in reality grave, and necessitate the utmost care and skill in their management. As in hysteria and epilepsy, so here also, we need not speak of the manifestations of the various forms of neurasthenia, but rather proceed to discuss the treatment of these three conditions in a concise manner.

Of epilepsy I need say very little. In every case a possible toxic origin should be kept in mind and sought for. If found and successfully counteracted rapid amelioration in the patient's condition should and does result. My best experiences have certainly been in this direction. Otherwise the old routine treatment with the bromids, eventually combined with the iodids, or with borax, offers the surest means of rendering the attacks less frequent and severe. Complete cures under this therapy are certainly rare. Wherever a positive diagnosis of local cerebral trouble can be made, or even where reasonable suspicion of an organic focal lesion can be entertained, surgical methods are justifiable and should be practiced. It should be remembered that epilepsy is not infrequently of reflex nature, either from the eyes, nose or other organs, and abnormalities of these parts should be corrected. Scars or an adherent prepuce also sometimes induce epileptiform paroxysms, and where this is the case surgical methods are again in place. Unfortunately enthusiasts have brought the reflexes into disfavor.

The exact lines to be pursued in treating hysteria and neurasthenia depend largely upon individual cases and the conditions of life under which these cases exist. It is probably safe to adhere, if possible, to the rule, that change of scene and environment are beneficial to these two conditions. The complete loss of vital forces in many cases renders it often impossible to follow out this precept, until a considerable improvement has been attained. Whenever it can be done, however, an abrupt change in the habits of existence, a journey and especially a sea voyage for neurasthenics should be advised. By surrounding those afflicted by other persons and things and thereby diverting the remaining energies into other channels of thought and action much good may result. High mountain altitudes are beneficial in some cases, in others directly injurious. Ordinarily the sea coast is preferable as a place of sojourn.

Special attention should be given to the conservation of the vital forces still surviving, and the general state of mind and body tonus raised. By suggestive therapy excellent results may be achieved. If properly conducted and patiently carried out this method will often bring about an ultimate cure. It may be well to warn that this suggestive therapy is by no means identical with hypnotism. As a diagnostic aid hypnotism is often useful and may be conscientiously employed. As a therapeutic agent it may, and I think, usually does prove injurious. It has been of great value to me in individual cases, but my own experience, and that of many others, has not been of a character to warrant its continual and irrespective use in the treatment of any class of diseases. Suggestion in the waking state is equally efficacious, always possible and never harmful. It has been contended that it is difficult to hypnotize hysteric and nervous persons, but this is an error. As long as the attention can be concentrated these persons pass into the hypnotic state readily enough, with the ultimate result of further weakening an already shattered nervous vitality. It is therefore not untimely to pro-

test against an indiscriminate use of this certainly powerful influence.

Naturally, whenever we suspect any etiologic factor as a cause of the nervous derangement we should seek to eradicate this factor. By so doing we strike at the root of the evil. In this connection it may be well to draw your notice once again to that which I have said concerning the possibility of auto-intoxication as productive of hysteria, epilepsy and neurasthenia. I have frequently found that persons, notably girls and young women, suffering from severe hysteric manifestations, were afflicted with chronic intestinal and renal disorders; they were essentially chlorotic and jaundiced, and very often were subjects of deranged thyroidal activity. By counteracting the malignant influence alone we may sometimes effect a cure. In addition to the above, and a proper use of medicinal remedies, a judicious bathing and open-air regimen ought to be carried out. My rule in regard to baths, both sponge and full, is to reduce gradually their temperature, but always to avoid the slightest degree of shock. A rational understanding of the effect of cold water is absolutely essential to the physician. Otherwise only poor results will attend his best efforts.

