meeting should be from June 1 to July 1, so as to accommodate the graduates of all schools.

The examination should be both theoretical and practical. Applicants should be taken into the wards of hospitals and be given opportunities to make diagnoses and examine urine, sputum and blood, as well as outline courses of treatment.

The place of meeting should, as a rule, be in Washington; provided its hospital facilities are adequate. It is desirable, however, to vary the place of meeting from time to time so as to make the board truly a national one, and to subserve the interests of the greatest number of applicants.

The fee should be not less than \$25, or the maximum amount charged by a state board, so as not to bring the national into too great competition with any state board.

Now, what would be the inducement to graduates to go a distance, assume greater expense possibly than they now do, only to get a diploma which *need* not be recognized by the states? My answer is that as every state and territory in the Union now recognizes the commission of medical officers of the Army, Navy and Marine-Hospital Service, so they would be glad to recognize the certificate or diploma of any one passing an examination conducted by able and distinguished men representing all sections of the country. A man with such a diploma should be permitted, like the Constitution, to follow the flag and practice medicine and surgery anywhere within our possessions. Now, if a man moves from Pennsylvania to New Jersey he must pay \$25 additional for the privilege, and in other states pass another examination as well. This is manifestly unfair to men who are excellent practitioners, but necessarily rusty in the theoretical branches, such as anatomy, physiology, chemistry, etc.

There would be another inducement to young men to appear before the national instead of a state board: there are many positions within the gift of the federal government, such as contract surgeons in the Army, Navy and Marine-Hospital Service; physicians to Indian agencies and members of pension boards of examiners in all parts of the country, requiring the services of more than average men. Any one holding the diploma or certificate of such a national board would at once have the advantage over any one else less fortunate. In truth, in nearly all such cases, a further examination could, with perfect justice to the government, be waived. So manifest are its advantages that each year there would undoubtedly be a larger number of applicants; and in time sub-boards would be necessary to accommodate the number applying—each to meet in some large city with abundant hospital facilities and accessible to many applicants.

There is but one serious question involved, and that is whether or not the expenses of such a board could be met for a year or two out of the fees of applicants. There would be only three or four examiners to pay, as I was told by each of the Surgeons-General that they would act, or detail some one from the service, gratuitously.

There is also, I take it, little doubt that suitable quarters for conducting the examinations could be furnished by the bureau of health which is almost certain to be established by this Congress.

Should the fees be insufficient to secure the services of the best men, the American Medical Association could well afford to pay for the two members appointed by it. Certainly, this great organization, with money in its

treasury to spare, can well afford to give something to a cause having behind it the best elements in the profession. It is unfair to ask that any one worthy of the appointment as examiner should give a month, possibly longer, to even so excellent a cause without compensation. So could the American Congress of Physicians and Surgeons provide, if necessary, for its appointee.

A voluntary board is better for the profession than a compulsory one, for its standard can reasonably be made higher, and its certificates be a diploma *cum laude*. Moreover, the profession will be elevating and purifying itself and not trusting to legislation to accomplish the purpose which under our form of government is impracticable, even though it were desirable.

I have little doubt, however, that the fees would be sufficient to pay the examiners well even the first year. If the examinations should be held in Washington it would be very accessible to all of the eastern schools, representing, we will say, a thousand graduates. There will be more, as Philadelphia alone has each year about 400. The eastern schools are of such standard that they would encourage their graduates to go before the Voluntary National Board, and it would be safe to count upon 10 per cent. (100) of the graduates of Washington, Baltimore, Philadelphia, New York, Richmond and Charlottesville (University of Virginia), and other cities adjacent to the capitol doing so. Twenty-five hundred dollars should thus be assured; the expenses would be nominal and all over and above expenses would be divided between the three examiners. I am informed that the officers representing the three public services would be estopped from accepting compensation. This 10 per cent. could be probably doubled by the board meeting in Washington a week, and then spending a week in each of the three large cities adjacent to it, viz., Baltimore, Philadelphia and New York. The medical schools in these cities would willingly furnish quarters and facilities for conducting the examinations, and the hospitals furnish all necessary clinical advantages. This plan has been unanimously endorsed by the delegates from the several states meeting with the Committee on National Legislation and will be recommended to the House of Delegates at the coming meeting of the American Medical Association. It is to be hoped that it will be carefully considered and either it or a better plan at once inaugurated, as something should be done to encourage a higher and better medical education and to give in return something in the way of privileges and professional standing to those possessing it.

THE NEUROLOGIST'S ART.

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Knowledge is an excellent drug.—Montaigne.

There is a widespread belief that the recognition, interpretation and treatment of diseases of the nervous system offer peculiar obstacles, and that many of them are entirely unamenable to therapeutic measures. Now and then it comes to the ear of the neurologist that when he has made the diagnosis his usefulness ends. It is often said, half in jest but more in earnest, "To what end is all your diagnostic acumen and your skill in differentiation when your prognosis is so gloomy?"

