that the balance would be turned in the patient's favor, whereas if it were not given sufficient further absorption might take place to cause death.

It is largely to show that even late administration of anti-tetanic serum is not without effect that I thought this case worth reporting. When I saw him on the sixth day after the injury the symptoms of tetanus were well marked and developing rapidly. There being no serum obtainable in town, a further delay of 36 hours was necessary. In the meantime, however, I gave him a 2% solution of carbolic acid hypodermically, which no doubt helped to hold the disease in check. Of this solution I gave him 2 drams hypodermically to start with and  $\frac{1}{2}$  dram every two hours until the serum arrived. It was about  $2\frac{1}{2}$  days, therefore, after the onset of the characteristic symptoms of tetanus before the serum was obtained. I used the serum put up by Parke, Davis & Co., and administered 6,000 units every six hours for the first three doses, then 6,000 units every twelve hours. There was no appreciable change until the fourth day of the serum treatment, when the spasm of the muscles of mastication was certainly considerably relaxed and I could get the end of my thermometer case between his teeth. From the second day after the appearance of the symptoms up to the fourth day of the serum treatment, the temperature ran from 102 to 103°, and the pulse the greater part of the time was in the neighborhood of 120. The temperature on the fourth day of serum treatment came down to 100° and the pulse about 105. I continued the serum treatment for five days, until a very irritating rash appeared and covered the whole body. It was a mixture of the scarlatiniform

and urticarial types, and for two days the patient was in a very distressing condition on account of the intense itching. As soon as the rash appeared, however, I discontinued the serum and, though it caused a good deal of distress at the time, it began to disappear on the third day, and by the fifth day was practically gone. Regarding the method of administration of the serum, there are, as you are all aware, five different methods of giving it, viz.:

1. Subcutaneous.
2. Intravenous.
3. Intraneural.
4. Subdural.
5. Intracerebral.

I started with the subcutaneous method, giving the serum into the subcutaneous tissue of the abdomen, and as the patient's condition did not grow any worse I continued to the end with the subcutaneous method. Every method of administration has its own supporters, but in whatever way it may be given I think it is pretty generally conceded that its chief influence is exerted on that part of the toxin which is in the circulation. The affinity of the toxin for the nerve cells is so great that, unfortunately, the serum has not much effect on this part, irrespective of the method of administration. Had the patient grown worse under the subcutaneous method I would have given it subdurally.

#### 4. *Medical Treatment.*

During the acute stage of the disease, when the nervous excitability was marked, I gave him 30 grs. of chloral hydrate three times a day. This constituted the only medical treatment until after the serum was stopped. Though at that time there was still marked spasm of nearly all the muscles of the body, the muscles of mastication had relaxed sufficiently to get a small tablet in his mouth, and, according to the suggestion of Sajous in his work on the internal secretions, I gave five grains of thyroid extract three times a day, and I believe it had some effect, for when the patient was without it for a couple of days he complained more of the stiffness and seemed more comfortable after giving it again. I continued the thyroid extract for ten days, and by that time he could eat solid food and could walk about a little.

I saw the patient again a week ago, *i.e.*, about four and one-half months after the injury, and though he is quite well and does light work around the farm, he says there is still a slight sense of stiffness in all the muscles of the body, but not sufficient to interfere with his comfort to any extent.



## Surgery

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

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**Non-Union of Fractures** J. S. HORSLEY, RICHMOND, VA. (*Journal A. M. A., February 3*).

The fault in true non-union of fractures is due to the failure of the tissues to deposit lime salts, and after excluding all local and constitutional causes there still remains a group of cases in which this condition seems to occur and the bones fail to unite. There are two indications for the treatment of these cases, namely, to increase the quantity of lime salts in the blood and, second, to induce a larger quantity of blood-flow through the affected bone. The first indication is met by the administration of calcium salts, usually in the form of hypophosphates. Thyroid extract has been recommended, but its method of action is uncertain and reports are conflicting as regards its efficacy. It may, however, act as a hormone. The diet and personal hygiene must, of course, be carefully attended to. The second indication, increasing the circulation, must be carried out by local measures, and Horsley recommends the introduction of a sterile foreign body into the tissues to induce hyperemia. This idea was suggested to Dr. Charles Mayo by the fact that a sequestrum or a clot induces a growth of new bone around it. He therefore uses a sterile ivory pin in the medulla of the bone in cases of ununited fracture. It does not fit tightly, is unabsorbable, and instead of the ends being smooth they should be a little jagged, so as to induce blood-clots and hyperemia. Another useful measure is Bier's hyperemia, obstructing the venous circulation for from ten to forty minutes. Frequently in these cases the ends of the bone are one solid mass, which exhausts and blocks off the nutrition. Hence it is advisable to drill out the end of the bone and expose the medullary cavity, which is best done with a burr, though a small chisel may be gently used to enlarge the opening. Horsley reports a case, showing the difficulty of nutrition in these cases. The matter of fixation of the fracture is probably the least important matter. With good personal hygiene, absence of constitutional trouble and observance of the local indications, such as cleaning out the ends of the bone and roughening them and inserting an ivory pin inside, it matters little what method of fixation is used so the limb is put in

