

7. Microcephalic Idiocy.
8. Congenital ,,
9. Cretinism ,,
10. Idiocy by deprivation—that is by the loss
of two or more of the senses.

I have used the word insanity instead of mania for most of the forms, and have added six new forms, viz., Hypochondrical Insanity; Rheumatic and Podagrous Insanity;—Anæmic, such as we have from starvation, Choreic, and, lastly, insanity caused by tumours, or abscesses of the brain.

The name of Rheumatic Insanity, which I had omitted to enter in my first list, reminds me of a fact which may interest some of my friends, and shew how long it is since the seeds of this classification were first sown by me. In 1845, when my friend Dr. Benbow, then an assistant to my predecessor, Dr. Mackinnon, was passing his examination as a Fellow of the Royal College of Surgeons, I advised him to take for the subject of his thesis the connection between insanity and rheumatism. This he did, and his thesis, a very good one, is in the archives of the College.

Neither Müller nor Van der Kolk led me to adopt the present method, nor to work in that direction. I had not read their works when I published my system, and had held, indeed, the same views for some time before, and promulgated them in my Clinical Lectures. I presume the great defects of the old system, and the general progress of psychological science led us all to make efforts in the right direction—each with more or less success.

(To be continued.)

The Treatment of Insanity by Electricity. By GEORGE M. BEARD, M.D., of New York.

THE application of electricity to the treatment of various diseases of the brain and spinal cord has for a number of years been a regular method of treatment with some of our best known neurologists and electro-therapeutists, and the value of such treatment, when rightly administered, is now questioned by very few advanced students in these departments. It is not, however, so well recognised that in diseases of the brain and spinal cord, where the mind is seriously affected, the electrical treatment is also indicated. In some of the asylums of England, United States, and Germany,

electricity is now, and for some time has been used as an adjunct to other remedies for the treatment of different forms of insanity; but with a few exceptions the treatment is not systematically carried out, and, partly through ignorance of the methods of application, partly through want of sufficient medical assistance to supervise the necessary details, the results have not been entirely satisfactory, and the cases have not been fully recorded.

I should except from these remarks the Alabama Asylum for the Insane. When under the superintending of Dr. Bryce both currents of electricity have been used in the treatment of the patients for the past two or three years.

I have corresponded with Dr. Bryce on the subject from the first, and have at different times given suggestions in regard to the methods of application, which suggestions have been carried out so far as possible for the already over-worked officers of that institution.

Under date of February 17, 1873, he gives the general result of his observations in the following language:—

“We like it: find it beneficial in most cases, valuable in a majority, and indispensable in certain forms of hysterical insanity, in primary dementia, and neurasthenia.”

In the April number of “The London Journal of Mental Science,” Dr. A. H. Newth, of the Sussex County Asylum, reports a number of cases of insanity treated by galvanic current, with results that are quite encouraging, in spite of the crudeness of his methods.

It is useless to attempt the electrical treatment of insanity, as it is useless to attempt the electrical treatment of diseases of the central nervous system of any name or form, without previous study of the general subject of electro-therapeutics, as well as of the principles of electro-physics and electro-physiology, that have a direct and practical bearing on electro-therapeutics.

The failures in this, as in other branches of electro-therapeutics, are in fact the logical result of want of familiarity with the management of batteries, of incorrect ideas on the differential action of the currents, and the general action of electricity on the body, and deficient technical skill in the details of the applications.

All these difficulties can be overcome by those who have the proper amount of leisure, or can steal time from other duties, and who will give to the subject the same zeal and

patience that they give to any other complex and difficult subject.

No man can apply electricity with the highest success until the details of the applications have become to him a matter of *routine*, so that he can use any one of the methods on any kind of a patient without fear or doubt. Skill of this sort, in any art, cometh not of observation; it is acquired only by careful, studious, and repeated experience. Just as no one can dance well who must watch each step lest he make a slip; just as no one can sing or play to our edification who trembles each moment lest he strike a false note; so no physician can apply electricity with satisfaction who is half in doubt whether he is using the right method, or whether he is using it rightly.

I make these remarks because there is a vulgar error abroad, both in England and the United States, that any "Old Granny" can make applications of electricity. The error has retarded and still retards the growth of scientific electro-therapeutics.

For those who are beginning to use electricity, or are contemplating its use in the Asylums for the Insane these general suggestions may be of service:—

1.—Let it be remembered always that electricity, in any form—Franklinic, Galvanic, or Faradic—when applied to the body acts as a *stimulating tonic with a powerful sedative influence*. It is an agent for *improving nutrition* in any condition, local or general, where improvement in nutrition is required.

The order and degree of its effects depends largely on the method and manner of application, and on the constitution and disease of the patient to which the application is made.

The primary and immediate effects are stimulant and sedative. Localized applications improve the nutrition of the part to which the application is made, and also act reflexly on other parts; central applications improve the nutrition of the central nervous system; general applications improve the nutrition of the whole system, central and peripheral. Those that adhere to the old, but fortunately dying out notion that electricity is a stimulant—in the proper sense of the word—and consequently good for nothing except to rouse the paralysed, will not, of course, attempt to use it in insanity, or indeed in any of the diseases where its success is greatest.