The physician who has had wide experience in the treatment of nervous diseases knows that there is no

ground for these calumnious imputations. He knows that diseases of the nervous system, organic and functional, yield as readily to therapeutic measures as the majority of functional and organic diseases. He knows that if the same care, perseverance and skill are brought to the patient suffering from nervous disease that is bestowed on the victim of other and comparable bodily diseases that the results of treatment will be quite as satisfactory.

NERVOUS DISEASES CONTRASTED WITH OTHER DISEASES.

To bring the truth of this home to those who have been burdened with the belief that neurological therapeutics is a myth and that the neurologist is therapeutically impotent, it is only necessary to contrast the results of the neurologist's work with that of the physician who devotes himself to internal medicine. How much does therapy avail in the curative treatment of any kind of hepatic cirrhosis? With what degree of confidence can one say to the sufferer from cholelithiasis after an operation for gallstones that medical treatment and régime will prevent the reformation of calculi? In what measure has the prognosis of the different forms of Bright's disease and of the various degenerative cardiopathies been altered by therapy in the last generation? Are we more successful in combating gout, arthritis deformans and psoriasis than were our forefathers? These are not the interrogations of one who has been made morbidly sensitive by the imputations that are sometimes cast upon the branch of the therapeutic art that he has espoused, but a simple catechism to show that the neurological therapist has as much right to be optimistic as has his brother practitioner. That there are some diseases of the nervous system that are quite beyond the reach of all therapeutic measures everyone must admit. Such are general paresis, syringomyelia and paralysis agitans, but these are uncommon ailments and they constitute an extremely small proportion of the diseases that come within the neurologist's scope. Nor should the incurability of such diseases make our attitude toward them one of complete despair and therefore unworthy the effort of seeking for something in nature or in art that will successfully cope with them. One must pursue the search for an adequate remedy just as assiduously as he does for means of combating infantile diabetes, pseudo-leukemia, Addison's disease, pemphigus or any of the other diseases that still resist treatment. Face to face with any of these diseases there are few who can reconcile it with their consciences and their sense of duty to fold their hands and do nothing. That there are some who do this I know, but they do not accord with my own conception of the best type of physician.

The study of medicine as an abstract science has done much to give it the high position that it holds amongst the sciences, and such study should be encouraged, but the duty of the general practitioner is the treatment of disease. Because a disease has been found in his inherited or acquired experience, to pursue its course to a fatal end, there is no valid reason why he should not bend every effort to the determination of means that shall shape its course otherwise. In this way alone the value of thyroid feeding in myxedema, arsenic in leukemia and quinin in malaria was determined.

The attitude of great neurologists at the zenith of their career toward therapeutic possibilities has always seemed to me particularly inspiring and I recall the closing words of an address on neurological therapeutics a few years ago by Sir William Gowers: "I have been surprised at the amount of good that can be done in

affections commonly looked upon as intractable—relief, arrest, restoration. With each successive year's experience it seems to me greater and more distinct and to elicit more gratitude from the patients to whom it is applied."

THE NEUROLOGIST'S ART.

Does the physician especially trained in the recognition of nervous disease enjoy any special privileges which lead to such conclusions? I think not. Wherein, then, lies the neurologist's art?

1. In recognizing that the vast majority of diseases that he encounters can be influenced by treatment.

2. In having in his mind, when face to face with disease whose course he desires to influence favorably, a clear picture of the pathological process constituting the basis of the disease.

3. In appreciating that the successful treatment of nervous diseases requires the most scrupulous attention to detail in the application of measures that experience has shown to be of value.

4. In utilizing judgment and skill in the selection and application of measures that have been found useful, empirically and experimentally.

5. And finally, in realizing from the outset that a disease or disturbance of function which is either the expression of a prenatal defect, or of many years' duration can not be overcome in a few weeks, or even a few months of treatment even though the hand that administers it be both masterful and magical.

You will remark that nothing is said of a knowledge of human character, of the possession of tact and an unlimited fund of sympathy, of personal determination tempered with a full recognition of human limitations—these constitute the neurologist's endowment, not his art.

THE CURABILITY OF NERVOUS DISEASES.

To prove the first proposition, viz., that the majority of diseases encountered by the neurologist are susceptible to treatment that will cause cessation, amelioration or cure of the disease process, it might be necessary, if my auditors were hostile to the acceptance of this proposition, to cite individual cases, and numbers of them, but this being not the case it is necessary only to state the proposition and to reiterate that the treatment of diseases of the nervous system is no more the cultivation of a barren acre than the treatment of disease of other systems of the body.

