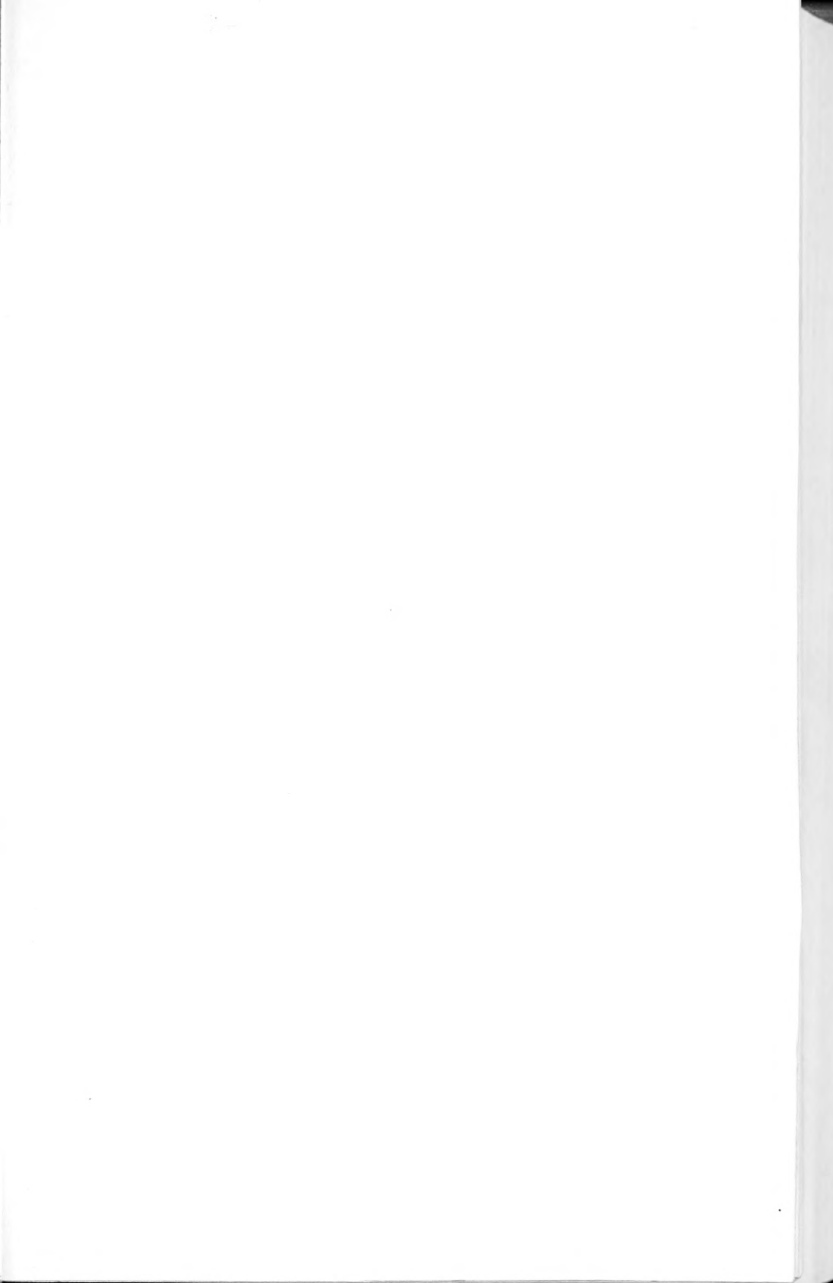


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# Alienist<sup>et</sup> Neurologist;

A QUARTERLY JOURNAL,

OF

SCIENTIFIC, CLINICAL AND FORENSIC

PSYCHIATRY AND NEUROLOGY.

*Intended especially to subserve the wants of the  
General Practitioner of Medicine.*

“Quantum ego quidem video motus morborum fere omnes a motibus in systemate nervorum ita pendent, ut morbi fere omnes quodammodo Nervosi dici queant.”—Cullen's *Nosology: Book II, p. 181—Edinburg Ed. 1780.*

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And an associate corps of collaborators.

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NO. I.

*Original Contributions.*

Art. I.—On the Propositions of the  
Association of Superintendents of  
American Hospitals for the Insane.

BY JOHN CURWEN, M. D.,

SUPERINTENDENT AND PHYSICIAN OF THE PENNSYLVANIA STATE LUNATIC  
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THE Association of Medical Superintendents of American Institutions for the Insane was established in 1844, with the object of advancing, in every practicable manner, the best interests of the insane, and the members are "the medical superintendents of the various incorporated, or other legally constituted institutions for the insane, now existing on this continent, or which may be commenced prior to the next meeting, and all those who have, heretofore, been medical superintendents and members of this Association, or who may be hereafter appointed to those stations." It is the oldest medical organization, of a national character, on this continent.

This Association has, at different times, adopted propositions on the construction and organization of hospitals

for the insane, and on all matters bearing on the welfare of the insane, which have received the most unqualified approval of those best capable of judging in Great Britain, and they have also been received with high praise in France.

These propositions, when presented as the report of a committee appointed to draw them up, have always been most rigidly and carefully examined and discussed, and after such examination and discussion of every important word in every sentence, they have been unanimously adopted, not, as some would say and have said, because they were proposed by the more prominent members, and the others did not care to discuss them, but because they received the cordial endorsement of every member from the fact that they fully and clearly expressed the sentiments of each member, and "may be regarded as the well established results of very varied, extensive and long continued observation in nearly every section of the country and among all classes of patients." The first series of propositions on the construction of hospitals for the insane was adopted in 1851, and so well and so carefully were they matured that in only one of that number has any change been made, and to that change attention will be given at a subsequent time. The second series was adopted in 1853, and relates to the organization of hospitals for the insane. To these propositions special attention and consideration will be given in this and subsequent articles, so as to explain them and enforce the reasons which led to their adoption; to convince those who will carefully consider the points presented that "the crude theories and the visionary suggestions which are frequently met with" need the sure foundation of experience and practical observation which can most certainly and unquestionably be found in these propositions.

It may be stated, also, as a cardinal principle, from which no deviation has yet been made, that the Association has always held its meetings in some town or city where a hospital for the insane was located, so that the

members may have an opportunity of examining the peculiarities of arrangement and management in detail, characteristic of the institutions in different sections of the country, and be thus enabled to profit by what has been done by others engaged in the "noble cause."

I.—"Every hospital for the insane should be in the country, not within less than two miles of a large town, and easily accessible at all seasons."

Every one will admit that the inmates of a hospital should be placed in the most favorable circumstances for the promotion of their welfare, and that their surroundings should be, as far as possible, free from every source of annoyance, or whatever might tend to produce unpleasant impressions, and these can best be attained in the country, away from the bustle and confusion of a town and the close proximity of those careless, idle, vicious and thoughtless people, sometimes found in towns, whose conduct, conversation, general character and habits would certainly not have a very beneficial influence on persons of disordered minds, filled with all sorts of vagaries and distempered fancies, but would rather tend to increase and strengthen such irregular action.

There is, unfortunately, in certain classes, a morbid inclination to ridicule the peculiarities of manner, conduct and conversation of the insane, and to worry and irritate them in a variety of ways, and that would most surely be done by the idle and thoughtless; and a very prejudicial effect would thus be produced on the insane, should any hospital be placed so near a town as to enable such persons easily to visit it, or to meet the patients when they were walking for exercise and recreation. It may be said that the arrangements of a hospital should be such as to prevent such classes having access in any way to the patients; but, while that is very true in theory, it is often found very difficult to regulate in practice, from the known disposition of many to attempt to do that which is forbidden to idlers, simply because it is forbidden; and the experience of every one familiar

with the management of a hospital teaches the extreme care which must be constantly exercised, even when a hospital is situated at some distance from a town, to prevent the communication of improper persons with the patients. Such persons seek opportunities to convey to the patients articles they should not have, and with which they may do injury to themselves or to others, and also to tell them what will irritate and excite or otherwise injure them.

But in a pleasant position in the country, an extensive landscape, with a variety of natural scenery of hill, cultivated fields, wood and water, and sufficient of the outward moving world in view, but not in close contact, to give animation to the scene, a greater degree of fresh air can be obtained, greater opportunities for exercise, unmedicated, can be enjoyed, with extensive and beautifully ornamented grounds immediately adjoining the buildings, to attract and divert the attention at all times, and, also, a good farm and garden.

Accessibility at all seasons is very necessary, not only for the convenience of those who are required to bring patients to the institution, but for those whose business requires them to visit the hospital at regular periods, and for the easy procuring of those supplies of every kind which enter so largely into the daily consumption in such institutions; and in these days when railroads are so ramified into every section of the country, it is not very difficult to obtain, near the centre of population and of railroad facilities, such a location as will answer nearly, if not quite, all the requirements of the proposition.

This seems the proper place to consider a proposition adopted in 1865, referring to this subject of the proper location of a hospital.

"The large states should be divided into geographical districts, of such size that a hospital situated at, or near, the centre of the district will be practically accessible to all the people living within its boundaries, and available for their benefit in cases of mental disorder."



From a carefully prepared statement, made after a thorough examination of all the reports of the different hospitals in this country, by Dr. Edward Jarvis, of Dorchester, Massachusetts (the able statistician and pioneer in all matters of the kind, on the subject of insanity, in this country), it would seem to be established as a fact, not admitting of any doubt or dispute, that the majority of all the patients in any given hospital for the insane, come from the section of country most contiguous to the institution, the facilities of travel being always considered. If a hospital for the insane be located as near as may be, having regard to the facilities of communication between different parts of the district, in the centre of the population, great expense will be saved in the conveyance to and removal from the hospital of those who may require its accommodations, and this item of traveling expense is a very serious one in the majority of cases; then again the risk to the individual from the fatigue, the excitement and annoyances attending a journey of any length in a weak and depressed, or in a violently excited condition, is often very great and attended with considerable danger to life.

The friends and relatives of the patients in any hospital for the insane often, very naturally, desire to visit them and examine into their condition, more particularly when the case has assumed the chronic form, and the expenses of a long journey often press heavily on their means, especially where the support of the person in the hospital has to be defrayed, in whole or in part, from the amount they derive from their daily labor. The same reasoning will also apply to the authorities of the townships or counties who are necessarily required to look after the welfare of those entrusted to their charge.

Every hospital should also be located in the centre of population in the district, because the most thickly settled sections are those wherein the largest number of insane will be found; and in those parts, also, will be more readily found those who will be relied on for the various

occupations and employments in such institutions; and there, also, can be had, more economically, all those supplies of different kinds which are required in the domestic economy of the institution, and the communications between different sections by railroad, will also, in all probability, be more complete and satisfactory.

II—"No hospital for the insane, however limited its capacity, should have less than fifty acres of land, devoted to gardens and pleasure grounds for its patients; at least one hundred acres should be possessed by every state hospital, or other institution, for two hundred patients, to which number these propositions apply, unless otherwise mentioned."

The reasons for requiring a given amount of land in connection with every hospital for the insane, may be briefly stated to be the necessity for extensive grounds for exercise and recreation immediately adjoining the building, a large garden for the supply and cultivation of all the vegetables required in an institution of the kind, so that they shall be fresh and in abundant quantity at all times; and in a State hospital, a large farm so that a large stock of cows may be kept for the supply of fresh milk. These necessarily require that a large amount of hay, grain and vegetables be provided for their use as well as for the other stock which may be required to enable the operations to be carried on with proper economy, and for the stock cattle which many institutions, which kill their own beef, find it necessary and advantageous to feed.

In the cultivation of the farm and garden an opportunity will be given for the employment of a number of the patients for whom such occupation is required, that they may have some regular occupation to divert their minds and improve their bodily health, and prevent their sinking into a dull lethargic condition, or wasting the energies which should be given to active exercise in mischievous destructiveness of various kinds.

Into this question of labor by the insane it is not

intended here to enter, as it requires a more extended consideration, which may be given at another time, but only to indicate the fact that every hospital should be fully provided with all the means necessary for carrying into effect any such system of labor.

III.—“Means should be provided to raise ten thousand gallons of water, daily, to reservoirs that will supply the highest parts of the building.”

Where practicable, it is always safest and best to have the reservoirs on an elevation near the building, or within convenient distance, but where that cannot be done the tanks should be made of boiler iron, placed in the building above all the occupied portions, so as readily to supply every apartment with water, and so arranged that any leakage from breaking or disorder of pipes or valves, or the condensation on the tanks, may be conveyed away and prevent injury to the ceilings or other parts of the building.

An abundance of fresh pure water is an absolute requisite in every hospital, and the utmost care and attention is demanded to secure such a supply as will prove constant at all seasons, and as little subject as possible to variations dependent on the rainfall in any sections.

The experience of the last few years has abundantly demonstrated that it is not safe to rely entirely on springs, however inexhaustible they may have been considered, but recourse should be had to a large stream or river, so that, while the fresh supply may be had from one part of the stream, the sewerage of the institution may be carried into the same stream at a point far below that from which the fresh supply is drawn.

No subject, connected with the location of a hospital, has, apparently, received so little consideration as the supply of water and the disposal of the sewerage, and no subject is attended with greater sources of annoyance and vexation to the management, and risk to the health and lives of the inmates.

No good can be attained by reference to special instances where these matters have been overlooked in the original selection of a location, but it will be admitted by all, familiar with the subject, that very serious annoyances have been suffered, and large expenditures of money have been required to remedy defects which could very easily have been avoided by more care, attention and forethought in the original selection. Unfortunately the evil is not confined to the selection of sites for hospitals for the insane, but will be found in a very large number of buildings intended for the accomodation of different classes and conditions, both healthy and diseased.

IV.—“No hospital for the insane should be built without the plan having been first submitted to some physician or physicians who have had charge of a similar establishment, or are practically acquainted with all the details of their arrangements, and received his or their full approbation.”

The principle involved in this proposition is founded on the general experience of mankind, that those who have given most time, thought and attention to any given matter are best qualified to give advice on that matter; or that when any work requires special skill and mechanical or professional knowledge, the persons best calculated to do or direct that particular work most satisfactorily, will be those who have had largest and longest experience in that particular branch. But we are told by official authority that it is not worth while to take advice from persons familiar with the details of the construction and arrangement of hospitals for the insane, because their minds will be biased by personal interest and convenience.

Do those who seriously put forth such a declaration consider the force and extent of their own declaration which would clearly debar them from giving advice in any case falling under their care because their personal interest in that case would surely bias their judgment? It will be claimed, and must be admitted, that where this proposition has been set aside and institutions built without

such counsel and advice, the result has proved the wisdom of those who insisted on the adoption of this proposition.

In the very nature of things it must be so, and mankind will always continue to act on this principle in all important matters, in defiance of every plausible pretext to make them believe the contrary. No man, nor any set of men, would build a factory, an iron furnace or any building for any special purpose, without fully and carefully consulting with those who were most familiar with the special character of the work to be done in that building; nor would any set of men think of erecting a hospital for the ordinary sick without first examining the plan and arrangements of the best institutions of the kind to be found, and obtaining in the construction of the plans and buildings the advice of those most familiar with that class of buildings.

As a hospital for the insane is different from an ordinary hospital in the greater part of its arrangements, designed for the treatment of a special class of diseases and therefore requiring special adaptations for special purposes in the different portions of the institution, it is but reasonable to insist that those who have been most familiar by long residence and observation in such institutions, and understanding more fully what will be most essentially necessary to secure, in the most effective manner, the objects of the institutions, are best qualified to give advice in the preparation of the plans and to superintend the erection of such buildings.

Experience has proved, and will continue to prove to the end of time, that where the plans have been prepared and the buildings erected under the supervision of those most familiar with the details of construction of hospitals for the insane, the buildings have been not only better constructed and arranged for the purposes of their erection and the money has been expended more judiciously and economically, and with a higher regard to the interests of those by whom and for whom the hospital has been built, than where the contrary plan has been adopted.

The statement has been made, time and again, that the superintendents are responsible for the lavish outlay which, it has been claimed, has been made in many hospitals for the insane in this country. That some superintendents may have erred in this direction may not be denied, because they are subject to errors like other men, and may be biased in favor of particular plans and persuaded to their adoption by a desire to conciliate those with whom they may be associated, or for whom they may be acting. But in this, as in many other things, they have been made to bear the blame of what strictly belonged to others who overruled them.

It will be found, on careful inquiry and examination, that the architect employed has been desirous of making an elevation which would reflect special credit on his taste and ability to prepare such plans, and that the commissioners for building have been biased in their judgment by the persuasion of the architect and of the community in which the institution has been located, and have consented, in order to gratify the desire of the people of that section, for a building which should be an ornament to their locality, to the erection of more costly and more showy buildings, requiring a greater degree of ornamentation, and, consequently, a greater expenditure of money, for really unnecessary matters, than they had intended.

The Association, aware of this tendency, gave expression to their views in the following very decided terms: "That these institutions, especially if provided at the public cost, should always be of a plain but substantial character; and, while characterized by good taste and furnished with everything essential to the health and comfort and successful treatment of the patients; all extravagant embellishments and every unnecessary expenditure should be avoided."

The true principle is clearly expressed in this proposition, that the building should be in accordance with good taste, and a chaste and correct taste rejects excessive

embellishment, and, therefore, all undue and, consequently, unnecessary ornamentation should be avoided, and special care and thought should be given to make the interior of the building, which is to be occupied by the patients, in the highest degree homelike and comfortable, and adorned with everything which can tend to give pleasure to the eye, diversion to the mind and a feeling of general contentment and satisfaction to the individual.

Everything in and around the institution should minister to the grand object for which the hospital was built—the relief and restoration of those placed in its care—and no amount of money judiciously and thoughtfully expended for such purposes can ever be regarded as excessive or misplaced.

In addition to this it should always be borne in mind that, in all buildings erected at the public expense, the money is drawn from the people by taxation, and they have a clear and undoubted right to insist that that money shall be carefully and economically spent only for the purposes for which it was appropriated, and not to gratify the vanity or contribute to the advantage of any particular individuals; and when a full equivalent is rendered for the amount appropriated, it will be found that those for whom it was spent will be satisfied with the expenditure.

V.—“The highest number that can, with propriety, be treated in one building is two hundred and fifty, while two hundred is a preferable maximum.”

It is believed that no one will call in question the truth embodied in this proposition, that the best results for the insane themselves—and their interests alone are those which claim paramount importance in this discussion—are to be obtained by an adherence to the principle, that a small number can best receive that care and attention which will most surely promote their restoration, for the very plain reason that the physician will be able, more carefully, to study out their special ideas and peculiarities, and the bodily conditions which may have influence in

the production and continuance of the disorder, and thus be more fully qualified to direct the varied means which may be most influential in the promotion of the object sought to be attained. It is admitted that many men claim that they can give as full attention to a much larger number as they really require; but, without any intention of disparaging their great ability and attainments, we make free to say that they do not do it by personal attention and regular visitation each day.

Motives of expediency, however, led to the adoption, in 1866, of the following proposition, which received a majority vote, just at the close of the sessions of that year:

"The enlargement of a city, county or state institution for the insane which, in the extent and character of the district in which it is situated, is conveniently accessible to all the people of such district, may be properly carried, as required, to the extent of accomodating six hundred patients, embracing the usual proportion of curable and incurable insane in a particular community."

The reasons urged for this change were, that legislative bodies could never be brought to the point of agreeing to the erection of so large a number of hospitals as would be required by the terms of the original resolution, and that some concessions must be made to their views in order to obtain the needed accommodations for the insane.

Many persons consider that in large institutions, with the number at its maximum, the majority of the patients must necessarily be of a class requiring little medical treatment, and that the care of these can be transferred to the assistant physicians, and that the superintendent should only be required to give his special attention to that class of recent cases requiring special medical care.

We hold it to be the bounden duty of every superintendent to make such a careful daily visit to all those committed to his charge, that he shall be familiar with their mental and physical condition, and his practiced eye will enable him to judge what changes, if any, may have taken place in each individual; and he will be able to



recognize traits and symptoms which those less familiar with the insane would overlook. Not only justice to the insane themselves, but to those by whom they were placed in the institution, demand that such special personal care be given, not to insist on the obligation which rests on every medical man to devote the best energies of his mind to the care of those for whom, by the very terms of his appointment, he is made special guardian and protector. Such a duty cannot be ignored, and should not be delegated, but performed under a full sense of all the responsibility involved.

The duties of the superintendent in this regard are thus expressed in another proposition: "He should have the entire control of the medical, moral and dietetic treatment of the patients; the unreserved power of appointment and discharge of all persons engaged in their care; and should exercise a general supervision and direction of every department of the institution."

To the full scope of this proposition many well-meaning persons object, and insist that the duties of the superintendent should be confined simply and exclusively to the medical department, and that the business arrangements should be conducted by a steward or other officer who should have control in all that class of matters. In urging such a plan, these well-intentioned people overlook some very important considerations.

No institution can be successfully managed by two persons. There must be one authority to which all others must be obedient, so that all parts shall work in harmony and aim steadily and unvaryingly at the production of the best results.

This practice of divided authority was tried in the early history of the country, when the management of the institutions was patterned after the English hospitals; but it has been gradually abandoned, and even in Great Britain, it has been steadily changing, year by year, so as to conform to the plan of having one responsible head, to which all others shall be amenable.

While such a principle might, under peculiar circumstances, be made to answer without extraordinary friction, in a general hospital, there are peculiarities about a hospital for the insane which render it absolutely essential to the proper administration of all its parts, that one leading, governing mind should direct the whole intricate mechanism.

No man, who can lay claim to any correct knowledge of the treatment of the insane in these days, will pretend to say that the medical means are those on which alone, or principally, he relies for success in the efforts made to restore those committed to his charge, or to give the greatest degree of mental health and comfort to those who may not be looked upon as likely to reach that point. It is admirably expressed in the proposition quoted as the medical, moral and dietetic treatment. It must be admitted that, as all mental disorders are dependent on, or caused by, disordered action of the organ through which the manifestations of mind are made known to us; and as those disordered conditions may arise from diseased or disordered action of different organs of the body, acting directly or sympathetically on the brain and nervous system, medical means must be resorted to calculated to remove all diseased conditions and restore the disordered functions to their normal, healthy action—and very often that will include the greater part of the treatment required.

But as the larger part of the disorders are often traceable to defective nutrition in some of its many forms, the necessity is imperative that the proper food should be administered in conjunction with the medical means, so as to bring up the system to a more vigorous and healthy condition, and thus place it in the most advantageous position to throw off and resist all unnatural states.

To have these two modes of treatment work together, satisfactorily and efficiently, it will be granted, by all reasonable men, that they should be entirely controlled by the superintendent and physician who alone is capable

of judging what is best calculated for the benefit of his patients, and to direct what kind and character of food is best suited to the different cases which come under his care, and for whose treatment he alone is held responsible.

But, in addition to these, there are in the mind certain desires, affections, passions and emotions which require to be acted upon by repression or stimulation, or in that way which will be most conducive to the ultimate welfare and relief of the patient; and in the moral treatment are included all those appliances which may, in every practicable manner, be made subservient to that end.

These appliances include all those means of diversion, recreation and exercise of mind and body which may assist in changing the current of thought from an unnatural to a natural channel, and develop more healthy action of the different organs of the body.

Among these will be found working in the garden, on the farm or any other form of manual labor to which men have been accustomed, and which may be most suitable for the individual in the condition he may be at the time, and whatever form of out-door or in-door game, or amusement, or occupation can be made most available.

For women, all the infinite diversity of occupation, from the lightest form of fancy work in all its varying grades, to more active duty in the various departments of household employment; and for both classes, music, lectures, exhibitions of the magic lantern with the almost endless combination of views of scenery and objects of interest, of every kind, which may now be had; together with whatever may be found most conducive to the object to be attained, and most in conformity with the habits, inclinations, tastes and education of the different classes for which the institution was designed.

It must be clear to every thinking man that, in order to the proper execution of all these different forms of treatment, they must all be directed by one mind, which can best know by a careful study of, and attention to, the peculiar character of each individual, just what will be

best adapted to that particular case. It will be as readily seen that where these different modes may be left to be executed by two different men, there will be the strongest likelihood of a difference of opinion as to the proper manner in which the plans should be carried out, and an equally strong probability that no successful plan will be put in full operation.

Experience teaches that this is no mere fancy sketch or picture of the imagination, but has had in the past, and has now in the actual present, its living reality in more than one institution.

But it is asserted by the advocates of this theory, that where a medical man's mind is occupied with the oversight of the garden and the farm, he can not give proper attention to his medical duties. Do those who make this assertion consider that it is as necessary for the healthy action of every medical man's mind that he should have a diversity of mental occupation, as that he should have proper nourishing food to support his bodily strength? Is it not a fact, supported by the amplest evidence, that every man who confines thoughts and attention to one thing constantly, becomes, thereby, a man of only one idea, while men who have a variety of duties to perform, mingle in the world of thought and action, and, by contact with different classes of men, see the variety of ways in which things are done, and hear the wonderful diversity of views which men entertain and the peculiar modes of thought and expression which prevail, become, thereby, more enlarged in their ideas, have a more comprehensive grasp and are better able to understand the varying changes of thought and feeling which they may meet in those entrusted to their charge, and, therefore, much better qualified to deal with the almost endless variety of disordered mental action which may come before them to be properly directed and led along into more healthy channels?

Besides, every man needs a certain amount of physical exercise, and if he cannot obtain it by looking after the

farm and garden, and various other out-door matters, he will be compelled to take it in some other form which may draw him away more effectually from his duties at the hospital.

Then, also, it must be remembered that, by the very nature of his position, the superintendent of a hospital for the insane is, in great measure, debarred from many of those social enjoyments and recreations which other medical men can enjoy; and that, in place of being tied down to an unvarying routine of duties—such as these gentlemen would so kindly prescribe for him—he is entitled to lead that kind of life which best accords with his own ideas of duty to the hospital, to society and to his own family; to enjoy liberty in the way he may feel most conducive to his health and to the welfare of those committed to his charge, and to engage in the pursuit of happiness in all those modes which may, while fulfilling strictly and conscientiously the duties of his position, enable him to realize most fully that

“Not enjoyment, and not sorrow,  
Is our destined end or way;  
But to act that each to-morrow,  
Find us farther than to-day.”



## Art. II—The Sequences of Neurasthenia.

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BY GEORGE M. BEARD, M. D.

NEURASTHENIA is the door which opens into quite a large number of diseases of the nervous system. It does not, necessarily, lead to any of these; it may never go beyond itself; but, when neglected or treated improperly, it may, in time, advance to any one of quite a large number of familiar maladies of the nervous system. Some of these maladies are not of an organic or structural character; they are functional—like neurasthenia itself; but they are, oftentimes, more obstinate than simple neurasthenia—not so disposed to yield to management. Neurasthenia may go on for years, sometimes for many years, before it reaches any of these diseases; but it may and does reach them, and becomes, in fact, one of the most frequent of their immediate causes. One of the most familiar sequences of neurasthenia is insanity itself; especially, in the form known as melancholia. Not a few of the cases of melancholia, in its different stages, that enter our asylums or inebriate homes, have passed through a long stage of neurasthenia, before they arrived at the condition where the mind is really and, perhaps, permanently disturbed. The change from simple neurasthenia to melancholia is sometimes gradual, and sometimes quite sudden. In some instances there may be a very gradual decline, from a nervous, exhausted state to the most serious stage of mental disorder. Under this class come not a few women—house-wives who are over-worked; mothers,

worn by repeated child-bearing and prolonged lactation, complicated, perchance, with local disorders, such as laceration, enlargement or inflammation.

#### HYSTERIA AND HYSTERO-EPILEPSY.

It is only a minority of the cases of hysteria and hystero-epilepsy that have first passed through the stage of neurasthenia. Both hysteria and hystero-epilepsy may arise in persons who have not been especially nervously exhausted, but whose mental organization is weak and ill-trained, and who, consequently, fall into the symptoms of these disorders through needless apprehension or worry, or, perchance, catch them through psychical contagion. Such cases of hystero-epilepsy as Charcot utilized in his experiments in the Salpêtrière hospital, Paris, with metals and magnets, are not, usually or always, of a neurasthenic type; they are simply weak-minded, mentally untrained girls who can usually be affected either way. Hysteria and hystero-epilepsy of this kind, mental epilepsy, was more common hundreds of years ago, before neurasthenia was thought of.

#### GENERAL NEURALGIA.

One of the results of neglected neurasthenia is general neuralgia—by which I mean attacks of neuralgic pains flying about in different parts of the body, in distinction from fixed and local neuralgia—such, for example, as sciatica and tic douloureux, which may occur not only in the neurasthenic, but in persons of great strength and vigor, and who are not, in any way, anæmic or nervously exhausted. The neuralgia of the neurasthenic is more likely to take the phase of chronic flying pains in the lower extremities; or in the upper extremities; or, perchance, in the stomach or bowels, in the eye or in the pelvic regions.

#### INEBRIETY.

A more common, indeed, a very common, and an increasingly common sequence of neurasthenia is inebriety.

Indeed, the main cause of the increase and frequency of the disease, inebriety, in this country and in all highly civilized countries, is the increasing nervousness of the age. When a man becomes prostrated by exposure to heat—what is called heat-prostration—he oftentimes is left in a neurasthenic state. A few moments' exposure of this kind may be the source of neurasthenic invalidism, lasting, it may be, for months or years. While in this state, an irresistible desire for drinking alcoholic liquors may take possession, and very suddenly, indeed, of one who never before had the least inclination for drink, and without any apparent cause he may become an inebriate; an attack of inebriety may come on as suddenly as an attack of neuralgia, or insomnia, or hay fever, and, like these, is a direct sequence of neurasthenia excited by heat—by exposure to heat. Neurasthenia excited by any other cause, may have, and does have, just this effect; though not, usually, with such suddenness or violence. The neurasthenic state developed, as it is so often, by the shock of bereavement, of domestic disappointments and griefs, anxiety on account of financial troubles and worries, may open the door to inebriety; and, so to speak, push the patient in, and sometimes shut him up beyond remedy. Phenomena of this kind occur in those who have never been accustomed to drinking—sometimes in those who have been total abstainers all their lives—or who, at least, have never been excessive drinkers. Quite a large number of wealthy citizens of this country, merchants, manufacturers, speculators, and, in a few instances, professional men, who have acquired their means by constant friction, and great and excessive drafts on the nervous system, have sons who were born in the midst of this pressure and toil, who inherit the nervous diathesis and tendency to disease of the nervous system, which breaks out in the form of inebriety.

#### MECONISM (OPIO-MANIA).

This form of excess, in the use of narcotics, is some-



times a sequel of neurasthenia. One of the effects of opium is to relieve, for the time, the depression—the hopelessness, worse than pain—from which neurasthenics suffer. It is, therefore, a temptation to use this drug; beginning, of course, with small doses and increasing until the servant becomes the master—the patient a slave. In some cases there is an alternation of *opio-mania* with inebriety; they must take in excess one of those two poisons, alcohol or opium. In one case in which I was consulted, the patient stated, positively, that it was impossible for him to get along without being an opium eater or an inebriate; that it made little difference which he took, whiskey or opium, either one or the other was sufficient for him. Not all cases of inebriety or opium eating have a neurasthenic origin, but a large number are of this kind. We can make a differential diagnosis of neurasthenic inebriety by the symptoms that accompany it. Inebriates of this kind, always, or almost always, have other evidences of exhaustion, such as insomnia, headache, nervousness, irritability, neuralgia and the like; and inebriety in these cases is just as truly a symptom of the exhausted state as the other symptoms accompanying it, and ought to be so regarded.

Inebriety and opium mania of this kind are to be treated like the other symptoms of neurasthenia, that is, by strong sedatives, alternating with tonics; and there are many of these cases, at least a considerable number, that can be treated outside of an asylum—at home—and while pursuing their regular business. I believe in inebriate asylums just as I believe in insane asylums, and there is no antagonism between them. There are, however, a large number of inebriates that can be successfully treated outside of an asylum, just as there are some cases of melancholia and other phases of insanity of a mild type that can be treated successfully by a physician without sending them to any institution, whatever, and, indeed, more successfully than in any institution; just so there are cases of inebriates and of opium

eaters that can be treated by one who understands the subject, outside of an asylum, with satisfactory results.

One way in which neurasthenia induces inebriety is, that it causes, sometimes, a great and incredible tolerance of alcohol; in those cases they can bear immense doses without feeling any effects, good or bad—certainly no bad effects. Some of these cases are very interesting indeed; one of my medical patients afflicted at one time with cerebraesthesia (from which he has now recovered), at one stage of the disease, when he was at the very worst, he could take a full tumbler of whiskey and not feel any bad effects, although he was not used to drinking when he was well. One of my hay fever patients in whom, as is sometimes the case, the attacks were preceded by a number of days of profound exhaustion, though he was not accustomed to drink at all, tells me that in one of those attacks of exhaustion, alcoholic liquor, in any amount, has no effect whatever.

#### DISEASE OF THE REPRODUCTIVE ORGANS.

Neurasthenia, long neglected or badly treated, and, sometimes, in the early or acute stages, is a common excitant of functional and, sometimes, of structural maladies of the reproductive organs. In males, irritability of the prostate gland and of the prostatic urethra; and in females, of the neck of the cervix and of the ovaries may be a direct result of general neurasthenia. It is quite true that diseases of these parts are, themselves, excitants of neurasthenia; but, none the less is it true that neurasthenia excites disease in them. There is, indeed, a constant action and inter-action between special organs; between themselves and between special organs and the nervous system in general; so that, in individual cases, it may be quite hard to tell the seat of the primary neurotic implication. A want of recognition of this fact is the basis of an enormous quantity of non-expert reasoning on this subject, among specialists and general practitioners.