its proper axis. He uses a silver plate fastened by one or two screws in each end of the fracture. This is best placed on the periosteum, or, if that has been denuded, it should be sutured around the plate. The wound is closed without drainage and a plaster-of-Paris cast or some other splint applied. The retentive apparatus should be used for several months, changing it every few weeks. After three or four weeks it is best to begin the use of the limb very gradually, increasing it each day. The article is illustrated.

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CHEST TRAUMATA.—F. T. Murphy (*Boston Med. and Sur. Jour.*), writing of stab or gunshot wounds of chest wall, refers to 42 cases treated at the Massachusetts General Hospital in the past 30 years, and analyses the symptoms, giving these points: 1. The very frequent complaint of abdominal pain, even though the peritoneum was not affected. 2. The possibility of serious hemorrhage from a wound of the intercostal artery. 3. The great power of accommodation of the lungs to hemorrhage or pneumothorax, if the change comes slowly on. 4. Relatively slight danger of fatal hemorrhage because of the collapse of the lung and the adherence of the pleura.

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An outbreak of measles in the vicinity of Rosyth, where many naval base employes reside, is causing some anxiety. According to one account the epidemic is German measles, and the microbes have been deliberately let loose by an emissary of the German Government.—*Punch*.

## THERAPEUTIC NOTES

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### HIGH BLOOD PRESSURE.

Eustis (*South. Med. Jour.*) advises in cases of high blood pressure elimination by catharsis and copious administration of water if the heart muscle is functioning properly. The diet should be of substances which yield little or no tyrosin.

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### PRURITUS ANI.

Wallis (*Practitioner*) says: The following formula will be found useful: Chlorotone, one drachm; extract of conium, one drachm; euthymol cream, two ounces. The local skin area should be well washed with soap and water and the above applied.

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### ECLAMPSIA.

Lichtenstein (*Zeits. für Gyn., Leipsic*) says eighteen German physicians have reported a total of 4,585 cases of eclampsia, of which over 20 per cent., 955 cases, occurred post partum. He considers this an argument against premature delivery and supports the expectant treatment.

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### SECONDARY ANEMIA.

J. H. Musser (*Boston Med. and Surg. Jour.*) used ferric citrate prepared locally. Of the iron preparation .06 gm.; of the arsenic .06 gm.; of sodium glycerophosphate, .10 gm. dissolved in 1 c.c. distilled water. Treatments were given twice a week. Fourteen cases were treated, only one failing to respond.

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### AMENORRHEA.

Rigamonti (*Gaz. deg. ospedali delle cliniche, Milan*) has had effectual results in three cases of amenorrhoea with one pole of the galvanic current to the sacrum and the other over the hypogastrium. He administered the treatment daily for thirty or forty sittings, and then at longer intervals.

**OPIUM POISONING.**

F. Taylor (*The Lancet*) thinks the faradic current should be applied persistently in those cases where coma has reached the stage threatening life. Even if there is no response after thirty or forty minutes, but the contraction of the muscles, it should be continued. The portable faradic battery is all that is required.

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**POSTANESTHETIC VOMITING.**

*The Therapeutic Gazette* says, quoting Halperin: "How many of our surgeons or anesthetists would like to have their stomachs washed out just after a laparotomy?" Absolute rest in a quiet room, small swallows of hot water at frequent intervals, the application of an old-fashioned mustard plaster over the pit of the stomach, the use of one or two grains of acetanilide placed dry on the tongue or dissolved in a little brandy, or the use of from three to five grains of chlorotone in a similar manner, will usually produce the results which are required.

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**GASTRIC ULCER.**

John J. Gilbride describes Lenhartz's method of treating gastric ulcer as follows: Put the patient to bed and administer a concentrated albuminous diet. This keeps the excessive acid secretion in the stomach, permitting the ulcer to heal. Absolute rest in bed for four weeks is essential. An icebag is applied to the epigastrium to prevent distension of the stomach and to favor contraction of the ulcer, as well as to relieve pain. If medication is indicated,--bismuth: Raw beef, if tolerated by the patient.