Failure to conform to the tenets of the second proposition, i. e., to have in mind a clear picture of the pathological process which one wishes to overcome is responsible for many failures in the treatment of nervous diseases and for the unscientific way in which such treatment is often instituted and carried out. In no other way than conforming to it can one gain a clear conception of the limitations put upon one's efforts by nature. For instance, in the treatment of one of the common organic diseases of the nervous system, locomotor ataxia, one can not possibly conceive of the usefulness of galvanic electricity to the spine, the administration of strychnin, the utility of the system of exercises and mental gymnastics known as the Fraenkel movements unless he knows that the anatomical basis of the disease is a primary, slowly progressing decay of the posterior spinal roots beginning in that segment of their distribution which is between the spinal ganglia and the posterior columns of the cord and extending peripherally and centrally, but particularly in the latter direction until finally their intraspinal representation is quite wiped

out, constituting so-called sclerosis of the posterior columns. If it is not recognized that this process is primary, one may be tempted to employ measures that might be supposed to influence the process to which it is secondary. Indeed, ergot was formerly given in this disease with the hope that it would, by exercising its physiological effects upon the blood vessels of the spinal cord, cause a lessening of the vascular condition to which the degeneration of the posterior columns was thought to be secondary. To-day we hold that ergot is injurious in the treatment of tabes. Mercury and the salts of iodine given in doses sufficient to act as an antisyphilitic are in the same category. Although four out of every five cases of tabes occur in persons who have had syphilis, and although there seems to be no doubt that tabes would practically cease to exist if syphilis could be wiped off the earth, still the morbid process constituting the disease has nothing of a syphilitic nature in its constitution, nor are there any evidences that there has been at any time in the course of the disease any pathological process which could in any way be construed as syphilitic. If the physician who encounters cases of tabes but rarely, and who can not therefore be very familiar with the disease practically were to have this in mind one would see less often tabic patients in whom symptoms of the disease had been accelerated by the vigorous administration of antisyphilitics.

In what other way can the great importance of absolute rest, of the administration of medicines that contribute to it, and of the application of ice-bags to the spine in acute anterior poliomyelitis be conceived of than by having in mind a distinct picture of the exudative, destructive inflammation going on in very perishable structures, viz., the cells of the anterior horns of the spinal cord and which will run its course in a few days. Yet I venture to say that in comparatively few cases are these measures instituted. If they were the results I believe would be evidenced by milder sequelæ of the disease. The same may be said of the treatment of Sydenham's chorea. The majority of cases are treated by the administration of arsenic, quinin, antipyrin, or whatever so-called anti-choreic is in vogue at the time or is being puffed most in the journal that the practitioner reads. Yet that same practitioner would not treat a case of rheumatism by giving the salicylates alone without saying a word about the dietary, about the necessity for alkalizing the excretions, for rest and retirement until the acute manifestations of the disease had passed. Chorea is a rheumatic, infectious disease of the blood which causes in turn a functional perversion of the cerebral cortex, principally the motor cortex. This perversion of function is manifested principally by the conspicuous symptom of the disease—dance movements. Rarely has the disease any organic basis, but when it has it consists of a slight encephalitis. The blood disease of which it is an epi-phenomenon results from infection just as rheumatism in the majority of instances is an infection due to divers but particular organisms as shown by the researches of Poynton and Paine,¹ Achaime,² Riva,³ Apert and Triboulet,⁴ to mention no others, to be a self-limiting disease. The most important feature in the treatment of chorea is rest and if this can be secured medication is rarely necessary. In fact, whatever medicine is given is with a view of securing rest and of overcoming the impressions made upon the blood by the acute disease. For instance, exalgin, one of the

most reliable anti-choreics, owes its efficacy entirely to its capacity to cause motor sedation. It does not seem to me that further emphasis or illustration is needed to carry this point, but if there were we could cite no better illustration than the successful treatment of neurasthenia based on a conception of the pathogenesis of that neurosis.

DETAIL IN THE TREATMENT OF NERVOUS DISEASES.

More important than everything else in the successful treatment of nervous diseases is conformation to the principles of my third proposition, viz., that successful treatment requires the most scrupulous attention to details in the application of the measures that experience has shown to be of value. I venture to say that in nearly every instance in which the general practitioner fails to get as satisfactory results from the treatment of any nervous disease as the neurologist, the failure can be traced to neglect of this cardinal principle. If I have interpreted aright the impressions received from an extensive acquaintance and intercourse with general practitioners as represented by my classes in the New York Post-Graduate Medical School, the failure to get gratifying results in the treatment of even the commoner neuroses is directly due to the fact that they pin their faith to specifics—of which by the way there are none in neurology—and expect everything from the administration of medicine. A patient comes under treatment for epilepsy. In nine cases out of ten the physician contents himself, I fear, with writing a prescription for a mixture of the bromid salts and in giving some perfunctory directions concerning the diet, particularly the consumption of meat. The result in the vast majority, in fact practically in all cases, is most unsatisfactory to the patient and physician alike. How could it well be otherwise in a disease in which the moral and hygienic treatment, including diet, discipline, education, occupation and recreation, are of far greater importance than the medicinal treatment. It has been demonstrated again and again that in nearly every case of epilepsy the number of attacks can be reduced one-half by conformation to these requirements. Whereas, if they are neglected and the bromids alone are relied upon, no such results follow.