If a female presents herself to a gynecologist with evidences of inflammation or enlargement, or even irritation of the womb or ovaries, and has associated therewith a number of symptoms of neurasthenia as I have described them, the natural inference is that the local disease is the cause of the general disease—an inference sometimes justified by facts and sometimes not; for the general neurasthenia is as likely to be the exciting cause of the local, as is the local trouble to be the cause of the general neurasthenia. The worst failures of skilled gynecologists of our time are just with this class of cases; and, mainly, because they treat them locally, without treating them generally or constitutionally; or if they do treat them constitutionally, it is in a vague, desultory, half-hearted, incidental and doubtful manner, that, in therapeutics, is always sure to fail of its purpose. While cases of this kind need, oftentimes, careful local treatment, yet such local treatment, however judiciously and patiently carried out, is wasted, unless it be accompanied by an equally patiently carried out constitutional treatment.

Exclusive dependence upon either local or general treatment is non-expertness, one-sidedness, halfness of therapeutics; for, if either one should be neglected, it should be, in some cases at least, the local; or, at least, the local should be made incidental or secondary; and it is creditable to one of the best known of our gynecologists, Dr. Goodell, that he has been one of the first, in his department, to recognize this fact, and to illustrate it by interesting cases accompanied with just and verifiable philosophising upon this subject. Cases of this kind sometimes go around from one gynecologist to another, seeking help and finding none, just as cases of neurasthenic asthenopia go around from one oculist to another, getting no information and no relief beyond this: that "there is nothing the matter with them;" which is equivalent to saying, that the ophthalmoscope can reveal nothing, and what the ophthalmoscope cannot reveal, does not exist.

My own habit in cases of this kind is, to obtain the

co-operation of practical gynecologists and oculists, and I have, oftentimes, thereby secured results which no one department alone could have achieved.

#### HAY FEVER.

One very interesting sequel of neurasthenia is hay fever, which, philosophically analyzed, is simply a nervous idiosyncrasy, usually against some one or many external irritants, of which pollen, sunlight, dust, heat, foul air, smoke and various fruits and flowers are the most familiar. But these external irritants, any one of them, or all combined, can no more excite hay fever than they can excite small-pox or leprosy, unless they strike on a nervous system predisposed; and one of the most important, indeed the most important element in the predisposition is nervousness; though not always going on to neurasthenia.

While many hay fever sufferers are apparently well and hardy, yet in all there is a neurotic element, if we can trace it, and in a large number of instances this neurotic element is visible in many ways—hay fever being only one of many symptoms, and not always, by any means, the most serious. This very year, one of my patients who is profoundly neurasthenic, has made an addition to his catalogue of symptoms, by an attack of the later form of hay fever. In countries where neurasthenia is rare, hay fever is rare, and *vice versa*; they rise and fall together.

#### WRITER'S CRAMP.

Writer's cramp is a disease which is characterized by a group of from fifteen to twenty symptoms; the cramp being one of the group only, not always present in all the classes.

There are quite a number of types of this disease. In quite a number of cases there is no neurasthenia; there is not even a marked nervous diathesis. There is, only, a local weakness of the nerves and muscles connected with the act of writing; there is, also, a form of

this disease to which the term neurasthenic writer's cramp might justly be applied; and this form occurs in persons who are of a nervous constitution, who are nervously exhausted, and who descend into the symptoms of writer's cramp through the other symptoms of the neurasthenic state. Patients of this kind find that in writing they are troubled with pain, aching, heaviness, fatigue, tiredness of the arm, or, in some cases, a stiffness that suggests rheumatism—and they are sometimes so nervous that they cannot write at all continuously, without suffering from a nervousness which, without pain compels them to stop.

While this paper is in process of preparation, I have received a letter from a neurasthenic patient, the handwriting of which is so different from that of other letters which I have received from him, that I did not recognize it. In this letter he tells me that quite lately he has been troubled with this difficulty of writing; a nervous symptom of which, before, he knew nothing, although he had not been well for years. The letter is written in better style, he tells me, than most of his letters of late; yet there are many mistakes in it, and I should suppose it came from a regular writer's cramp patient.

It is a satisfaction that writer's cramp of this variety (the neurasthenic), gives way to treatment more readily than any other form; the diagnosis is far more hopeful, and in many cases they get well themselves—which is never the case with the severe form of writer's cramp. I have seen and treated quite a number of cases of neurasthenic writer's cramp where the recovery has been absolute.

#### TRANCE.

That morbid state of the nervous system which we call trance, but which is popularly known as hypnotism, somnambulism, catalepsy, all being special varieties of the special generic condition trance, is one of the interesting, though, perhaps, not frequent, or the most serious of the sequels of neurasthenia.

Neurasthenia is not, by any means, the most common of the exciting causes of this state. In the middle ages, among wild, savage and semi-barbarous races, trance existed, and has spread a mental contagion, even among persons who have great strength of constitution, or at least, who have but very little of the nerve element in them.

Trance of this variety, in its psychical form, is found to-day among certain classes of the people; but the majority of the cases of trance, among our better classes, are those who have entered that state through the doors of neurasthenia. Our so-called starving girls, with their ecstasies and visions, are oftentimes neurasthenic for years, before they develop trance phenomena.

#### PARALYSIS AND ORGANIC DISEASE OF THE SPINAL CORD.

Temporary paralysis or, at least, paralysis that are relievable and curable by treatment, are quite common in the course of neurasthenia, and they pass, oftentimes, by the name of hysterical paralysis, which, when they are accompanied by the positive symptoms of hysteria, is entirely correct. But, one may have true neurasthenic paralysis without any symptoms of hysteria proper preceding or accompanying it. Paralysis of this kind may affect the larynx, causing aphonia, or the neck of the bladder, causing retention or incontinence; or any one of the upper or lower extremities.

Paralysis of this kind may sometimes go away as soon as they come; and sometimes they need special and prolonged treatment. But they differ from the mechanical paralysis, in that they do get well, and get well perfectly, sometimes.

The belief which some have held, which some hold now, in relation to which many of the best physicians of our time are in doubt and fear, that neurasthenic symptoms are the predecessor of severe and incurable conditions of the spinal cord, such as ataxia, muscular atrophy, spinal meningitis and the like, are not in harmony with the

facts, and will be held by no one who unites both the power and the opportunity for observing large numbers of cases through many years.

Many of the symptoms of neurasthenia resemble so nearly the symptoms of incipient, and even the final symptoms of sclerosis, that to distinguish them is very hard indeed; and yet, close as their resemblance is, there is, pathologically, a gulf, wide as the Atlantic, between them. I do not deny that in occasional instances, neurasthenia neglected, exasperated by bad hygiene or by bad treatment, may be the precursor of sclerosis, or, at least, of permanent, fixed congestion of the cord or of its membranes—just as it is the possible precursor of certain forms of insanity—but it is not the rule that it should lead to these conditions, any more than it is the rule that it should lead to insanity. Neurasthenia has symptoms enough of itself, and is bad enough and distressing enough, without adding to it that it is an early symptom of structural disease.

#### CERTAIN STAGES OF BRIGHT'S DISEASE.

Neurasthenia appears in some cases, to prepare the way for those varied congestions and inflammations of the kidneys, to which, when they have reached a certain stage, the vague term, Bright's disease, is applied. This term, Bright's disease, is the one doctors use to include a variety of morbid conditions of the kidney; but the generic term, congestion, is, without doubt, the condition through which the kidney passes.

Neurasthenia, by the bad nutrition with which it is connected, would, itself, keep the circulation in a state of fluctuation and uncertainty, and prepare the way for congestion of the internal organs; especially on exposure to cold after over exertion.

These congestions may be, at first, of a temporary character only, and may disappear as suddenly as they came. But in some cases they become chronic, and the kidneys assume a state where an examination of the urine

shows both albumen and casts. I have seen quite a number of cases of what we call Bright's disease of the kidney, as judged by the presence of albumen and casts, that seemed to have followed a prolonged neurasthenic condition.

It is a pleasing and most interesting fact that these neurasthenic forms of kidney disease are amendable to proper treatment. A number of cases that I have treated gave all the symptoms of this condition, under the microscope, and apparently recovered; and so far as can be seen, the recovery is permanent; and it appears, also, to be the direct result of the treatment used, and not a mere coincidence.

I did not use, for these cases, the internal routine treatment of Bright's disease—for the very good reason that I have never seen any very good results from it—and many of these cases had tried it, long before I had seen them.

I treated them by general faradization and galvanization, by counter-irritation over the kidneys, persistently kept up, and by the administration of vegetable tonics—very much, indeed, as I treat the neurasthenic condition itself, when it attacks the spinal cord or the brain.

The effect of this treatment, in some cases, is seen in the urine, very speedily, after the treatment is begun.

A case of that kind, that was utterly given up, I lately treated with the best results; if this patient were to die of the disease of kidneys, nevertheless, the improvement she has made under the treatment is a reality. Even in the later (the incurable) stages of Bright's disease, after dropsy has appeared, I have seen most pleasant, though perhaps, not so thorough, results from this plan of treatment.

It is my conviction, from the study of quite a number of these cases, and a careful watch over them after the treatment has been discontinued, that for certain forms of Bright's disease with albumen and casts in the urine, even in considerable quantity, and with the debility that accom-



panies such conditions, that there can be relief, and, so far as can be seen, a permanent cure—not by the old plan of treatment, but by the new—that is by proper external applications in the neighborhood of the kidneys, and by proper sedatives and tonics internally.

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Art. III—\*A Clinical Inquiry into the  
Significance of Absent Patellar Ten-  
don Reflex.

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By C. H. HUGHES, M. D.,

LATE SUPERINTENDENT AND PHYSICIAN OF THE MISSOURI STATE LUNATIC  
ASYLUM AT FULTON: CONSULTING PHYSICIAN TO THE MISERICORDIA  
ASYLUM FOR THE INSANE AND NERVOUS, AND TO THE  
FEMALE HOSPITAL, SAINT LOUIS.

IF you sharply strike, with some hard substance, the naked skin just below the patella, whether anæsthetized or not, so as to affect the *quadriceps extensor femoris tendon*, between the knee cap and its point of insertion into the upper end of the tibia, while the person's leg hangs loosely, either from a table, from across the leg of the operator, or from across his own opposite knee, a prompt, marked and involuntary upward jerk will be the usual response. Westphal, Erb and others say the *invariable response*. So invariable do they and others regard it, that when it cannot be elicited on percussion,

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\*Read before the Missouri State Medical Association, June, 1879, and ordered to be published in the transactions.

they claim for this fact a distinctive diagnostic significance. It is never present, they say, in progressive locomotor ataxia or posterior spinal *sclerosis*.

In Europe the majority of observers have ranged themselves with Westphal, who, more restrictive than Erb, makes it the diagnostic *sign, par excellence*, of locomotor ataxia.

Only Gowers, in England, and in this country, McLane, Hamilton, Bannister, Jewell, Landon Carter Gray, Beard and myself, have ventured to question the infallibility of this so-called *pathognomionic* sign; and I believe they constitute the majority of American physicians who have written upon the subject. At least, I know of only one other—Dr. E. C. Seguin.

That the absence of patellar tendon reflex is not incompatible with every semblance of perfect health, may be established to the satisfaction of any one who will, by percussion, diligently examine the patellar tendons of any considerable number of healthy persons, in the manner prescribed by Westphal, when searching for his indubitable (?) sign of *locomotor ataxia*; and its demonstrable and admitted absence, occasionally, in perfectly healthy persons must greatly militate against the sign being received as certainly and unexceptionally diagnostic. That Westphal must recede from the uncompromising stand he has taken, seems certain, in view, not only of the fact that it is sometimes physiologically absent (more often, perhaps, than we think, though, precisely in what proportion of cases, no one has yet definitely determined), but in the face of accumulating antagonistic clinical evidence on this side of the Atlantic, at least.

It is not our present purpose to discuss this question *in extenso*. Any person sufficiently interested in the subject to pursue it further, will find an accumulated literature in Europe and in this country, since the subject was first brought to the attention of the profession, sufficiently vast to satisfy the most diligent student of neurological problems.

In this country, McLane Hamilton, Boston Medical and Surgical Journal, Dec. 19th, 1878, Bannister, Journal of Mental and Nervous Diseases, *ibid*, Oct. 1878, and Landon Carter Gray, have made it plain that the sign loses much of its asserted pathological value.

Dr. Gray, in his April, 1879, paper, repeats in substance and more at length, many of the points made against this sign by myself in the previous February number of the St. Louis Medical and Surgical Journal.

We now offer for your consideration a

BRIEF HISTORY OF SOME CASES IN WHICH WESTPHAL'S  
TENDON REFLEX PHENOMENON WAS EITHER ABSENT  
OR EXAGGERATED.

CASE I.—Dr. W——, married, aged 53 years, on U. S. A. pension list, in consequence of sunstroke, hernia and tibial periostitis—the latter resulting from an injury; no history of syphilis admitted or demonstrable; “was overcome by heat and taken from his horse in a state of syncope, June 5th, 1863.”

Diameter of pupils not materially greater or less in either light or darkness than No. 1 of Hutchinson's pupilometer, *i. e.*, than two-thirds of a line.

Two ophthalmologists found substantially as follows: “Pupils habitually contracted and scarcely dilating in a dark room. Symptoms of night blindness in accordance with the myosis. Color perception bad for both red and green, but no impairment of visual acuteness in either eye. (Vision measures, 12-16). Retinal vessels and general appearance of fundus substantially normal;” while another ophthalmologist, found “a small white ring entirely surrounding the right optic nerve entrance, and partly surrounding the left, which seems to indicate approaching or incipient atrophy of the nerves;” all concurring, however, in regarding the symptoms, noted by them, as “pointing rather to a cerebral than local origin in any change in the eye itself.”

This gentleman is a large framed, tall man, and weighs

about 165 lbs, av., his complexion is florid, pulse is now 108 full, and habitually above the normal condition in force and frequency, the tissues are well nourished and there is no muscular atrophy. He walks unsteadily in the dark and totters some when his eyes are closed. He feels very uncertain about the position of his feet while descending the stairs and in the after part of the day. His muscular power is good. He can force, with either hands, the needle of Mathieu's dynamometer round to 80. Says he can not always tell when the bladder or rectum is full, or whether he wants to urinate or defecate. His urine is extruded more feebly and slowly than formerly, and he can not, at times, wholly empty the bladder. Has had shooting pains in the lower limbs, complains of vertiginous sensations, double and obscure vision, luminous appearances and dark spots before the eyes; headache, and noises in the ears. There are no contractures, but slight bi-lateral anæsthesia in the lower limbs.

His case was diagnosed as *Meningitis Verticalis* by several excellent diagnosticians, besides the Army Board. Among those who so diagnosticated the case, in which I also substantially concurred, were two physicians of special reputation for skill in recognizing diseases of the nervous system.

None of the medical gentlemen suggested impending ataxia but myself.

The tendon reflex phenomenon was conspicuously absent in both legs.

This patient is still able to attend to the practice of his profession.

I put the case down, by courtesy, as doubtful, because of the weight of opinion being so largely against me. If it is not one of ataxia, it militates against Westphal's sign.

CASE 2.—James Minnix, unmarried, age 33. Native of Canada. By occupation a miner. Was formerly a seaman, sailing from New York to Liverpool. Admitted to City Hospital, July 2nd, 1878.

In Deadwood City, Black Hills country, after prolonged exposure to inclement weather, he sprained his ankle, and at the same time noticed want of sensation in the right leg. Formerly had momentary jerking pains in the knee, which he thought were rheumatic. Had a chancre, which was probably syphilitic, in 1870. He has now a rash on thighs which comes and goes. Takes iodide of potassium.

There is no muscular atrophy. Loss of power in the legs came on gradually. He can not stand or walk in the dark. Sometimes feels like there was nothing under his feet when standing, and cannot tell where his feet are without looking at them.

Has shooting pains from middle lumbar region downward, and a "sort of sea-saw pain," as he calls it, from back to thighs "drawing like a cord." Has had constricting pain around his waist. His urine dribbles away from him frequently. Will go to the water-closet and fail to make water, but on returning the urine will come involuntarily away. This man used to drink a good deal.

His eyes were not examined for atrophy of optic nerve. No marked inequality of pupils. His gait is characteristically ataxic, and he buttons his pants clumsily.

The case is, undoubtedly, one of locomotor ataxia, as it has been pronounced by all the medical men connected with the city hospital who have examined him.

The tendon reflexion can not be elicited.

CASE 3.—Jas. Noonan, a builder, aged 34 years, single. About 20 months ago first noticed that he trembled and became unsteady in his limbs while walking on scaffold work, and was soon obliged to give up his occupation through fear of falling. He gradually became more and more unsteady in his limbs, stepping more and more uncertain, particularly after dark, until obliged to use crutches in order to get around. He has now muscular power in limbs, but lacks the necessary control for guiding his steps. His heels come down first to the ground.

and he loses his balance when eyes are closed, if standing. Says his arms were similarly affected for a short time. Was strong and healthy up to date of the present illness. Had gonorrhœa twelve years ago, which disappeared in three weeks, and for which he took nothing but Epsom salts. No history of syphilis, and has been temperate for the past four years, but formerly very intemperate. He attributes his disease to exposure to cold and dampness while constructing a bridge. No family neurosis. Tendon reflex absent.

CASE 4.—Wm. Goff, aged 42, single, laborer, always healthy until lately. Had chills and fever last September, and has not been well since. On the 17th day of January he began to stagger. Has no shooting pains, and the floor feels natural to his feet.

Made several unsuccessful efforts before he could touch the point of his nose when his eyes were shut. He can not stand when eyes are shut, and buttons his pants or picks up a pin clumsily. Eyes not examined with ophthalmoscope. Has plantar anæsthesia, and no tendon reflex. Does not complain of impaired vision.

I am inclined to regard this as a case of locomotor ataxia, though by most diagnosticians it would probably be considered otherwise, because of the absence of the lightning pains, of obscurity of vision and the suddenness of its appearance. Tendinous reflexion was absent.

Thus far the clinical testimony has been rather confirmatory than condemnatory of the value of Westphal's sign. We come now to record some cases which can not be doubted, and which, therefore, must materially modify the claims of Westphal as to the certain diagnostic significance of absent tendon reflex.

CASE 5.—T. J. K——, a farmer, aged 59 years, unmarried, large-framed and tall, weighs about 181, has no sexual appetite and no muscular atrophy. Has aphasia, to the extent of speaking with painful slowness, and at times forgetting very familiar words, such as the name of the place of his residence, which he spells out or pronounces

after having them repeated for him. Has had shooting pains in the limbs, and still has darting pains from lumbar region. Was first taken sick about May 1st, 1867, with a dull pain in the region of the heart, followed by a great cough, after riding all day in the rain, he having made a practice of driving from the city to his farm, a distance of ten miles, at midnight, during the preceding summer. Mr. K—— has used tobacco excessively, but is otherwise temperate.

A neuropathic diathesis pervades his family; a brother having died of brain trouble and psychic disturbance; one living brother being ataxic; one sister having painful cerebral and psychic disturbance, with hyperæmia cerebri, which nature has generally relieved by epistaxis; another sister having general and chronic nervous asthenia, including the cerebro spinal axis and the sympathetic. All her vital functions have, for years, been performed sluggishly, while her skin is shriveled and sallow. Her face is small and she is likewise small of stature. The rest of the family—one sister and two brothers—are large-framed and above average height.

The father of our patient died at 60 years of age, after being two years paralyzed; and his grandmother, for twenty years before her death, could never get out of her chair, by reason of some form of paralysis, or rheumatism and paralysis combined—the family say. I could not get the precise particulars concerning the nature of the ancestral affliction from medical sources.

The ataxic symptoms were first manifested in 1867. He then discovered that he could not walk well, especially in the dark, and that he had a tendency to fall—and did sometimes fall forwards when he attempted to wash his face. He can not stand with his eyes shut and feet together, or turn round with the latter apart, without assistance.

He has had the not infrequent experience of ataxics in regard to improvements and relapses, concerning the power of co-ordinating his locomotor movements and

balancing himself, having for a few days during the past two years been able, sometimes, to stand alone with his eyes closed when knowingly placed in very close proximity to a wall, and to turn around without grasping something for support and without falling.

He has always been an early riser, as farmers usually are, but since his affliction he has been in the habit of awaking about 2 A. M. daily, and remaining awake for the remainder of the day, except during an after dinner nap of a quarter or half an hour. His vision is obscure and there is some optic nerve atrophy.

He can not dress himself without assistance. He can not readily find the tip of his nose with the point of a finger of either hand when his eyes are shut, and can not cross his legs without having the ball of the foot or toes supported by my hand. He lifts his foot with a jerk and brings it down in a peculiar manner, and shows a tendency to pitch forward when he walks. He has often fallen down when attempting to go about unassisted. He never ventures out at night, and is seldom able to rise from his chair without putting his hands on his knees, or being assisted by his cane, or the hand of a friend.

He has a good deal of anæsthesia, especially plantar. His sensibility to temperature is somewhat impaired, and his appreciation of weight is partly gone. The ground under his feet when he walks does not now feel so uncertain as formerly.

There is no vesical or rectal paralysis. He is sometimes constipated and has inconstant shooting pains proceeding toward the cervical region. He has had no head symptoms, except an occasional giddiness when constipated. (Since this was written he has had more vertigo and malarial poisoning.)

When I first examined Mr. K——, about one year ago, his pupils were very small—not more than half a line in diameter, in good daylight. I then sent him to an eminent oculist of this city, Dr. John Green, who detected the optic nerve atrophy. The pupils are now a



line and a quarter in diameter in good daylight. Though formerly a fair penman, he has not attempted, since his affliction, to write a letter, but contents himself with slowly forming, in a stilted and unnatural manner, his signature. His expression is anxious and peculiar, but I can not describe it.

Electro-muscular contractility is increased, and the tendinous reflexion is as marked as I ever saw it in a healthy person.

Other physicians have pronounced this a case of locomotor ataxia before me, among them, Dr. C. W. Stevens.

CASE 6.—The next case I note is the brother of Mr. K——, who is younger, but, by reason of intemperate habits, looks somewhat older than his brother Thomas, just described.

In this case the ataxia is incipient, and characterized by the peculiar pains in the extremities, plantar anæsthesia and feeble tendinous reflexion on percussion below the knee cap; but no more feeble than I have seen it in several healthy persons, and not so tardy as I have observed it in some of the latter.

CASE 7.—H. M. P——, who lives with case 5, and usually accompanies him to my office, to assist him in and out of his carriage, is a married man, aged 39 years, and a brother-in-law of Mr. K——.

He had abdominal dropsy and anasarca in 1856 and 1857, but always got about. He has had no sickness since, except an occasional cough or chill. He is of medium stature and rather slight build. Hair and beard entirely grey. Never had syphilis nor indulged excessively in venery. Has spread some, but is not an habitual drinker. Has never done much hard labor, but when occupied has been mostly engaged in clerking or selling goods. He makes no complaint of being ill in any way, and I can discern nothing the matter with him.

He has no tendinous reflexion of quadriceps, extensor tendon or tendon patellæ.

CASE 8.—H. H. M——, aged 39 years, married. A

medical friend. In every way healthy, and engaged in the active practice of his profession, demonstrator of anatomy in a large medical college, and a diligent and laborious worker. Has no tendon reflex below knee.

CASE 9.—Thos. E. Moss, unmarried, aged 23, six weeks ago consulted me from Jefferson county.

About three years ago, last August, he had his skull fractured at the left parieto temporal junction. Was in bed, in consequence, about one and a half weeks. Was never unconscious. Has increased pulse, constant headache and *muscæ volitantes*. Complains of frequently seeing a green spot before his eyes, which gradually widens until he can see nothing else on account of it. He then becomes dizzy and is obliged to lay down. This used to appear every day or so like the ague. Has this illusion now, whenever he has a chill. He is constipated and feels sick at the stomach when this goes off.

Tendinous reflexion below the knee could not be elicited after the repeated trials. Electro muscular contractility in legs, normal.

CASE 10.—Joseph Crary came under treatment January 12th. Left pupil, 8; right pupil, 5; eyes otherwise appear normal; atrophy of both optic discs; totally blind; can not perceive when the electric current is passed or interrupted across the optic tract; dull pain encircling the line of the occipito-parietal junction, and settled pain in back and lower part of the cerebellum; he can not lie with the back of his head on a pillow. He first felt uncomfortable feelings in his head last June. Feels like he was walking in the sand of the sea shore, or in the soft snow, sometimes. The carpet feels mushy to him, as though he was sinking down an inch or so. Stands and walks steadily, however, and goes about familiar places unassisted. He never had shooting pains in his limbs; sometimes a pain across his chest. He became totally blind one year ago, while on his way to Hot Springs, Ark. Lost the sight of the left eye in the mines, eight years

ago; the sight failing gradually, beginning with double vision. His right eye failed him quite suddenly, while working in the mines at Deadwood, Black Hills country, after riding in the hot sun all day, about June 28th, last.

He is anæsthetic in arms and legs and tongue. There has been hyperæsthesia cerebri; the slightest sounds, as the noise of boots being blacked, or the playing of a piano, having been quite disagreeable to him. This has now (May 10th) passed away, and he walks everywhere about the city with a friend, without feeling any unusual sensations under him.

Repeated trials have always failed to elicit any tendon reflex below the knee.

From these clinical demonstrations we conclude that, while absent patellar tendon reflex is often of significance as an associated symptom of present locomotor ataxia, and may even serve, when unassociated, to excite suspicion of its approach, we are not justified in regarding it, when it is the only phenomenon observable, as a certain *sign*; or when it is absent and the other symptoms are present, in excluding a diagnosis of posterior sclerosis. It can not have the diagnostic significance claimed for it, when it may be observed in indubitably healthy states of the cord, and when the reverse condition of exaggerated excitability may undoubtedly be found in cases of unquestionable posterior spinal sclerosis.

## Art IV.—Aphasia and Agraphia with Progressive Improvement.

BY D. V. DEAN, M. D.,

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**D.** K. R——, aged fifty years, native of New York, resident of St. Louis, single (?), comedian, medium-sized man with pretty good physique and well formed head, right-handed. No history of syphilis obtainable, and family and personal history otherwise good—so far as can be learned from patient or his acquaintance. While acting a part in which he was well up, at the Globe Theatre, patient suddenly lost all command of speech, though his part still remained clear. A few days afterward—Feb. 13, 1879—he was brought to this hospital. At the time of admission, patient appeared to be in fair health, though somewhat anemic. No hemiplegia, right or left. What at first might be taken, while his features were at rest, for a slight paretic condition of the right oral muscles, appeared to be an acquired peculiarity—patient evidently being accustomed to assuming dignified and deliberate attitudes, and sober, if not thoughtful, looks, during the intervals of speech, even when he attempted the jocose. His tactile sensibility and sensibility to temperature, and his sense of smell, taste, sight and hearing were unimpaired. The half dozen words, more

or less, of his vocabulary, he articulated without awkwardness and distinctly. His gestures were usually expressive; his dancing somewhat comic, but never shambling. No albuminuria, no heart-lesion, no atheromatous feel at the radial pulse. Did not complain of pain in the head, and did not know of receiving any injury of the head from blows or in other ways. Had no delusions. He could not write; and in answer to almost any interrogation, he would reply: "Somebody; yes, *sir*; *here*" (gesturing toward his forehead) "*good, here*," (toward the lower part of his face and neck vaguely, and shaking his head) "*somebody, you bet.*" While he did not seem to be ashamed of his impairment, like some aphasics, he appeared to be non-plussed, and not simply annoyed and vexed, like one who, feeling, without success, for his word, can at least say, "pshaw!" with a meaning to be understood. Still, he would strike an attitude, as if that furnished relief, and he supposed himself made clear to the inquirer. If asked for a pen, or a broom, or cup, etc., he would start for and get it with great alacrity and ceremony, repeating his "*somebody*" and the like. He gained, from day to day, adding to his repertoire of words, "*good man, you, you, me, this, this*" (pointing to two fingers, and meaning he would go out in two days); and, by degrees, he came to write his own name and mine quite legibly. At his own request he was discharged, March 24, 1879.

May 20, he was re-admitted, and he remained until June 3d. During this sojourn he made himself familiar with every one who would take time with him, and when not thus occupied or with work, he busied himself writing, on slips of paper, his own name and others, with business addresses, etc., some of which he wrote from memory, not having them before him to copy—though, after once writing a name, he used that as a copy or improved upon it—and copying two or three notices. Holding up four or more fingers and then going to the calendar to show on what day of the week the fourth or other day from

current date would fall, he would say: "Good *man!* *this, this!*" and write, "McNanny and R—— is going out next Monday, D. K. R——. Left the Millon Jasper Company in Louisville K. Y., D. V. Dean, H. H. Smit, Sam Smit, D. K. R——," etc., etc. From his first admission he could sing, exceedingly creditably, several airs, notably the Marseillaise, which he carried through with a single syllable.

To-day, Nov. 22, 1879, I sought out his place of employment in a saloon, and, not finding him in, left a note, asking him to call and see me at the hospital, which he did, bringing my note. He brings the Grand Opera House hand-bill for Thanksgiving week, and says: "Mary Anderson very *fine*, sir, finest in the *land*; Hunchback very *fine*, sir; Meg Merrides (for Merriles) finest in the *land*." Evadne and Ingomar he points out for me to read, and can pronounce after me. Remembering my little son, he pats his shoulder and says to the child's mother: "Finest in the *land*, sir." He is as sanguine and anxious about his speedy recovery as he was, when a patient, about being well enough to go out of the hospital in two or three days; and every now and then he says: "This man, Bedo (Dr. Bidaux) says, one, two, three weeks—I *hope* so, *anyway*." Aphasia he pronounces after me; and my explanation of his ailment, and how he may improve, and that he may, perhaps, educate a right speech centre, etc., he seems not only fully to understand, but to be delighted with, as it appears to be the first ray of real light that has been let into his consciousness, concerning his condition; and he seems to enjoy, very much, the idea of left-handedness and right speech center, etc., etc., patting alternately his right temple and left arm, and left temple and right arm, saying, antithetically: "Here, *here*; here, *here*." His vocabulary is yet very limited; his expressions are incoherent, except such as he has practiced, and they come in much too often; but, at the present rate, he bids fair to go on to such a measure of recovery, at least, as will enable him to take care of himself. To-

day he distrusted his ability to sing, but just a start from the piano and he is as ready with the Marseillaise as of old. Says he has never had syphilis.

The case is of especial interest because of the absence of hemiplegia, right or even left, from the beginning, the absence of mental aberration also, from the beginning—and, therefore, as a case of aphasia and agraphia, pure and simple—and because of the marked and continually progressive improvement in ability to read and write; and because this improvement, taken in connection with the fact that the patient was a comic actor, suggests the probability that the opposite speech center was active and is, therefore, more susceptible to education than would ordinarily be the case in a man of his age, and the likelihood of a useful re-acquisition of speech as compared with what might be effected from the left center after so chronic impairment.

The patient promises to visit me from time to time, that I may be advised of his progress.

## Art. V—\*Studies on Cerebral Thermometry in the Insane.

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*By Drs. D. Maragliano and Z. Sepelli.*

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Translated from the Italian of *Revista Sperimentale di Frenetria e di Medicina Legale.*

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BY JOSEPH WORKMAN, M. D.,

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AMONG the modern means of clinical investigation availed of for better appreciating the existence and nature of diverse morbid processes, examination of temperature is certainly one of the most valid and important, as has been placed, beyond doubt, by the labors of *Wunderlich*, *Liebermeister* and many others. But until the last few years both the practical and the clinical observations were limited to the study of the general temperature of the body ordinarily taken in the axilla or rectum. It is only recently, whether from scientific curiosity or for the discovery of new criteria of diagnosis, that the study of local temperature has had its origin and development.

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\*The great value of this work of Drs. Maragliano and Sepelli, and the fact that sufficient prominence has not elsewhere been given it in this country, is our justification for placing it prominently among our original contributions.—[E.D.]



Thus *Couty* has studied the oscillations which the palmar temperature undergoes, as well in the state of health as in that of disease, and he has reported the relations between these and those of the axillæ. More recently, *Peter* has made known the result of a long series of researches undertaken by him, on the temperature of the thoracic wall, in pleuritis and phthisis, deducing therefrom important corollaries for the diagnosis of these maladies. In this relation, the studies of *Duval*, *Landricux*, *Charteris*, *Negschaider* and *Concato*, and those most recent of *McAl-dowie*, on the comparative temperature of the axillæ in pulmonary affections.

Other observers have given their attention to the temperature of the head. First among these, so far as is known, was *Albers*, of Bonn, who, in 1861, with this view, completed various researches, especially among the insane. Next, *Lombard*, in 1868, studied the influence which active mental exercise induces in the temperature of the occipital region. After him, *Alvaranga*, studying the temperatures of the different points of the body accessible for the application of the thermometer, occupied himself further in that of the head, determining its general *mean*.

To *Broca*, however, pertains the merit of first having employed on the head, in a vigorous and rational manner, thermometric observations. In this way he was able not only to establish the thermometric means of the heads of the sane, and the variations which, through functional cerebral activity, they undergo, but he has thus succeeded in furnishing a secure criterion for the diagnosis of cerebral embolism, by determining that part of the brain, which, being deprived of sanguineous irrigation, gave a temperature below that of the other regions. This fact was presently confirmed in three cases of cerebral embolism, by *Professor Maragliano*, who had the opportunity of observing them.

The studies of cerebral thermometry undertaken by *Broca*, were repeated on a large scale by *Gray*, of *Brooklin*, who did not limit himself merely to the determination of the *means*, in the sane, but, in addition, deduced from

them consequences, which, in certain cases, might be of service in the diagnosis of affections of the brain. Of the results at which these different authors arrived, in their thermometric observations, we shall have occasion to take special notice hereafter.