Only two other methods of treatment or, better said, parts of the general treatment need be mentioned, *i.e.*, electricity and the so-called rest cure. The electricity can be used in all of its forms. In my hands general faradization and the static current have been productive of the best results. Too strong currents should never be employed. In the severer forms of hysteria and neurasthenia, the rigid "rest cure" brings the speediest and surest relief. To be successful this should be absolutely carried out in all details, and should be extended over several weeks, and never attempted at the home of the patient. By isolating these cases completely from the other members of the family, by calling to our aid general faradic massage, by husbanding every atom of vital energy and by judicious feeding, even desperate cases improve rapidly and finally recover entirely. But, to repeat, it is absolutely essential that not one iota of nerve force be misspent nor a single portion of the remaining bodily strength be wasted.

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CRITICISM OF THE ANTITOXIN TREATMENT FROM A DIFFERENT STANDPOINT.

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The enthusiasm for the antitoxin treatment has at the present time become so common that one can hardly dare to give a pessimistic opinion if he does not want to run the risk of being called heretic or unscientific. Still I would like to explain in a few words the standpoint which I take as to the antitoxin treatment.

The statistics show the undeniable fact that since the introduction of the serum-therapy the mortality in diphtheria has decreased to about one-half of its former figure. Yet I think it wrong to ascribe this decrease in the mortality exclusively to the antitoxin treatment, but I take it for a very important causal factor that the serum-therapy, though absolutely not harmless, is less harmful than the drug treatment formerly used. The proof for this assertion is given us by those cases in which we apply antitoxin for

mere prophylactic purposes in healthy persons. The less severe disturbances which the antitoxin causes in our system escape our perception. Still we can say that visible changes in the subjective and objective condition of the person in the majority of cases do not set in; that, in other words, the condition of health of the person concerned is about the same after as before the injection of antitoxin.

Now we may give to a healthy child such drugs as calomel, potass. chlorate, etc., which we used under the old treatment, also a part of those drugs, as chlorid of iron, sublimate and the like, which we used for local application and which are also partly swallowed and absorbed into the child's system, and see if these drugs will produce as little constitutional disturbance as the antitoxin does. If this is not the case, if they are able to make the healthy child sick, is it not plausible then that they must have a more harmful effect on a child that is already diseased and who needs all its vital power to overcome the disease? Can we doubt that many a case that might have been cured otherwise must succumb to the twofold demand made by the overcoming of the disease and the elimination of the drugs the antibacillary and antitoxic effects of which are merely illusory; that, in other words, the mortality must be greater under the use of these drugs than without them?

I call attention to typhoid fever. At the time when we treated this disease with chemic antipyretics and internal antiseptics the mortality was 15 to 20 per cent. Had we been able to exchange this treatment for a serum-therapy, I am sure the mortality would have decreased to one-half also. By Brandt's method of hydiatic treatment it has decreased to less than 5 per cent, and this percentage will never be beaten by any other treatment, by no serum-therapy either. For typhoid the antitoxin treatment comes too late, and it would also have come too late for diphtheria, if we had exchanged the drug treatment directly for a hydiatic one.

What do we intend to do with hydrotherapy in typhoid? We do not expect it to have any influence on the process in the intestines, but we use it as a natural antipyretic and a tonic for the *vis medicatrix naturæ*, which alone can cure any pathologic disturbance in our body. Whether we have to deal with the typhoid bacillus, the diphtheria bacillus, or as the case may be, the pneumococcus; whether the lesion exists in the colon, the pharynx, or as the case may be, the lungs, is in my opinion entirely equal. Typhoid is so far the only disease in which we apply a physiologic treatment almost universally and with the best results. And it is inexplicable why the favorable therapeutic experience which we have gained in typhoid is so slowly extended to other diseases. Lately we have commenced to treat pneumonia with hydrotherapy, but why do we not use this treatment in every acute disease whatever, as in diphtheria? If I defend the hydiatic treatment of diphtheria, it is not only for theoretical reasons, but for practical experience and I do not doubt that a controlling treatment of diphtheria by hydropathy on the one, and by antitoxin on the other side, would certainly be in favor of the former. By the way, I want to call to mind the better convalescence, the *restitutio ad integrum* which we almost always find after the hydiatic treatment.