In the same neurosis how often is care taken to determine the dose of the one real anti-epileptic drug, the salts of bromine? It is quite impossible to say what the dose of a bromid salt should be before considerable experimentation is made. There is no more dosage of bromid according to weights and measures than there is of alcohol for a patient with typhoid fever. The dose is the amount the patient can dispose of. For one patient it may be a scruple twice a day, for another it may be a dram or two drams; it is necessary to make an individual study of each case. It is as ridiculous to say that the dose of bromid for an epileptic is 20 grains three or four times a day as to say that the dose of quinin for a patient with malaria is 5 grains three or four times a day.

If what I have been saying about the necessity for precision and particularization is true for the treatment of epilepsy it is much more true for the treatment of neurasthenia, hysteria, sciatica, tic douloureux and a number of other functional diseases, particularly those which consist in, and depend upon primary alterations in the molecular nutrition of the nerve elements, manifested by disturbance of their function, either transient, or so persistent as to imply alteration of structure, i. e., the functional and nutritional diseases.

1. *Lancet*, Sept. 22 and 29, 1900.

2. *Annales de l'Institut Pasteur*, 1897.

3. *Centralblatt f. Innere Med.*, 1897, p. 825.

4. *Comptes rend. Soc. de Biol.*, 1898, vol. V, p. 128.

Is it probable that so many cases of sciatica would become chronic, and so many victims of this disease be incapacitated if the same care was meted out to them when they are acutely ill as they would receive were they ill of pneumonia? Here again the attitude of the practitioner often conveys the absurd belief that there is some specific called the salicylates, gaultheria, turpentine, aconitin, gelsemium or what not that will battle with this disease of divers and multitudinous causation and hurl the diseased nerve, sheath, or functionally perverted fibers back to health. Is this not an appalling absurdity? It is like treating all cases of lameness by fitting each one out with boots for flat feet and expecting recovery. One out of twenty perhaps will recover, for that may be the proportion of lameness that is due to flatfoot, but the other nineteen must go elsewhere for relief. The case of the patient suffering from sciatica is exactly a parallel one. Particularization is the first requisite in the treatment, then precision in the application of the particular indication for treatment.

The necessity of attention to detail in the successful treatment of nervous disease is never so apparent as in the treatment of that mysterious disease which we call neurasthenia and which consists in an acquired, or an inherited and acquired enfeeblement of all the nerve centers, the clinical picture varying as one set or another of such centers manifest the weakness most conspicuously. In one case the emotional side of the individual's make-up is most upset, in another the mental side, in a third the spinal centers, sometimes the sympathetic centers, but usually features of all these appear in the clinical picture, which is too familiar to you all to necessitate a verbal sketch. It is a species of disease that causes as much mental and physical misery as one can readily imagine and to encompass its cure, deep study, careful thought, tact, perseverance and untiring care are required. I suppose that there are few diseases that the rank and file of practitioners treat with less satisfaction. And yet, save in the rudimentary forms, that is to say, in the forms founded on an inherited disequilibrium of the nerve centers occurring early in life as an expression of this prenatal deficiency, and not the variety dependent upon exhaustion, intoxication and stress, it is not a difficult neurosis to cure if one attacks it with the same determination and treats it with the same scrupulous care and watchfulness that one gives an attack of typhoid fever or of gout.

MERIT OF THE REST TREATMENT—EFFICACY OF DRUGS.

It is in such care that the merit in great part of the so-called rest treatment, properly carried out, lies. Mere drugging is not sufficient. To treat such a case satisfactorily one must use all those non-medicinal agents, of which we shall speak further on, that make for the elimination of injurious products from the system, for constructive metabolism, and for the production of neural energy and functional equilibrium. The most that we can expect drugs to do in such a case is to aid in overcoming contributory causes of the disease, such as auto-intoxication, and to assist the secretions and the excretions. Drugs do not cause or even assist materially constructive metabolism, the one all-important element in the restoration of health, but massage, hydropathics, rest, food, exercise and mental suggestion do. The use of these in systematic fashion, according to rule and method, subject to variation for the individual, not in a haphazard and desultory fashion cures them all unless the condition is so ancient that structural change which knows no restitution has taken place. The failures that result when such treatment is essayed are more