Guided by these researches, and yet further stimulated by the idea that to mental disorders cerebral alterations correspond, and more especially those of its hydraulic system, we also desired to undertake a series of observations, availing ourselves of the rich materials presented to us in the lunatic asylum of *Reggio*, with the view of learning whether the various forms of mental alienation present differences in the cerebral temperature, alike in comparison of the indications given among the insane and the sane. It is, indeed, true that already thermometric observations have been executed among the insane by *Albers*, but it appears to us that no great value can be conceded to these, as they take into consideration but few forms of mental alienation (melancholia and dementia), and, besides, they were conducted in a very imperfect way. In fact, both as regards the form of the thermometer employed, with a spherical bulb, and the points of application selected, these conditions alone sufficed to vitiate the observations.

In our researches we have studied to place ourselves in better and identical conditions, from which the results might have more decisive value. For this purpose we chose the summer season, as that in which the calorific irradiation of the body is less, and the atmospheric oscillations are less sensible. With the same view we have preferred to make our observations between the hours of noon and 3 P. M., taking care always to have the same surroundings. Besides this we always took the precaution of examining the patients selected some hours after meals.

The six thermometers used by us are of small dimensions, with bulbs little and elongated, and graduated to the centigrade scale, with decimal divisions. Before using

them their exactitude was verified by comparison with each other, and with a standard thermometer. As points of application we selected the same as were indicated by *Broca*, that is, behind the external orbital epiphysis, for the frontal region; above the insertion of the ear, for the temporal region; and alongside the median line, for the occipital region. The thermometers, for better isolation, were covered with a little carded cotton wool, and were fixed by means of a circular bandage, special care being taken that the bulbs were not pressed against the surface of the cranium. In the women the hairs were accurately divided, so that the elongated bulb of the thermometer might come into close contact with the scalp. The duration of the application was half an hour for each patient. Application was made in the axilla and the rectum in immediate succession to those on the head, with the view of avoiding any false interpretation of the latter; because among the insane a febrile state may sometimes interpose, in patients examined, and the augmented temperature of the cranium then noted, might be attributed to local influence, whilst, on the contrary, it was but a manifestation of the general condition of the system.

We have deemed it necessary to explain in detail the method followed by us in our observations, in order that we might therein have a guarantee of the exactitude of the results obtained, and that, as we shall say further on, this explanation might furnish a reason for certain differences which we were obliged to note, between our results and those of *Broca* and *Gray* in the same.

As subjects of examination, we selected for each principal group of mental diseases, the greatest number of typical cases we were able to collect, as those most distant from a physiological type, distinguishing further, by the states of depression and mental weakness, the agitated patients from those who were not so. The total number of observations made by us was 115; of which 58 were on men, and 57 on women. In some cases the thermometric examinations, in order to be more reliable, were

repeated. From all the figures obtained, which would be long and superfluous here to report, we have established for each form and for each region, *means*, which we present in the three following tables.

[Here the authors introduce three tables, which the translator refrains from reproducing, believing that the summary given in the succeeding paragraph is quite sufficient.]

The evident conclusion is that the mean temperature of the head reaches its maximum in furious mania (*mania confurore*), 36.89; and in a progressively decreasing line, in *lypemia agitata*, 36.81; in general paresis (*paralisi progressiva*), 36.63; in dementia agitata, 36.45; in imbecility and idiocy, 36.34; in mania, without fury, 36.30; in simple lypemia, 36.17; and finally, in tranquil dementia, 36.03. [Note the above markings are from the centigrade scale. The easiest way of turning them into Fahrenheit, is to multiply by 2; deduct one-tenth the product and then add  $32^{\circ}$ . Thus  $36.89 \times 2 = 73.78 - 1.10 = 66.40$ , plus  $32^{\circ} = 98.40$ —*pretty near the normal.*]

This same order is found exactly maintained through the *mean* of the entire head in the table of *women*; in the table of men it is modified somewhat, as tranquil dementia in them appears about one-tenth of a degree above simple lypemia.

If, now, we consider the complex *mean* of the separate regions, frontal, parietal and occipital, we shall find that the various forms of mental alienation hold, in relation to it, the same order already indicated in relation to the mean of the entire head, with this sole difference that simple mania throughout the frontal region will exceed by only four one-hundredths of a degree imbecility and idiocy.

Studying then, comparatively, what differences the several forms of alienation present in regard to the elevations which the thermometric scale presents in the three principal regions of the head, it results that the lowest figures are constantly furnished by the occipital lobes; that those of the frontal and parietal lobes are equal in

dementia agitata, imbecility and idiocy; that the temperature of the frontal regions surpasses that of the parietal in mania, with and without fury in simple lypemania and in complex dementia; whilst in progressive paralysis (*paresis*) and lypemania agitata, the temperature of the parietal lobes is higher than that of the frontal.

As regards the variations of temperature of the three regions of each half, taken in their *ensemble*, it results that with exception of imbecility and idiocy, in which it is greater on the right side by about one-tenth of a degree, it may be said to be equal in all the other forms. In these, indeed, the differences between the two sides are so trivial (not, at the most, exceeding the four one-hundredths of a degree in simple dementia), that we do not think we are authorized to draw from them any serious well-founded conclusions.

It is, however, to be observed that if we descend more minutely to a comparative examination between the figures furnished by the two sides of each region, we shall no longer find maintained in all the cases that equilibrium among them, which the fact above stated might lead us to suppose. Instead of this we not rarely find, that when the temperature of a region is higher than that on the opposite side, the temperatures of the other two regions, or that of only one, of the same side, or of the equivalent one of the opposite side, are inferior to the first, the effect of which would be an equalizing of the mean temperature of the two halves of the head. Thus it is seen in lypemania agitata, that while the left parietal region is superior to the right by about twenty one-hundredths of a degree, the other two regions, frontal and occipital, taken together, are on the contrary inferior by the same quantity to those of the opposite side. Analogously, we find that, in dementia agitata, whilst the temperature of each side of the frontal region remains equal, that of the left parietal, in men, exceeds the right by six one-hundredths of a degree ( $11-100^{\circ}$  Fahr.), whilst the inverse fact obtains for the occipital region; in women the right

parietal and the left occipital regions are higher than the corresponding parts on the opposite side by eight one-hundredths of a degree. A similar fact, although not in so nett a manner, is verified in simple mania of men, and in progressive paralysis and simple lypemania.

We have said, higher up, that in imbecility and idiocy the mean of the entire right half stands higher than that of the entire left half; we may now add to this, that comparative examination of the corresponding zones of each side, as well in men as in women, has always shown (with exception of the frontal region in the latter), a difference in favor of the right side; a difference which oscillates between 0.06 and 0.15.

Without desiring to be too hazardous, and to draw from these records any corollaries with regard to the morbid processes which underlie insanity, it yet appears to us that they harmonize with some facts already known, in this relation.

We have pointed out that the most elevated mean temperature of the cranium was obtained in lypemania *agitata*, mania furiosa, or progressive paralysis. Well then, in these last two forms, it finds its region in that hyperæmic state, which has, by all the authors who have occupied themselves in the pathological anatomy of the insane, been assigned to the cortex and the meninges, and that in progressive paralysis, this state is associated with a phlogosis of slow process.

As regards lypemania, though wishing to admit with *Voisin*, *Fothergill* and others, that at the base of this form there may be an anæmic state of the brain, it is, however, probable that in the variety *agitata*, there may exist, instead, a congestive state, as, besides our results and the similarity of the symptoms which are exhibited in lypemania *agitata* and maniacal excitement, the ophthalmoscopic discoveries made by *Monti*, consisting in papillary and peripapillary hyperæmia, would seem to demonstrate.

Besides the consideration of this hyperæmic element, it is natural to think that with any mensuration of the tem-

perature of the head, there concurs, also, an augmented functional activity of the brain, through the greater vivacity of the chemical molecular processes which it induces in the nervous elements. We know, in fact, from the experimental studies of *Schiff*, that when the cerebral organ exercises its functions, it gives place to the development of heat. And it is also known that the blood which comes from the cerebral sinuses through the jugular veins, is warmer than that which passes to the brain through the carotid artery, especially when the functions of the brain are excited. That a state of mental exaltation influences the amount of the temperature of the head, has been demonstrated to us by the results obtained in five women, comparatively examined in periods of agitation and perfect calm, when, as shown in our tables, there existed a notable difference between the two periods; a difference oscillating between a minimum of 0.58 and a maximum of 1.10. This fact, first established by *Albers*, has been confirmed by *Broca* and *Gray*, who found an augmentation of temperature following mental labor.

In dementia agitata the mean temperature of the whole head gave us a figure some tenths of a degree above the normal (of the head), say 36.10 (96.98 F.). In imbecility, idiocy and simple mania, our records have shown figures a little above the normal (0.26—0.20). As to simple mania, we need not enlarge on the consideration as to how the same conditions submitted by us in explanation of the augmented temperature in mania with fury, but having place in a minor degree in simple mania, should present different results in these two forms of insanity. It is not so easy to explain the results obtained in imbecility and idiocy, unless we take into account the circumstance that several of the patients examined by us had recently been in an excited state, which, as we have observed in every form of exaltation, is usually attended with increased temperature of the head.

The following table showing the "differential temperatures in states of agitation and calm," is here presented,

and as the figures may be of interest to some of the readers of the ALIENIST AND NEUROLOGIST, we venture to reproduce them:

TABLE D.  
Differential Temperature in states of Agitation and Calm.  
(IN FIVE FEMALE LUNATICS.)

Name of Patient.	Frontal Region.		Parietal Region.		Occipital Reg'n.		Half of Head.		Mean of Entire Head.									
	Left.	Right.	Left.	Right.	Left.	Right.	Left.	Right.	State of Agitation.	State of Calm.								
	State of Agitation.	State of Calm.	State of Agitation.	State of Calm.	State of Agitation.	State of Calm.	State of Agitation.	State of Calm.	State of Agitation.	State of Calm.								
Z. C.	37.3	35.6	36.9	36.5	37.0	36.5	37.3	36.6	36.9	36.2	36.8	36.3	37.06	36.43	37.00	36.14	37.03	36.45
Z. M.	37.3	36.1	37.1	36.1	36.9	36.0	37.1	36.1	36.8	35.8	34.8	35.6	37.00	35.96	37.10	35.93	37.00	35.95
S. M.	37.1	36.2	37.0	36.3	37.1	36.2	36.9	36.1	37.1	36.2	37.1	36.0	37.10	36.02	37.00	36.13	37.00	36.08
P. V.	37.1	36.7	37.2	36.5	37.3	36.8	37.1	36.7	37.3	36.5	37.1	36.2	37.30	36.46	37.10	36.46	37.20	36.56
C. A.	37.0	36.3	37.1	36.2	37.3	36.0	37.2	36.0	37.1	35.8	37.0	35.8	37.13	36.03	37.10	36.00	37.11	36.01

It is not less difficult to explain the results furnished by simple lypemania, as, accepting the hypothesis that this form is connected with a state of cerebral anæmia, it should be a natural consequence, that a lower temperature than that obtained by us would be presented. Having, on the contrary, found a temperature almost equal to that of the sane person, we may perhaps assume that the mental activity, persistent in lypemania, though not always exhibited, may give origin to a local development of heat sufficient to raise the temperature of the head to a degree equal to the normal. In confirmation of this hypothesis, the fact may be stated, that whilst the temperature of the body, taken in the axilla, gives a figure a little below the normal, we find equal to the normal, or but a little under it, that of the head, which ought to be inferior,



since between the two localities there should have been maintained that relation which exists in physiological conditions.

It remains now to us to consider the figures furnished by simple dementia, which we have found lower than those of the sane. This result corresponds to the fact of the trivial or no activity of the brain in these patients, allied in its turn to that state of atrophy of the cortical substance which is the ordinary anatomical discovery in dementia.

We deem it now not unprofitable to enquire wherein our results differ from those obtained by *Broca* and *Gray*. *Broca*, experimenting on twelve sane persons in equal conditions, obtained as the mean temperature of the right half of the head, 33.90; of the left half, a little above 34, and of the whole head, 33.82; oscillating between a maximum of 34.85 and a minimum of 32.80; the brain being in a state of repose. During its functional activity the two halves tend to equalize, the temperature of the whole head rising about half a degree. In the different lobes the means would, according to *Broca*, be represented by 35.28 for the frontal; 33.72 for the temporal, and 32.92 for the occipital.

*Gray*, in his recent researches, made on 112 persons (ninety-two students and ten doctors, of different ages, from eighteen to fifty-one years), arrived at almost identical results, which are represented by the following figures :

Frontal Region.		Parietal Region.		Occipital Reg'n.		Half of Head.		Mean of whole head.
Left.	Right.	Left.	Right.	Left.	Right.	Left.	Right.	
34.64	34.28	34.68	34.21	33.70	33.30	34.35	33.84	34.16

Comparing now the results above shown by *Broca* and *Gray*, with those presented in our tables, our attention is suddenly struck by the great difference existing between them. We, in fact, have found that our *means* of the head exceed theirs by 2.3 degrees; and further, that

between the different lobes, and especially between the occipital and frontal, there is not so marked a difference, as is indicated by *Broca* (2.5), but of only a few tenths a degree. Surprised at this difference, which appeared to us too great, we have desired, in order to give greater value to our results, to execute a series of observations on persons of sound minds, observing the same conditions already indicated for those of unsound minds.

The figures thus obtained by us from twenty persons, almost of the same age and culture, are certainly higher than those given by *Broca* and *Gray*, as will be seen by the following table:

Frontal Region		Parietal Region.		Occipital Reg'n.		Half of Head.		Mean of whole head
Left.	Right.	Left.	Right.	Left.	Right.	Left.	Right.	
36.20	36.15	35.18	36.15	35.01	35.95	36.13	36.08	36.10

In face of the *means* obtained by us for the different lobes, and for the two halves of the whole head in sane men, the question naturally arises, to what causes must we ascribe their excess over those of *Broca* and *Gray*?

We certainly can not believe this difference due to any error in our method. The objection which was made to *Gray* by *Dr. Shaw*, one of the members of the *American Neurological Association*, with respect to cerebral thermometry, that pressure made on the bulb of the instrument might cause a notable elevation of the mercury, could not happen to us, for the following reasons: In the first place we took great care that the bulbs should not be too much pressed on the wall of the cranium; and in the next place, in order to dissipate all doubt, we tried to ascertain how much the column of mercury in our thermometers might be raised by a strong pressure on the bulbs. With this view, we had recourse to a double experiment. First, we held the bulb between the tips of the thumb and the index finger, watching till the column had reached its maximum, and then, after pressure with full

force, had fallen back and become stationary. The highest elevation thus obtained by us was three-tenths of a degree. In the next place, we applied a tight bandage around the bulb, and drew it so strongly as to exert great pressure. We thus obtained an elevation of one or two-tenths of a degree. These two experiments appeared to us sufficient to remove all doubt as to the elevation of figures obtained by us being attributable to pressure on the bulbs of our thermometers, since the verified differences from *Broca* and *Gray*, were not merely a few tenths, but whole figures. Nor can we believe that we are blameable for having used layers of albuminous covering of the thermometers, by means of which they were well isolated. It is well known how indispensable, in thermometric examinations, it is to impede the radiation of heat, especially when working on peripheral parts; and a proof of this was a fact observed by us, that thermometers applied to the cranium without being isolated, showed six or seven-tenths less elevation than when coated with albumen. And still we must add, that our figures, even without isolation of the thermometers, were higher than those of *Broca* and *Gray*.

It is here gratifying to us to observe that *Alvarenga*, the illustrious clinic of *Lisbon*, in his researches on general clinical thermometers, studying the temperature of diverse parts of the body, both with the bulb covered with cotton and naked, had obtained results almost equal to ours. He, in fact, found in the first case that the mean temperature of the head was 36.05 (maximum, 37.2; minimum, 35.2); and in the second, 35.74, (maximum, 36.04; minimum, 34.06). To what circumstances then are the different results obtained by us to be ascribed?

We venture the opinion that the locality and the surrounding temperature, in which we made our observations, may give us the explanation. Our experiments were made in the warmest months (June, July and August), in which the temperature, in the hours chosen by us, oscillated between 24 and 27 degrees = (65.2 and 70.6 Fahr.).

It is not, therefore, improbable, that this elevation of temperature tended to diminish the irradiation of caloric, and thereby to render more exact the temperature of the head. *Wunderlich*, alluding to the various precautions to be taken in thermometric practice, observes that in observations made in summer, it may be useful to take account of the surrounding temperature. Now, if such an observance is of value in axillary and rectal thermometry, it must be still more so in relation to that on the head. And that this circumstance really had a notable influence on the results, was demonstrated to us by some observations made, for curiosity, on a few persons in December of last year, which gave us figures very analogous to those of *Broca* and *Gray*. We have, therefore, been led to believe that these two authors carried out their researches in a season when the external temperature was low. In fact, *Gray* having made his observations after the communication made by *Broca*, on 30th of August, 1877, and having announced them to the American Neurological Society, on June 30th, 1878, it is very probable that he had, in part, made them in the winter, and, without doubt, at a time not the warmest of the year. These final considerations have much practical importance; and that they lessen the value of his researches, basing conclusions on the *means* obtained by him, *Gray* himself confirms, as on some occasions he found a variation in the temperature of the entire head, over or under normal, of  $2^{\circ}$  and  $2\ 1-2^{\circ}$  Fahrenheit (1 and  $1\ 1-4$  cent.) This fact would constitute a certain criterion for admission of a morbid alteration in the encephalon. Such a conclusion, though in general admissible in the sense that a temperature of the head, much above the normal, always indicates a morbid state of the organ contained, cannot be accepted, when the *means* given by *Gray* are taken as our point of departure, since, as we have seen, the cerebral temperature varying according to that of the surrounding air, and the method of the application of the thermometer, we should frequently be led to believe, as from the figures

obtained by us in sane persons, that an abnormal condition, which was totally absent, actually existed. Very different is the case when it is sought to establish a great difference, higher or lower, in one of the regions or in an entire half of the head, as then the value ascribed by *Gray*, as a means of diagnosis cannot, at the least, be recognized. And, as relates to the results of *Gray*, it is not superfluous to note another particularity in which they differ from ours. He states that he has found the temperature of the left parietal region, in the mean, higher than that of the frontal region of the same side, and he assigns this fact to the greater functional activity of the third frontal convolution, which he holds to correspond, more or less, exactly to the point of application of the thermometer on the parietal region. This assertion of *Gray*, besides being in opposition to the records of *Broca*, is unsupported by our observations, which have not shown to us the predominance of the parietal over the left frontal region, either in the sane or the insane, with the exception of lypemania (8 cases) and of progressive paralysis (7 cases), in which latter both the parietal regions were higher in temperature than the frontal, but the right higher than the left. Furthermore the explanations given by him do not appear to us very tenable, since, having selected as his parietal station the same point as that used by *Broca* and ourselves, near the insertion of the ear, which does not lie over, nor in full proximity to, the third left frontal convolution, as *Gray* believes, but over the tempora-sphenoidal lobe, as a just valuation of cranio-cerebral topography demonstrates.

(*To be Continued.*)

## Art. VI.—Two Cases of Enucleation of the Eyeball, followed by Immediate Relief in Important Nervous Diseases.

BY GEO. T. STEVENS, M. D., Albany, N. Y.

*CASE I.—Enucleation of an eyeball, followed by immediate and marked reduction of the amount of urine passed, in a case of diabetes insipidus.*

ON the 17th of September, 1877, Mr. S. brought to me his daughter, whose case had been referred to me by Dr. Smythe, of Minaville, N. Y.

A., the patient, was a bright and interesting girl, thirteen years of age, who had, five years previous to the visit to me, thrust the sharp point of a scissors into the right eyeball, penetrating the sclera and the ciliary body.

Intense inflammation followed the injury, but under the care of the family physician, she at length recovered from the inflammation, preserving mainly the form of the globe, but with entire loss of sight of the injured eye.

There was, at the time of her visit to me, opacity of the lens, and the pupillary border of the iris was adherent to the capsule; a prominent scar at the outer border of the cornea, marked the location of the injury.

The eyeball was somewhat enlarged, and tender upon pressure, especially over the ciliary region.

It was the condition of the uninjured eye which had led the father to consult me.

This eye had, for several weeks, been painful and extremely sensitive to light; conditions causing much solicitude on the part of her friends. I found the eye quite sensitive to pressure, with well-marked pericorneal injection, and learned that she was annoyed by subjective sensations of light.

Ophthalmoscopic examination revealed nothing more than hyperæmia of the deep structures.

I had no hesitation in informing the father that the child was suffering from a sympathetic irritation of the eye, and that it might, at any time, pass to sympathetic inflammation, which would be likely to prove fatal to the sight of the eye. I advised that no time be lost in removing the injured organ, as it was the only safe course.

My advice was accepted, and on the following day the girl presented herself, accompanied by an elder sister, when, under the influence of anæsthetics, the injured eye was removed.

The case progressed favorably, so far as the wound of the operation was concerned, and after a few days she was allowed to return home, the pain and irritability of the remaining eye having been greatly diminished, although not altogether relieved, as there remained considerable supraorbital neuralgia of the side from which the eye had been removed, and a less degree on the other. On this account she was advised to return after a few days.

It was nearly a month after the operation when the patient did return, this time accompanied by her mother; and it was at this interview that I first learned the facts, which gave to the case unusual interest.

From the mother I learned that the girl had always, until the time of the injury to the eye, been a vigorous and healthy child, never having suffered from any form of nervous troubles. After the injury, however, and up to the time of the operation, she had suffered many violent

paroxysms of pain in the stomach, each of which had prostrated her with severe illness for several days.

These attacks the mother called inflammation of the stomach, but, from her description, I regarded them as attacks of violent neuralgia of the stomach. She had also suffered greatly from headaches—so much so, as seriously to interfere with her attendance at school, from which she had been detained the greater part of the time since the injury.

But the fact of greatest interest was, that during four years past she had suffered from a severe form of *diabetes insipidus*, which had run a very uniform course during all those years.

She had, habitually, voided the urine very frequently during the day, and it had been the custom of the mother or the elder sister to rouse her, from her bed, several times every night for this purpose, and it had been usual for her to fill an ordinary chamber-vessel nightly. Notwithstanding all these precautions and the great discharge into the vessel, no night passed when the bed was not repeatedly wet, the fluid sometimes penetrating the mattresses and flooding the floor beneath.

On the night after the removal of the eyeball, the sister, not wishing to disturb the patient, made the best preparations she could for the protection of the bed, and carefully watched her during the night. To her surprise, no urine was passed until the patient rose in the morning, and, to the greater surprise of both sister and mother, there had been no involuntary discharge of urine from the time of the operation to the time of the mother's visit to me, a month afterward.

The amount of urine passed during the day was greatly reduced in quantity, and although she was still under the necessity of leaving her bed once, or even, at times, twice during a night, usually, yet many nights passed when she was not subjected even to this inconvenience.

For several months I watched the case with great



interest, and, with the exception of a slight relapse on one or two occasions, when she had been exposed to fatigue and cold in coming to Albany and returning, I was assured that there had been no return of the involuntary discharges. Not only this, but the headaches were much relieved and the pains in the stomach had entirely disappeared.

As there still remained some supraorbital pain, especially over the orbit from which the eye had been removed, and as there was still an abnormal secretion of urine, I had the patient return to Albany for a week or two, during which Faradism was practised, the current being passed from the supraorbital region to the temple. Under this treatment she was so nearly well of both troubles, that I allowed her to return home.\*

There the supraorbital pain and the dysuria returned in about the same degree as before the treatment with the battery. As her friends wished her to remain at home, various medicines were prescribed, with a view of arresting the pain over the brows and of checking the renal secretion, but I am not aware that any medicine had the slightest effect upon either. About two months ago—or about eight months after the removal of the eye—the frontal pain was again almost as intense as before the operation, and involuntary discharges of urine returned, although in a degree scarcely to be compared to the original condition. I now insisted upon the parents procuring a battery, and administering the induced current as before. No sooner was this done than the two troublesome conditions yielded, although neither has ever been fully and completely subdued.

The painful spot is a surface nearly an inch square, over the inner angle of the eyebrow of the right side. A

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\* As the existence of the abnormal secretion of urine was not suspected by me at the time of the removal of the eyeball, of course no examination of the character of the fluid, nor any measurement of the amount evacuated daily, was made.

That the amount was enormous seems beyond question, from the testimony of the patient and her friends. Specimens examined after the operation exhibited a specific gravity of about 1.010, a faintly acid reaction, and absence of sugar or albumen.

corresponding point, with pain of much less intensity, is over the other eyebrow. The first is always tender to the touch, and the other, generally. There is no apparent thickening of the tissues at either of these points.

There seems, unquestionably, to be neuritis which is relieved by Faradism; which does not yield to any medicine yet administered.

We have in this case the phenomenon of an obstinate and dangerous disease of distant organs, having for its exciting cause an injury to the ciliary body, almost entirely relieved by the removal of the eye, but continued in a modified degree, by a neuritis of some of the branches of the ophthalmic nerve acting as a secondary center of irritation; the distant disease relenting when there is less manifestation of neuritis, and renewing its manifestations when the symptoms of neuritis are active.

*CASE II.—Enucleation of an eyeball, followed by immediate recovery, in a case of epileptiform disease, associated with diabetes insipidus*

In the following case, although the nervous disturbances were of less duration, they were of more formidable character.

The patient, Charley, son of W. D., was brought to me March 11th, 1878. He was five years of age, pale and delicate, and the subject of a very prominent total staphyloma of the right eye.

I learned from the parents that when the child was ten days old, he had severe inflammation of the eyes, that the lids were swollen, and that much purulent matter was discharged; that the left eye at length recovered from the disease, but that the right eye soon began to protrude, and that in the course of a few months it assumed, substantially, its present form.

This was doubtless a history of ophthalmia neonatorum.

At the time of the examination the right eye presented more of the form of an irregular cylinder than of a globe, and projected, considerably, in front of the eyelids, which it prevented from closing. It was on account

of this great deformity that the child had been brought to me.

I learned, in respect to the general condition of the child, that from early infancy he had been in a feeble and irritable state, and that very slight causes, such as trifling exposures, errors in diet, or changes of the air had, habitually, brought on some form of illness.

For more than a year past he had been subject to convulsions, occurring with varying frequency, from once in two or three days to once in a month. The latter interval having occurred once only, while on the other hand, he had sometimes had three or four convulsions in a week. The paroxysms were characterized by unconsciousness, rigid contractions of the muscles of the body, firm closure of the jaws, and foam at the lips, with a gradual return to consciousness, followed by a day of lassitude.

In brief, it can scarcely be doubted that these were epileptic fits. Beside the fits, the child had been, during about the same time, the subject of a urinary trouble, which, without entering into details beyond the simple facts that the frequency of voiding urine was such that the child always wore a napkin, and that the quantity was so great that this was scarcely a protection, may safely be called diabetes insipidus. It may also be stated that examination of a single specimen showed neither sugar, albumen, nor casts.

The diseased eye was enucleated on the day of the first examination, and I saw the child a few days later, after which he was taken to his home. I saw nothing more of him until July 3d of this year, nearly sixteen months after the operation, when the mother called with the child to consult in regard to the use of an artificial eye. The mother informed me, that the urinary secretions from the day of the operation had been perfectly normal, and that the child had never, since the eye was removed, suffered a convulsion; that, whereas, he had been habitually ill, and very often under medical care, he

had since the operation been in perfect health. The robust and healthy appearance of the child fully corroborated the good report of the mother.

In each of the cases above related, we have an instance of very marked relief from formidable nervous disturbances, following immediately upon the removal of eyes, in which the ciliary body was involved in a cicatrix, and it seems logical to attribute, in each case, the nervous disturbance to irritation of the ciliary nerves; but if irritation from injury of the ciliary nerves is competent to produce so great disturbance of the functions of distant organs, as appears in these cases, it seems an entirely justifiable conclusion, that irritation of these same nerves from any cause may be productive of neurotic disturbances of various forms, and without regard to distance or immediate nervous communication; and it would also seem reasonable to suppose, that we may expect to relieve these neuroses, when a relation between the two classes of conditions is found to exist, by such measures as would be calculated to relieve the ciliary irritation.

During the past five years, I have, at various times, endeavored to call the attention of the medical profession to relations between difficulties and derangements attending the performance of the functions of the ciliary nerves and a great variety of nervous phenomena. In so doing, I have hoped to convince the profession, that these relations are of far greater frequency and consequence than have been hitherto conceded.

My own experience in a considerable number and variety of obstinate and obscure neuroses, which, after resisting all ordinary treatment, have easily and quickly yielded to measures directed to the relief or assistance of the ciliary nerves in the performance of their functions, has led me to the belief, that these cases have an important bearing upon that principle.

## Art. VII.—Subsequent History of Twenty-five Persons Reported Recovered from Insanity in 1843.

BY PLINY EARLE, A. M., M. D.,

SUPERINTENDENT OF THE STATE LUNATIC HOSPITAL, AT NORTHAMPTON,  
MASSACHUSETTS

IN an examination, a few months ago, of a reprint, in 1863, of the thitherto published reports of the Illinois Hospital for the Insane, I met a table, copied from the report of the Worcester Lunatic Hospital for 1844, and re-published in connection with a memorial by Miss Dix, for the purpose of showing the remarkable advantage, pecuniarily, of the treatment of insanity in its early stages. It presents two columns, or series of cases, twenty-five in each. Those in the first column were chronic and incurable; those in the second were recent and had been discharged—all of them “recovered”—from the said hospital in the course of the official year covered by the report.

The official year at that time ended with the 30th of November, and not, as now, with the 30th of September.

While studying the table, it occurred to me that it would be interesting to know the history, subsequent to their discharge, of the twenty-five persons who recovered after so short a period of treatment, and at so trifling an expense. Such was the inception of this article, and this the cause for the selection of the table of 1843, in preference to either of its predecessors. The first table of the kind was published, if I mistake not, in the Worcester report for 1837-38. The practice was continued for

a series of years, and was adopted at various other institutions of the kind. Indeed, the report for 1843, which contains the table, gives the result of similar tables at the State hospitals of Maine, Ohio and Virginia. The table is here introduced, in order that the reader may obtain a clear understanding of the subject.

"TABLE showing the Comparative Expense of Supporting Old and Recent Cases of insanity, from which we learn the Economy of placing patients in Institutions in early periods of disease.

No. of the Old Cases.	Present Age.	Time Insane.	Total Expense at \$100 a year before entering the Hospital, and \$132 a year since; last year, \$120.	No. of the Recent cases discharged.	Present Age.	Time Insane.	Cost of Support at \$2.30 per week.	
69	69	27 yrs.	\$3,212 00	1,622	30	7 wks.	\$16 10	
48	47	17 "	2,064 00	1,624	34	20 "	46 00	
60	60	24 "	2,504 00	1,625	51	32 "	73 60	
12	47	25 "	2,894 00	1,635	23	22 "	64 40	
18	71	34 "	3,790 00	1,642	42	49 "	92 00	
19	59	18 "	2,204 00	1,643	55	14 "	32 20	
21	39	16 "	1,993 00	1,645	63	36 "	82 80	
27	47	16 "	1,994 00	1,649	22	49 "	92 00	
41	56	26 "	2,382 00	1,654	35	24 "	64 40	
15	69	25 "	2,835 00	1,658	36	14 "	32 20	
192	53	25 "	2,833 00	1,659	21	46 "	36 80	
133	44	33 "	1,431 00	1,661	19	27 "	62 10	
176	55	29 "	2,485 00	1,672	40	41 "	25 70	
209	39	16 "	1,964 00	1,676	23	23 "	52 90	
225	59	26 "	2,554 00	1,688	23	14 "	25 70	
269	47	16 "	2,112 00	1,690	23	27 "	62 10	
278	49	19 "	1,424 00	1,691	37	29 "	16 00	
319	53	19 "	1,247 00	1,699	39	28 "	64 10	
347	58	14 "	1,644 00	1,705	24	17 "	39 10	
367	49	12 "	1,444 00	1,705	55	19 "	23 00	
499	43	14 "	1,644 00	1,709	17	10 "	23 00	
425	48	13 "	2,412 00	1,715	19	49 "	92 00	
434	36	33 "	1,442 00	1,716	35	48 "	110 49	
435	55	15 "	1,712 00	1,728	52	55 "	126 50	
482	57	17 "	1,942 00	1,737	39	33 "	75 90	
	54 yrs.		\$54,157 00			635 wks.	\$1,461 39	
Average expense of old cases								\$2,166 20
Whole expense of 25 old cases								54,157 00
Average expense of recent cases								58 45
Whole expense of 25 recent cases till recovered								1,461 39

The results of this table are so striking, and show so conclusively the importance of early admission to the insane hospitals, that many other institutions have instituted the same inquiry, with similar results. (See Report of the Worcester Lunatic Hospital for 1842, &c.)

The report gives no intimation that this was not the first attack of some of the patients; it contains no *assertion* that the twenty-five recent cases were *permanently*

cured; neither does it allude to the probability, or the possibility, that any one of the persons might again become insane; hence the almost inevitable impression left upon the mind of the general reader, by a perusal of the table, would be, that the twenty-five persons whose insanity was recent had never before been insane; and that now, on the first attack of that disease, they were returned to their homes and to society fully and permanently restored to mental soundness. Indeed, the force of the table depends upon the assumption that they were permanently cured. Furthermore, coupled with this impression would be the inference that, if the twenty-five persons whose disease was chronic had been taken to a hospital in the early stages of their mental unsoundness, they, too, would have been cured. Then follows the practical deduction: If you send your insane friend early to the hospital, his cure will cost but \$58.45; if you neglect such early action, his support, while insane, will cost at least \$1,461.30. This deduction was, apparently, the whole ostensible object of the table.