I need not say, that as long as the majority of the physicians neglect the use of hydro-therapy, the

antitoxin treatment will hold the field for a long time, and as to the practical results we can be satisfied for the present, for we have made a good change anyhow, if we remember the old drug treatment (drug poisoning). Still we can be sure that the antitoxin treatment will some time disappear, and the physiologic treatment, the therapy of the future, will be applied by all physicians. Then we will treat diphtheria in a natural way, as we do typhoid now, and the mortality will be nearly as low as that we now have in typhoid; that means it will be considerably lower than it is under the antitoxin treatment.

The followers of serum-therapy maintain that on the application of antitoxin the whole course of the disease changes, that the temperature decreases, the general condition improves, the appetite gets better, the swelling of the glands diminishes, the membranes disappear in a comparatively short time, etc. Why, to decide this point, we have to wait for some more impartial opinions. In the first enthusiasm for a new treatment we are apt to see everything in a more brilliant light than we do after a thorough investigation. We have had this experience a thousand times with new drugs.

There is nothing so injurious to an impartial opinion as the fact that we are always apt to take the *post hoc* for the *propter hoc*. Every physician knows that there are a great many of cases which change for the better quite unexpectedly, and I am sure that this fact has a great deal to do with many a brilliant result of antitoxin treatment. An illustration of this opinion I lately received from a brother physician, an enthusiastic believer in serum-therapy. His 6-year-old boy became sick suddenly with high fever, swelling of the maxillary glands, difficulty in swallowing and thick coating of the tonsils. The doctor obtained some antitoxin late in the evening, but postponed the injection of it until the next morning, when it was no longer necessary, the boy being entirely well. The fever was gone, the maxillary glands were painless and had greatly decreased, and the membranes were almost gone. This case would have been taken as a convincing proof of the efficiency of the antitoxin, if it had been injected. Similar cases certainly are in the mind of every physician.

A fact that we also must not overlook, is that, as the antitoxin is said to manifest its main power in the beginning of the disease, there is many a simple inflammation of the pharynx taken for diphtheria and supposed to have been cut short as such. It is absolutely necessary that we form our opinion of the value of the antitoxin only from such cases as are diagnosed as diphtheria from a bacteriologic examination, which has not been the general custom so far. I do not know among the physicians I am acquainted with and who are enthusiastic followers of the serum-therapy, a single one who makes a bacteriologic examination in every case and with whom such an examination is not an exception. And I am certain almost every physician must admit the same of himself and his friends. So we can say that the great majority of those cases to which the present fame of antitoxin treatment is due, are such in which a bacteriologic examination has not been made.

But how can we swear to the efficiency of a remedy for diphtheria, if we do not know in every single case whether we have to deal with a case of diphtheria or with a simple catarrhal inflammation? We can not rely merely upon the clinical diagnosis, for

it is, for instance, almost impossible to diagnose a case of diphtheria in its beginning, at a time when the antitoxin is said to be especially efficient. That even advanced cases do not necessarily furnish the clinical symptoms, we see in membranous croup and in those cases in which a diphtheritic paralysis (for instance, of accommodation) occurs, and in which the patient hardly showed any symptoms indicating diphtheria.

The followers of the antitoxin treatment further say that since the introduction of this therapy, the mortality in children who were operated upon for croup has decreased. Even by this fact we must not be filled with enthusiasm too quickly. We know that most of the children affected with croup do not offer severe, but mild diphtheria, and that the dangerous character of croup merely consists of the localization of the membrane, the mechanical occlusion of the glottis. Most of these children are cheerful, have a good appetite, very little fever, only slightly swollen glands, almost no symptoms from the throat, and hardly offer the appearance of a sick child until the mechanical occlusion of the glottis and suffocation set in. If in such a case we provide the child with sufficient air, as we do by tracheotomy, and beside treat the child by a comparatively harmless method, as we do by the antitoxin treatment, it is not surprising that the results will be better than they were at the time when we used to injure the vital power of the child by drugs and when we exposed the child to vapor saturated with chemicals that, though not powerful enough to kill the bacillus, yet were strong enough to have a poisonous effect on the system and which prevented a sufficient supply of oxygen, so immensely important to the almost suffocated child.