often to be laid at the door of the patient than of the physician, for in my own experience these are the cases in which treatment has not been thoroughly tested. I have rarely had impressed upon me so strongly as in a recent experience the apparent antipathy which some of us have to the necessity of conforming to details in the treatment of cases in which the results of assiduous treatment do not seem to be readily apparent. We all know what a sad picture the patient with the remains of anterior poliomyelitis presents. Everyone who has treated many of these cases believes that persistent treatment contributes a little to the restoration of function and the preservation of some of the muscular fibers in the atrophying part. Every little gained counts so much. I saw in the early part of the present season a child 4 years old who had had, nine months before, a mild attack of anterior poliomyelitis which had as a result an atrophied, paralyzed left leg with compensatory deformity in the right foot. She was put under careful treatment consisting of daily intramuscular injections of nitrate of strychnin beginning with 1/100 grain and increased up to 1/20 grain, massage, as much resistance exercises as possible, faradic electricity and local warmth by means of flannel covering of the leg during the day and repeated artificial warming and dry heat at night. At the same time she was sent to an orthopedic surgeon who fitted her with braces. In six weeks there was very perceptible improvement. I wrote the family physician (who by the way had not sent the patient to me) telling him what I had done and expressing a hope that he would see fit to carry out some such treatment when the child returned home, as it had been shown to be of such service. Fearing that the dose of strychnin might seem to him rather large I said that 1/40 grain seemed to me about the proper dose for him to give. A few days ago I got a letter from the mother of the patient saying that the doctor told her that he could not find it in his heart to kill her child with strychnin as I had advised him, that he would give her a pill of 1/100 grain and that she could buy a battery and use it herself, and that the child "would grow out of it." That represents a keen perception of the necessity for detail in the treatment of nervous diseases and a fine effort to conform to it. I am sorry to say that I could recount a number of similar experiences.

THE USE OF NON-MEDICINAL MEASURES IN TREATING NERVOUS DISEASES.

Skill in the selection and application of measures that have been shown experimentally or empirically to be serviceable in the treatment of nervous disease is a large part of the neurologist's art. These measures include not only drugs but massage, electricity, the external use of water, mental suggestion, rest and occupation, exercise, vibration and a number of other means. I am a believer in the efficacy of drugs and I await hopefully and confidently the discovery of means to combat all the ills that man suffers, even though he be not heir to them. I believe that Nature provides an antidote, if it can be discovered, for every ill that art inflicts and that the highest known form of evolution should have its final transformation at three-score years and ten into another form of energy by a process of natural decay and not be disease. While anticipating this discovery and assisting in the search we must do the best we can with the means at hand. Drugs constitute one of these means. The measures enumerated above constitute far more important ones and, in my experience, it is a working familiarity with

them that the general practitioner often lacks and not skill in the use of drugs. Therefore I shall devote my attention to a brief consideration of some of these measures. I appreciate fully that nothing particular can be said of them in an address of this scope.

THE THERAPEUTIC VALUE OF ELECTRICITY.

Two of the most useful measures in the treatment of nervous diseases in my experience are massage and hydriatics: two of the least useful are electricity and hypnotism. Many hold the reverse of this. But they base their opinions, I fear, on the frequently repeated statements of a few who never offer satisfactory substantiation of their statements. I am far from denying the therapeutic value of electricity in the treatment of nervous diseases. Its value in facilitating restoration of integrity and function of inflamed nerves, such as in peripheral facial paralysis, lead palsy and other forms of neuritis, can not be gainsaid. It is also of some service as a pain reliever and an excitant of sluggish muscles. Neurological therapeutics would be deprived of much if electricity were taken from it. That which I am endeavoring to maintain here is that electricity is not a curative agent of great importance and compared with hydriatics and massage it is of small value. The best proof of this I think is that neurologists whom I have seen at work and with whom I have been at some pains to talk, use it very little as a therapeutic measure. As an aid to diagnosis and as a means of estimating the prognosis of diseases of the nerves and muscles it is of great importance. That this view is not shared by general practitioners is amply testified to by the batteries in various stages of decrepitude that can be unearthed in their offices. It would be interesting indeed to learn if they, as the supporters of the battery-making industry, can show results in the shape of amelioration or cure of disease to justify the expenditure. When I talk with general practitioners on this score they usually inform me that although they have one or more batteries (which, as a rule, are not in working order) and that they have used electricity frequently they do not feel that they have the skill in applying it or the requisite experience in its use to justify them in expressing an opinion. I feel that they are too modest because the only skill which is needed is a knowledge of the elementary principles of electricity as a force and which is taught in every high school. Professors of the art do not know more. It requires no more skill to give electricity therapeutically than it does to give digitalis. The skill is displayed in knowing when to use it and what to expect from it. The former is taught in every text-book on medicine and nervous diseases, the latter I am making an effort to put before you.