Taking, then, these twenty-five persons, so happily, so quickly, and so cheaply withal, redeemed, by restoration, from one of the greatest ills that flesh is heir to, let us, while learning something of their antecedent history, go forth with them from the hospital, and follow them to the present time, if they still are living, or through their subsequent life, if that life be ended.

#### THE TWENTY-FIVE RECENT CASES RECOVERED.

No. 1,622.—This was a man, and this was his *second* attack of insanity, but his first admission to the hospital. He was discharged *recovered*, as in the table, May 1, 1843. Within about three weeks after the table was made,\* and on the 20th December, 1843, he was again committed to the hospital. He remained a little more than three

\* It is assumed that the table was made on the 1st of December, because the official year ended with the 30th of November. It could not have been made before the 28th of November, because two of the patients represented in it were discharged on that day. Eight of the others were discharged in the course of that month.

months, and was again discharged *recovered*, March 25th, 1844.

He afterwards married, and it is believed he has never been insane since he left the hospital. He was well, and living with his family, one year ago, as he probably is now. This information comes from one of his friends, who visited him in 1878.

No. 1,624.—A woman. This was her *second* attack of insanity, the first one having occurred two years before her admission to the hospital. The case is recorded as periodical and suicidal. She was discharged *recovered*, as in the table, June 21, 1843. An informant writes me, September, 1879—"She is living, and is apparently in good health. I was not able to find out whether she ever became insane again or not."

No. 1,625.—A man. This was his *second* admission into the hospital. He was admitted the first time in July, 1840. He remained less than two months, and was discharged *recovered*, Sept. 17, 1840. He was discharged *recovered* the second time, as in the table, Sept. 25, 843. He was admitted the third time, Jan. 8, 1851, and nearly eight months afterwards, on the 29th of Aug., 1851, discharged *recovered* for the third time.

His father and a son were insane. On his third admission, his case is recorded as "periodical, once in about four or five years." Hence it appears that there must have been one attack between the last two admissions to the hospital.

Since the foregoing was written, I have learned that he had another attack in 1859, which lasted nearly a year. He was not taken to a hospital, but was cared for at home. After recovery he remained well until 1872, when he died of cholera morbus.

His wife and the son above mentioned, were patients at the Worcester Hospital, and the former died there.

No. 1,635.—A man. Insanity is hereditary in his family. He was discharged *recovered*, as in the table, Oct. 11, 1843. He still lives and is in business. One of



his relatives states that he "has not been insane since he left the Worcester Hospital;" and that he "is somewhat eccentric, but in no wise insane."

No. 1,642.—A man. The case is recorded as hereditary and suicidal. Discharged *recovered*, as in the table, June 21, 1843. He was admitted again Nov. 19, 1844, and discharged *recovered*, the second time, Feb. 18, 1845. He was admitted the third time, July 14, 1856, and died within less than thirty-six hours afterwards.

On his last admission, it is recorded that a sister and a brother were insane, and that his son "hung himself one year ago."

No. 1,643.—A woman. Her father was insane, and she had had *two* previous attacks of insanity, "some twenty years ago, in two successive Springs." After a residence of a little more than three months in the hospital, she was discharged *recovered*, as in the table, July 1, 1843.

Her subsequent history is related to me in dialogue form, by a correspondent who received it in conversation with one of the nearest relatives of the woman, and a member of her family.

*Question*.—"Was she cured at the hospital?"

*Answer*.—"Oh, no! She was just the same as she had previously been; very despondent most of the time; and she was constantly watched,—not that we feared her doing harm to others, but that she might harm herself."

*Q*.—"There was no change, after her going to the hospital, in her condition from what it had been previously?"

*A*.—"Oh, no. She continued the same until her death, in 1854."

*Q*.—"What was the cause of her death?"

*A*.—"She was run over by the cars. Most people thought it might have been by accident, but we could not tell."

No. 1,645.—A woman. This was her *third* admission to the hospital, and she was admitted four times afterwards. Her record is, as follows:—

First admission, Aug. 2, 1838; discharged *recovered*, Jan. 10, 1839.

Second admission, April 26, 1840; discharged *recovered*, Nov. 6, 1840.

Third admission, April 29, 1843; discharged *recovered*, as in the table, Nov. 1, 1843.

Fourth admission, May 31, 1845; discharged *recovered*, June 23, 1846.

Fifth admission, Jan. 25, 1849; discharged *recovered*, May 8, 1851.

Sixth admission, Nov. 6, 1855; discharged *recovered*, May 13, 1856.

Seventh admission, Jan. 12, 1857; died at the hospital of "old age," April 22, 1857.

It is recorded, on her second admission, that her insanity was hereditary and periodical; and, on her fifth admission, that two of her brothers and one sister were insane.

No. 1,649.—A man. Admitted, May 10, 1843; discharged *recovered*, as in the table, Nov. 17, 1843. An informant writes that he is now living and well; and that he "has shown no signs of his previous trouble for a number of years." As it is nearly thirty-six years since he left the hospital, this language would seem to imply that he *has* shown signs of the disorder since the time of discharge.

No. 1,650.—A woman. Admitted, May 11, 1843; discharged *recovered*, as in the table, Sept. 12, 1843. She is still living, and "has never shown any symptoms of insanity since she left the hospital."

No. 1,658.—A married woman, whose mother was insane. She was admitted, May 22, 1843, and discharged *recovered*, as in the table, July 27, 1843. In about two weeks after the table was made, and on the 13th of December, 1843, she was again committed to the hospital. She was discharged *recovered*, the second time, March 15, 1844.

Since she left the hospital she has had two attacks of

insanity, one of them following childbirth; but they were not severe nor of long duration, and she was not taken to a hospital. She is now living and well, the mother of twelve children, ten of whom are living.

No. 1,660.—A woman. She had *one* previous attack of insanity; and in the table on page twenty-three of the Worcester report for 1843, her case is recorded as periodical. Her mother and sister were insane. She was discharged *recovered*, as in the table, Aug. 23, 1843. One of her nearest relatives states, that "after her discharge from the hospital, in 1843, she remained well a few months, when she again became insane, was recommitted, and again discharged. In 1846 she was again placed in a hospital and again discharged, and *was never well but a few months at a time*. She died in 1849, aged about twenty-eight years." It is said that she died of scrofula. Her commitment in 1846 was to the Worcester Hospital, from which, after a residence of thirty-seven days, she was discharged *recovered*.

No. 1,661.—A young woman, whose insanity is recorded as hereditary. She was admitted, May 24, 1843, and discharged *recovered*, as in the table, Nov. 7, 1843. She was admitted again May 10, 1847, and discharged *recovered*, the second time, Sept. 30, 1847. Admitted the third time, Dec. 3, 1849, and discharged *recovered*, the third time, March 20, 1850.

I am informed that she "again became insane, and went to the hospital in New Hampshire;" this was on the 14th of December, 1853. She was removed to the McLean Asylum, Sept. 6, 1854, "where she remained, insane, until her death, July 5, 1867. Age, 44 years."

No. 1,672.—A man. His disease is recorded as periodical, in the table on page 24 of the Worcester report for 1843. He was admitted June 10, 1843, and discharged *recovered*, as in the table, Aug. 18, 1843. He is now (1879) in the almshouse of a town, the officer of which writes to me, as follows:—"He never was cured. He is a foolish, harmless fellow. He was taken from the

hospital (in 1843) to our almshouse, where he now is, in fair health, able to do very little light work; simple and harmless when pleased, but ugly when crossed very much."

No. 1,676.—A woman. This was her *third* attack of insanity, and her *second* admission to the hospital. Her first admission was on the 24th of May, 1842. She was discharged *recovered*, July 4, 1842. The second admission, as in the table, was on the 13th of June, 1843. She was discharged *recovered*, Nov. 16, 1843. I am informed that she "remained well, after her return from the hospital, as long as she lived, which was not many years. I think she died about 1850."

No. 1,688.—A young woman. This was her *fourth* admission to the hospital. Her first admission was on Aug. 20, 1836. She was discharged *recovered*, Oct. 28, 1836. Her second admission was on Jan. 19, 1839; discharged July 4, 1839. Third admission, Aug. 7, 1840; discharged *recovered*, Nov. 25, 1840. At this admission her case was recorded as periodical. Her fourth admission was on June 30, 1843. She was discharged, as in the table, *recovered*, for the fourth time, Sept. 11, 1843. On the last admission it is stated that she was twenty-two years of age; consequently she could have been but fifteen at the time of her first admission. After her fourth recovery and departure from the hospital, I am informed that "she married, went West, lived with her husband some years, and was in an insane asylum out there."

Having returned to Massachusetts, she was admitted into the Taunton Lunatic Hospital, March 18, 1864, and discharged therefrom, *recovered*, Nov. 30, 1864. She was committed to the Worcester Hospital for the fifth time, Aug. 5, 1865, and nearly two years afterwards, on the 28th of June, 1867, was discharged *not improved*. She was taken directly to the almshouse of the town, which supports her, and there she still remains. "She works in the family, and is quiet," writes my informant; "but at times is wild."

No. 1,690.—A young woman. Admitted, July 5, 1843,

and discharged *recovered*, as in the table, Oct. 21, 1843

About five years afterwards, in 1848, she died of consumption, not having been insane after she left the hospital.

No. 1,691.—A woman. Admitted July 8, 1843, and discharged *recovered*, as in the table, Oct. 16, 1843. She died on the second anniversary of her discharge, Oct. 16, 1875. I am not informed whether her insanity re-appeared. Probably it did not.

No. 1,699.—A man. Admitted July 20, 1843, and discharged *recovered*, as in the table, Nov. 15, 1843. Of his subsequent condition, one of his nearest relatives writes as follows:—"He has never been what we call insane since he came home; but he has had spells of nervous excitement, when he would not sleep well, and then he would be full of his talk, and very nervous, for from four to six weeks. He is never violent, but easily excited if he is opposed. His nervous spells are generally once a year, not always, and then in cold weather. We feel anxious about him, fearing he may be insane."

No. 1,705.—A woman. Admitted July 25, 1843, and discharged *recovered*, as in the table, Nov. 27, 1843. She was admitted the second time July 5, 1848, and discharged *recovered*, Dec. 5, 1848. Admitted the third time Dec. 27, 1851, and discharged *recovered*, for the third time, July 16, 1852. On the 19th of July, 1856, she was admitted into the Taunton Lunatic Hospital, where she died of consumption on the 17th of October of the same year.

No. 1,706.—A woman. This was her *second* attack of insanity, the first having occurred in 1823. She was admitted July 26, 1843, and discharged *recovered*, as in the table, Sept. 26, 1843. She remained sane during the rest of her life, and died Feb. 8, 1869, aged 80 years.

No. 1,709.—A young man. Admitted Aug. 7, 1843. The record on admission states that "he has had previous attacks," and that "he has a brother insane now;" and in the table, on page 25 of the Worcester report for 1843, his case is called periodical. He was discharged *recovered*,

as in the table, Sept. 26, 1843. Ten days afterwards, on the 6th of October, 1843, he was admitted the second time. This must have been several weeks before the table was finished, because the official year did not end until Nov. 30, and no less than thirteen of the other patients referred to in the table were discharged *after* the 6th of October.

He was discharged the second time, *improved*, Jan. 11, 1844. The records of this admission state that he "received an injury on the head many years since, from which he never entirely recovered." Although discharged the last time only "improved," he afterwards became so well that he married. He subsequently left New England, and died somewhere in the Middle or the Southern States. It is not known that he ever had another attack of insanity after he left the hospital; but a person who knew him well from early life, while he remained in New England, says that "he was always a weak-minded man."

No. 1,715.—A young woman. This was her *second* admission into the hospital *in* 1843, and she was admitted three times afterwards; and, on this admission, the case is called periodical, in the table on page 25 of the report for 1843. Her record is as follows: First admission, April 8, 1843; discharged *improved*, June 12, 1843. Second admission, Aug. 16, 1853; discharged *recovered*, Nov. 28, 1843. Third admission, Feb. 18, 1846; discharged *recovered*, June 30, 1846. Fourth admission, Nov. 13, 1846; discharged *recovered*, June 15, 1846. Fifth admission, Oct. 19, 1847; discharged *recovered*, July 12, 1852.

Her last term of residence in the hospital, as will be perceived, was more than four years and eight months. The record of her second admission says that she "has had fits," and that her "mind (is) not sound at any time." On the third admission it is recorded that the case is periodical, and that "for three weeks past (she) has had frequent convulsive fits daily."

The case is as interesting as it is remarkable. Notwithstanding the foregoing history, she has since married, and borne two children, and is now living and well.

No. 1,716.—A woman. The earliest information we have of her is, that on April 30, 1830, at the age of twenty-one years, she was admitted in the McLean Asylum. She was discharged therefrom, July 31, 1830, *much improved*. She was admitted at the Worcester Hospital, as in the table, Aug. 18, 1843. The records state that this was her *fourth* attack of insanity, and that each attack followed childbirth. She was discharged *recovered*, Nov. 28, 1843.

On the 30th of April, 1849, she was admitted at the Butler Hospital, Providence, R. I., where she remained more than seventeen months. She was removed thence by her husband, Oct. 8, 1850; and four days afterwards, on the 12th day of October, 1850, she was admitted the second time at the Worcester Hospital. The records of this admission contain the following statements: "Insane for twenty years; was here seven years ago; now has not worked for more than three years." She *died* at the Worcester Hospital, of consumption, March 6, 1851.

No. 1,728.—A woman. Admitted, Sept. 17, 843. The records state that she had had "occasional symptoms of derangement for ten years," and that the disease was hereditary. She was discharged *recovered*, as in the table, Nov. 23, 1843. She was not admitted again; but I have learned through her relatives, that no permanent benefit was derived from her treatment in the hospital. Says my informant: "She had been at home from the asylum but very few days before she was as bad as before going," and "her mental condition remained the same throughout life." She died of consumption, Nov. 5, 1854.

No. 1,737.—A woman. Admitted, Sept. 23, 1843. Her disease is recorded as hereditary, and she had a brother in the Worcester Hospital. She was discharged, as in the table, *recovered*, Nov. 22, 1843.

She is still living. My informant writes of her as

follows: "She was and is a Second-Advent woman. She believes that there is no salvation except through her creed, and in so far is a monomaniac in religion; but is right in all other respects, and is in excellent health, as she has been always since her discharge from the hospital in 1843."

And so we come to the end of the table, and, essentially, to the end of the force of it as an argument. Time and history sometimes deal rudely with the most sanguine hopes, and the most beautiful devices of men. The really surprising results of this investigation are suggestive of extended comment, but they must be dismissed by a brief reference to a few points.

1. The twenty-five persons were discharged *recovered* from the hospital forty-eight times, contributing forty-eight recoveries to the statistics of insanity.

2. The five persons who died in the hospitals had been discharged *recovered*, fifteen times, an average of three recoveries to each person.

3. Of all the hitherto-published representations of the curability of insanity, the most unfavorable is that of the late Dr. Thurnam, who based a general formula upon the actual results in 244 persons (treated at the York, England, Retreat), whose history he had traced until death.

"In round numbers, then," says he, "of ten persons attacked by insanity, five recover, and five die sooner or later during the attack. Of the five who recover, not more than two remain well during the rest of their lives; the other three sustain subsequent attacks, during which at least two of them die."

Let us compare the results of these twenty-five persons, recovered at the Worcester Hospital, with Dr. Thurnam's formula. According to the latter part of the formula, two-fifths of the persons who recover should never have another attack; three-fifths *should* have a second attack; and two-thirds of that three-fifths should die insane. Therefore, of the twenty-five persons recovered:

(a.) *Ten* should never have a second attack.



(b.) *Fifteen* should have a second attack, and perhaps more; and

(c.) Of these *fifteen*, ten should die insane.

But we find that, in fact, taking the twenty-five persons *at the time of their first recovery*, there were, under the most favorable construction,

(a.) Only *seven* who did not have a second attack; and

(b.) *Eighteen* had more than one attack.

(c.) As so many are still living, it is impossible to say what will be the final result in regard to the number dying insane. But already *five* have died insane at the hospitals, and *two* have died insane at home, making a total of *seven*. Two others are at almshouses, both having for a long period been incurably insane (they will undoubtedly die so), and one has died at home, who "was never well (sane) but a few months at a time."

It is no exaggeration of the unpleasant aspect of these results to say that they are no more favorable than Dr. Thurnam's formula represents. Their near approximation to that formula is somewhat remarkable.

4. Can our statisticians, philanthropists and statesmen longer be surprised that the hospitals do not put a stop to the increase of insanity?

In conclusion, it may be remarked, that the table itself is an absurdity, inasmuch as it appears to be based upon the assumption that the twenty-five "old" cases, represented in the left hand columns of it, would have been cured if they had been taken to the hospital in the early stages of the disease. There is, of course, no evidence to prove that even one of them would have recovered if that course had been pursued. In the language of the late Sir Coxe: "No one can tell what would have been the result in any single case, if it had been in different circumstances from those in which it was actually placed."\*

\*Lunacy in its relation to the State (p. 33).

## Art. VIII.—Syphilitic Hypochondriasis.

BY ALLAN McLANE HAMILTON, M. D.,

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DOWSE,\* in his work upon nervous syphilis, has gone so far as to make the following statement: "I believe that most of the ailments with muscular and trophic disturbances, as megrim and other conditions, which are, in many cases, vaguely termed hysteria, merely indicate an unstable condition of the sympathetic nervous system, in persons who are essentially the offspring of syphilized progenitors." This assertion, which, perhaps, is just the least bit too sweeping, is, however, suggestive of how extensively syphilis may enter into the production of certain vague, imperfectly-understood neuroses, which so often try the patience of practitioners of medicine.

As a notable instance of this connection, I may speak of a form of hypochondriasis, observed in male subjects, especially in those persons who are well developed, robust and apparently in good general health—so far as external

\*Disease of the Brain (p. 12).

appearances are concerned. Cases such as this, are of the most discouraging kind and rarely remain with one medical man for any length of time, but go the rounds until they finally fall into the hands of quacks. In such patients, the history of syphilis is, by no means, invariably clear or easily made out, and, occasionally, it is necessary to go back ten or fifteen years to find that there have been initial symptoms. In some cases the patient's position in society, and his circumstances, may be such as to often throw the medical man off his guard in hunting out the cause. For example, I may allude to the case of a well known clergyman, recently under my professional care, who gave the history of a train of symptoms which were decidedly incongruous and eccentric. He was supposed to be suffering from the effects of overwork, though in no way did he show any indications of prostration or enfeeblement. I ascertained, with much difficulty, that over twenty years before, while at college he had contracted a chancre, followed by secondary symptoms, so slight, however, as to make but little impression upon his mind. He rapidly regained health, under specific treatment alone, his subjective symptoms disappearing rapidly.

As Dowse suggests there is, in some cases a much more remote cause, and, doubtless, hereditary syphilis may account for the development of a more striking collection of disorderly symptoms. In all cases of hypochondriasis, or male hysteria, it, therefore, bēfits the medical man to search carefully for traces of syphilitic disease.

The indications are especially strong when the secondary symptoms have been unusually light. When an apparently strong man comes to us with a history of fugaceous aches and pains, inconstant spasms and disordered subjective sensations—notable among which is subjective cold—we should not immediately make light of his troubles, and even dismiss him for change of air and scene, but, empirically, if our history of cause is not clear, place him upon proper anti-syphilitic remedies.

I may illustrate what I mean by the following case:

*1.—Syphilitic infection six years before; development of irregular nervous symptoms; mental depression; tremor; inspiratory spasm; apprehension of danger; cold hands and feet; mercurial treatment; cure.*

Mr. I.—, an actor, twenty-three years old, presenting every appearance of good general health. Six years before had a primary sore, followed in a few weeks by secondary symptoms, sore throat, roseola, very slight alopecia, &c. Has since had osteoscopic pains, iritis, and eruptions, but there has been no headache, however. The chest presents several copper stains, and there are cicatricial depressions at various parts of the body. Eighteen months ago he became alarmed about himself, not because there was anything positively the matter with him, but because he developed a vague dread that he was about to lose his mind. He disliked to be left alone, and said that he had had a variety of subjective feelings of an irregular and unsubstantial character. Among these were precordial sinkings, dysæsthesia in the arms, legs and trunk. A few months after the beginning of the ailments he had trembling, which was pronounced by a well known neurologist to be due to "Sclerosis," but in a week or two after leaving Chicago this symptom disappeared, and has never returned. Two weeks before I saw him he developed a peculiar form of inspiratory spasm. The features of the paroxysms, which were frequently repeated, were the following: The head was violently thrown back, the nostrils were pinched and closed, the mouth was opened, and short-labored inspirational efforts were made; the chest walls were fixed, the abdominal muscles were convulsively moved, and there was irregular contraction of the diaphragm. His face became livid and anxious. These attacks would last from ten to fifteen seconds, and afterwards there were occasional short seizures, characterized by one or two forcible inspirations and a choreic twitching of the facial muscles. These forms of

attack occurred, especially, when he was excited, or under observation.

When upon the Stage he, as a rule, managed to control himself. Anxious to witness his behavior under these circumstances, I accepted his invitation to go to the theatre where he was engaged. Before seeing me he showed no indication of trouble, but as soon as I took my seat, and when he noticed me, his paroxysms occurred in a way to seriously interfere with his acting. I left my seat, as if to go out of the theatre, and when I did so he became perfectly quiet, but on another occasion the attacks were repeated as before. This trouble was then entirely hysterical, as it always occurred when his mind was especially filled with his complaint, or he knew he was under observation.

In a few weeks these attacks subsided, and were supplanted by a new series of symptoms. After trying moral treatment without avail, he was placed under specific treatment at my suggestion, and a month or so ago I found that he was perfectly well and happy, and laughed heartily at his former troubles.

In other cases I have witnessed equally striking results of specific medication in such forms of nervous trouble, and in patients who had resisted all form of general and special treatment, I found a course of mercurials to promptly put an end to the hypochondriasis.

I have been unable to find any allusion to this neurosis, but my friend, Dr. Keys, tells me that he has often observed such a nervous condition as a late feature of syphilis.

## Art. IX.—\*The Curability of Insanity *vs.* Recoveries from Mental Disease.

BY PLINY EARLE, A. M., M. D.,

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MASSACHUSETTS.

UNDER the title "Recoveries from Mental Disease," Dr. Isaac Ray has recently published an essay, suggested by what has been written upon the same subject in the last three annual reports of the Northampton Lunatic Hospital, and in a pamphlet entitled "The Curability of Insanity," which was read before the New England Psychological Society, in December, 1876.

In regard to the essay as a whole, it is submitted that its statement and general representation of my argument is very inaccurate. At the opening of *his* argument, Dr. Ray says: "He (Dr. Earle) finds, as a general fact, that thirty or forty years ago, the proportion of recoveries, or cures as they are sometimes called, was much larger than it has been of late years. This remarkable difference, Dr. Earle attributes to two sources of error committed by those who reported the large proportion of recoveries." He then proceeds to state that these two sources of error are, in general terms, first, the temperament of the person reporting the recoveries; and, secondly, the duplicate and, sometimes, multiplicate recoveries of the same person,

\*This and Article VII on "The Subsequent History of Twenty-five Persons Reported Recovered from Insanity in 1843," were embraced in a paper read before the New England Psychological Society, Dec. 16, 1879.

whereby the recoveries of *cases* are made to appear much larger than recoveries of *persons*.

Now, so far from assuming the decreased number of recoveries as my premises or proposition, it was one of the *objects* of the paper to *prove that there has been such a decrease*. The attempt to prove it is not made until near the close of my essay; and the fact of that decrease is made the seventh and last deduction from the whole discussion. Furthermore, strange as it may seem, neither of the "two sources of error" is anywhere alleged to be the cause of that reduction.

After having considered the two sources of error, and arrived at the conclusion that they do not satisfactorily account for the reduction in the number of cures, Dr. Ray says, "As, then, neither the temperament of the physician, nor the repeated counting of periodical cases, accounts for the larger proportion of recoveries, in the earlier times, we must look for the explanation in another direction, and we shall find it in various agencies that have come into operation in later times." He goes on to explain, as if it were a discovery of his own, that these agencies are, in short, first, the admission to the hospitals of a larger proportion of incurables; and, secondly, the increased incurability of the disease.

As before mentioned, my aim was to demonstrate that such a reduction or diminution has taken place, and *not* to show the causes of it. And yet those causes are briefly alluded to, on p. 48 of "The Curability of Insanity," as follows: "If the causes of the general reduction of the proportion of recoveries, as stated under the seventh head, be sought, some of them will be found in, or inferred from, preceding portions of this discussion.

"Among others are, first, the probable fact that, as institutions have multiplied, *the proportion of chronic and incurable cases taken to them has increased*; and, secondly, the not improbable fact that *insanity, as a whole, is really becoming more and more an incurable disease*. If it be true, as asserted by that accomplished scholar and profound

thinker, Baron Von Feuchtersleben—and doubtless no one will deny its truth—that in the progress of the last few centuries, as civilization has advanced, and the habits of the race have been, consequently, modified, disease has left its stronghold in the blood and the muscular tissues, and at length seated itself in the nervous system, it follows, perhaps, as a necessary consequence, that by a continuation of the cause of this change, the diseases of the brain and nerves *must* become more and more permanent.” And in my annual report for 1876-77, I say: “As hospital accommodations have increased, *more and more of the large class of the chronic insane, who formerly remained among the people, are thus removed from their homes*” to the hospitals; and I then proceed to quote from six authorities, showing that the same state of things is found in Great Britain.

Thus, when Dr. Ray becomes dissatisfied with the two agencies erroneously assumed by him to be those to which I attributed the reduction of recoveries, and looks “for the explanation in another direction,” he is not obliged to look beyond the writings which he is criticising; and four or five pages near the close of his paper are essentially only a mere elaboration of the ideas contained in the paragraph just quoted from those writings.

Not only have I not alleged the “two sources of error” as causes of the reduction of recoveries, but I never, even in thought, assumed or believed them to be, to any considerable extent. The reporting of multiple recoveries certainly cannot be, because more have been reported of late years than thirty or forty years ago. The older the hospital, the larger the proportion of such recoveries. In regard to the other “source of error”—the diversity of temperament of the different reporters—it may and it may not have tended to reduce the number, as a whole, although there are instances in which it has appeared to reduce them, which are more striking than any in which they appear to have been increased by it. The only *stated* object of the essay on “The Curability of



Insanity" is, to ascertain whether the popular belief in the great curability of insanity is justified by facts. The general scope of that essay is asserted (p. 4) to be "a *review* of the subject of the curability of insanity." This made the field of discussion so broad that the influence of temperament was legitimately mentioned, rather as a curious phenomenon, and hence a matter of general interest, than as one of the agents the influence of which has reduced the number of recoveries. And it is introduced, not as necessarily either a diminisher or an enlarger of recoveries, but as an "influence which *has an important effect* upon the proportionate reported restoration." In one instance that effect may be to reduce, in another to increase. And I perceive no reason why its effect was any greater, either way, thirty or forty years ago, than it is now, other than its stimulation, at the former period, by the more active zeal and rivalry among the superintendents of the hospitals. So far it undoubtedly *did* exert an effect of increase, at that time; and, as the stimulation has subsided by the less active rivalry, the effect is now towards a reduction.

The remarkable instance adduced in my pamphlet, in which one superintendent, at Worcester, reported, in a period of three years, ninety-five per cent. more recoveries than were reported by his successor in a period of the same duration; and another instance, mentioned in the report for 1877-78, of this hospital, in which one superintendent of the McLean Asylum, during a period of seven years, reported one hundred and twenty per cent. more recoveries than did his successor in a similar period, both occurred within the last fifteen years.

Even Dr. Ray, himself, not only acknowledges, in no less than three different places in his essay, that this difference of temperament *has* affected the statistics of recoveries, but he enters into a somewhat extended argument to *prove* that it has, and that, in the nature of the human constitution, it cannot be otherwise. Nevertheless, he does "question whether it has had all the

influence attributed to it" by me, inasmuch as I "think it has sometimes led to a difference in the number of recoveries as reported, amounting to twenty-five per cent." Here, again, Dr. Ray does not quite accurately represent the author whom he criticises. I did not write "has sometimes led;" but I did express my long existing belief that "the number of cases reported as recovered *might differ* at least twenty-five per cent., according to the man who *might* act as judge of their mental condition." But that is unimportant; the error of representation may be regarded as trivial. I still retain the belief; and for the benefit of persons who would prefer the concrete to the abstract, I will relate an anecdote. Within the last three months, in conversation with the superintendent of a large American hospital—a physician who has enjoyed the acquaintance of both of the ex-superintendents about to be mentioned—I said, "I believe that if, when Dr. Ray and the late Dr. Rockwell (of the Brattleboro' asylum) were in active service, it could have been possible for both of them, each in his respective institution, to have treated the same patients, and to have discharged them in the same condition, we should have had, for every seventy-five recoveries reported by Dr. Ray, no less than one hundred reported by Dr. Rockwell." Here is a difference, not alone of twenty-five, but of thirty-three and one-third per cent.; and yet the superintendent to whom I spoke immediately over-endorsed the opinion with the remark: "I think there would be *more* difference than that." Hence, as in the days of Moliere, there were *fagots* and *fagots*; so, now, there are opinions and *opinions*.

The general misconception and misinterpretation of the writings under his review has necessarily vitiated many of the minor parts of Dr. Ray's argument; and more than once in these he places me in an entirely false position. Thus, for example, he alludes to my use of the statistics of the Friend's Asylum, at Frankfort, and represents me as employing them for the purpose of accounting for *the*

*diminution in the number of recoveries*, in the course of the last thirty or forty years. I used them for no such thing. I used them for the purpose, primarily, of showing that (at any and at all times), in consequence of repeated admissions of the same person, the percentage of of *cases* that recover is generally larger than that of *persons* that recover; and, secondly, by such showing, to illustrate the method by which the people at large have received the impression that insanity is a far more curable disease than it really is.

My argument, when using the Frankfort statistics, was intended to be, briefly, as follows: "The people have been taught to believe that from 75 to 90 per cent. of insane persons can be cured. The Frankfort statistics, the best we have, show but 65.69 per cent. of recoveries. These recoveries are of *cases* not of *persons*. Rejecting the re-admissions, we find that the recoveries of *persons* were but 58.35 per cent. But these were not *permanent* recoveries. So many of the recovered persons were re-admitted, that the real proportion of the persons who recovered *permanently* was only 48.39 per cent. Hence, instead of having ninety, or eighty, or even seventy-five *insane persons permanently cured*, in each hundred of the acutely insane, these statistics show that, at Frankfort, only 48 (48.39) were so cured. Some persons will probably think that to be a pretty important difference.

It would seem that Dr. Ray wrote his essay, not with my pamphlet or my reports before him, but rather with a very imperfect and confused memory of their contents, as derived from a hasty perusal of them at some period comparatively remote. He makes a perfect muddle of my argument, and throughout his essay he is almost constantly firing at a target of his own, all the time laboring under the delusion and all the time leading his readers to believe that he is firing at mine.

It would occupy too much time and space to follow the Doctor through the other similar mistakes and perversions in his essay. There are, however, some other things

that may be noticed. In allusion to the recoveries at Frankford, he says: "We doubt if in any other hospital the discharges have been at the rate of one patient recovered fifteen times; another, thirteen; a third, nine; a fourth, eight; and a fifth, seven." "Nothing easier," writes Dr. Hack Tuke, "than to make sweeping statements without proof." It is no less easy to make a statement that rests upon a doubt. The Doctor was evidently in a doubting mood when his paper was written. Permit me to dispel the doubt in, at least, this one instance.

The total of recoveries of the five persons at Frankford is *fifty-two*.

At the Hartford Retreat, five persons have been reported recovered, as follows: One, fourteen times; another, thirteen; a third, nine; a fourth, nine; and a fifth, nine. Total recoveries of the five persons, *fifty-four*.

At the Bloomingdale Asylum, as long ago as the year 1845, five *men* had been reported as recovered—one of them, seventeen times; another, thirteen; a third, twelve; a fourth, eleven; and a fifth, ten. Total recoveries of the five, *sixty-three*.

At the same institution, at the same time, five *women* had been reported recovered—one, twenty times;\* another, nineteen; a third, seven; a fourth, seven; and a fifth, six. Total recoveries of the five, *fifty-nine*.

Taking the highest five of both of these sex-groups of Bloomingdale patients, one of them recovered twenty times; another, nineteen; the third, seventeen; the fourth, thirteen; and the fifth, twelve. Total recoveries of the five, *eighty-one*.

At the Worcester Hospital, five *men* have been discharged recovered,—one of them, fourteen times; another fourteen; the third, twelve; the fourth, nine; and the fifth, nine. Total recoveries of the five, *fifty-eight*.

At the same institution five *women* have been discharged recovered,—one of them, twenty-two times;

\*This woman afterwards increased her recoveries to forty-six, or only six less than the total of the five persons at Frankford.

another, sixteen; the third, fifteen; the fourth, fourteen; and the fifth, eleven. Total recoveries of the five, *seventy-eight*.

Uniting these two sex-groups of Worcester patients, and taking the highest five of them, one recovered twenty-two times; another, sixteen; the third, fifteen; the fourth, fourteen; and the fifth, fourteen. Total recoveries of the five, *eighty-one*.