As to those injections of antitoxin which are made for prophylactic purposes, we must admit that it is not the rule that from a child being sick with diphtheria the majority of the family becomes infected, at least this is not my experience. If we, therefore, apply antitoxin to every member of a family in which there is a case of diphtheria, we can wager ten to one, of course, that the result will be in favor of the antitoxin.

Whether my opinion which I have given in the foregoing treatise is wrong, or that of the followers of the serum-therapy is right, can not be decided upon, unless we use a little more logic in the investigation of the subject. The followers of the antitoxin treatment declare that it is necessary, in order to get those good results, not to combine any drug treatment, at least not to the extent as formerly used, with the application of antitoxin, and right there, it seems to me, is the root of the whole matter. I do not call it logical to ascribe the decrease in the mortality exclusively to the antitoxin treatment and not pay any attention to the possibility that the exclusion of the drug treatment might have something to do with it. This point ought to be investigated first, for we can not deny the fact that the animal serum is more related to us and less harmful to our system than the chemicals are, and it is logical that the exclusion of the greater evil must have a favorable effect on the mortality.

We know or assume that under the drug treatment also antitoxin was formed in the blood serum of the sick child. If we now would continue this drug treatment and increase the amount of antitoxin in the child's blood, by injecting animal antitoxin, and the mortality would decrease, then we could say that

this decrease is merely due to the antitoxin injected, and nobody could deny this fact. If, however, the drugs interfere with the antitoxin, then we ought to find out first, by excluding the drugs, what mortality there would be if the system, in its fight against the diphtheria poison, had to rely exclusively upon the antitoxin that is formed in the diseased body. Only if we know this percentage of mortality, we can form a correct opinion of the animal antitoxin which we inject into the child. But as we might not like to treat a case of diphtheria by an indifferent treatment, we could easily follow the former way of investigation, and ascertain the mortality which we would have under a combined drug and antitoxin treatment. To exclude the more harmful drugs and substitute the less harmful antitoxin and to ascribe the favorable change in the mortality exclusively to the latter, is a logic that would not be admitted in any other science.

WHITHER ARE WE DRIFTING? INDICATIONS OF A DEGENERATE MATERIA MEDICA.

Read at the forty-fifth Annual Meeting of the Medical Society of the State of Pennsylvania, at Chambersburg, Pa., May 23, 1895.

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Medieval and ancient history tell us that in those periods of the world's history the practitioner of medicine covered up a vast amount of ignorance under the veil of secrecy and mysticism, in order that he might awe the superstitious and satisfy the incredulous. In those ages the alchemist sought the hidden things of nature, either from love of science or a desire to enrich himself by discovering a means of producing the precious metal. Those ages were followed by one of enlightenment, when rational medicine supplanted mysticism and the nobility of scientific attainment was wedded to philanthropic purposes. Physician, surgeon and chemist worked hand in hand, and surgery, materia medica and pharmacopœia teemed with the products of advanced thought, freely and voluntarily disseminated with no motive save the good of mankind in general, and the advancement of medical science in particular.

In these days practitioners of medicine were for the most part dignified, courteous gentlemen, whose intellectual attainments and excellent judgment awarded them a high place in the esteem of the community, seldom equaled by the clergy, and never by the legal profession. There are living illustrations of the truthfulness of this statement in the persons of some who are still identified with this society though past the three score and ten, or four score years allotted to man; and have we not been impressed with the accuracy of the statement when brought in contact with them?

Time effects many changes, and chemist and medical man have shared in the process of transformation. The product of the laboratory now receives an euphonious designation, is turned over to a number of experimenters, endorsed to order by them with undue haste, whereupon the "Chemical Company," burning with desire to confer manifold blessings upon suffering humanity, issues a very attractive pamphlet which glows with candor on one page and ambiguously obscure upon another, parades the names and string of titles of its stock list of product endorsers, and generously offers, post or express prepaid, samples as a bid for further endorsement. At