THE FIELD OF HYPNOTISM.

Hypnotism is another agency used in the treatment of nervous diseases that could be spared and never missed. Yet that which is at the basis of hypnotism and the entire superstructure around which it has been built is the very essence of the neurologist's art, as it is of every therapist. That something which makes the real physician a whole sun of illumination and a Gibraltar of hope to the despairing invalid is the subjective condition of the patient which markedly favors the operation of anything that the physician may do or say. Thus comes the immediate mending that follows reassurance, the uplifting that hangs on an assuring grip or an encouraging glance. It is this state of favorable subjectivity that so-called hypnotism causes. Purposeful suggestion accomplishes that which the physician does *secundem artem*. In so far as we are con-

cerned as therapists there is nothing in hypnotism that transcends ordinary human understanding or that necessitates flight to the occult or mysterious for its comprehension. Yet I venture to say that nine persons out of ten do not take this view of it. I would not be understood as saying that the phenomena of hypnosis from a physiological and a psychological standpoint are fully comprehended, but they are quite as well understood as that of normal sleep, and who thinks nowadays of standing half in wonder, half in awe, before a sleeper, even though the sleep has come to him while his attention is fixed upon one who is laboring to save his soul and telling him about it in a droning monotonous monologue. Yet this is the feature of the hypnotic performance that fills the spectator with awe, and perhaps with a little of the feeling that the person who can accomplish it must be more god than man. I do not tremble for my reputation as a prophet when I say that the day of the hypnotist—i. e., one who allows it to be believed that he is endowed with a peculiar and supernatural possession and whose manner of using it, weird and bizarre, can contribute only to such a belief—has passed. The memory of it, however, remains and many unfortunately refuse to avail themselves of the aid that it offers in the treatment of both functional and organic nervous diseases because of the stench of charlatanry that still clings to it. One word more on this subject. I have many inquiries, personal and by letter, as to where the art of hypnotism may be acquired. You have all seen the pictures and the addresses of those "professors" who are willing to teach it for a consideration. Mental suggestion as a therapeutic aid can be acquired just as a well-modulated voice, a pleasing address, an assuring expression, or any other element of a successful "bedside manner," but the more it is artificial and borrowed from another the more worthless and useless it is. The physician who is able to gain the respect and the affection of his patient will never know the need of hypnotism, and if Nature has not endowed him with the qualities to do this he might as well pray to St. Anthony for them as to hope to learn from a professor.

THE USE OF WATER: AN ESTIMATE OF ITS VALUE.

Does anyone deny that water of different degrees of temperature applied to the surface of the body is beneficial in almost every disease attended with lowered vitality and impaired nutrition? I think not. Then why is it not more universally used? When I ask this question of my friend the family doctor he usually responds "because I haven't got the apparatus and because I do not understand the technique of its application." Although I tell him that to obtain most of its beneficial effects scarcely any apparatus is necessary, and that the technique can be acquired by a little experimentation upon himself and his patients, I fear that his future conduct does not convey flattering testimonial to belief in my veracity. Still I go on trying to promulgate the view hoping, like the patent medicine vendor, if I say it often enough and conspicuously enough that someone will believe it. If one can have the conveniences of a fully equipped hydriatic establishment or the services of a nurse who has had much experience in giving douches, packs, ablutions and tubbings, it is very agreeable. It is also very agreeable to have some one to make your night calls. But because you have not this assistance the patient does not have to lie in suffering all night or the woman complete her labor unattended. I maintain that the most successful application of water in the treatment of nervous diseases is an art that can be ac-

quired only by experience. But in this does it differ from any other branch of therapeutics? Not at all, and I know of no other way of acquiring the experience than by going hard at it. With a number of treatises on the subject in every language, with full consideration of the subject of hydiatics in every book on nervous diseases and therapeutics the earnest seeker after knowledge should have little trouble in possessing himself of all the experience that an adept can hand over to a novice.

MASSAGE AND THE OPERATOR.

Massage does not occupy a very exalted place in the therapeutics of nervous diseases, nor does it have, needless to say, any specific action in counteracting pathological states of this system. But in many diseases it is one of the most valuable agencies that we possess. For instance, in the treatment of hemiplegia there is nothing that compares with it. It is one of the indispensable auxiliaries in the treatment of neurasthenia. It can rarely if ever be dispensed with in the treatment of neuritis, single or multiple, anterior poliomyelitis, or certain forms of progressive muscular atrophy. Indeed it is one of the most important of the non-medicinal measures: hydiatics, electricity, exercise and dietetics. The fact that it requires no apparatus or paraphernalia for its use and that any intelligent person can soon acquire the dextral proficiency, providing he has the strength necessary for its application, is one of its leading recommendations. The professional masseur, and his feminine counterpart who has so often used it as a mantle to pander to vice are largely responsible for the disrepute of massage. We may congratulate ourselves that we are not responsible for its unmerited disuse as we are, I am afraid, for hydrotherapy.