At the New Hampshire Asylum, at Concord, even among the twenty-seven patients discharged recovered in the official year 1878-79, there were five, the number of whose recoveries has been, one of them, thirty-six times; another, ten; the third, nine; the fourth, five; and the fifth, three. Total recoveries of the five, *sixty-three*. The number of recoveries of these five persons is larger, by eleven, than that of the five at Frankford; but of all the patients ever treated at Concord, the highest five were as follows: One recovered thirty-seven times; another, sixteen; the third, eleven; the fourth, ten; and the fifth, ten. Total recoveries of the five, *eighty-four*.

In every one of the instances here adduced, the "rate" of recoveries is higher than that of the Frankford patients; and in that of either the Bloomingdale Asylum or of the Worcester Hospital, it is fifty-five per cent. higher; while in that of the Concord Asylum, it is sixty-one per cent. higher.

Should any vestige of doubt still remain upon the Doctor's mind, perhaps it may be obliterated by the fact that, at the Concord Asylum, *ten* persons have recovered a total of one hundred and twenty times, or an average of precisely twelve recoveries to each. This rate, however, is not quite so high as that of the above-mentioned ten patients (five men and five women) at Bloomingdale or as of the ten at Worcester. At the former, the ten patients recovered one hundred and twenty-two times; and at the latter, one hundred and thirty-six times; *an average of over thirteen recoveries to each person*.

Again, Dr. Ray writes as follows: "Dr. Bell had good

reason for saying, in his report of the McLean Asylum for 1840, 'that the records of this asylum justify the declaration that *all cases certainly recent*—that is, whose origin does not, either directly or obscurely, run back more than a year—recover under a fair trial.'

It may be assumed that Dr. Bell had equally good reason for saying, as he did say, in 1857, applying his opinion of the general curability or incurability of insanity to the case of an individual: "I have come to the conclusion, that when a man once becomes insane, he is about used up for this world." In 1840, when he wrote the extract quoted by Dr. Ray, he had been but four years in the specialty, and his experience was comparatively small. Seventeen years afterwards, when the latter expression of his opinion was given, that experience was greatly enlarged, and it is not unlikely that he had had the opportunity to learn, in the later history of the patients who recovered in the earlier years of his residence at the McLean Asylum, the frequency, and often the permanency, of subsequent attacks, such as the reader may learn in my history of the twenty-five patients discharged recovered from the Worcester Hospital in 1843. Though decided in his opinions, Dr. Bell's mind was open to conviction; and, when those opinions were altered, he had the independence, the manliness, to acknowledge it.

In regard to repeated recoveries of the same person, Dr. Ray remarks: "The Dr. (Earle) himself leaves it in doubt whether he would require us to report no case as recovered which has been so reported on any previous occasion. He certainly prescribes no rule to be observed." Dr. Ray must have either overlooked or forgotten the first paragraph on page 33 of my report for 1877-78, from which the subjoined extract is taken:

"Nowhere in my essay is it asserted that the calculation of recoveries should *not* be made upon *cases*. I always pursued that method, and I do not see in what way it can be avoided. All that I have insisted on is, that the reports of recoveries shall be accompanied by *an*

*explanation*, by which the reader can learn whether those recoveries are from the first attack, or from attacks varying from the second to the thirtieth, the fortieth, or the fiftieth; whether, if you report ten recoveries, it is to be understood that ten different persons have really recovered, or merely that one person has recovered from ten successive attacks. The inability to convey this information is the grand fault in the general method of reporting, and by this fault public opinion has been grossly misled."

"Many of the instances of repeated recoveries mentioned by Dr. Earle," remarks Dr. Ray, "were periodical in their character. These, certainly, were not recoveries, in any true sense of the term." But, in most instances—in every instance but one, I believe—they were *reported* as recoveries, and hence one cause of the prevailing misapprehension in the public mind in regard to the curability of insanity. The exceptional instance is that of the cases at the Pennsylvania Hospital, in which I inferred that a patient had been recovered thirty-two times, from the fact that he *is reported* to have had *thirty-three attacks*. But, in allusion to those cases, Dr. Ray says: "We learn from Dr. Kirkbride, that no periodical case was ever discharged (at the Pennsylvania Hospital) as recovered." Referring to page 37 of Dr. Kirkbride's report for 1878, I find a table "showing the number of the attacks in 7,867 cases," with the following explanation: "This table shows, that of the entire number admitted, five thousand, six hundred and ninety-five were suffering from the first attack of insanity, one thousand, two hundred and fifty-nine from a second attack, four hundred and twenty-one from a third, and so on, till thirteen were laboring under a ninth attack when received into the institution. *All these were distinct attacks of insanity*, and, after the first, had been developed subsequently to recoveries from a previous attack or attacks of the disease."

According to this explanation, a part of the cases which, in "The Curability of Insanity," are taken from the report for 1875 of the Pennsylvania Hospital, *were*, as I

inferred them to be, cases that had recovered from each previous attack. In the ninety-four persons admitted on the fifth attack, and the one hundred and seventy-two persons on the fourth attack, the disease was *not* periodical, but every patient had recovered from each of his previous attacks. The one hundred and seventy-two persons admitted on the fourth attack had, consequently, previously recovered a total of five hundred and sixteen times, making the number of previous *recoveries* three hundred and forty-four greater than the number of *persons*. That will do very well. It is sufficient to illustrate my point, that the reported *recoveries* largely exceed the number of *persons* that recover. Or if it be not, it may now be supplemented by the thirteen persons mentioned by Dr. Kirkbride in the above explanation, as "laboring under a ninth attack when received into the institution." These thirteen persons had already recovered eight times each—a total of one hundred and four recoveries.

In all instances where the person has had ten attacks or more, Dr. Kirkbride classes the case as periodical; and, according to Dr. Ray, not one of these cases has ever been discharged as recovered from the Pennsylvania Hospital. But in all instances in which the number of attacks has been less than ten, the case is *not* periodical, and the patient really does recover from each successive attack; and, of course, when he leaves the hospital, is reported as recovered. This may be a good method of classification, but the propriety of its universal adoption is doubtful. It might lead to difficulty. Not every physician possesses that acuteness of mental vision by which, when a patient has apparently recovered from his second, third, fourth or fifth attack, he can determine the question whether that patient is going to have, in all, only *nine* attacks, or whether, on the contrary, he will have *ten*. If he cannot decide that point, he will not be able to classify the case as periodical or not periodical; and if he cannot so classify him, he will not know whether to report



him as recovered or not recovered! This would be greatly embarrassing. Again, supposing that, by a mistake, not unlikely to occur, he should report a patient as recovered *nine* times in succession, and the patient should then have a *tenth* attack. Another embarrassment, from which there would be no relief but by letting those nine recoveries (like the sick man's reconciliation with his neighbor, in case the sick man should recover) "go for nothing," inasmuch as that tenth attack has proved that they were *not* recoveries! It is even somewhat singular that, of the no inconsiderable number of periodical cases at the Pennsylvania Hospital, not one of them has had less than ten attacks. It might reasonably be supposed that there would be, at least, one or two not farther advanced than the seventh or the eighth attack.

In allusion to my remark, that "If a person have a thirty-third *attack* of disease, it necessarily follows that he had previously recovered from thirty-two attacks," my reviewer exclaims: "This is a tremendous jump at a conclusion based on the vague signification of a single word." My impression is, that if, to one hundred physicians, it were asserted that a person has had *five attacks* of insanity, the instant inference of ninety and nine of those physicians would be, that the person had recovered from each of the first four attacks. The hundredth, and exceptional man, would probably be Dr. Ray. But, be this as it may, it is questionable whether the two contestants in this matter are quite old enough yet to begin to accuse each other of exalted skill in gymnastics. For one, I am perfectly willing that the audience shall decide which of the two was the greater leap, mine, in drawing the inference as expressed in the above quotation, or Dr. Ray's, in bounding from the beginning to the end of my essay, and mistaking one of my conclusions for my premises.

In all that I have written upon the controverted subject under consideration, I have intended, constantly, to represent, as a dominant idea, that public opinion has

been greatly misled by the method of reporting recoveries at the hospitals. Dr. Ray comes to my assistance in the pamphlet before me, from which I make the following extract, the last two of the three series of italics being mine :

"It may well be doubted whether the terms *recovered, improved, much improved*, have been of any use not more than balanced by their *inevitable tendency to mislead the reader respecting the curability of insanity*. But the public have always wished to know particularly what the hospitals were doing, and, as often happens, thought that the the information sought for was to be found in a *parade of vague general expressions*."

Finally, so far as regards Dr. Ray's essay, it is maintained and submitted that *not one of the seven conclusions in "The Curability of Insanity," is either refuted, or in any wise weakened, by any thing in the "Recoveries from Mental Disease."*

For the benefit of persons who may not have seen the essay so sorely obfuscated by Dr. Ray, it is proposed here to insert the seven conclusions derived from its argument, together with the facts and methods by which the correctness of those conclusions is demonstrated :

1. The reported recoveries from insanity are increased to an important extent by repeated recoveries from the periodical or recurrent form of the disease in the same person.

Many proofs of this are given in the pamphlet entitled "The Curability of Insanity," but here, as a matter of convenience, we will take the cases which have just been adduced for the purpose of relieving Dr. Ray from a doubt.

At the Frankford Asylum,	5	persons recovered	52	times.
" Hartford Retreat,	5	" "	54	"
" Bloomingdale Asyl.,	10	" "	122	"
" Worcester Hospital,	10	" "	136	"
" Concord Asylum,	10	" "	120	"

Consequently, the 40 persons recovered 484 times.

The number of *recoveries* is more than *twelve times as large* as the number of *persons* that recovered.

2. The recoveries of *persons* are much less numerous than the recoveries of *patients* or *cases*.

Proved by the same statistics as conclusion No. 1. The number of *persons* is *less than one-twelfth* of the number of *recoveries*—each *recovery*, of course, representing a *patient* or a *case*.

3. From the number of reported recoveries of *cases* or *patients*, it is generally impossible to ascertain the number of *persons* who recovered.

Proved, likewise, by the same statistics. The 484 *recoveries* were published merely *as recoveries*, without any explanation. Consequently, no reader of them could tell how many *persons* furnished those recoveries. The natural inference was that there were 484, whereas there were but 40.

4. The number of reported recoveries is influenced, sometimes largely, by the temperament of the reporter, each man having his own standard, or criterion, of insanity.

This conclusion is not susceptible of absolute proof, but it is a legitimate inference from the known diversity of organization, temperament and mental character among men. There are, however, two instances, at least, in which statistics appear to warrant the conclusion.

(a.) There was a change of superintendents at the Worcester Hospital in the official year 1871-72. In the three next *preceding* official years, under the old superintendent, the reported recoveries were equal to 43.32 per cent. of the admissions; whereas, in the three next *succeeding* official years, under the new superintendent, the reported recoveries were only 22.16 per cent. of the admissions. The reported proportion of recoveries in the first three years, was very nearly *twice as large* as in the last three years. There is no conceivable and plausible cause for this difference, other than that mentioned in the conclusion.

(b.) At the McLean Asylum there was a change of

superintendents in March, 1871. During the next *preceding* seven years (1864 to 1870 inclusive), the proportion of reported recoveries equaled 44.19 per cent. of the admissions; but in the *succeeding* seven years (1871 to 1877 inclusive), that proportion was only 19.94 per cent. The proportion of the reported recoveries in the first period, was *more than twice as large* as it was in the second period, or as 221 to 100.

5. The large proportion of recoveries formerly reported was (a.) *often* based upon the number of patients *discharged*, instead of the number *admitted*; and (b.) *generally*, upon the results in a number of cases too small to entitle the deduction therefrom of a general formula of scientific truth; and (c.) those proportions were evidently increased by that zeal and (for want of a better word) rivalry which frequently characterize the earlier periods of a great philanthropic enterprise.

(a.) At a large proportion of the American hospitals forty years ago, the ratio of recoveries was calculated on the number of patients discharged.

(b.) The most widely known of all remarkable percentages of recoveries of cases of recent insanity; those of the Hartford Retreat, in 1827, were based upon only twenty-three cases, of which twenty-two recovered; and one of the others, that of the Williamsburg, Virginia, Asylum, in 1842, upon only thirteen cases, of which twelve recovered.

(c.) There are various evidences of the existence of that zeal and rivalry in the earlier history of the hospitals, which need not be mentioned here.

6. The assumed curability of insanity, as represented by those proportions, has not only not been sustained, but has been practically disproved by subsequent and more extensive experience.

The assumption was that from 75 to 90 per cent. of the recent cases of insanity could be cured. The conclusion is proved by many statistics, but most especially by those of the Frankford Asylum, based upon the treatment of 1,061 cases, treated in the course of about thirty-nine

years. Only 65.69 per cent. of these *cases* recovered. But so many of these were the repeated recoveries, on re-admission, of the same persons, that the percentage of *persons* who recovered was only 58.35. Many of these were not *permanent* recoveries. The actual proportion of *persons* who, after one recovery were never re-admitted, was only 48.39 per cent.

7. The reported proportion of recoveries of all cases received at the institutions for the insane, has been constantly diminishing during a period of from twenty to fifty years.

This conclusion is derived *solely* from the results of the table on page 45 of the pamphlet on "The Curability of Insanity." In that table it is shown that, at twenty American hospitals, the average diminution of reported recoveries, in an average period of about twenty-five years, was from 46.08 to 34.26 per cent. of the admissions. So that, "for every hundred that recovered, on an average of twenty-five years ago, only a fraction over seventy-four (74.34) recover now."

## SELECTIONS.

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### The International Medical Congress at Amsterdam.

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Translated by E. M. NELSON, M. D., of St. Louis.

WE note with satisfaction and most cordial approbation the deserved prominence given to psychiatry by the International Medical Congress, held last September, in Amsterdam, and make the following extracts from the report of the proceedings of this body of savants:

"M. Van Andel made a communication on the use of *Coercive Measures in Mental Maladies*. It concluded thus:

1st, The rational application of the principles of non-restraint, should be adopted as the general rule in the treatment of mental maladies; 2d, insane asylums should be constructed in view of these principles, and their medical and administrative service organized upon the same basis; 3d, principal conditions—convenient situation of the asylum; extent; sections and divisions of the quarters appropriated to the system of non-restraint. The physician should be the director-in-chief of the inner service. Sufficient number of male and female overseers.

M. Van Der Swalme treats of *Mental Alienation as a Motive for Divorce*. His conclusions are the following:

The reasons which, in a religious, moral or practical point of view, seem to plead in favor of mental alienation as a ground for divorce, are not sufficient. In a medico-legal point of view, it would be necessary to read, in

place of mental alienation, mental alienation chronic, incurable and with loss of memory. The patients of this category will be so much the rarer as their disease often causes early death. It would appear dangerous to fix for the small number of survivors conditions of divorce, which, although carefully determined, could easily aggravate the suffering of a greater number of unfortunates. It results from these facts that mental alienation does not seem to constitute a ground for divorce more valid than many other infirmities and diseases, which may disturb conjugal happiness.

M. Van der Lith discusses the question whether a *classification* of mental maladies is necessary, and upon what *basis* it should be established. He is for the affirmative, and sums up thus:

1st, A classification of mental maladies is necessary, as well for instruction, study and treatment of the insane, as for legal medicine; 2d, the difficulties inherent in every classification of diseases, have caused some doubts on this subject, difficulties which, for mental diseases, become infinitely more serious on account of the complicated, little known structure of the affected organs, by the great diversity of their functions, which rule our whole existence, by the individual differences of disposition and of development, and by the great number and the great diversity of the morbid causes; 3d, a good classification, above all clear and simple, should correspond to the end for which it is destined; for study and instruction it might, perhaps, be other than for treatment of the insane or for legal medicine; 4th, this classification may have the same ground as that of other diseases; it should have for its base, in the first place, the functional troubles (symptomatic classification); in the second place, the the causes which have troubled or which still trouble the normal functions; finally, the anatomical lesions on which these morbid symptoms depend; 5th, it is useful to divide mental maladies into some well marked groups; but it is necessary not to forget that transitions and complications may modify the symptoms of the disease.

M. Doukerloot speaks of the *Etiology* and of the *Treatment of Katatony*.

1st, It is useful to bring together under the name of katatony, a certain number of cases which present as a

principal symptom a lack of power to act, which should be attributed to a derangement in the part of the brain which presides over movements; 2d, as katatony accompanies or complicates often difficult nervous diseases, as catalepsy, hysteria, epilepsy and melancholia with stupor, it is impossible to make a special etiology of it or to indicate a separate treatment.

On motion of M. Ramaer, the following resolution was adopted:

"The section on psychiatry desire to express their acknowledgments to the committee on organization of the congress for having added it to the other sections; and pray the congress to decide in general meeting that, in future, every session of the congress shall have its section of psychiatry."

M. Billod made a demonstration of an instrument (mouth of silver) for *Forced Alimentation* of the insane.

M. Ramaer read the following report upon the *Duties of the State with reference to the Insane*:

The duties of the State with reference to the insane have for their object, on the one hand, the protection of those patients against the injurious influences of social life; on the other hand, the defence of society against the disturbing effects of their disease.

As to the protection of the patients, the State has only to deal with those who are not cared for by their relatives in the ascending or descending line, or by their brothers or sisters, except the cases where these relatives permit on their part illegal acts, contrary to the terms of common right.

Crimes against the insane ought to be punished more severely than the same acts committed against people sound of mind.

Every insane person entrusted to the care of other persons than his near relatives, should be committed to the surveillance of the State.

It is by a special law that the surveillance of the the insane by the State should be regulated.

This law should contain:

The prohibition of the reception of insane persons into their dwelling without the permission of the indicated authority.



The conditions to which one must submit who desires to care for insane persons.

The formalities to observe for admission into an asylum.

The mode of surveillance by the State.

The surveillance of the State should be maintained continually; it can be exercised in different manners. The best seems to be that which intrusts it in small countries to a general inspector, chosen among the alienist physicians and placed in direct relation with the minister to whose jurisdiction the service of the insane belongs, in the large countries to inspectors, each of whom will have oversight over the insane in a special part of the country, and who, for that part, will be in direct relation with the minister; in the interest of the unity of the service, these inspectors will form, under the presidency of the minister, a council, which will assemble as often as the service shall demand.

In order to increase the oversight of the insane by the State, the physicians of public asylums should be named by the State and be subordinate to inspectors.

Furthermore, every house where are received insane persons outside of their family, should be visited at irregular intervals by the chief justice of the place, in order to assure himself that persons sound in mind are not detained there

It is a part of the duty of the State to take care that all the insane, who cannot be cared for in their family, can find appropriate treatment in a public asylum.

It is not only the persons of the insane, but their property, over which the surveillance of the State should extend. A provisional administrator should then be appointed for every insane person, who is not incurable, from the moment that he comes under the surveillance of the State, and is in possession of any property. If he is found to be incurable, it is necessary to place him under guardianship.

The property of the insane should not be taken away, even though this should be to defray the expenses of their maintenance.

The insane, whose incomes do not suffice to pay for their treatment in a public asylum, should be admitted there at the common expense either of the State or of the community, and according to circumstances, in whole or in part.

In the last place, the State should protect the insane

person against its own laws; in other words, the State should declare the impunity of the insane in the cases where a punishable act has been committed by him under the influence of his malady, which does not imply impunity for every act committed by an insane person.

It does not suffice to look out for the interests of the insane; it is necessary also to defend society against the harmful acts which the insane could commit under the influence of their malady. That is why every insane person who is known to be dangerous ought, for public order, for the safety of others as well as for himself, to be confined in an insane asylum; and that is why should be given to public officers the power to place such insane persons in a place of safety, and why those should be punished who, being charged with the care of these patients, permit them to escape by negligence or ill-will.

M. Seguin read an essay upon "Psycho-physiological Education of the Hand of an Idiot."

The work of M. E. Seguin is one of those little outlines full of materials, which would have sufficed for a volume. But if a volume were written upon this subject, would one read it? It is better, then, to accept the plan than to criticise it, and to endeavor to appreciate the brevity of which the author gives an example. He treats of an infant represented by four portraits, whose life guarantees the authenticity of veritable objects of art from the pencil of Mlle. Blanche Maisonneuve, well known to the readers of the "Archives de Physiologie." The education of this child, directed by M. Seguin, has been intrusted to Miss E. Nary Nead [E. Mary Mead?], to whose zeal and solicitude the author duly renders homage.

Like the preceding works of M. E. Seguin, that of which he treats rests upon the principle of "training" of the senses, to which recourse is had in order to develop intellectual faculties. In the case described, the hand has been taken as the instrument of perception and of execution, and is shown passing by a physiological gradation of automatism to operations, gradually volitional and more rational; then acting upon external bodies and awaking a

series of ideas by the aid of perceptions of form, of color of consistence, &c. It is only those who have read the preceding works of the author, who will appreciate all the interest of this curious communication.

M. Ch. Richet made, in his own name and that of M. Brissaud, a communication upon "Hystero-epileptic Contractions."

M. Petithau proposed to the section on psychiatry to adopt the following motion:

"There is occasion to make a law against alcoholism and to institute temperance asylums to treat cases of chronic alcoholism in virtue of this law."—*Le Progres Medical*, Oct. 4th, 1879.

We present also the following contribution of the congress on neurology:

"Mr. Guye communicates an interesting work upon the 'Vertigo of Meniere.' Here are his conclusions:

1st, In the most general sense of the word one can consider as Vertigo of Meniere, all cases of vertigo caused by abnormal irritation of the nervous apparatus of the semi-circular canals. The irritation may be due to an exaggerated normal cause; intense rotatory movement of the head or of the whole body; or to an abnormal cause, sudden change of temperature, most frequently lowering, variations of intra-tympanic pressure, circulatory or inflammatory troubles; 2d, in a more limited sense, the name of Meniere's disease is applied to cases where an inflammatory state, either of the semi-circular canals themselves, or of the middle ear (tympanic or mastoid cavities) is the cause of a vertigo, which may be continuous, or only be evoked by normal movements of the head, or again be produced only in the form of paroxysms at intervals of weeks or months; 3d, cold and catarrh of the tympanic cavity play a great role in the etiology of Meniere's disease; 4th, the majority, if not the whole, of the cases of Meniere's disease are of secondary nature, that is to say, they are caused by catarrh or inflammation of the tympanic or mastoid cavity; 5th, in typical cases, the vertigo is accompanied or preceded by sensations of rotation, which follow a constant order; the attack commences by a sensation of rotation around a vertical axis

and always, in feeling, on the diseased side, sometimes with a rotation to and fro; then, in severe cases, a sensation of rotation around a frontal axis from front to back; afterwards the vertigo becomes general, the patient falls, with or without loss of consciousness; often there is vomiting. In certain cases the attack is passed in ten to thirty minutes; in others, the vertigo is reproduced by each movement of the head during one or two days, and the patient is forced to remain lying; 6th, in some cases the sensations of rotation are produced experimentally by treatment of the diseased ear (be it insufflation of air into a tympanic cavity which is the seat of an inflammation, or injection of liquid into a mastoid cavity after trephining the mastoid apophysis). In these cases the sensation of rotation has always taken place around a vertical axis and in the sensation of the diseased organ; 7th, in certain cases the attacks are accompanied by very strong subjective sensations of noise; in others, a light humming exists constantly without exacerbation in the attacks; sometimes these sensations of noise are absolutely wanting; 8th, in cases of long duration, a light feeling of vertigo persists in the free intervals, and is produced principally by the first movements of the head after sleep. Sometimes the patient has the sensation of falling, either forwards or backwards. Other patients are forced to hold the head fixed in a constant direction, because each movement in the plane of one of their semi-circular canals, gives them the sensation as if a heavy body followed this movement in their head. (In a very well marked case, which I have observed, the patient held his head bent forward and to the left, and so prevented every movement of rotation in the plane of the sagittal semi-circular canal of the left side. The left ear was the ear affected). 9th, besides frequent complications with hysteria, Meniere's disease often produces in children a state like chorea, and in adults clonic contractions of the muscles of the face and of the body, which may disappear absolutely by local treatment of the middle ear; 10th, Meniere's disease is often cured, with or without loss of hearing; 11th, local treatment often succeeds in cases which are not too inveterate; 12th, in internal treatment, quinine, recommended by M. Charcot, merits most confidence. It often has the effect of retarding the attacks during its use. Quinine has, moreover, sometimes in patients whose middle ear is affected, the paradoxical

effect of causing to disappear the humming which exists while the deafness increases. This action is generally limited to the duration of its employment."

M. Meniere does not think, like M. Guye, that the majority of cases of Meniere's disease are the result of catarrh of the drum or of the mastoid epiphysis. On the other hand, he is of the opinion, with M. Delstauche, that M. Guye generalizes too much, in calling all the cases of vertigo, vertigo of Meniere. Vertigo is only one symptom, while Meniere has described a disease in which one finds other concomitant symptoms.—*Le Progres Medical*, Oct. 4, 1879.

Dr. Damaschino communicates in his own name and in the name of M. Henri Roger, a paper upon the *Alterations of the Medulla in the Spinal Paralysis of Infancy and in Progressive Muscular Atrophy*. Among the diseases of the nervous system which are observed among infants, there is one whose symptomatology presents special characteristics, it is the *spinal paralysis of infancy*, designated otherwise under the name of *essential paralysis of infancy*, because it has been considered as belonging to the group of idiopathic nervous diseases.

It results, from a certain number of observations collected by Mm. H. Roger and Damaschino, that the characteristic alteration of this affection is a lesion of the spinal medulla, of which atrophy of the nerves and muscles is the consequence.

M. Damaschino brings to the support of this proposition histological preparations and very conclusive observations. In three of these observations the lesions consist in centers of inflammatory softening, which are seated in the anterior cornua of gray matter, and extend into almost all the depth of the lumbar medulla. The lesion is more marked on the right; at the level of the dorsal region, there are no distinct foci, but granular bodies are found accumulated around the vessels; atrophy of the cells, very considerable in the lumbar region, is found equally in the other parts of the medulla, and establish a

constant relation with the dimension of the foci and the variable degree of the vascular lesions. Atrophy of the white antero-lateral bands was very distinct, and there was at this level an abundant accumulation of connective tissue nuclei, very pronounced atrophy, likewise, of the anterior roots. The muscular lesions consist especially, on microscopic examination, in the diminution in volume of the primitive fascicles.

A great number of muscles are the seat of an abundant deposit of fatty cells interposed among the muscular elements.

Following the communication of M. Damaschino, M. *Bouchut* said that he had himself performed a great many autopses in cases of infantile paralysis, and that he had not observed the appearance of the medulla, signalized in the paper.

M. Damaschino responded that if he had not found the lesions in the medulla, which he himself had just described, it was because the measures adopted were insufficient. The numerous facts which he has observed with M. Roger, and the histological preparations which he places before the eyes of the members of the congress, prove to a demonstration the existence of these lesions.

Of nervous dyspepsias and their treatment, by Prof. Semmola (of Naples):

1st. There exist dyspepsias dependent exclusively upon vices of gastric innervation, either in the secretory and chemical phenomena, or in the mechanical phenomena of digestion.

2d. These dyspepsias are in relation with a functional weakening of the pneumogastric and of the sympathetic or its dependencies.

3d. The most prominent symptoms of these dyspepsias are a great intolerance of the stomach to the slightest contact of food, with epigastric pain and gastralgia, followed frequently by vomiting, to say nothing of all the other symptoms which accompany all sorts of digestive troubles.

4th. The causes which constantly produce these nervous dyspepsias, more or less rebellious, are all those which

exhaust the nervous system in general; but especially, repeated vexations, violent emotions and excess of coitus, especially when these causes have acted during the process of digestion, and afterwards without respite.

5th. There may exist, in time, in these cases of nervous dyspepsias, a true catarrh of the stomach, but it is always secondary and develops in consequence of three influences:

(a.) The same vice of innervation in the capillary circulation of the stomach (vaso-motor paralysis).

(b.) The prolonged presence of aliments which digest very slowly.

(c.) The irritant action of all the products of defective digestion.

6th. Exaggeration of the pathologico-anatomical point of view and of tangible local lesions has caused to be lost from view in these last times, the great value of nervous influences upon the production of many maladies.

7th. The treatment of the gastric catarrh does not usually succeed in these dyspepsias of nervous origin, and it amends, almost immediately, the most prominent troubles of digestion.

8th. The general building up treatment sometimes succeeds in curing also troubles of stomach innervation. (Hydrotherapie, fresh air, &c., iron, nuxvomica, &c.)

9th. In rebellious cases of these dyspepsias, especially of those which have had for their cause excessive coitus, prolonged moral causes, the only means of succeeding surely and definitely, is the employment of the continued current between the lateral region of the neck and the epigastrium. The duration of each application should be five to ten minutes each time, repeated, at least, every twelve hours methodically, and especially in the hours which immediately precede the meals.—*Archiv. Gen. de Med.*, Oct. 1879.

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OF THE EFFECTS OF CEPHALIC ELECTRIZATION UPON THE VESSELS OF THE DURA-MATER AND OF THE PIA-MATER—*By Dr. Ch. Letournian.*

“We have then undertaken to determine directly, what is the effect upon the vessels of the envelopes of the brain, of a moderate electrization, practised with the continued current through the integuments and the cranial

wall, nearly in the ordinary medical conditions. For this it was sufficient to make bare, in a mammifer, a portion more or less extensive of the cerebral membranes." Doctor Laborde assisted him in the experiment, and "in a kitten a month old, in which the cranial wall was still very thin, and was quite easy to cut, a considerable portion of cranium has been cut out on the left side. The dura-mater being so exposed it was very easy to see with the naked eye, and still better with a magnifying glass, the arterial and venous branches which ramify upon the surface. We proceeded then to the electrization, making use of the small portable pile for continuous current, of MM. Onimus and Brown. This pile contains eighteen elements, and we took care by the aid of a galvanometer introduced into the circuit, to assure ourselves that the passage of the current was effected regularly. During all the duration of the experiment, the positive pole was placed behind the right ascending ramus of the inferior maxilla, and the negative pole upon the anterior cranial region above the eyes.

Ten or fifteen seconds after the closing of the circuit, the fine arterial branchings of the dura-mater became less and less visible, and, a little later, the venous branches themselves became pale. At each interruption of the current the anemia increased for an instant, then the vessels resumed, little by little, a little larger caliber.

The experiment, repeated a number of times, gave always the same results, determined successively by Doctors Duval, Laborde, Condereau, and ourselves. The dura-mater of the right side having been denuded in its turn, the experiment was repeated, which on this side again gave the same results. We pursued the experiment cutting out on the left side a portion of the dura-mater. The pia-mater being thus exposed, and its vascular branches, arterial and venous, being very visible upon the gray ground of the cerebral substance, the same observations were made upon it. There, also, we could obtain at will, contraction of the vessels.

The experiments, which we have just related, added to facts cited in the commencement of this paper, put it beyond doubt that it is possible, even easy, to produce in man a temporary anemia of the brain, by means of suitable electrization; but the therapeutical bearing of this fact should not escape the physician. For this temporary anemia can, without the least inconvenience, be renewed



a great number of times daily, if one wishes; and our personal experience permits us to affirm that, with a little persistence, one may triumph so over various congestive states of the brain, manifesting themselves either by the simple depression of the intellectual faculties or by psychical disorders of varied nature.

In support of the preceding, we shall cite the following fact, chosen among many others, and which appears to us typical. It concerns a case of cerebral congestion, or, rather, of a chronic congestive state of the brain, which has yielded to electrization repeated persistently.

The patient, the abbe C., aged fifty-five years, is a corpulent, full-blooded person, with a highly colored countenance. When he applied to us he was in despair, because he suffered several times a week from persistent vertigo, during the duration of which he could not take a step without support, and from which he was relieved only by absolute repose. M. C. belonged to a religious community whose principal object is teaching, but he was obliged to renounce, little by little, all work. It had come to pass, he said, that he could scarcely recite his breviary and say mass. After various treatment, there was made to him, at the end of five months, an application of fifteen leeches, with so little effect that the next day he had a severe cerebral congestion, with loss of consciousness and instantaneous fall. This serious accident occurred several times afterwards, and was ordinarily accompanied by violent vomiting.

To modify this inveterate organic state and restore a proper tonic contraction to vessels habitually dilated, a treatment of long duration was necessary. During five months we electrized the patient three times a week, placing the positive pole of a pile with continuous current at the level of the first cervical vertebra, the negative pole at the level of the superior ganglion of one of the cervical sympathetic nerves. The number of elements employed varied from fifteen to twenty, and we took care to interrupt the current every fifteen seconds; for experience shows that vascular contraction is produced especially at the opening and closing of the current.

Each seance affected an immediate amelioration and longer and longer. Soon the patient was able to resume his occupation, and to work, at first, one hour, then two hours, then four and five hours per day. At the same time the attacks of vertigo became more and more rare and brief. At the end of five months, the patient ceased

a treatment which was no longer necessary; and for several months the alleviation has continued.

This fact is so eloquent that it appears to us useless to accompany it with comments, and it will surely suggest to practicing physicians, therapeutic applications numerous and various."—*Gazette Hebdom.*, 3 Oct.

## Academy of Sciences.

PARIS, October 20th, 1879.

ON THE POWER, RAPIDITY OF ACTION AND THE VARIETIES OF CERTAIN INHIBITORY INFLUENCES OF THE ENCEPHALON UPON ITSELF OR UPON THE SPINAL CORD, OR OF THIS LAST CENTRE UPON ITSELF OR UPON THE ENCEPHALON.—*Note of M. Brown-Sequard.*

*I. Inhibitory influence of a part of the encephalon upon another part of this centre and upon the spinal cord.*

Galvanic irritation of the posterior surface of the section of the bulb at two or three millimeters above the "beak of the calamus," and of the spinal cord where it gives rise to the first two pairs of nerves, produces no movement of the limbs. The excitability of these parts is lost suddenly and completely in the most of the cases where this lesion is made in dogs, rabbits and "*cobayes*." There is clearly then, as numerous experiments have shown me, not the loss of excitability, which an arrest of the circulation may cause, but the effect of an inhibitory influence exercised by the irritation, which section produces upon the bulb and upon a portion of the cervical cord. If I crush the encephalon of a rabbit or a "*cobaye*," I obtain, most frequently also, a very clear effect of inhibition. The anterior limbs have no (or scarcely any) trace of movements, and the reflex faculty of the cervical enlargement is completely lost. An inverse condition exists in the posterior tract, where the reflex faculty lasts a long time and where very violent and prolonged convulsions take place immediately after the crushing.