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**FURUNCULOSIS.**

Henry K. Gaskell, speaking in a discussion on furunculosis before the Philadelphia County Medical Society, stated that the staphylococccic vaccine was especially valuable in furunculosis. In his cases the beneficial results have been seen in eighty to ninety per cent. of cures; the balance greatly improved. The majority of the cases were cured after the fourth injection. Begin with a dose of 250,000 to one c.c., increased, if necessary, to a billion. The furuncle he opened with the caustic stick for cosmetic purposes. Externally he employed from five to seven per cent. salicylic acid ointment. Not for the single boil, but for crops—furunculosis—should this treatment be employed.

## Reviews

*New and Nonofficial Remedies.* Price, Cloth, 50c.; Paper, 25c.; pp. 298. Chicago: American Medical Association, 1912.

This book contains descriptions and a statement of the actions and uses of all articles which have been examined and accepted by the Council on Pharmacy and Chemistry prior to Jan. 1, 1912, for inclusion in the list of New and Nonofficial Remedies.

The book is unique. The work of the Council during its seven years of existence and the reports of the Propaganda Department of *The Journal A. M. A.* have convinced the physician that in the prescribing of proprietary remedies he must be more careful in his selection of those which he directs for his patients. Nowhere else can the physician or the pharmacist turn for reliable, unbiased information concerning the new remedies. This book enables the physician to make such selection and the careful pharmacist to know the character of the remedies he dispenses. It should be in the hands of every one of them.

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*What Shall I Eat?* A Manual of Rational Feeding. By Dr. F. X. Gourand, formerly Chief of the Laboratory of the Medical Faculty of Paris. Only Authorized Translation into the English Language. Price, \$1.50. New York: Rebman Company, 1123 Broadway.

It is essential for the medical man to know a good deal as to what people should eat both in health and in disease, for it is a very common question for the doctor to be asked: "What shall I eat?" Again, he is often asked: "Is this good for me?" or again: "Will this do me harm?" This book is set out in a clear, succinct and practical way, is very interestingly written, and gives just what practical information the physician wants to know of the subject. Our readers will find it a very satisfactory manual on the subject.

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*Wheeler's Handbook of Medicine.* By WILLIAM R. JACK, B.Sc., M.D., F.R.F.P.S.G., Assistant Physician to the Western Infirmary of Glasgow. Fourth Edition. Price, 8 shillings. Edinburgh: E. & S. Livingstone.

Medical science advances so rapidly these days that publishers are kept busy getting out new editions in order that their text-

books, as well as books of reference, are kept well up-to-date. Books of this character especially, as they are quite apparently of more value to the student of medicine, especially about examination time, need, therefore, to be brimful of the latest and best, succinctly set out. This is one of the best handbooks on the medical book market, is so complete, and withal so splendidly arranged, that we can heartily recommend it. Indeed, we consider that the busy general practitioner will be benefited by it, as its close and careful perusal will afford a rapid and practical means of reviewing old knowledge and acquiring the new.

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*The Pharmacopoeia of the Toronto General Hospital.* Including Prescriptions for Use in the Various Departments, an Epitome of Surgical and Obstetrical Technique, and Tables of Foods, Doses and Poisons. Price, limp leather, 75c.; cloth, 50c. Toronto: University Press.

This is a neatly-gotten-up book of 142 pages, and will not fail of appreciation by all who have received their clinical training, or a part of it, in the Toronto General Hospital. It will also be intensely interesting and instructing to those who have received their training in other hospitals. The value of the book would be enhanced, especially to the recent graduate if, instead of grouping the prescriptions under general headings, some particular therapeutic indications were inserted after each prescription.

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*Special Classes for Short-Sighted Children.*

Since the year 1908 the London County Council have had a special class for children affected with high myopia in a blind school at Camberwell. It is now found that additional accommodation is necessary for about one hundred children. The Camberwell experiment is declared to have been so successful that the Council are agreed to invite the assent of the Board of Education toward instituting special classes for this particular kind of scholar.

Could not Toronto profit by this experience? Since the recent system of school inspection has been inaugurated a number of highly myopic children have been discovered, who are quite unfit to compete with or be educated by the same methods as ordinary children. In the absence of facilities for instructing these children, I have had to recommend their admission to the Brantford Institution.

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## COMMENT FROM MONTH TO MONTH.

The salaries of Officers of Health do not appear to be anything nearly adequate for the services rendered to the community.