A professional masseur who endeavors to impress his patients with his superior knowledge, resorting to clap-trap means for this purpose, may be a good rubber but he is a most undesirable person to have about a nervous patient and not infrequently has an unwholesome effect which offsets the benefit that follows the rubbing. The mode of applying massage is not all-important, as the graduates in the art maintain that it is, although naturally there is a right way and a wrong way. If one has in mind what he wishes to accomplish by massage he will have no difficulty in applying it himself or teaching any fairly intelligent person of strength how to use it. Its usefulness is restricted to quickening the lymph and blood circulation, to stimulating tissue metamorphosis, secretions and excretions and combined with passive motion to the prevention of adhesions. To accomplish these one makes use of stroking, frictions, kneading and tapping and it depends entirely on what one wishes to accomplish which of these he will use. My message to you particularly is, however, that massage is not a mystery and that although men and women are still being humbugged into paying large sums of money to learn it, and dishonest men and knaves are quacking with it, it is still a simple mechanical process whose use enables your patient to consume and assimilate the enormous quantities of food required to build up bodily tissues and repair bodily strength, which is the basis of cure in almost all cases of chronic invalidism, especially, of the functional variety.

THE PATIENT FIRST: THEN THE DISEASE. WORKING OVER THE PATIENT.

I have had a great deal to say about the individualization of therapeutic procedures because I think it is too much neglected. At the same time I have not forgotten that after all it is for the individual patient that

we should reserve our keenest discernments. Scarcely any two cases of functional nervous disease can be treated in the same way. This is particularly true of neurasthenia which forms such a preponderance of the functional nervous ailments as seen by the general practitioner. Although there are certain requirements that must be conformed to in every case, such as getting the patient out of the immediate environment in which she has developed her symptoms or had her evil habits fostered by over-zealous relatives and friends (which by the way does not necessarily mean sending her away, except perhaps to a neighboring boarding house or hotel), and the selection of a suitable nurse who is able or can learn how to give massage and hydrotherapy, even the method of accomplishing these and carrying them out is subject to much variation. But no two cases can be treated in exactly the same way, even with the non-medicinal therapeutic measures. And to the extent of determining just what means must be adopted to bring about desired results a certain amount of experimentation must be made with each patient. It does not contribute to the patient's comfort or well-being to share in this knowledge. For instance, one patient stands every form of hydrotherapy most indifferently. Another can not abide electricity, and so on. This being the case, one easily sees what would result if every patient were subjected to routine treatment without any variation. It is this study of the individual that enables the physician to interpret the case psychologically just as an examination and consideration of his various tissues and organs allows him to interpret it physiologically.

These fragmentary remarks would ill-represent the writer's attitude toward the treatment of disease if something were not said of that all-important element in neurological therapeutics—working over one's patient; working untiringly, hopefully, full of confidence that reward will be vouchsafed in the shape of partial or complete restoration, even though manifestations of it be despairingly delayed. This was the art of that great master of therapeutics, the younger Seguin, to whose memory I respectfully make my homage. One could not watch him toil painstakingly with a case of peripheral facial paralysis, of epilepsy or of Grave's disease, day by day and month by month without becoming possessed of the belief that here was one at work who knew wherewith he toiled and whereof he builded. The success that rewarded him in the treatment of nervous disease justified his labor and his determination, and the lesson should not be lost upon us. The physician who thinks to balance the sympathetic nervous system manifesting the symptom complex of angio-neurotic edema or erythromelalgia with a few doses of strychnin or by regulating the functions of the alimentary canal, deserves commiseration, for life has in store for him but a succession of disappointments. The individual who believes that any disease save the self-limited diseases, can be dislodged after a few more or less desultory encounters, as the devil was dislodged in medieval times by priestly exorcisms, should be labored with as patiently as the missionary labors with the heathen, that he may see the error of his ways, and come into the fold of the righteous.

OUR LIMITATIONS.

Finally, a word must be said concerning the importance of our 5th proposition, viz.: Realization that a disease which is the expression of a prenatal defect, or of many years' development can not be overcome in a few

days or weeks. This I am sure is generally conceded, but I am not sure that our conduct of the cases is always in keeping with our convictions. It is often necessary for the patient to appreciate it as keenly as the physician. A patient seeks relief for the symptoms of that mysterious neurosis known as exophthalmic goiter or Grave's disease. She may complain only of palpitation and a feeling of agitation, symptoms that seem to her trifling, and she expects relief from them as she would from cough or headache. The fact that she has a nervous organization that is congenitally unstable and that for years she has been poisoned by depraved secretions of the thyroid gland is entirely unknown to her, but she must in some way be made to appreciate it before she will take kindly to the tiresomeness of treatment. How else will she be reconciled to lying on her back for from one to three months suffering what seems to her the cruelties of the rest treatment with its concomitants of overfeeding, massage and electricity. But if she can be made to appreciate what her disease stands for and the natural way out of it how much easier it is for us to assist Nature in restoring her to health. This is not only true of Grave's disease but of almost every disease of the nervous system.