2. That in insanity the brain is not the only part of the body affected. Excluding those cases of insanity produced

by reflex action from the digestive and pelvic organs, there are very many cases where the spinal cord and other parts of the central and peripheral nervous system suffer as an effect of the disease of the brain. It is well known that in cerebral hemorrhage the spinal cord becomes weakened and diseased through simple disuse, and it is rational to believe that in other central diseases the spinal cord becomes more or less exhausted, even when it does not fall into a condition where it would rejoice the heart of a student of morbid anatomy.

We know still further that in certain forms of insanity the cord as well as the brain may be affected. Besides all this it is recognised everywhere that through long-continued disease of the brain and spinal cord, other parts of the body become exhausted and diseased. While these remarks may seem but common place to experienced psychologists, and while the fact of the relation of diseases of the brain to diseases of other parts of the body is continually recognised, when other remedies are employed, still in the application of electricity some experimenters have acted on the theory that the brain alone should be treated. Those who act exclusively on this theory will not gain great victories over insanity by electricity. Some applications should be made in such a way as to bring the whole central nervous system under the influence of the current, and local diseases associated with insanity as a cause or effect should receive local treatment.

The central nervous system is best brought under the direct influence of the galvanic current by the method of central galvanization.* The method may be varied by galvanization of the brain, cervical sympathetic, pneumogastric and spine; but the method of central galvanization is easier, safer, and more effective. In cases associated with debility, and especially in those forms of insanity dependent on neurasthenia or nervous exhaustion, general Faradization answers a good purpose, and may with great advantage be used alternately with central galvanization or localised galvanization of the nerve centres.

3. The first tentative applications should be very mild, and the strength of the current and the time of the sitting should be gradually increased as the patient proves himself able to bear the treatment.

* The method which I have employed for three years past was described by me in the "New York Medical Journal," October, 1872.

Individuals in health vary in their susceptibility to electricity to a degree both surprising and unaccountable. When disease invades the brain this susceptibility may become somewhat modified; but in insanity, as in the other forms of nervous disease, it is the *temperament* more than the disease that determines the susceptibility of the patient to electricity.

In some cases of disease of the brain the patient is exceedingly susceptible, and must be treated with great delicacy, but such susceptibility is not of necessity the result of the disease; it would probably appear in the same patient however afflicted. In other cases of disease of the brain the patient may be extraordinarily tolerant of electricity, and this tolerance may be the result of the pathological changes in the brain, or it may be simply the peculiarity of temperament that would appear in any disease, or it may be the result of both factors.

The practical lesson which this consideration enforces is the necessity of making the first applications with great caution, and of studying the temperament of our patient before making use of strong currents or protracted applications. Many, probably the majority of insane patients, will bear strong or moderately strong currents; some will have to be treated with considerable caution, and in a certain percentage of cases, on account of the idiosyncrasy, or on account of the acuteness of the symptoms, electricity may be positively contra-indicated.

It is impossible to determine from the appearance of the patient whether his temperament is or is not suited to electricity; this can be learned only by trial, just as in the case of all other remedial agents. Electricity may be used in almost any form of insanity, by whatsoever name it may be called, when sedative or tonic effects are indicated. In my own experience the best result has been obtained in hysterical insanity, in mania, and in melancholia dependent on change of life. Dr. Bryce speaks encouragingly of the effects of this treatment of primary dementia.

Two or three special suggestions of a practical nature may properly be enforced on those officers of asylums who are trying to experiment with electricity.

First.—Do not attempt too much at once. A few cases—two or three—carefully treated, and assiduously watched for a number of weeks, will teach us more of the details of the applications and of the general effects of electrization than

a hundred cases carelessly treated, and abandoned before the treatment has been well tried.

The time and force required to treat a large number of cases will discourage any but the boldest and most hopeful, and will almost necessarily result in failure. After the details of the methods of application are fully understood, and carried out with ease, the number of patients submitted to the treatment may be increased.

Secondly.—Do not judge of the value of electricity as a remedial agent in insanity, by the extreme results—either success or failure. The first two or three cases treated by electricity may yield so brilliantly as to suggest a doubt whether the other methods of treatment may not be dispensed with, or they may be so utterly obstinate as to confirm and clinch all previous scepticism on the subject. Either conclusion will be wrong. Electricity in its conflict with disease, like most of our active remedial agents, meets with all kinds of experience—its Waterloos and Sedans, its drawn battles and victories—sometimes won hard and slowly, sometimes by a brilliant *coup* that scatters the foe for ever.

Thirdly.—Do not judge by the immediate effects after the applications exclusively, but watch for the permanent effects that are observed after weeks and months of treatment.

It is well and necessary to take the pulse before and after the sitting, to see whether it is made feebler, calmer, and *stronger* by the treatment. It is as well to note the temperature, the expression, and general behaviour of the patient; but even when the conclusions from these observations may be unfavourable, the patient may be improved by a course of treatment. The individual effects should be studied, but they should not be the exclusive guides to treatment. A patient who at first reacts badly, may in time be made to react kindly. The unpleasant symptoms that follow the first application may be the result of overdoing the treatment; the currents may be too strong, or the sitting too long; and even when proper caution is used, time may be necessary to educate the patient to a proper tolerance of electricity.

I had intended to illustrate the views advocated in this paper by some cases of hysteria, hysterical insanity, melancholia and mania, that I treated by electricity, but these may, perhaps, be reserved for another occasion.