A first-class clerk in a department at Ottawa gets as much or more than the average health officer.

When a corporation counsel is sought or a chairman to some special commission wanted the salary buys the man. Our medical health officers must be considered a poor lot by the powers that be, to judge by the salaries attached.

In a large city where the corporation counsel gets \$10,000 a year, the health officer is considered abundantly paid with half that amount.

In national, provincial, civic and municipal service the health officer is one of the outstanding and best of public officials. His work cannot be measured in dollars and cents, but it is there just the same and should be recognized by the authorities. The value of his services to the community cannot be balanced up with cold coin; but the commanding position public medicine is taking to-

day demands competent men and adequate compensation. It has come from the last place in medicine to run neck and neck with surgery and the best of the specialties. Indeed, in a few years it may be the most important branch of medicine.

No position in the medical public service known pays more than \$5,000 per annum in Canada, and these could be counted upon the digits of both hands.

The authorities must understand that officials who are of such prime importance to the community and who are unselfishly spreading abroad the propaganda, "cleanliness is next to Godliness," are doing a great good work which should be awarded by remuneration commensurate with its importance.

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**Periodic examination of machinery** is an essential part of any going concern. It has always been a well-recognized part of any business where the machinery is "inanimate." What, however, has been the policy as regards the "human machinery"? Neglect.

The worker must be in the best of health to rise to the maximum of efficiency. "Breaks" in this machinery have never been considered so costly by employers. But where "breaks" do occur there is more necessity for "timely repairs."

"Breaks" can only safely be detected by periodic medical examinations. Repairs can then be timely.

Life insurance corporations are beginning to realize that the "timely repair" of the policy-holder produces efficiency, economy, and dividends. Hence the annual medical examination has appeared. Employers of labor must soon realize the necessity for such medical examinations of employees.

In this way the health of employees will be conserved, the working force rendered efficient; and the worker, the employer, and the public will all gain thereby.

Most important will be the systematic examination of employees to discover incipient tuberculosis. As the appreciation of health grows industrial concerns will ultimately adopt the policy of these systematic medical examinations; for it is only by these that "early" cases will be discovered or "closed" cases transformed into "open" ones detected. It is only by some such systematic method



that "cure" or "arrest" and restoration to working capacity can be established.

What are public health authorities doing in this direction? And who will finance it—the employers or the municipality or the state?

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**The National Sanitarium Association** proposes to erect and maintain in Toronto a Free Dispensary for Tuberculosis.

Towards this end a friend of the association offers to donate \$50,000; and the association has asked the city for a central site on College Street, not far west of the new Toronto General Hospital, and equally contiguous to the University of Toronto.

The great good work done by the National Sanitarium Association commends itself to all, and the city should not long wait to grant their request.

Some may think, however, Toronto should erect and maintain a free dispensary of its own; but the National Association is well established in this business and has demonstrated its ability to conduct institutions of this character successfully.

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**The proposition to establish a detention hospital in Toronto** is a wise one, and the sooner the city takes steps in that direction the better.

Now that the Ontario Government is moving the Toronto Hospital for the Insane to a location some twenty miles east of the city, the need for such an institution as a detention hospital will be more urgent.

The failure to provide proper accommodation for some of the insane, leaving them to be housed in the jail, is a sad blot upon administration of some sort.

Lack of funds is generally given as the reason, but it looks a great deal like listless inattention.

Now that the city of Toronto proposes to give \$100,000 for the purpose, the jail may be fully reserved for its proper inmates.

## News Items

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DR. RALPH HOOPER, Toronto, has returned from Baltimore.

DR. EMBREE, Toronto, is moving to 108 Avenue Road.

DR. GRANT STEWART, Montreal, has returned from Atlantic City.

HON. JOHN HENRY WILSON, M.D., St. Thomas, Ont., is dead at the age of 79 years.

By the will of the late H. Markland Molson, Montreal, the Montreal General Hospital gets \$10,000.

DR. S. M. HAY begs to announce to the medical profession that in future he will limit his practice to surgery and consultations.

DR. GRAHAM CHAMBERS has purchased the residence at the south-west corner of St. George and Bloor Sts., Toronto.

DR. DANIEL CLARK, for many years Superintendent of the Toronto Hospital for the Insane, died the 3rd of June in his 78th year.

At the eighty-first annual commencement of Wesleyan University at Middletown, Conn., held on June 19th, the degree of doctor of laws was conferred upon Dr. Amos J. Givens, proprietor of Givens' Sanitarium for Nervous Diseases, at Stamford, Conn.