*II. Influence of the spinal cord upon itself.*

Having destroyed a portion of the lumbar cord far from the origin of the nerves of the posterior limbs, I

have most frequently determined a complete absence of the convulsive movements in those limbs, and the immediate loss of the reflex faculty of the lumbo-sacral enlargement of the cord. I have found also that a quite pronounced paralysis always exists in one of the arms in rabbits, immediately after transverse section of a lateral half of the spinal cord, far from and behind the origin of the nerves of the arm. This paralysis takes place on the side of the lesion and lasts at least eight to ten days. M. Vulpian has already seen almost the same thing in frogs.

*III. Inhibitory influence exercised by the spinal cord or the sciatic nerve upon the encephalon, of the opposite side.*

The section of a sciatic nerve, or of a lateral half of the spinal cord in the dog, the rabbit, and the "cobaye" produces remarkable effects. There is immediately afterwards a diminution, sometimes even the loss of all excitability by galvanism in one or several points of the encephalon, of the side opposite to that of the lesion of the sciatic or of the cord. In the rabbit, the diminution of excitability is more considerable, and especially much more extended than in the dog. All the excito-motor or sensitive parts show a notable diminution of their properties. This is so also with the pretended motor centres, the corpora striata, the nates, testes, internal capsule, cerebral peduncle, mesocephalon, the bulb and the part of the spinal cord where the first two pairs of nerves arise.

*Conclusions.*—1. Under the influence of a local irritation a number of parts of the encephalon can determine the inhibition of excitability to galvanism of many other parts of this nervous center or of the spinal cord, either on the same side or the opposite side. 2. The spinal cord, irritated at certain points, can determine the inhibition of excito-motor properties of other parts of this nervous centre at a great distance before or behind the irritative lesion. 3. The sciatic nerve and the spinal cord can determine, on the opposite side to that where they have been irritated by a section, the inhibition of excitability to galvanism and other properties of the encephalon in all its parts, including those where it has been believed that psycho-motor centres are localized."—*Gazette Hebdomad*, Oct. 31, 1879.

## Medical Society of the Hospitals.

PARIS, October 24th, 1879.

M. Debove recalled briefly facts already published upon the relations of hemianæsthesia with hemiplegia, and upon their cure by the application of magnets. In all these facts it is only a question of hemianæsthesia and of the influence of magnets upon the return of sensibility. No observers make mention of the influence of magnets upon motility, and M. Debove himself, in a preceding communication, has not thought it proper to enter upon this question before having collected other facts in support of that which he had established at first. These facts he has now obtained and presents to the Society. In all his observations, M. Debove has determined with care the condition of motility; it is within bounds to assert that the influence of magnets is exerted upon hemiplegia at the same time and to the same extent as upon hemianæsthesia. The author repeats with details the observation communicated previously by him to the Society, and cites five others, of which three may be summed up as follows:

1st. He treated a man having had several returns of epileptic attacks, who had fallen on the public street and been carried into the ward of M. Debove. He presented a hemianæsthesia, with complete hemiplegia. One application of a magnet caused to disappear, not only the hemianæsthesia, but also the hemiplegia. The patient left the hospital the next day, limping a little, it is true, but able to walk without support, and having recovered all the strength of his arm.

2d. A patient affected with hemiplegia of a syphilitic origin, was treated by iodide of potassium in the service of M. Fournier, and discharged, cured, after several months sojourn.

A month ago this patient awoke, affected on the left side with complete hemiplegia and hemianæsthesia, with loss of sight on the affected side. Application of a magnet upon the arm for an hour without results; continued application of a magnet, during twenty-four hours; the symptoms cease, but in the arm alone; the same

application for twenty-four hours to the leg, followed by recovery limited to the limb touched by the magnet; a third application, practised this time upon the face, re-established the sight, and effected a complete cure.

3d. He treated a patient of M. Proust; the application of a magnet had caused the symptoms to disappear only momentarily. This patient entered the service of M. Debove, with hemianæsthesia and hemiplegia. An application for a half hour gave, as with M. Proust, only momentary relief. A continuous application for twenty-four hours was made and gave complete success.

Besides, M. Debove has two analogous observations which M. Vigouroux has communicated to him; in both cases there was recovery.

The cases observed by M. Debove are very dissimilar in the point of view of etiology of the difficulties; in one, cerebral softening, in another, saturnism, syphilis; but in all we find a common character of capital importance, which binds them together and permits to range them in a single group—it is the coincidence of hemianæsthesia and hemiparesis. Another important fact which results from the observations, is that in all the cases where these two phenomena co-exist, they are inseparable; one disappears with the other; when one re-appears, the other is reproduced to the same degree and when there is a transfer, as is observed in hysteria, the transfer always takes place with both at the same time.

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## Society of Biology.

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October 25th, 1879.

*M. Laborde* presented two animals in which he has sought to produce artificial cerebral hemorrhages. 1st, A cat, which offers a fine example of movements, *cu manege*, and always turns to the left; 2d, A dog, hemiplegic upon the left side and which presents a corresponding deviation to the right of the head and eyes. The experimental lesion is seated, probably, in the right paracentral lobule. Hereafter the anatomical specimens will be brought before the Society, which shall then judge also the relation which exists between the actual symptoms and the anatomical alterations which the autopsy shall make known.

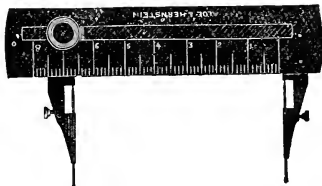
*M. Francois Franck.*—The pneumogastric nerve at the cervical region has already received a large number of sensitive filaments from different points of the thorax and abdomen. The excitation of the central end of the nerve in this region, produces the collective effects of excitation of these different centripetal filaments. Also, it is important to study separately the effects of the excitation of each of these afferent filaments in order to know the part which belongs to them in the results of the excitation of the common trunk. One can commence this study by the excitation of the sensitive nerves of the larynx, of the trachea and of the bronchi. Excitation of the central end of the superior laryngeal, determines, as M. Bert has indicated, the arrest of respiration in the same phase where it finds it; it determines, also, the momentary arrest of the heart. By reason of this last fact, the arterial pressure is lowered. But if, by a preliminary injection of atropine, the heart of the animal is removed from the reflex influence of the pneumogastric, the arterial pressure, instead of lowering, rises. In consequence, the superior laryngeal nerve plays the role of moderator nerve in relation to the heart, and of vaso-constrictor nerve in relation to the vessels; these effects are produced in a reflex manner. The sensitive nerves of the trachea and bronchi rejoin the pneumogastric by the anastomosis of Galien. MM. Philipeaux and Vulpian had already shown that the section of the anastomosis of Galien produces degeneration of a certain number of filaments of the recurrent. Direct experiments show that these degenerated filaments are sensitive nerves returning to the superior laryngeal by the anastomosis of Galien. In fact, excitation of the peripheral end or the recurrent nerve, that is to say, of the portion of the nerve which rejoins this anastomosis, determines, aside from movements of the larynx, which are here out of consideration, cardiac, vascular and respiratory effects analogous to those of centripetal excitation of the superior laryngeal. Excitation of this same recurrent portion fails to produce this effect, if the anastomosis of Galien has been cut; excitation of its central end also gives negative results, which shows that no sensitive filament ascends, following it directly, to the pneumogastric. —*Gazette Hebdom.*, Oct. 31, 1879.

PHYSICAL RESULTS FROM MENTAL IMPRESSION.—A healthy girl, aged seventeen, was one day very much frightened by a floor giving way beneath her. The same night she began to complain of headache and chills, and the next morning felt restless, and had itching of the scalp. During the following days she steadily improved, with the exception of the itching. One day, while combing her hair, she noticed that it came out in great quantities. Three days later she was perfectly bald; and in two more days she had lost every hair on her body. Her general health was good. The patient remained bald and was still so when seen two years after by the reporter.—*Hosp. Gazette*, 1879.

A LITTLE French girl was so greatly frightened during a late thunderstorm, that for a time her parents feared of her recovery. The electric fluid passed very close to her, causing a sense of suffocation and a fit of hiccoughs. Her mother took her to the Children's Hospital, in Paris, for advice. At the operating theatre, on seeing the medical man standing at a table, covered with some awful-looking instruments and surrounded by a number of assistants in white aprons, the child became so terrified that she forgot her hiccough, and was thus cured.—*Ibid.*

MURDER BY A SOMNAMBULIST.—The *British Medical Journal*, of July 20th, 1879, gives the particulars of a somnambulist, who was tried last year for the offence of throwing his son, eight years old, on the floor with such violence as to cause death. The jury decided that the father was not responsible for the act, because of his having been, at the time of its commission, in a somnambulistic state.

#### AN IMPROVED ÆSTHESIOMETER.



Before the State Medical Association, which met at Columbia, Missouri, last June, Dr. C. H. Hughes of St. Louis, described the improved æsthesiometer, one side

of which is illustrated in the accompanying cut. Its distinguishing features, are its convenience, compactness and utility in the hands of those who have ot become expert, through long practice, in æsthesiometric examinations. It has reversible points, blunt and sharp, for determining both anæsthesia and analgesia, and on one side, a register of the principal distance points of normal tactile sensibility. The sliding point can be fixed, when required, by a screw, so as to avoid mistakes in tactile mensuration. The scale is both English and decimal, and the whole folds up like a pocket knife.

FIVE NEW CASES OF PSEUDO-  
HYPERTROPHIC MUSCU-  
LAR PARALYSIS.



FIG. I.

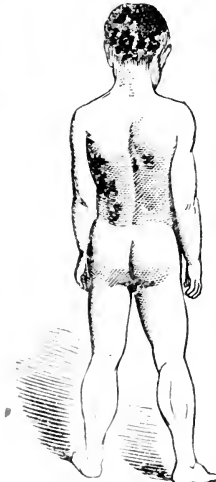


FIG. II.

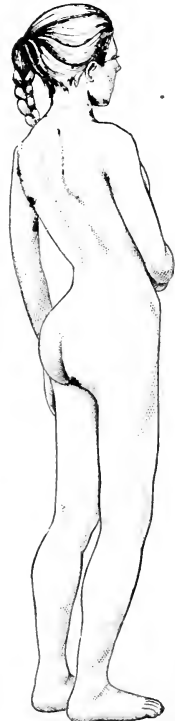


FIG. III.



Last May Dr. A. J. Steele, of this city, reported to the State Medical Association, of Missouri, a typical case of this affection occurring in a boy, aged 11 years, referring, at the same time, to a younger brother of this boy who was similarly affected; and in September last Dr. J. P. Kingsley exhibited before the St. Louis Medical Society two sisters, aged respectively thirteen and ten years, having this disease well marked.

Figs. I and II represent two views of Dr. Steele's case, and fig. III shows one aspect of one of Dr. Kingsley's cases.

They presented the usual symptoms of this interesting affection.

Dr. Steele, while regarding this disease as neuropathic rather than myopathic in its origin, prefers the term *pseudo-hypertrophy musculorum*, and reasons thus in support of his view:

The prominent characteristic of this affection is abnormal increase in size of certain voluntary muscles, attended with impairment of their function, as a rule commencing with, and often confined to, the muscles of the lower extremities. It is quite evident that an irritation or chronic inflammation of the muscular substance exists, following and accompanying which is a great deposit and accumulation of fat, interstitial and even interfibrillary, to which (increase of fat) the enlargement of the affected muscle is due; and thus it is not a *true* but a *false* (pseudo) hypertrophy. It is further probable that a hyperplastic development of the connective tissue immediately precedes the deposit of, or transformation into, fat. The interfibrillary deposit of fat is sometimes so great as apparently to crowd out and cause an absorption of the sarcous element.

In the stage of the affection when the muscular fibrillæ have entirely disappeared, there certainly cannot be loss of function of what does not exist. A child with congenital absence of the muscles of the leg could not be said to have paralysis of those muscles. If the sarcous tissue

is present and there is inability to use it, then it is paralyzed; but if the sarcois tissue is absent it cannot be paralyzed, for it would be illogical to attribute a state or condition to a thing that did not exist. And thus we object to titling this affection "pseudo-hypertrophic paralysis," but prefer rather that of "*pseudo-hypertrophy musculorum.*"

Dr. Steele's case weighs 58 pounds, his height is 3 feet 11 inches. His walk on even ground is slow and labored, with a waddling or rolling gait, hitching the limbs. The feet are separated in walking as well as in standing; he experiences much trouble in stepping up, cannot do so without placing his hands upon his thighs. The calves of the legs are enlarged, prominent and hard; the left measures  $11\frac{1}{2}$ , right,  $11\frac{1}{4}$  inches; the mid-thigh measurements are  $13\frac{1}{2}$  inches. The gluteal muscles are markedly hypertrophied, and the lumbar and scapular regions likewise. A plumb line, let fall from the seventh cervical vertebra, passes back of the sacrum about two inches.

Dr. Kingley's cases are quite similar in respect of difficulty of movement and spinal incurvation.

CIRCUMFERENCE OF THE LEGS AND THIGHS.

Right calf of elder sister	-	-	$12\frac{3}{4}$	inches.
Left " "	-	-	$12\frac{1}{2}$	"
Thighs at largest part	-	-	14	"
Right calf of younger sister	-	-	$11\frac{1}{4}$	"
Left " "	-	-	$10\frac{3}{4}$	"
Right thigh at largest part	-	-	$11\frac{3}{4}$	"
Left " "	-	-	$11\frac{1}{2}$	"

The hypertrophy of the calves and gluteal muscles is very marked in Dr. Kingley's cases. The weakness of the muscles of the thighs is so great, that it is impossible for the elder girl to place one leg across the other while sitting in a chair, without seizing it with the hands.

The *London Lancet*, of Oct. 25th, contains a description of a case reported by M. Dally to the Paris

Therapeutical Society, Oct. 8th. M. Dally is reported as having said: "Only thirteen observations of this disease are recorded,"—evidently an error.

TRAUMATIC APHASIA.—In the *Canada Lancet* for December, Drs. N. R. Colter and Stephen Smith report a case of gradually but slowly recovering aphasia, following speechless traumatic coma and convulsions. The injury was a semi-circular wound of the forehead, the lower edge about  $\frac{3}{4}$  inch above the left superciliary ridge, the outer edge about  $\frac{1}{2}$  inch from the temporal ridge, extending about  $1\frac{1}{2}$  inches.

The size of the bone was nearly half that of a Mexican dollar. At least  $1\frac{1}{2}$  fld. oz. of brain was lost.

The girl understood everything said to her readily, but could only respond with "ga-ga-ga."

In the same Journal is reported a death, by heart paralysis, from the inhalation of scarcely an ounce of sulphuric ether, given before the extraction of a tooth.




# EDITORIAL DEPARTMENT.

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## INTRODUCTORY.

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O GREAT has been the progress in Neurological research since the great Cullen, a century ago, with the inspirational foresight of true genius and a discernment above that of his cotemporaries, asserted the now clearly demonstrable truth that "most morbid affections are so dependent on the nervous system, as in a manner, to entitle them to be called nervous," that no apology seems necessary for adding, at this time, one more to the number of Psychological and Neurological journals extant. The researches of the last few years, especially, have carried us so much farther than before into the Arcana of man's subtle nervous nature, and brought to light so many morbid processes hitherto concealed from view, that more adequate media than now exist for diffusing these revelations are certainly required.

A hopeful curiosity now stimulates scientific minds, in the ranks of medicine, to unexampled efforts, and these efforts are being rewarded by grand results. Penetrating research, aided by cunning contrivances of man's inventive genius, born of the quickened thought of the age, is daily "opening up" new mines of truth, and breaking down barriers that, hitherto, have stood in the pathway of progress. Through these instrumentalities, for instance, cerebral localization, which, until a few years ago, seemed only vague conjecture, has become a realization, so that the expectation is not extravagant that the next decade will add much more, to our knowledge of the diseases of the brain and allied nervous system, than any preceding ten years in the brilliant history of medical advance.

But, while we make no apology for our appearing, we ask for lenient criticisms on our *appearance*. No one engaged in the arduous practical duties of every day professional life, can, at all times, faithfully discharge the duties of such avocation and not, sometimes, fail to fulfill even reasonable expectations in the conduct of a medical journal.

In the selection of the contents of the journal, it will be our aim to make it a true mirror (as announced in the prospectus) of *Clinical* and *Practical* psychiatry and neurology, to subservise the wants, especially, of the practising physician. With this end in view, while theoretical discussions will not be discountenanced, preference will be given to contributions of a practical character.

The views of those who, fulfilling the injunction of the great Esquirol, have lived with the insane, and by long personal familiarity

## ERRATA.

On page 121, Twenty-second line, the word  
"great" should read "just."

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ERRATA

On page 111, "every" should be "the" and "the" should be "every".

with their maladies have learned the most that, thus far, is knowable of them, will, of course, be more favorably regarded respecting the pathology of insanity, and the proper management and treatment of the insane, than mere theoretical notions respecting this disorder and the disposal of its unfortunate victims. Remembering "how much less difficult it is to establish systems and imagine brilliant hypotheses respecting mental alienation, than to observe the insane," and reach conclusions concerning them through the slow, but more certain process of experience.

Such, also, will be our attitude toward contributions on neurological subjects, where the mind is not specially implicated. Ripe conclusions and cautious deductions from observation will be preferred to crude conjecture.

Chief among the purposes of the ALIENIST AND NEUROLOGIST will also be, to garner the rich stores of pathological material to be found near home, and tender it, as a reciprocal offering, for the valuable contributions so freely and generously given from abroad.

St. Louis, with its half a million of souls, its large and numerous hospitals, efficient medical schools, and active and distinguished medical workers, must soon become an universally acknowledged medical centre. It will be our endeavor, by all proper means, to hasten the day of her great recognition abroad.

The ALIENIST AND NEUROLOGIST will seek to inculcate the idea that psychiatry and neurology should not be divorced from the main body of medicine. It will regard these departments (as set forth in the prospectus) rather in the light of essential parts of the trunk, than special branches of general medicine, and will maintain respecting them and that "vast chain of being," which, in health and disease, constitutes the human organism, that

"All are but parts of one (great) whole,"  
Whose life the blood is,  
And the nerves the soul,

a fact which, if we may be permitted a little of that license of expression accorded to poets, is becoming every day more and more demonstrable.

With this view of the relationship of psychiatry and neurology to general medicine, the journal will accept the aid of others than such as may have won distinction alone in these departments. It will gather all the valuable facts, not *mal appropos*, obtainable from distinguished sources in every department of special medicine. Among those now aiding the journal are some eminent surgeons, ophthalmologists, aurist-, laryngologists, dermatologists as well as many distinguished alienists, neurologists and general practitioners.

Messages of co-operation and encouragement, by subscriptions and otherwise, have come to us from all points of the compass. So uniformly encouraging have been the responses from all with whom we have directly communicated, that we need no further assurance that the kind of Journal, contemplated in our prospectus, is demanded by the necessities of the times. Had we, however, to conduct it unaided we should

dispair of fulfilling expectations, but with the substantial co-operation promised, we enter upon the discharge of our part of the work with a confidence born of the faith we repose in our friends, and the manifest onward and upward destiny of psychological and neurological medicine.

The CENTRALBLATT FÜR NERVENHEILKUNDE, Psychiatrie und Gerichtliche Psychopathologie, makes the following reference to two papers on Aphasia, read before the St. Louis Medical Society, by Drs. C. W. Stevens and C. H. Hughes, which we translate for brief correction and remark :

“Dr. Stevens reported a case, in which a law suit was instituted concerning the mental capacity of a man to dispose of his property.

An architect about thirty years of age, a very skillful and respected man, suffered an attack of apoplexy in the street, in March, 1873. After regaining consciousness it was found that he was hemiplegic on his right side and completely aphasic. The patient remained in a stupor for some time; he recognized no one; he did not, in any way, make known his wishes, not even his natural wants. Very gradually his physical condition improved, as did also his paralysis. The patient learned to make himself intelligible by means of signs, but always remained aphasic; he conveyed the impression that he understood what was said to him. With the aphasia there was agraphia; *after the lapse of two years, he learned to write a little, again*; thus he could copy the letters of the alphabet, and he learned to write his name, but he never succeeded in writing a thought.

Three months after his apoplectic attack he was induced to interest himself to the extent of \$5,000 in an undertaking, to which he had assented before his attack. Some of his relatives questioned his capability to dispose of his property and a law suit resulted, in which the reporter was summoned as an expert. The case came up in 1876, and again in the spring of 1878. Two of the experts considered him *compos mentis*, and thought he ought to be held to his agreement, since he had given his attention to the transaction before his attack. The reporter opposed this view, and denied the possibility of the patient to appreciate such a step three months after the attack, since even when his condition was best after the injury, his changed behavior was noticed by those around him. The patient was indifferently careless and childish—a marked contrast to his former behavior.

The Court declared him *non compos*.

The reporter considers the pathological condition to have been embolus of the artery of the Fossa of Sylvius, since the patient suffered from valvular disease.

The discussion of the case consisted of some remarks of the opposing expert, Dr. Hughes, who considered the patient *perfectly well excepting the aphasia, and he based his assertion more especially upon theoretical grounds*; he said that only one hemisphere was involved,



its functions could have been performed by the other; the part involved is not of great importance so far as intelligence is concerned, for its seat is more particularly in the posterior lobes, which were not diseased; besides such symptoms as delirium, mania, illusions and hallucinations were not observed.

At the subsequent meeting, Dr. Hughes read a paper on aphasia and its medico-legal signification, in which he made a critical review of the different (older) authors."

Dr. Hughes' views respecting this interesting case and analysis of all the alleged insane acts of the man, may be found, *in extenso*, in the January, 1869, number of the American Journal of In-anity.

This aphasic person learned to write his own name *legibly with his left hand within four months* from the time when he was first stricken, and *four months after his attack, signed a deed of trust in fulfillment of a promise and purpose made and entertained prior to his affliction to carry out predetermined business plans.*

*Our opinion as to his mental competency was based on this fact and on the fact that all his actions, to our mind, were explainable in accordance with his hemiplegia and aphasia, as well as on theoretical conceptions as to the location of the lesion.* An aphasic, paralyzed on one side of his face, and one half of his body would betray a changed demeanor, and yet might not be insane. His sanity was also admitted at the time of the suit—he admitted that he was then mentally recovered.

The man was not ambidextrous. His signature to the deed of trust, made with his left hand, four months after he was first afflicted, being then not different from the following specimen which he made for us at one of our interviews, a short time before the suit. At this time he made the other signatures, also, which appear below. He realized his condition of disability as a sane man would, and comported himself accordingly, never attempting, after his affliction, to do more than finish up the business in which he was engaged prior to it.

He designated by gesticulation the property he wished to encumber, as well as that he wished to exclude from the deed, in a manner that was clearly understood by those about him. The Notary who took his acknowledgment, and the witness to his signature, testified to his intelligent understanding of the deed of trust he signed.

There was undoubted mental confusion in the beginning of his attack, but he made the not unusual rapid improvement, as shown by his so soon learning *to sign his name with his left hand, the very thing he, at that time, most needed to learn.* for he had unfinished business to be completed in that way. Many of the things he did *seemed* to proceed from insanity, such as spitting in improper places once or twice, laughing with a grimace and foolishly, which because of his one-sided facial paralysis he could not help; once or twice defecating in bed, and permitting his drawers to be unbuttoned before ladies on one or two occasions, during the first weeks, which he likewise could not avoid because of his paralytic condition.

None of the acts seemed to proceed from delusion or illusion, hallucination or to pass into habits and be repeated more than once or

twice, according to the testimony of the relatives (interested like him in the success of his suit) or to persist after the facial paralysis passed away. We regarded the man at the time of signing the deed sufficiently competent in mind to appreciate the nature and quality of that act. That was all the Court asked.

A *jury* (not the Court) of non-medical men thought otherwise.

Herewith are some specimens of his hand writing, which were given at the time the case was reported in the *Journal of Insanity*.

Ch H Hughes

Rainey  
Wm J Bevin

In reference to this interesting case, while we think we (and Dr. Bauduy, who coincided with us), were not in error respecting Bevin's mental *status*, we make no claim to infallibility of judgment. The majority of medical men testifying in the case, fortified by the opinion of Dr. Stevens, thought differently from us. It was a case upon which medical men might be expected to honestly differ, yet, notwithstanding, we have reviewed and re-reviewed all the facts in the case—our opinion is unaltered.

"RECOVERIES FROM MENTAL DISEASE," by Dr. Isaac Ray, and the continuation of Dr. Curwen's paper will appear in the next issue.

SEVERAL books for review and notices of hospital reports are unavoidably crowded out.

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## IN MEMORIAM.

DR. JNO. EUGENE TYLER,—Notwithstanding something over a year has elapsed since the demise of this great and good physician, whose especial province it was to "minister to minds diseased," we are unwilling that our columns should contain no record to his memory.

At the request of the New England Psychological Society, Dr. J. P. Bancroft, of Concord, N. H., prepared a lengthy and fitting memorial tribute, from which we make the following extracts (in substance), regretting that we can not give more space to the memory of our departed friend:

His practice and consultations were confined to diseases involving the mind, and his services were in much demand in his own city and state, and in New England and New York. General practitioners cordially welcomed him, extensively sought his opinions in their practice, and held them in high esteem.

As a superintendent of an asylum he had no superior. The greatest diversity of qualifications for success was happily blended in him. While the most amiable and indulgent of men, his firmness and decision were immovable.

In dealing with the insane personally, he could not be surprised into any inconsiderate haste which would weaken his confidence. His quick perception would take in the situation, and his judgment suggest at once the best thing to be said or done in an emergency. The felicity of his language and manners among the insane, in response to abnormal manifestations, was remarkable. A single word, a gesture, or an expression of the countenance, was sufficient often to change the whole current of thought, arouse the needed emotion, repress the hurtful one, or sent a ray of sunlight into the darkened chambers of the heart.

He was quick to make his way through the bewildering and often conflicting testimony in a case of disputed mental integrity, and held the facts with a memory of singular tenacity, while subjecting them to exhaustive analysis. With untiring patience, every item was considered in the light of the whole case. In two of the highest requisites of an expert worthy of his calling, Dr. Tyler was especially conspicuous. The first was, the rare powers of holding clearly before the mind for analysis a miscellaneous group of evidence. The second was, his incorruptible honesty in the formation and use of his opinions. No outside influence could warp his judgment; no temptation, either of fear or favor, could seduce him into the rendering of a biased opinion. He was unable to entertain the thought of being secured to a foregone conclusion, of being the witness of a *side*. It is not inference, but knowledge, with the writer, that there was not power enough in money to tempt him to labor to sustain a foreshadowed opinion. With him, professional opinions were sacred, and no subject of traffic. The early loss of such a man is a public calamity at any time, but much more at a time when this virtue is *not* a universal attribute of experts.

At the time of his death the President and Fellows of Harvard College  
“Resolved, That the University and Community have suffered a severe loss in the death of this wise physician, accomplished teacher and upright man.”

DR. RAY'S BEREAVEMENT.—Our readers will be pained to learn of this eminent alienist's bereavement by the death of his son, the sad event having occurred a little over three weeks ago. This is a crushing blow to our venerable *confrere*, for his son was an active and skillful physician in the prime of vigorous manhood, full of present usefulness and future promise, and Dr. Ray was much devoted to him.

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THE  
ALIENIST & NEUROLOGIST.

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NO. 2.

*Original Contributions.*

Art. I.—Recoveries from Mental Diseases.

By ISAAC RAY, M. D.

RESPECTING the curability of insanity, a wide difference of opinion has always existed, and, notwithstanding the improvements made of late years in the care and treatment of the insane, this difference seems to be as wide as ever. It might be supposed, at first sight, that the establishment of hospitals for the insane would have furnished the requisite information, but the only effects these institutions have had thus far, has been to give us a keener sense of our ignorance of the matter. A new phase of the subject has been presented by Dr. Earle, Superintendent of the Hospital for the Insane at Northampton, in his recent reports. And so confident is

The question as to the precise proportion of permanent recoveries from mental disease is yet undecided, and the subject could not be properly discussed in our pages with Dr. Ray's paper omitted. We accordingly extract it from the transactions of the College of Physicians, of Philadelphia, and give it place in our pages. It was read before that body, May 9th, 1879, and the Association of Superintendents, at their meeting at Providence, in June, 1879, and is the paper referred to by Dr. Pliny Earle, in the January number of this Journal, in his article entitled: "The Curability of Insanity *vs.* Recoveries from Mental Diseases."—ED.

he of the correctness of his conclusions, and so many are the commendatory notices he has received, both at home and abroad, that they are entitled to a careful examination.

In his last as in his two next preceding reports, Dr. Earle has examined the matter of *recoveries* as exhibited in the statistics of our hospitals for the insane, and has been struck by some things so different from what might have been naturally expected, that he is led to seek for an explanation. He finds, as a general fact, that thirty or forty years ago, the proportion of recoveries, or cures as they are sometimes called, was much larger than it has been of late years, and he proceeds to explain the fact in a way that is ingenious if not satisfactory. It cannot be denied that to the observer of our own day, the record is somewhat startling, for while it appears that once almost every patient recently attacked, recovered, our statistics show that now, taking our hospitals together, hardly half of them have been so fortunate. This remarkable difference Dr. Earle attributes to two sources of error committed by those who reported the larger proportion of recoveries. One of them he describes as "the special characteristics of the person reporting them—his temperament, his constitutional organization, his 'psychological individuality.'" In another place he says, alluding to the medical officers of hospitals for the insane, "they are men 'with like passions as other men.' Self-interest, in some instances, and ambition in perhaps all—that ambition, at least, which is manifest in the desire to show as fair a record and as favorable results as are exhibited by colleagues in the specialty—have probably not been wholly inoperative in reporting recoveries from insanity, even though unconsciously to the person producing those reports." I am not disposed to deny the correctness of the general principle here stated, but I do question whether it has had all the influence which is here attributed to it. Dr. Earle thinks it has sometimes led to a difference in the number of recoveries as reported amounting to 25 per cent.

Again, Dr. Earle says that "the reported recoveries



from insanity. are increased to an important extent by repeated recoveries from the periodical or recurrent form of the disease in the same person; and consequently, the recoveries of persons are much less numerous than the recoveries of patients or cases; and consequently, from the number of reported recoveries of cases or patients, it is generally impossible to ascertain the number of persons who recovered."

Undoubtedly, these two sources of error have helped to swell the proportion of recoveries as shown by the statistics, but not to the extent supposed by Dr. Earle. In the nature of the case, physicians would not be likely to agree in their reports of the results of care and treatment in every particular instance. Very often the mental condition of a patient cannot be accurately discerned. One may see traces of disease where to another the cloud seems to have entirely dispersed. Whether a certain patient has thoroughly recovered, or only reached a stage of improvement which may prove to be only a remission in the severity of the disease, may be a matter of opinion more than of fact, on which men may differ without showing any lack of intelligence or honesty. We might appeal to Dr. Earle himself to say whether he has not sometimes hesitated to put upon his records the final decision on this point. Recovery from any disease is the terminal point to which the conservative powers conduct the patient by steps more or less obvious, more or less rapid. One stage of the process we call convalescence, but nobody thinks of indicating the precise moment when convalescence passes into recovery. But the patient is discharged before every doubt is removed, and the result must be definitely reported. Here comes in the influence of temperament, of education, of habits of thinking. One man is well aware that some lingering traces of disease remain; but the healing process is going on, and he believes that it will have a good, successful conclusion, that it is only a matter of time—a few weeks more or less—and that, whether it occurs inside or outside of the

hospital, it may be fairly reported as among the results of hospital treatment. Another man, differently constituted, sees the same case under a different light. He fears that the traces of disease are still strong enough to make him apprehensive of a relapse, and he shrinks from calling that a recovery which may prove, to his discomfiture, only a temporary improvement. The original fault was in undertaking to give statistical expression to an order of occurrences largely conjectural. It may well be doubted, whether the terms *recovered*, *improved*, *much improved*, have been of any use not more than balanced by their inevitable tendency to mislead the reader respecting the curability of insanity. But the public have always wished to know, particularly, what the hospitals were doing, and, as often happens, thought the information sought for was to be found in a parade of vague, general expressions.

Now, while I do not doubt that the mental constitution indicated by Dr. Earle has been a source of error, yet, admitting the fact as he states it, I am not sure that it explains this difference in the results of the early and latter period of our hospital history. He gives us no reasons to believe that the physicians of our hospitals are constituted very differently from those of an earlier period. The world is not now, and probably never will be, without a class of men of the Mark Tapley sort, always seeing things through a rose-colored medium, and prognosticating happy results. This being so, we are obliged to look elsewhere for even a partial explanation of the apparently greater success of our predecessors in the treatment of insanity.