Another very necessary thing for us to do in our battle with nervous disease is to recognize limitations. The real nerve tissue, the parenchyma of the nervous system, the nerve unit or the neuron once destroyed is never regenerated. In this respect it does not differ from other specialized tissue cells. No one expects new liver cells to grow or new muscle cells to spring up to take the place of old. Nerve cells may, however, undergo much integral change before they decide to give up the ghost, and inherent and functional restitution occurs in nerve tissue that has been the seat of very decided alteration. Although our hands are not infrequently tied from the start in our encounter with nervous diseases, by virtue of the death of neurons, this should be by no means the signal for despair and retreat. We may find plenty of opportunity in saving other neurons from decay and in delaying the process in those that are fated to die. Let us take, for instance, locomotor ataxia. A man comes to us when he is 40 years old with symptoms that indicate the beginning of the disease. It is almost absolutely necessary that he should know the nature of his disease in order that he may avoid experiences that are bound to be injurious, and that he may coöperate with the physician in delaying the disease process. Although the outcome of tabes has not been altered by our present-day therapeutic resources it is beyond question that its course is materially delayed by treatment. So that we may say to our patient with a great deal of confidence that from 15 to 20 years of usefulness may still be his which will bring him up to an age when, if he has read his philosophy aright, he should be able to contemplate transformation with some resignation. During this period, which in many cases is much more protracted, he has not only time to put his house in order but to provide for his dependants. Treatment that can accomplish this can not be passed over lightly, nor is the making of a diagnosis of tabes when this potency is held in reserve quite equivalent to the signing of his death-warrant in the common acceptance of that term.

After all has been said the neurologist's art is but the conspicuous characteristic of every skilful physician, who believes in the curability of disease and who feels that he is but an agent shaping the course through which Nature effects her cures.

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AN ANALYSIS OF FIFTY-TWO CASES OF TETANUS FOLLOWING VACCINIA.

WITH REFERENCE TO THE SOURCE OF INFECTION.
1839-1902.*

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PHILADELPHIA.

(Concluded from p. 1152.)

In order to study the question in a judicial manner, and to weigh the evidence for and against an infection carried by the vaccine virus, several points must at once be considered, and in their association and grouping rather than separately. Among these are to be included:

1. The manner of preparation of the virus, the suddenness and proportions of the demand for the same, the care used in testing such virus before being placed upon the market, and finally, the bacteriologic and inoculation experiments that have been possible either before or after infection.
2. The method of vaccination; whether executed in an aseptic fashion, and with such precautions as to prevent unnecessary exposure of the wound during and after the operation.
3. The after-care of the wound, up to and after the time of perfect healing and the dressing employed.
4. The incubation period of the tetanus, always allowing (with a view to thoroughness in our investigation), until there is reason to think otherwise, that the infection has been introduced at the time of vaccination.
5. The clinical symptoms, whether severe or mild; the grouping of the cases as to locality and frequency of occurrence; and the outcome, whether fatal or benign.
6. Any possible and probable source of infection other than the vaccine wound and the vaccine virus.

In considering these questions we must admit in advance that the tendency has been to lay the credit for the tetanus at the door of the vaccine virus, in spite of an overwhelming array of circumstantial evidence that the infection may have been by other agencies. In presenting this mass of evidence for intelligent study, therefore, it has been thought advisable to tabulate the several details under discussion in the accompanying diagram, opposite the number and date of vaccination of each case.

With regard to the first point, the manner and cleanliness of preparation of the virus, it will be necessary to consider three periods in the history of vaccination: that period prior to the knowledge of the infectious nature of tetanus; that subsequent to this discovery, but during which human virus was largely in use; and, that recent period in which bovine virus has been mainly employed.

During the period prior to the knowledge of the infectious nature of the disease (Nicolai-Rosenbach, 1885-6) reference to our table will show that we have recorded seven cases, two of which (2 and 3) were not certainly, though probably, tetanus. Vaccine material at this time (1839-1885) was largely that obtained from the arm of a human being. As early as 1850 this was at times diluted with glycerin. In all but one of the cases included in this period, as far as could be ascertained at all, the virus used was human lymph. Only one of the seven cases was known to have been vaccinated with "bovine quill" virus. Case 9 followed shortly after and was vaccinated by the "arm to arm" method as before, from a child that was healthy before and after the use of its lymph.

* Read at a meeting of the Philadelphia County Medical Society, April 23, 1902.