AMONGST Canadian visitors in London are noticed the names of Mr. Irving H. Cameron, Toronto; Dr. J. O. Orr, Toronto; Dr. Jas. Third, Kingston; Dr. H. E. Cowper, Owen Sound; Dr. J. A. Dickson, Hamilton; Dr. R. B. Orr, Toronto, and Dr. E. E. Blanchard, P.E.I.; Dr. J. Parry Harrison, Dunnville, Ont.; Dr. L. G. Rowntree, London, Ont.

DR. CHARLES FERDINAND DURAND, late Proctologist to the German Hospital, Buffalo, N.Y., begs to announce to the profession that he has opened an office at No. 590 Huron St., Toronto. Tel. Hillcrest 2173. Office hours, 9 a.m. to 1 p.m. and 7 p.m. and by appointment. Practice limited to diseases of the rectum.

## Publishers' Department

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MRS. MACKINNON'S MASSAGE INSTITUTION, 20 Walmer Road, Toronto. Telephone, Colloge 7895. Mrs. Neil MacKinnon, for many years a specialist in all branches of massage, having received her training in the Old Country, has within the past few months opened an institution in this city at the above address. All forms of massage, including electrical, electric light, and needle spray baths are administered in this institution under her personal supervision. The location of her institution is one of the best that could be desired, and there is a beautiful conservatory with a southern exposure. There is a masseur in attendance for male patients. The rooms are large and sunny, the appointments being especially tasty and well adapted for carrying on such work. Physicians are invited to visit and inspect for themselves.

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To cure practically any case of bed sores: wash frequently with a solution consisting of two drams of ammonium chloride, 4 ounces of water and 12 ounces of alcohol. Dry gently and powder with stearate of zinc. Of course the patient's position should be changed frequently and rubber air cushions should be used whenever required.—*Med. Rev. of Revs.*

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Painting with iodine as a means of sterilization of the skin prior to operation has now become a regular procedure. This same method is now applied successfully to the vagina prior to vaginal operations. By the aid of two specula the vaginal walls are held apart and thoroughly swabbed with ether, and then with tincture of iodine. The cervix is included in the operation. Care must be taken not to leave any iodine in the vagina. The results are said to be much superior to the ordinary methods of douching.—*Med. Rev. of Revs.*

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IVY POISONING.—Dermatitis venenata, always very unpleasant and occasionally dangerous, presents as long a list of possible medicaments as is claimed for pertussis or pneumonia. Recent studies have demonstrated the cause of the irritation, and it is now known

that the irritating agent may be neutralized by permanganate of potash solution. The application of the permanganate solution gives great relief, and when used soon after exposure or as soon as the first vesicles appear, will avert the distressing itching. Treatment should be as follows: First thoroughly wash the part or parts with warm water and soap; then use an alkaline wash, as, for example, a teaspoonful of bicarbonate of soda to one pint of water. Following this should come several washings in warm 2 per cent. to 4 per cent. solution of permanganate of potash. The strength of the permanganate solution should vary according to the severity of the attack.—*Med. Rev. of Rev.*

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“THE MEDICAL SCIENCE.”—Early one crisp March morning, D. K., unkempt and greasy, accepted my invitation to have a ride. For a few moments he scanned me in silence; then in Highland accents, difficult of reproduction, remarked, “You are a stranger in these parts?” I assented.

“Anyhow, I have not seen you before. Anyhow, you are a very ordinary-looking fellow. I mean, you are a very common-looking fellow. I—I—I mean to say, you have no big nose, or big mouth one would know you by.”

Having thus mollified me, he assumed the rôle of chief spokesman. “I used to sell the electric batteries; then I tried the patent medicines; and now I practise the Medical Science. Do you know what the Medical Science is?”

I pleaded ignorance.

He proceeded: “I will tell you of a particular case. Mr. H., of S., told me his back was very bad. I said, ‘I can cure it.’ So I looked him in the eyes until a film came over them—and they went shut. Then I stood at his side and stroked him up and down the back. Then I asked him if the pain was better. He said it was some better. I repeated the treatment, keeping up a stream of talk the whole time. He now said that he was well, but that he could not open his eyes. So I opened them for him. Now, that is the Medical Science.”

At this juncture we overtook a well-known farmer, who called out, “Good morning, Doctor.” Somewhat aghast, my companion exclaimed, “And are you a doctor!”

A few moments’ drive brought us to the corner hotel, where the old man wished to alight. As I drew up, he inquired, “And will you be having something?”

R. H.