Nor am I better satisfied with the other factor of the problem, assigned by Dr. Earle; and that too for a similar reason, even if there were no other. Without denying the fact that some patients have been discharged as recovered more than once, we have no reason to suppose that this mode of reporting results has been changed of late years. If it were a matter of mere honesty, we might possibly think otherwise, but the practice in ques-

tion springs from the nature of the case, and any practicable change can be only one of degree. The matter is burdened with difficulties, and the Doctor himself leaves it in doubt whether he would require us to report no case as recovered which had been so reported on any previous occasion. He certainly prescribes no rule to be observed. In the case of a person who, having recovered, to all appearance, from a first attack, and having showed no sign of mental disturbance for years, becomes insane again, does he hold that that person never recovered really from the first attack, and ought not to have been so reported? If, however, he believes that it was a genuine recovery, why may he not believe that the second apparent recovery was not equally so, inasmuch as the evidence therefor is exactly the same—no trace of disease perceptible for years, and no lack of the usual vigor and competence? And if so, where is he to stop? Is not the same evidence just as valid in the case of a third, fourth, fifth attack? If no person is to be reported as recovered who has a subsequent attack, then we must wait till he dies before we can certify as to his mental condition when discharged, and that will put an end to all our statistics, which, probably, would be the better course.

I have never supposed that the term recovery, as applied to disease, meant necessarily a perfect restoration of the affected organ to its normal vigor and power of endurance. Even after the most satisfactory recovery, there is left, generally, if not always, a susceptibility to noxious influences, which renders the person far more liable to disease than he otherwise would have been. Yet we do not hesitate to speak of recovery from intermittent fever, for instance, though quite sure that it will re-appear on a renewal of the exciting causes. In our general hospitals, it is the practice, I believe, to discharge patients as recovered, without any reference to the possible recurrence of the disease. Undoubtedly, insanity is more likely to recur than many other diseases, but the difference is only one of degree, and, therefore, I see no

good reason for a different rule in the manner of reporting results of treatment. Many of the instances of repeated recoveries mentioned by Dr. Earle, were *periodical* in their character. That is, the pathological condition was continuous, with intervals when the more demonstrative symptoms had disappeared. These, certainly, were not recoveries, in any true sense of the term, but between them and those complete restorations which are followed by years of uninterrupted soundness, there is a class in which the intervals are not so clearly defined, either in length or in freedom from abnormal manifestations. How to designate these is not very obvious, and men may honestly differ in their conclusions.

But even at the worst, according to Dr. Earle's own showing, this vicious mode of reporting results fails to account for the difference in question. The Doctor illustrates his position by means of the statistics of the Friend's Asylum, at Frankford, whereby it appears that, deducting the cases of attacks subsequent to the first, and regarding those patients only as "permanently cured," who never suffered a second time, the proportion of recoveries in recent cases is reduced from 58.35 per cent. to 48.39 per cent. This amounts to a reduction of only about 17 per cent. of the larger number, which is far less than the conditions of the question require. And this is, probably, an extreme case, for we doubt if in any other hospital the discharges have been at the rate of "one patient recovered fifteen times; another, thirteen; a third, nine; a fourth, eight; and a fifth, seven." True, it is stated at the Pennsylvania Hospital for the Insane, "one man was admitted on the twenty-second attack and one woman on the thirty-third; six men and six women on the tenth attack; ninety-four persons on the fifth attack; and one hundred and seventy-two on the fourth." From anything said, it does not appear that a single one of these persons was discharged as recovered more than once. Dr. Earle, however, infers to the contrary, because, as he says, "if a person have a thirty-third *attack* of a disease,

it necessarily follows that he had previously recovered from thirty-two attacks." This is a tremendous jump at a conclusion based on the vague signification of a single word. We learn from Dr. Kirkbride that no periodical case was ever discharged as recovered. In his last Report he explains his views on this subject, in a manner eminently fair and reasonable.

"When," he says, "an individual suffering from insanity is relieved from all indications of mental unsoundness, returns to his home and family without any developed eccentricity, resumes his ordinary relations with society, attends to his business with his usual ability and intelligence, for a year, or even a much less period, we have no hesitation in recording such a case as 'cured,' without any reference to the future, about which we can know nothing. We have no power to insure any case, or to say that there may never be another attack. We have no right to assert that a combination of circumstances like that which produced the first, may not cause another; that ill-health, and commercial revolutions, and family sorrows, and the many other causes that may have originally developed the disorder, may not again bring on a return of the same symptoms, just as they may produce them in one who has never had an attack of the kind. Five thousand, six hundred and ninety-five of those received here never had an attack before. Whatever induced the disease in them, certainly may induce it in those who have already suffered from the same malady, for we cannot expect one attack of insanity to act as a prophylactic, and, like measles or small pox, to give immunity for the future. But this new attack is no evidence that the patient was not cured of the previous one. If the patient then is well, in the sense in which he is considered well from an attack of typhoid fever, or dysentery, or rheumatism, or a score of other maladies, when another attack is developed, it is as much a new case, and the recovery is a cure as much it as would be if he suffered from any other form of illness, and it ought to be so recorded."

As then neither the temperament of the physician nor the repeated counting of periodical cases, accounts for the larger proportion of recoveries, in the earlier times, we must look for the explanation in another direction, and we shall find it in various agencies that have come into operation in later times.

Fifty years ago, when State hospitals for the insane began to be established, the main purpose for which they were to be used was that of receiving the insane inmates of the jails and almshouses, whose sad condition had arrested the public attention. It was not long before the benefit of

hospital treatment became so obvious that it began to be sought for other classes of the insane, slowly increasing at first with the slow growth of confidence. As might have been expected, the earliest of these was that of the violent and dangerous cases that could not be restrained by any domestic arrangements consistent with comfort or decency. Even for the care of such it required a little more than an average intelligence and freedom from prejudice to see in the hospital one of the improvements of the age, destined to meet a fearful exigency in the human condition. It was not until a later period that patients of a different character—the quiet, the desponding, the melancholic—resorted to the hospital. They had excited no fears, and conformed somewhat to the domestic requirements. There was no pressing necessity for their removal from home, and the superior fitness of the hospital for the care of such cases was seldom recognized. Now we all know that in the form of disease first mentioned, we have the largest proportion of recoveries.

And this result was promoted, unquestionably, by a circumstance too much overlooked in these discussions concerning the curability of insanity. Fifty years ago the country furnished a larger proportion of patients, as compared with the city, than it ever has since. Their general health was not appreciably impaired, they had spent their days working in the open air, and their natural forces had not been weakened by sensual indulgences. They were in the best possible condition to meet the inroad of mental disease. During this period a remarkable change has been going on in the distribution of our population. It is estimated, on good authority, that one-third of our population live in cities of 50,000 or more. Seventy-five years ago there was not one city of that size, and fifty years ago there were not more than ten. This great change in our social condition has been accompanied by a steady depreciation of the conservative powers of the constitution, strongly manifested in the physical condition of the patients admitted into our hospitals for the insane.

The number attributed to *ill health*, in the table of causes usually given in the annual report, has been steadily increasing.

No array of figures, however, can convey such an impression of this remarkable difference as that derived from a personal observation embracing the whole period. Dr. Bell had good reason for saying, in his Report of the McLean Asylum for 1840, "that the records of this asylum justify the declaration that *all cases certainly recent*—that is, whose origin does not, either directly or obscurely, run back more than a year—recover under a fair trial." In quoting this passage, Dr. Earle admits, to use his own words, that "no abler man, intellectually, and no more conscientious man, morally, has been engaged in the specialty of psychology" in this country, and this being so, we are left in the dark how to explain this statement of Dr. Bell, which Dr. Earle must regard as gross exaggeration of the truth. It might be attributed, perhaps, to the influence of a sanguine temperament and the practice of curing the same person more than once, did not the sequel, as given by Dr. Earle himself, suggest a very different reason. It seems that in after years Dr. Bell reported a much smaller proportion of recoveries, the proportion pretty steadily diminishing during the latter fifteen years of his service. That is to say, as the community became more and more enlightened as to the beneficent purposes of the asylum, it was more and more resorted to by patients of the less violent kind, and by others affected by those incurable forms of the disease, whose care could be merely custodial. And this leads us to an incident in the history of insanity that must not be overlooked in our estimates of curability.

About forty years ago, when our country was rising from the financial depression that began in 1836, and the means of intercommunication had been greatly increased by railways and ocean steamers, a change began in the social habits of our people, as just intimated, manifested in a distaste for the quiet pursuits of a country life, in

surrendering to the allurements of the city, and plunging into the struggle for the great prizes of life. The vitiated atmosphere of crowded streets and dwellings, the seductive appliances of ease and luxury, the mental strain required in the race of competition, the tumult of emotion under the frequent alternations in fortune, all these serve to lower the conservative forces of the system and invite the invasion of nervous disease. The tables of mortality tell the story in the figures assigned to apoplexy, paralysis and cerebral congestions, and the records of our census show it in the steadily increasing amount of insanity in the last semi-centennial period. Not only did insanity become more frequent, but it also became less curable. And even new forms of disease appeared, and the wards of our hospitals were pervaded by a class of cases utterly unknown before. But little more than thirty years have elapsed since that remarkable affection, General Paralysis, became known to American physicians, and there is no reason to suspect that it had been previously overlooked. Dr. Bell, who first observed it in Europe in 1845, satisfied himself, after a most thorough examination of the case books of the McLean Asylum, that up to that period no instance of it had been observed in that institution, though since then it has been frequent enough.

And we have now other cerebral affections which, once seldom seen in our hospitals, are no longer an extraordinary sight. I refer to those cases which seem to be closely affiliated to general paralysis, but do not present some of its characteristic symptoms. The same may be said of another affection, passing under the various names of Bell's disease, acute delirium, and typho-mania, which is eminently and speedily fatal. In these forms of cerebral disease the patient is insane, certainly, but the insanity is only an incident accompanying a deeper and graver affection, and they of course swell the death record, and to the same extent lessen the proportion of recoveries. Now, therefore, in considering the question in dispute, we shall leave out of the account a very important



factor if we overlook this change in the pathological character of mental disease.

Before leaving the subject, I take the opportunity of saying that the experience of our hospitals, as given in their annual reports, is a fallacious test of the curability of insanity. Between this objective result and the facts on which it seems to be founded, there is really no necessary relation. If we had a right to believe that every patient discharged as *improved*, *unimproved* or *stationary* was incurable, then we might take the construction usually placed on the record. But we well know that such discharges indicate not the incurability of the disease so much as the impatience, or perversity, or straitened means of the friends. Nothing can be further from the truth than the idea that they represent the results of a fair trial of hospital treatment. It is not at all unlikely that under such a trial of recent cases, at least twelve or fifteen per cent. would be added to the number of recoveries. In order to approach a correct estimate of the curability of insanity, two requisites are still needed, viz.: that every case should have a fair trial, and that the subsequent history of every case discharged should be ascertained. Without these, and we are not very likely to have them in our day, we can never have an estimate of the curability of insanity with any claim to scientific accuracy.

These then, I believe, are the points which I have fairly made, viz.:

I. Those qualities of temperament which lead men to unduly magnify their achievements are as common at one time as at another.

II. The practice of reporting cases instead of persons has not been confined to any particular period, and therefore while it may vitiate our estimate of the curability of insanity, it cannot make the proportion of recoveries larger or smaller at one period than at another.

III. Cases marked by high excitement entered our hospitals in a larger proportion to those of an opposite character fifty years ago, than they do now.

IV. Under the influence of highly civilized life, the conservative powers of the constitution have somewhat depreciated, and to that extent impaired the curability of insanity.

V. During the last fifty years, cerebral affections, in which insanity is only an incident, have been steadily increasing, and thus diminishing the proportion of recoveries.

## Art. II.—The Médico-Legal Aspect of Cerebral Localization and Aphasia.

By C. H. HUGHES, M. D.

THE beginning of the present century witnessed the first attempt at the cerebral localization of physical function. In 1808, the renowned Dr. Gall obtained a glimpse of the truth, when he conjectured that the faculty of articulate speech in man resides in the anterior lobes of the cerebrum, which, at the outset of his career, he sought to confirm by careful study of the brain. Had he kept on in the method of investigation with which he began, his system of craniology had not fallen, as it now is, among cautious, scrutinizing scientists, into neglect and disrepute, but the anatomical and clinical confirmations which, a few years later (1825) rewarded the labors of the illustrious Bonillaud, and, still later (1836-1863) the more precise demonstrations of the elder and junior Dax,

had been his reward, and the laurelled chaplets which wreath their names and that of Broca, for having still more circumscribed and defined the location of the center for the co-ordination of speech in the posterior portion of the third left frontal convolution, had now, perhaps, adorned the brow of Gall and immortalized his name as a real scientific discoverer.

Taking up the correct methods of research abandoned by the founder of phrenology (so-called), Bouillaud, Aubertin, Broca and the Daxes opened the way by correct demonstrative methods to those lucid illustrations of cerebral localization, which are now causing to be centered upon the labors of Ferrier and the researches of the present illustrious chief of Salpêtrière, such marked attention. We live now in the evolution period of a true phrenology, or, as that illustrious predecessor of Charcot—the great Trousseau—standing in the glare of the grand discovery of Broca, said: “The question of cerebral localization has entered upon a new phase.” What would be the expression of Trousseau to-day in the light of the electric excitability of the brain for which we are so much indebted to Fritsch and Hitzig, and in the light of the localization of brain function, as maintained and demonstrated by Ferrier, Jackson, Bartholow and their many eminent co-laborers and followers?

“The stone which the builders rejected has become the head of the corner.” The method which Gall abandoned, taken up by Ferrier and others, aided by Fritsch’s timely discovery, has resulted in the projection of a true phrenological edifice, now in process of completion, grander in its proportions than Gall and his colleague Spurzheim ever dreamed of. Since the day of the founders of the phrenological idea, the centers of touch, and taste and smell, and of the movement of the limbs, face and other portions of the body have been so closely approximated, as to leave us little room for doubt as to their precise locality in the brain.

So rapidly is conjecture giving place to demonstrated fact on this subject, that the belief expressed by Ecker,\* "that definite portions of the cerebral cortex subserve definite intellectual processes," and "that there is a possibility that we may some day attain to a complete organology of the brain surface, a science of the localization of the cerebral functions," is in the way of more speedy fulfillment, than the author of these words probably thought at the time he penned them.

So far as our present subject is concerned the prophecy is fulfilled. *It is a demonstrated fact that the locus morbi of true clinical aphasia, simple and uncomplicated, is the posterior portion of the third, left, frontal convolution*, so that I need not, therefore, go over the historic battle ground of the giants before the Anthropological Society, of Paris, where Gratiolet, Aubertin and Broca crossed lances, the latter, finally, so gracefully surrendering, that he conquered and gave to the convolution of the speech center his immortal name.

Nor need I present the long array of clinical demonstrations accumulated in medical annals *since Broca's victorious defeat*.

The *locus morbi* of aphasia is always on the left side of the brain in markedly right handed persons, while in the very left handed it may be oppositely located, and in the ambidextrous it is possible, perhaps, to have disease of either side, with or without speech defect. This, though conjectural only as yet, is quite plausible.

The fact that the left side of the brain is the almost universal site of the aphasic lesion has been fairly demonstrated by the records. In 1868, E. C. Seguin collected, and subsequently Hammond, and still more recently McLane Hamilton, have added up all the cases, making a sum total of 635. Of these, the right hemisphere was morbidly implicated in but 33 cases (3.6 per cent). The aggregate of the recorded cases is now much greater. The cause of aphasia being due, nearly always, to embol-

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\**Convulsions of Man*, page 7.

ism, the selection of the left side for the lodgment of the clot is readily explained by the fact that the necessarily obstructed artery on this side, the left middle cerebral, is in a more direct line from the heart than is its opposite.

The right and left frontal lobes being similar in structure and conformation, it is more than probable that a power of vicarious function resides in these regions of the brain, which sufficiently accounts for the few exceptional cases of aphasia with right sided lesion, without looking to Brown-Sequard's reflex phenomenon or Schroeder Van der Kolk and the corpora olivaria for an explanation of these anomalous cases, and for the occasional recovery of speech where the left-sided lesion has persisted. Sometimes in these cases the arterial obstruction is removed; at others, as in a case reported by Drs. Batty Tuke and Frazier, in 1872, and referred to by Ferrier (*Functions of the Brain*, p. 279) the sound side does the work.

"The left hemisphere, like the right side of the body," as Hughlings Jackson has stated, is, probably, "the leading or driving side," and there exists no good reason why there should not be a duplicate speech as well as a duplicate hand and foot center, etc.

The phenomenal varieties of aphasia are so numerous that a confusion of names, each adopted, either for its more comprehensive or restrictive signification, confronts and confuses the student who seeks to master its protean verbal varieties; from the alalia of Lordat and Jaccoud, the aphemia of Broca, the aphasia of Trousseau and the comprehensive asemasia of McLane Hamilton, to the more restrictive appellations of Ogle, Romberg and Bastian.

A discussion of the table of Jaccoud and such restrictive philological coinages as asynesis, laloplegia, paralalie, agraphia, echoalgia, amesic and ataxic aphasia, etc. added to the above can serve no useful purpose, that I know of, before a Court, though in forming an opinion in a given case, they have sometimes to be considered.

Among the phenomenal varieties of aphasia may be found every conceivable degree of failure of verbal and

sign expression, from the not uncommon inability to recall a familiar and oft repeated name, as was the case with Messala Corvinas, whom, Pliny says, forgot his own name; the occasional substitution of wrong words, and the common forgetfulness of intoxication, to the absolute inability to make a single intelligible sign or speech—the complete *asemasia* of Hamilton.

Aphasic displays co-existing with unappreciable mental impairment are very common in the records of medicine, and if they were all collected, they would make a volume that would read stranger than fiction. Trousseau, Winslow and other writers have recorded a great many interesting examples.

Some patients like Guenier and Paquet, described by Trousseau, can only write or speak the same word or two in answer to questions; others, like Behiers', Broca's and Hughlings Jackson's patients, can only sing, and some transpose their words, saying "*gum*," for example, when they mean *mug*.

Dr. Dean's patient, D. K. R., reported in the January number of the *ALIENIST AND NEUROLOGIST*, could sing the Marseillaise with the single syllable "*ta*," though he could scarcely speak a word of this national hymn.

A marked antilogy of speech without intending that antithesis of meaning which the words imply, often characterizes the utterances of these cases, as when they say: "*rise down*," for *rise up*; or, with reverent meaning, *irreverently* pray, "*Our Father which art in hell*;" or for a friendly salutation say: "*stupid fool*." Some, in their words, however, more nearly approximate their meaning, as was the case with one of Dr. Bauduy's patients who asked for "*a cup of cow*," meaning a cup of *milk*; or a lady patient of mine who would say: "*comb*" for *hair brush*; while some employ absolutely meaningless expressions, comprehensible only by the pantomime with which they are accompanied, such as "*nin-nin*" or "*tan*," the latter having become historic as the hospital nick-name of one of Broca's celebrated patients.

The chief causes of aphasia are cerebral embolism, thrombosis or softening, atheromatous degeneration, syphilis, apoplexy, hyperæmia, traumatism, epilepsy, catalepsia, insanity and hysteria, as well as, occasionally, sclerosis or atrophy of the brain and certain emotional states, and the congenital deficiencies of imbecility, idiocy and sometimes of deaf-mutism.

Its transitory forms are the epileptic, the hysterical, the hyperæmic, the reflex or sympathetic, and the emotional, such as the speechlessness of intense passion or fright.

The reflex form is, probably, dependent upon localized cerebral hyperæmia, active or passive, induced by the reflected uterine, gastric or other irritation, etc. The aphasia of catalepsia, I think, is a morbid condition of the center for articulate speech, as well as of certain centers of motion in the brain; and persons subject to nightmare, often find themselves quite aphasic while the brain is in a tumult of semi-conscious excitement and fear. Sometimes they succeed in making a monotonous cry, but seldom, in saying what they wish to say.

Though true uncomplicated aphasia is now recognized as a definite symptomatic manifestation of a definitely localized disease, it has often complications, the presence of which, together with their causative lesions in the brain, give the subject important, and sometimes very complicated, and with difficulty ascertained, medico-legal significance. We shall, on the present occasion, look mainly at the medico-legal phases of this interesting disease.

In aphasia the question of mental competency to do certain acts, such as the signing of powers of attorney, deeds of conveyance and other important papers, may arise. A question as to the degree of accompanying mental impairment will almost invariably be raised if acts are performed by these patients, involving great pecuniary interests, or questions of responsibility to law,

for aphasia is often associated with such a degree of brain disease, as involves the mind in disordered action.

The regions round about Broca's convolution or those extending even to the middle and posterior hemispheres or the outward conducting paths of word ideation and expression may be so involved in disease, as to greatly complicate the subject.

There may be disease in the medulla oblongata to interfere with verbal expression or in the visual, auditory, olfactory or tactile centers, interfering with the proper perceptions of sight, sound, smell or feel of objects or the communications between these centers, or any one of them may, by disease, be cut off from the ideational centers or from the naming center of the cortex.

These possible complications have all to be taken into consideration in forming an opinion to be given in court on a question of aphasia, for we are then to estimate the extent of, or absence of, morbid complications, and to determine thereby, if we can, to what extent the mind may be conjointly injured.

Any obstruction, as Hughlings Jackson has shown, to the middle cerebral artery, would likely implicate the *corpus striatum* of the same side, which it also nourishes, and cause the so common complication of opposite hemiplegia. But hemiplegia is the least complicating, from a medico-legal point of view, of the many complications of this subject.

The fact, in all cases, to be constantly borne in mind is this, viz.: That as the gray matter of the spinal cord may convert an impression transmitted to it from the distal extremity of an afferent nerve, into muscular movement without having the assistance of the psycho-motor centers of the brain, *so may an internal impression made on the speech center within the brain itself, be converted into verbal expression, without necessarily requiring the aid of that high degree of cerebration which constitutes, in individuals, their rational mentality.* With an impaired power of word ideation and a crippled or paralyzed power of expression, it still



is possible for normal mental movement to go on, even as it is possible for such normal physical movements in the body, as constitute true physical health, to continue when limbs are destroyed or other limited parts crippled by accident or disease. Nature wonderfully conserves her powers and devises wondrous expedients for expressing them, so long as her devices are only damaged and not entirely destroyed.

The soundness of the judging and comparing faculties is *not necessarily* impaired in simple aphasia. The integrity of every faculty of expression, is not essential to mental competency. In fact, nothing has contributed more than the various phenomena of aphasia, co-existing with a sound mind, to establish this fact.

Let us take, for example, the patient, Paquet, already referred to, who could say: "*cousisi*," and after a few days' effort, learned to say "*cou-cou*," but could never say *sisi*, alone; who could say "*a*" easily, but could never say *pa*; whose principal vocabulary was "*cousisi*" and "*sacon, sacon*," the former of which he wrote and spoke, when asked his name as well as in answering other questions, always showing his chagrin, however, at his mistake; and who, though considerably paralyzed on the right side, could write with his left hand, play backgammon and dominoes well, laughing at his good luck, getting fidgety and even cheating when he found himself losing.

This and the case of M. X., related to Trousseau by his friend, Dr. Voyer, of Chartres, who always ended his syllables with "*tif*," as *monumentif*, *montif*, *bontif*, for *monumental*, *monsieur*, *bon jour*, &c.; besides serving to show that mentality consists of an aggregate of functions, some of which may be lost or impaired without the necessary, consequent or co-existent destruction of the proper and essential attributes of rational mentality, appear like confirmations of Ferrier's experiments, locating the center for the movements of the lips and tongue in articulation.

Though aphasia is most frequently associated in its early stage with hemiplegia or the general paralysis of

the insane, or with dementia, and sometimes with other forms of insanity and ataxia and imbecility, it is not necessarily so associated and must be differentiated from these conditions of mental disorder. The question of dementia or associated mental incompetency is one to be separately considered on its merits, as though no speech defect existed, and Dr. Ray says, *Medical Jurisprudence of Insanity*, p. 174:

“Those (cases) in which the faculty of language is affected, might, by the careless or incompetent observer, be mistaken for insanity. It is a curious though well established fact, instances of which are related numerous enough to fill a volume, that the faculty of language or the power of representing thoughts by appropriate articulate or written signs, may be utterly or partially lost, the other mental powers remaining sound.’ On the same page, Dr. Ray refers to the case reported many years ago by Wm. Hood, in the phrenological transactions, when the patient, a blacksmith, lost the memory of all words except *yes* and *no*, while he comprehended distinctly whatever was said to him. He could not read, but could understand what was said to him, and within a few days went to his shop and attended to his workmen. He improved somewhat in his power of speech, but it remained greatly impaired up to the time of his death, three years afterwards. Ray refers to a coachman, who, after a fall on his head, could never say any word but *one*, yet his mind was perfectly sound; and to the celebrated Bronsonnet, who, after entire recovery from an attack of apoplexy, could never utter nor write the names of persons nor things, though other parts of speech were at his command in abundance, by which he could, by various intellectual devices, indicate individuals, things and wants.”

Metaphysical conceptions as to the nature of mind ought not to be allowed to bias our judgment, respecting the extent to which aphasia may compromise mentality in any particular case. The great Trousseau fell into this error. “The intellect of an aphasic person,” he said, “is forever damaged, just as the motility of one-half of his body is impaired, and he will be always mentally lame.” This view of the classic lecturer on clinical medicine given at the close of his lecture on aphasia and immediately following a reference to a case associated with hemiplegia, is at variance with the later teachings of the most eminent observers.

McLane Hamilton says :

"The aphasic, of course, may suffer an intellectual impairment, which lasts a short time after the attack. This is not necessarily accompanied by a loss of judgment. It is more a condition of mental sluggishness and it will not do to say that the individual is incompetent. *It must be remembered that aphasia is not necessarily associated with such states*"\*

Bastian says:

"There are many instances on record, in which, though the aphasic condition itself has been most complete, the mental powers of the patients have been well preserved.† \* \* \* These cases differ very much in severity, \* \* \* partly owing to the extent and situation of the brain lesion, and partly to the period of the disease at which the patient is seen. In the gravest cases of this kind, the amount of general mental impairment is so great, that the patient's inability to speak appears only as one form of mental impairment. Such severe cases are almost invariably instances of recent hemiplegia, and the patient may in the course of two, three or more weeks, show a very notable improvement in some, or in all, respects."‡

Thus, also, says Ferrier:

"A person aphasic from destruction of his speech center (as we may for shortness call the articulatory motor centers of the left hemisphere), still remains capable of appreciating the meaning of words uttered in his hearing. In this respect he does not (and there is no reason why he should) differ from a normal individual. His centers of sight, hearing, etc., being unimpaired, he is capable, as before, of sight, auditory, tactile, gustatory and olfactory ideation.

The difference consists in the fact, that in the aphasic individual the word spoken, though it calls up the idea of meaning, cannot call up the word itself, actually or in idea, owing to the word-execution and word ideation being destroyed. The appreciation of the meaning of spoken words is readily accounted for by the fact, that in the process of education, an association is formed directly between certain sounds and certain objects of sense, simultaneously with, if not antecedent to the formation of the cohesive association between these sounds, and certain acts of articulation.

The cohesion or association between sound and meaning, remains unimpaired in aphasia. It is the cohesion between sound and articulation which is broken by removal of the motor factor of the organic nexus."§

This was well illustrated in the case of the illustrious Professor Lordat, notwithstanding, Trousseau, who inclined to the opinion advanced by Condillac and Warburton that

\*Nervous Disease, p. 177.

†Paralysis from Brain Disease, p. 198.

‡Paralysis from Brain Disease, p. 192.

§Functions of the Brain, pp. 275 and 276.

words are indispensable instruments of the thought process, believed his colleague deceived himself.

Lordat said "He could think, co-ordinate a lecture or change its arrangement in his own mind, but was unable, though not paralyzed, to express his thoughts in speaking or writing. "I thought," says he, "of the Christian Doxology, 'Glo y be to the Father, the Son and the Holy Ghost,' and I was unable to recollect a single word of it."

To Trousseau it seemed impossible for ideas to exist in the mind without words to express them, seemingly forgetful of the fact, that very young children and learners of foreign languages acquire the faculty of comprehension in conversation before they learn how to express themselves clearly.

Trousseau had other colleagues and quite a number of patients who, in their own persons, illustrated the views of Ray, Hamilton, Ferrier and Bastian. Trousseau really appears inconsistent or has not made himself plain, for he admits that Lelong, Broca's second case, and several others that he relates, were not impaired in their intellects.

Though, to do Trousseau justice, it must be recorded that in connection with the above criticism of Lordat, he confesses that he would "*not presume to settle definitely*" this "*most intricate problem in metaphysics.*"

The very common fact of aphasics being able to copy words, and repeat them immediately after seeing them written or hearing them pronounced, shows that the idea of words is registered in the mind. They often recognize the word they want when they hear it pronounced, and will generally show by their manner when the wrong word is suggested.

Their principal defect seems to be an inability to call into proper activity the requisite co-ordinating processes essential to the proper word formation, but this they often succeed in doing after the idea has been formulated into a word or words by another. This is especially so with such cases as Bastian classes under the head of amnesia, which he calls—

*"A kind of inco-ordination in the action of those higher cerebral centers, whose business it is to translate thought into the corresponding acts.*

There is an irregular carrying out in fact of those processes, by which the thought of the patient receives that physical expression which renders it intelligible to others. The individual knows what he wishes to say, but there is a defect in the subsequent molecular actions going on in his higher nerve centers of such a nature, as to cause hesitation or delay in the utterance of right words and, what is more, the substitution, occasionally, of entirely wrong words or, even, of a meaningless set of sounds in the place of those he wishes to utter.

Although such a patient may be quite unable to prevent these mistakes or failures, he usually shows by his manner that he is aware of having made them, and yet any attempts to rectify the errors only seems to make matters worse. This defective action in the speech-centers and their related parts is very comparable with what occurs in other nerve centers in loco-motor ataxia. In this disease a man may have an adequate knowledge of what he intends to do, though when he attempts to move his legs in a definite direction, he jerks them about in an irregular manner or, even, moves in a way the reverse of what he intended. In each case we have to do, therefore, not so much with lack of power as with involuntary or misdirected power \* \* \* and such defects in oral speech often co-exist, with more or less marked difficulties of the same kind, in the translation of thought into written speech, that is, writing. The patient is then able to perform the mechanical act very well, though he cannot group letters correctly into words; he spells altogether wrongly or, even, uses words which have no resemblance to those he wishes to employ\*."

Dr. Ray in his report of the "Parish Will case," attaches some significance to the fact that Mr. Parish could not learn to put the letters of the alphabet together so as to form intelligible words, and in his introductory remarks, refers to the fact that since it was written, the prominent feature of the disease, aphasia, has been greatly investigated by various observers, and that "these investigations have considerably increased our knowledge of its anatomical and pathological relations," though they have not, probably, thrown any new light on cases like this one. Very rational cases manifest this defect, for instance, Trousseau's patient, M. X., who could neither put together loose letters of the alphabet nor write with his left hand; yet this patient, as Trousseau confesses, "was in full possession of his intellect."

McLane Hamilton proposes this as a test of an aphasic's mental integrity:

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\*Paralysis from Brain Disease, pp. 188-189.

"If the patient be *insane*," he says, "he will not admit any absurdities to which he may give expression, but with the aphasic the case is different, for he always evinces his chagrin when he finds that he has written the wrong word and endeavors to correct his mistake."\*

This test will not always answer, though it is valuable where agraphia does not exist. I am not sure, however, that it is more faultless than the verbal test, which is by no means infallible, as even Trousseau concedes. I quote from him in illustration :

"Mrs. B—— had never been paralyzed, but labored under a very singular disorder. Whenever a visitor entered her apartment she rose with an amiable look and, pointing to a chair, exclaimed, "Pig, animal, stupid fool!" "Mrs. B. asks you to take a chair," her son-in-law would then put in, giving this interpretation to her strange expressions. "In other respects," says Trousseau, "Mrs. B.'s acts were rational and her case differed from ordinary aphasia, in that she did not seem to grow impatient at what she said or to understand the meaning of the insulting expressions of which she made use."

It being possible for disease to exist between the centers for the perception of sound and the speech center, a person so affected might not understand his own words or the words of others spoken to him. Such a person if morbidly affected, also, in the posterior portion of the third left frontal convolution, even while giving utterance to an incomprehensible jargon, might have in his mind correct ideas of things discernable by the eye or impressed upon the mind through the ear before the auditory channel had become affected. He might reason well within, though he talked without like a fool, because of this strange affliction. This was probably the case with Madame B. Similar cases have been recently recorded by Dr. Broadbent and others.

There was at the Infirmary of the Salpêtrière, a woman of forty years of age, quite hemiplegic, and who could only say : "Madame c'te !" "Mon Dieu !" "Est il possible ?" "Bon jour, Madame !"

Her intelligence was perfectly preserved. Hamilton, referring to this case, which Forbes Winslow and others

\*Nervous Diseases, p. 177.

have quoted from Durand Fardel, quotes Legroux in explanation as follows :

"It is to be supposed in these cases that the patients speak without hearing what they say, or that their auditory receptivity is unable to reveal the imperfection of their speech."

The patient's appreciation, however, of the aptness of his speech or gesture, whether he has spoken rightly or wrongly, though not without exception, is a good test to be added to other evidences of mental integrity in forming a judgment in a given case. Lelong, one of Broca's historic cases possessed it, and many of the cases collected and recorded before and since. But the very best and only satisfactory test of sanity in aphasic persons consists in ascertaining the manner in which they conduct themselves with reference to their changed surroundings. The range of an aphasic's intellectual operations may be, and often is, limited by his affliction. But if he properly appreciates the extent of his affliction and changed surroundings and voluntarily comports himself in harmony with them, he is not insane, for though *insanity is a change in the natural habits of thought, feeling or action of the individual resulting from disease involving the brain, it is also such a mental change caused by cerebral disease as places him out of proper harmony with his natural self and the influences which act upon his mind, physical or otherwise*, without and beyond the cerebral seat of mental individuality.

To Trousseau, aphasia seemed to be always a failure of the memory of words, whereas it is usually the faculty of symbolic expression that is lost or impaired, and an incapability of verbal co-ordination, while, abstractly the internal memory of words, the sounds of them at least and their association with registered ideas, either remains or is readily revived. Thought, as Ferrier observes, may be carried on without language, but it is thought in *particular, restricted and limited, in some cases no doubt, to the revival, revolving, blending and combining of emotions, sight, sounds, touches, tastes, smells, etc.*, impressed upon their proper

centers in the brain through such neurotic avenues of ingress thereto as may have retained their integrity.

The condition of aphasia must undoubtedly be a source of great embarrassment to the thought process of most patients, especially in the beginning of the seizure. His situation is to him so novel, inexplicable and, often, so alarming. The range of the aphasic's intellectual operations is often of necessity abridged by reason of his crippled power of expression, especially if the aphasia be complete—without the power of either speaking or writing. Such persons, if they are not mentally deranged, display their appreciation of their condition and surroundings—their good sense and sanity—by refraining from attempts at conducting themselves beyond their powers and not in accordance with their changed condition. Though they can not act as they formerly could, they still act in harmony with their changed condition and surroundings. If not able to carry on their customary business, they *realize the fact and act accordingly*. Like the illustrious Lordat, who, when stricken, very sensibly did not insist on lecturing as was his wont—they realize their affliction and reveal this knowledge of themselves by acting in a rational manner though they cannot speak.

The eminent Dr. Ray in discussing the "Parish Will Case" (contributions to Mental Pathology, p. 328-9), puts the *argumentum ad hominum*, for cases of long standing, thus: "Were you to be suddenly deprived of the power of speaking and of using the right hand, your mind remaining unaffected, do you suppose that for six or seven years you would continue as incapable of making known your thoughts as Mr. Parish was? There certainly would be but one answer to that question. A tolerable facility of writing with the left hand could be obtained by a little practice, and, in the meantime, a dictionary, block letters, hieroglyphics and maps would enable him to convey his meaning without fear of mistake. Every day would also witness an improvement in the use of signs and gestures.



In every actual case of this description on record (i. e., mere loss of speech), so far as I know of, the integrity of the mind was shown either by what the patient did or by the ideas communicated in the manner here mentioned." He then instances, in illustration, the blacksmith already referred to, who went to his shop and gave directions to his workmen; the tax collector who "pursued his customary duties," and "an old gentleman who enjoyed his game of whist as much as ever," notwithstanding they could no longer speak.

*(To be continued.)*

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### Art. III.—Studies on Cerebral Thermometry in the Insane.

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#### CONCLUDED.

TO the expositions of the results recorded by us on cerebral thermometry, we shall add a few brief remarks on the general temperature of the body, noted in divers forms of mental disease, in the axilla and the rectum. As may be seen by the tables presented by us, it results that this temperature, as does that for the brain, attains its highest degree in lypemania agitata (37.32, axillary—37.62, rectal), and in mania furiosa (37.21, axillary—37.62, rectal); thence progressively descending, in progressive paralysis (37.30–37.40); dementia agitata (36.09–37.34; mania simple (36.70–37.10); imbecility and idiocy, 36.63–37.08); lypemania simple and dementia complex (36.56–36.96). Comparing these results with those obtained by

*Clouston*, in his studies on the temperature of the body in the insane, we find that although the figures of the English (*Scotch*) observer, are all lower than ours, yet, in the mass, they accord as to the order of succession, as at the head stand those of general paralysis; next to which are those of mania, then melancholia, and, finally, dementia.

Having now reached the end of our work, but wishing, for greater clearness, to review the principal facts herein contained, we formulate the following conclusions:

1st. The medium temperature of the sane man is, according to our observations, 36.13 for the left side and 36.08 for the right—36.10 for the whole head. As to the diverse regions the means of the frontal lobes are 36.20 for the left and 36.15 for the right; of the parietal, 36.18 for the left and 36.15 for the right; of the occipital, 36.13 for the left and 36.08 for the right.

2d. In the insane, with exception of simple lypemania and dementia, the mean temperature of the head is above the normal.

3d. The highest degree is reached by mania with fury (36.89); lypemania agitata comes next (36.81), then follow general paralysis (36.63); dementia agitata (36.45); imbecility and idiotism (36.54); mania without fury (35.30); simple dementia (36.03).

4th. In all the forms of mental disease the occipital lobes, as in the sane man, give a temperature lower than the other lobes; the temperature of the frontal lobes, which equals that of the parietal in dementia agitata, imbecility and idiotism, excels it in mania, simple lypemania and simple dementia, whilst in general paralysis and lypemania agitata the temperature of the parietal lobes is higher than that of the frontal.

5th. In all the principal groups of mental diseases, the mean of the two halves of the head is almost equal, with the exception of the congenital forms, in which the various regions of the right half, present figures higher than those of the left half.

6th. The results of cerebral thermometry, placed in accord with what is known of the pathological anatomy of insanity, confirm the fact, that in general paralysis, mania and divers periods of exaltation, which are frequently manifested even in forms of depression and mental enfeeblement, there exists a state of hyperæmia of the brain.

7th. The surrounding temperature has a notable influence on the results of cerebral thermometry.

8th. The general temperature of the body in the insane, taken in the axilla or in the rectum, is greater in lypemania agitata and mania furiosa, and in decreasing order it proceeds, diminishing in general paralysis, dementia agitata, mania without fury, imbecility and idiocy, tranquil dementia and simple lypemania.

*Insane Asylum of Reggio Emilia, 20th September, 1878.*

APPENDIX.

The publication of this article which was communicated by one of us to the medical congress at *Pisa*, in the session of 28th September, of the medical section, has been unavoidably retarded to the present time, from typographic reasons, and we have profited by this delay to repeat some experiments in cerebral thermometry on the insane, in a position different from that in which our previous observations were made. It is superfluous to add that the method used by us in this new series of observations was the same as we have already described. Well then, with an external temperature of  $9^{\circ}$  to  $10^{\circ}$  cent. (48.2 to 50 Fahr.), we have found, whether in forms of exaltation or depression, means lower by  $0.7^{\circ}$  to  $1.2^{\circ}$  cent. than those obtained in our first series. This minor elevation in the figures obtained was verified, not only in the general means, but also in the examination of single cases, and it was greater in states of depression than in those of mental over-excitement. This tends to confirm the hypothesis announced by us, that the temperature of the surrounding air is not without influence on the results of

cerebral thermometry, and that it is necessary to take this into account, not only when we would determine the comparative temperature of single symmetrical regions contiguous, but also that of the whole head.

In order to render our labors more complete, we desire here to add a brief notice in relation to cerebral temperature, communicated after the compilation of our paper.

Professor *E. Maragliano* read to the medical congress at *Pisa* (26th September), the result of a series of experiments made by him in his School of General Pathology, in *Genoa*. He first, by means of experimental investigations, sought to eliminate whatever doubt might arise as regards the capacity of the cranial walls to transmit promptly in thermometers placed on the exterior, the internal oscillations of temperature. With this view he applied thermometers to the exterior of different cranial envelopments, which were filled with water, at various temperatures, and he was able to see that the thermometers on the outside rapidly followed the oscillations shown by those placed inside.

He next studied the physiological and pathological temperature, and that present during chloralic sleep. The conclusions which he drew from these researches were the following:

1st. The thermometers applied to the cranial integuments faithfully follow the thermal internal oscillations.

2d. The cerebral temperature revealed in this manner in physiological conditions is shown more elevated on the left than on the right side, especially by thermometers placed near the frontal region.

3d. The degree of temperature varies according to age and sex.

4th. In the same individual there are presented in the course of a day, from time to time, elevations or depressions which do not exceed half a degree.

5th. The cerebral temperature may have relations to pathology, but relatively to the conditions existing between the two sides, or between points on the same side.

6th. To have absolute value, elevations or depressions, at least one degree above the physiological mean, are called for.

7th. In cerebral embolism there is a diminution in the lobe irrigated by the plugged vessel, from which may be deduced an important diagnostic criterion.

8th. During the chloralic sleep there is a constant diminution of the cerebral temperature.

The importance and utility of cerebral thermometry in mental diseases has been placed beyond doubt by *Voisin*, who, besides availing of this means of examination as an element of diagnosis, has found in it also a criterion for suitable treatment, so that he matches the value of thermometric explorations of the head in the insane with that of stethoscopic examination in diseases of the chest. The results obtained by this illustrious alienist were first communicated to the International Congress of Mental Medicine, at Paris, last August, but they were not known to us except through the lectures given by him in the *Salpêtrière*, and by so much of them as was reported in his latest treatise on "*Paralytic Generale of the Insane*."

He, having first made some researches on individuals of sound minds, found that the temperature of different parts of the cranium varied in a certain measure in these, as appears from the following figures:

Frontal	-	-	-	-	from 31 to 34
Bregma	-	-	-	-	" 33 to 35
Occiput	-	-	-	-	" 34 to 35.5
Mastoid region	-	-	-	-	" 31 to 34
Temporal region	-	-	-	-	" 34 to 35.5

The maximum figure of the cranium never exceeded  $36^{\circ}$  (96.8 F.), even when the brain was in a state of functional activity, and with diminution of this, the cerebral temperature descended concurrently to a lower figure. As regards the insane, *Voisin* has established, as we have done, a cranial hyperæmia in general paralysis and in all the cases of insanity with maniacal delirium, also in lypemania, which is accompanied by a chronic

congestion of the encephalon. This hyperæmia sometimes pervades the whole head; at other times, it is partial; not rarely cerebral thermometry gives a temperature above that of the axilla, whether this be normal or febrile. Thus, *Voisin* reports having observed in patients affected with the congestive insanity of general paralysis, but without fever, the following temperatures:

Bregmatic	-	-	-	-	-	-	38
Post-auricular	-	-	-	-	-	-	37.8
Temporal	-	-	-	-	-	-	38
Occipital	-	-	-	-	-	-	41

A cerebral temperature above the normal maximum, according to this author, always appears to signalise a hyperæmic or phlogistic state of the brain, demanding the application of revulsives and depletives to the head, and especially over the regions which are chiefly the seat of the hyperæmia. In support of this fact, he relates in his work on general paralysis, various observations on such treatment, adopted after the indications of cerebral thermometry, and which sufficed to lower the temperature of the head and diminish the delirium and the other morbid phenomena.

As an element of diagnosis of the seat of cerebral lesions, the thermometry of the head has given further results, besides those of embolism already mentioned, in two cases of cerebral tumors. The case described by *Gray*, in his article on cerebral thermometry, was that of a woman, aged 34, in which a pupillary stasis, paroxysms of pain in the temporal and superciliary regions, nausea, vomiting, ptosis and paralysis of the ocular muscles, had led the physician to form the diagnosis of inter-cranial tumors, situate at the base of the brain. *Gray* having the opportunity of observing it, applied the thermometer on various regions of the head, and obtained the following results:

Frontal region, left,	-	35.97;	right	-	36.85
Parietal	"	"	-	-	35.00;
	"	"	-	-	37.63
Occipital	"	"	-	-	35.97;
	"	"	-	-	38.05

Resting on these data, he was able to conclude that the lesion must be extended from the base of the Sylvian fissure backwards along the right occipital lobe. The autopsy showed the existence of a gliomatous tumor, situate between the horizontal or posterior branch of the Sylvian fissure, and the parallel one of the right side, whilst the entire occipital lobe was converted into a colloid mass, extremely vascular. The meninges were unaltered.

The other case, communicated to the Philadelphia Pathological Society by Dr. Mills, on 14th November, was that of a man, aged 36, in which the principal symptoms were intense headache, vomiting, mental enfeeblement, hallucinations, but without delirium, no disturbance of the speech, slight paralysis of the left arm, weakness in the lower limbs, deviation of the head to the right, nystagmos, blunted sensibility, diminution of vision and of olfaction, dilated pupils and pupillary stasis. The cerebral temperature taken for seven days preceding death, gave as *mean*, the following figures :

Frontal median region,	-	-	-	-	35.83
“ left	“	-	-	-	34.83
Parietal “	“	-	-	-	34.66
Occipital median	“	-	-	-	35.27
Frontal right	“	-	-	-	35.00
Parietal “	“	-	-	-	54.83

Leaving out of account the high temperature of the middle occipital region, due, as Mills has properly noted, to the position of the head of the patient favoring the accumulation of blood in the sinuses, it is seen that the frontal median region gave the highest figures, and that both the right frontal and parietal were a little above those of the left. These notes of the clinical observations found explanation in the anatomical lesions discovered in the autopsy, which showed the existence of a large tumor in correspondence with the right frontal lobe, which had destroyed the anterior half of the first and second frontal convolutions, part of the corpus callosum and

of the gyrus fornicatus, saving, however, the third frontal convolution. The whole brain was somewhat congested. This case, according to *Mills* and contrary to what *Broca* has found in cerebral embolism, shows that the temperature of the head is found to be augmented in connection with tumors of the encephalon.

The most recent study of cerebral thermometry is that communicated by the illustrious physiologist, *Paolo Bert*, to the Society of Biology, on the 18th January of this year. He made his experiments on himself, using, not thermometers, but thermo-electric elements of great sensibility, limiting them for an hour to the frontal region solely. The result of his observations was, that every time the temperature was not equal on both sides, that of the left was always the higher, which was further verified by the fact that the temperature on such occasions was increased by mental activity. *Bert* intends to follow up his studies with the view of testing the theory of localization, by exploring the temperature of the points which correspond to the various regions of the brain, regarded as the seats of diverse functions.—*Reggio Emilia*, 1st March, 1879.



## Art. IV.—On the Propositions of the Association of Superintendents of American Hospitals for the Insane.

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BY JOHN CURWEN, M. D.,

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THE principles which underlie the arrangement and construction of a hospital for the insane are founded on the dictates of sound, rational common sense, and the results of experience obtained by residence in such buildings, and derived from the careful study of the requirements of the peculiar class of persons for which they are to be constructed, and whose comfort and treatment are alone to be considered in such construction. The most important of these principles may be stated to be such a plan as will facilitate to the greatest degree, and render practicable at all times, the readiest and most thorough supervision of every department by the officers, careful selection of the best material for the construction, and the most unwearied attention to the proper arrangement of the different kinds of that material in the various parts of the building, that everything may not only be of the best quality, but put together in the best manner calculated to secure the purpose designed; the most systematic adaptation of every part to the wants and requirements of those who are to occupy the wards; ease and economy of administration; and ready and prompt distribution of heat, food and other articles constantly required, and special care that every part of the building shall have abundance of light and air.

While the greatest latitude may be allowed, in what may be termed the architectural arrangements, the plan which has been found to combine, in the greatest degree, all the points above enumerated is the lineal plan, in which each wing shall be opened to the full light at both ends, and the different wings shall be continued in the same line as that nearest the center, but falling back so far as to leave the second open at both ends, and so on through all the wings, in contradistinction to that plan which would place the second wing at right angles to the first, and so make the whole surround an included square. This plan was first fully elaborated and explained by Dr. Thos. S. Kirkbride, for so many years the able and accomplished superintendent and physician of the Pennsylvania Hospital for the insane, in Philadelphia, and has been adopted in the majority of hospitals for the insane erected within the last thirty years. While adhering strictly to this principle of construction many changes in interior detail and arrangement have been made by different persons, but these changes do not in any manner affect the original idea.

VI.—“All such buildings should be constructed of stone or brick, have slate or metallic roofs, and, as far as possible, be made secure from accidents by fire.”

Circumstances connected with the locality of the building will often determine the fact of the use of stone or brick in the construction, but when stone is used it is always best and, in the end, most economical, to line the outer wall with brick with an air space of about three inches between the brick and the stone.

The brick should be well joined with or “tied into” the stone, at short distances, so as to make the brick secure and firm, and the space thus left between the walls will not only render the walls more dry and prevent the penetration of moisture, after a long continued driving storm, as is often seen in solid stone walls, but will also have the effect of making the building warmer in winter and colder in summer, from the fact that neither heat nor

cold can penetrate beyond the layer of air confined between the walls.

The same effect could also be obtained in the construction of brick walls in a similar manner and thus avoid what is so often required, the furring off or nailing strips of wood to the walls on which the lath is nailed. Lath and plaster partitions are always objectionable in parts of a hospital occupied by patients, from the ease with which they may be broken, and also from the fact that they furnish a more ready receptacle for rats, mice and vermin of various kinds. The wood used in furring off walls, and lath and plaster partitions are also objectionable from the fact that fire is easily started in them, and when so started is extremely difficult to trace or to extinguish. The objection to metal roofs in this climate arises from the injurious effects caused by the alternate expansion and contraction of heat and cold, the thermometer often falling twenty or more degrees in the course of a few hours; and in certain metals the constant tendency to rust, requires the frequent use of paint to preserve them from the corroding influence of heat and moisture.

Sufficient care is not generally exercised in preparing the sheathing of the roof on which the metal roof is to be laid, or for the slate.

The best plan is carefully to plane and plough and groove the boards, and have them laid as carefully as a floor. Slate, when properly laid on a roof, thus carefully prepared, furnishes the best material for roofing in a climate subject to so many changes in temperature.

The cornices of the roof should be made of the best galvanized iron and carefully backed up with brick.

The surest plan to avoid accidents by fire will be to have the whole interior constructed with brick partition walls, the floors made of brick arches between iron beams, and this arrangement carried through every part to and including the ceiling of the upper story directly under the roof, and the main division walls of brick carried up to the roof.

This practically renders the building fire proof, as the only part in any hall which could burn would be the floor, and if that is well laid, of good and thoroughly seasoned lumber, there will be the smallest chance for the fire to spread from one room to another. Every room is in effect a brick box.

But where this cannot be done, and in institutions already built, the best plan will be to introduce pipe connected with the tanks in the attic, or from an outside reservoir on high ground, into each ward, and have sufficient hose to carry the water to every part of the ward, and fire-plugs outside with hose of large size. An additional means of security, when the institution is heated by steam, will be to carry pipes into the attic of the center and different wings from the boiler, so that by opening a few valves, the whole attic could be filled with steam, in case a fire should break out, and it is well known that no better fire extinguisher can be found than an abundance of steam.

VII.—“Every hospital having provision for two hundred or more patients should have in it, at least, eight distinct wards for each sex, making sixteen classes in the entire establishment.”

While this proposition says “at least eight distinct wards for each sex,” it implies that a larger number would be advisable, and, as a general rule, it could and should be arranged so that a more thorough classification could be obtained in a larger number of wards.

This, in many cases, is very necessary for the comfort of patients and the greater success in treatment, so that those patients who were annoying to others and particularly to convalescent patients, may be removed from the wards for that class, and placed among those who could not be so much injured by their conduct or their manner of talking. It is well known to every superintendent, that there always is a certain class, generally quiet and free from excitement, and who can behave themselves very well, but who take special delight in retailing the most outrageous stories to all who come within their reach,

particularly to recent and convalescent patients; and, the impression thus produced on this class of patients is often very injurious and calculated to retard their restoration, if it does not throw them into a state of excitement or lead to more serious results.

The arrangements for classification should be such that all this class could be separated entirely from convalescents, and placed where they could have only those of a similar inclination with themselves to associate with, and less incentive therefore, to exercise their mischievous propensity. The subject is more fully stated in a proposition adopted in 1866, which reads thus:

“The facilities for classification or ward separation possessed by each institution, should equal the requirements of the different conditions of the several classes received by such institutions, whether those different conditions are mental or physical in their character.”

VIII.—“Each ward should have in it a parlor, a corridor, single lodging rooms for patients, an associated dormitory communicating with a chamber for two attendants, a clothes room, a bath-room, a water-closet, a dining room, a dumb waiter and a speaking tube, leading to the kitchen, or other central part of the building.”

The parlor should be so placed as to command the most pleasant outlook to be obtained, and should be of ample size so as to afford room for a piano, library, sofa and the other necessary furniture; and have as much light from windows as possible; and the whole front might easily be made to resemble a bay window by projecting the wall so far, in advance of the other walls, as to allow a window to be placed in the connecting wall on each side.

Everything about this parlor should be made bright and attractive by pictures and other ornaments, so as to induce the patients to spend as much time in it as possible; though when bay-windows are placed in a ward, they seem to be places of greater attraction.

The corridors should be made at least twelve feet wide

and twelve feet high in the ceiling and "no chamber for the use of a single patient should ever be less than eight by ten feet, nor should the ceiling of any story occupied by patients be less than twelve feet in height."

Where the wing immediately adjoining the center connects with it, a space of at least ten feet should be arranged with windows open on each side from floor to ceiling, so as to give abundance of light and air at that point, and these windows, like all the windows in the wards, should be protected with some ornamental form of guard to prevent intrusion by outsiders, and to prevent also the escape of the patients.

The omission of this open space makes that end of the hall dark, and at that point, also, the air will be very apt to be impure from the inability to obtain a free circulation.

It must be very distinctly kept in mind that every part of a hospital for the insane, occupied by patients, should be as bright and cheerful and have as much sunlight as it is possible to obtain by means of windows and openings at the ends of the hall. No hall can be made too bright and cheerful at all times; and even when the warm rays of the sun in summer require to be excluded, that can be done without interfering in any way with the cheerfulness and brightness of the wards.

The advantages of this abundance of light are two-fold: In the first place, as a matter of health, and, then, as tending to promote greater cheerfulness in all within the range of its influence; for it is a matter of common observation, that persons obliged to be in dark rooms become dull and depressed, while they are at the same time more blanched and unhealthy in appearance and in fact.

It has been objected to rooms on both sides of the hall that the effect will be to make the halls, if long, dark and gloomy, but if they have large windows from floor to ceiling at each end, with a large bay-window on each side in the center, no unpleasant gloom or darkness will be observed; and the bay-windows will give a very

pleasant sitting room which will be occupied nearly all the time by the patients, and will be a place where flowers, birds and other objects of interest may be kept. In the arrangement of the rooms in a ward, great care should be taken to have the door and window opposite, so that the bed may be placed to one side and out of the line of any drafts, which would be occasioned by opening the door and window.

Every room should be provided with a flue for the admission of warm air, and also one for the removal of foul air, so arranged, that no unpleasant draft from the warm air shall strike the person who may occupy the room; and, where a system of forced ventilation is used, this may readily be effected by having the warm air admitted above the level of the person's head, and the foul air removed at a lower point; but unless a strong power is used to keep up the circulation, this arrangement will not answer satisfactorily in practice, whatever excellencies may be claimed for it in theory.

The question of the particular arrangement of the window of the room must be left to the prevalent idea in any particular section.

There are really three different forms of window; one where both sashes are of iron and the upper is made to balance the lower, and when the lower is raised about five inches, the upper is lowered the same distance, by an arrangement of connecting chains and pulleys; another, where the upper sash is of cast iron and stationary, and the lower sash, hung with cords and weights, raises the whole distance, and a guard of an ornamental character protects the space opposite the lower sash so that the patient cannot fall out or jump out; and, the third form is where both sashes are of wood and hung by ropes and weights so as to move up and down, and the space outside is covered with a guard, either plain or ornamental.

The idea has been strenuously advanced by some that all guards to the windows and locks to the doors should

be dispensed with, which we believe to be most erroneous, and one of those extreme measures which will cure itself by the very state which it will induce, of remissness on the part of those in charge of the wards and of accidents and injuries to the patients. It is going from the extreme of care to the extreme of carelessness, and avoiding that which has always been found the safest, the mean between the two extremes. If the insane be irresponsible, as will be generally admitted, the effort to give them full liberty to go and come as they please, places them in a position attended with risk to themselves and to others; to themselves, because it places them in a position to be subjected to influences and temptations which will have a decidedly injurious influence, and to others by the risk to life, person and property at the caprice, ill-will or the delusions of an irresponsible party, and it is neither right nor just to expose the innocent and unsuspecting members of any community to any such risks.

It has been the fashion with many to insist on large associated dormitories, but we believe this to be contrary to the desire and habits of our people, who all insist on having a room to themselves. It is true that a hospital can be constructed more cheaply when the majority of the patients can be placed in associated dormitories, but there are many other things besides cheapness to be considered in the construction of a hospital for the insane, and chief among these are the comfort and welfare of the patients.

We have no sympathy, whatever, with that wretched sentiment, born of parsimony and disregard of the feelings and rights of others, which insists that the comfort, the welfare, the happiness and the restoration of the insane, of any class, are to be weighed in the balance with a few hundred dollars. The State is bound, in honor and duty, to make the very best provision for all its wards, and the more helpless and dependent, the greater care should be exercised in provision for them; and while proper economy should always be exercised in the disbursement of all



money, both in public and private undertakings of any kind, and every dollar should be strictly accounted for, no State nor any private corporation or association can afford to do wrong, for wrong in every form is wasteful expenditure, nor are any so poor that they cannot afford to provide for those who may be committed to their care, in that manner which will best promote the welfare of the insane in every way in their power. That cannot be done when the individual is placed in a position which injures his self-respect or is entirely at variance with all his previous habits and education. Men and women insist on some accommodation which will give them a degree of privacy, which cannot be obtained by being obliged to be in a large dormitory, and it will not do to say that because they are insane their feelings are not to be considered.

The effort in these days seems to be to lower the standard of self-respect and make people feel their dependency; but true humanity teaches that men, born in the image of God, should be trained to a proper regard for their high destiny, and that true charity consists in the dispensation of its gifts, in such a manner as to instill higher aims and more ennobling sentiments, and to lead all, of every class and condition, to seek that which will give true comfort in better and more enduring provision, for themselves and all within the sphere of their influence.

The principle which should govern in all cases is: "Whatsoever ye would that men should do to you, do ye even so to them;" and regard must also be had to the consideration which sooner or later comes home to every one in some form, that he or his may at some time require some such accommodation as a hospital for the insane affords, and he must consider how the plan of such association would suit his own case, or whether he would like some member of his family placed in such a position as has been indicated. Unfortunately this principle has too limited an application in governing bodies, and, particularly where the expenditure of money in public buildings

is involved, but that is no reason why it should continue to prevail, but, on the contrary, every dictate of justice and humanity demands that the sooner men in every relation of life do, as they would be done by, the better will mankind be.

There is still another consideration directly bearing on the patients themselves, that the proper degree of sleep at night, and that calm state which should precede and is necessary to sound sleep, cannot be had in nervous and restless patients in a room where a number sleep, for the reason that among that number, particularly, if it exceed six, there will always be one or more who are restless and uneasy and are apt to be up and about the room, to the annoyance of others and interference with their sleep; and unless the room is very well ventilated, the breath and other effluvia arising from a number of persons, soon vitiates the air so as to render it unpleasant and unhealthy.

The argument in favor of dormitories, that those inclined to suicide may be placed in them with greater safety and less probability of an attempt on their part to effect their purpose, has only a very limited application, and really, as a rule, does not effect the object.

The only preventive of suicide is careful and constant watchfulness by day and by night.

Every room of the kind should have a strong wire frame in the upper half of the door, so as to answer the double purpose of easy inspection and more efficient ventilation.

It is well known that associated dormitories are not used until it becomes a matter of necessity, and the fewer of them, and the more limited the number they can accommodate, the better for the patients themselves.

Where a dormitory of large size is used, the necessity of a chamber for two attendants communicating with it is requisite, in order that they may better minister to the patients in it, and prevent any disturbance, though, as a rule, if the attendants have attended to their duties during the day, they generally sleep so soundly, and they

should have their full sleep for the proper performance of their daily duties, that they hear very little that may occur during the night, unless of a very unusual character, and the real dependence must be on the activity and efficiency of the night watch, which in cases of special emergency would be increased for the time.

More thought and attention should be given to the room designed for the clothing of the patients in each ward than has usually been the case. It should be of ample size, well lighted and well ventilated, and placed in close proximity to the bath room, and should be conveniently arranged with closets and boxes in which the clothing can be neatly folded and arranged, with hooks for hanging up coats and various other articles; which are better hung up than folded and laid away. In addition to this there should be ample arrangements for the sheets and other bed clothing, with a convenient place in which hats and shoes may be placed by the men, instead of being allowed to lie promiscuously about the ward to the annoyance of all careful people, and the inevitable loss to those who wear them.

The bath-room should be conveniently arranged with an ample supply of hot and cold water, and should also be kept at a warm temperature in the coldest weather so that the most delicate may suffer no injury before entering or after leaving a bath. In immediate connection with the bath-room should be a wash room with stationary basins and an ample supply of water, to which the patients can have ready access at all times.

The arrangements of water closets are generally on too limited a scale, and it is best to place in every ward at least two hoppers, so that there may not be any excuse for careless habits on the part of the patients, by inability to obtain the needed accommodation.

While such improvements have been made, and are still making, in the arrangement for these conveniences, it is not requisite that any special plan should be insisted on further than that "all water closets should, as far as

possible, be made of indestructible material, be simple in their arrangements and have a strong downward ventilation connected with them," and, also, that "the floors should be made of material that will not absorb moisture."

The dining room should be of such size as to give comfortable sitting room for all who may occupy the ward, should be bright and airy, and should have connected with it, a neat china closet, where all the articles used on the tables can be kept in neat order; and in it a sink with hot and cold water attached, in which the plates, dishes and all articles used on the table can be washed.

The dumb-waiter should be conveniently located in connection with the dinning room, and the apparatus for hoisting it should be such as to involve the least labor and trouble, and easy communication afforded with the kitchen by means of a speaking tube or, as may now be very satisfactorily arranged, by telephone.

IX.—"No apartment should ever be provided for the confinement of patients, or as their lodging rooms, which are not entirely above ground."

The requirement of this proposition would appear superfluous, but it seems needful in these days when the effect is made to cheapen things to the very lowest point, and endeavor to make provision for a certain class of the insane in a manner, which is not in strict accordance with that proper regard for their comfort and welfare which their position imperatively demands, and also to place, so far as words and a protest can do it, a barrier to any further efforts in that direction.

X.—"No class of rooms should ever be constructed without some kind of window in each, communicating directly with the external atmosphere," and this, for the reason before stated, that every patient should have the benefit of sunlight to as great a degree as possible, and a better opportunity can be afforded for the freest admission of fresh air, which in many rooms is absolutely requisite to insure cleanliness.

The eleventh proposition has been already considered in connection with the size of the rooms to be used for patients.

XII.—“The floors of the patients’ apartments should always be of wood.” It would seem scarcely necessary to insist on this requirement, but as stone and brick floors have been used in the past, and are exceptionally cold and uncomfortable, particularly for that class who would be most probably compelled to occupy such rooms; there might be those who would consider it a good thing to do, to return to such a state of affairs in the future, on the ground that wooden floors would rot out by frequent scrubbing, and it would be economy to prevent such expenditure.

Wooden floors may be rendered nearly, if not quite, impervious to all fluids by an application of boiled oil, applied hot, so as to saturate the floor, and having this repeated every few months.

XIII.—“The stairways should always be of iron, stone or other indestructible material, ample in size and number, and easy of access to afford convenient egress in case of accident from fire.” Every ward should have, at least, two stairways, one at each end, leading directly to the ground, both front and rear, so that, by opening the doors the patients could readily be taken out to the ground around the building. The stairways must be of iron, stone or slate, and walled into a brick wall on each side, so that they shall be virtually fire-proof from top to bottom—all the landings being of the same material as the stairs.

Circumstances peculiar to the location of the hospital will probably determine the character of the material to be used, as in some localities one of the articles named may be obtained at a more reasonable price than others. Slate forms really the neatest and pleasantest stairway to travel over, as it is less noisy when trodden on, and experience has shown that it wears very little by constant treading over it.

Unless care is taken to have the iron slightly roughened on the top of the step, it will in time become smooth

and slippery, and the same may be said of certain kinds of stone—but it does not hold good in slate. In these days when so much is said about fire-escapes from public buildings, it is wisest and best to construct the stairway in such a manner as to be virtually a fire-escape from all the wards. This can readily be done in the manner indicated above, and then should a fire unfortunately take place, the inmates can all readily be removed by the mode of egress to which they have been accustomed.

Any fixture outside, such as is usually constructed, is worse than useless, for very few patients would venture on them, and they would be very likely to be used by mischievous persons, for the purpose of annoying the patients.

For females such outside fixtures would be utterly impracticable; whereas, a stairway constructed of either of the materials named, and well built into a brick wall, would be perfectly safe and secure, and very easily available at all times, and free from every objection which could be urged against outside fixtures.

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### Art. V.—Pathological Relation of Certain Ophthalmic Phenomena to Tabes Dorsalis (Locomotor Ataxia, Posterior Spinal Sclerosis, &c.)

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By WM. DICKINSON, M. D., of St. Louis.

**J**OHNS, 57 years of age, a watchman on board of river steamboat, came under my observation and treatment, March, 4th, 1874, for rapidly progressing amblyopia. He gave his history as follows: Weight, about 200 lbs.; robust health—uninterrupted during his entire life; never suffered from previous affection of his eyes or head, not

even from presbyopic symptoms; vision unimpaired until last Christmas, and able to read the daily papers. For the purpose of obviating increasing dimness of vision, which at that time he had first observed, he endeavored to select a pair of glasses, but these rendered him no aid, and he expressed to his wife apprehensions of becoming blind. During his adult life, he has used much tobacco by chewing, rarely by smoking, and very sparingly has indulged in alcoholic liquors. He attributes his failure of vision to the unavoidable exposure in the performance of his ordinary duties. In December, 1872, he had a fall, receiving an injury on left hypochondriac region, the effects of which, however, seemed to be but temporary. On Thanksgiving day, 1873, he accidentally fell into the river at Cairo, but from this accident, also, he was not conscious of suffering any ill effects. With his left eye he can, at twelve inches distance, distinguish only large letters, No. L. Snellen, and with the right, those of No. C., or those twice as large.

O. S.—Dioptric media all in normal condition; details of the fundus distinctly perceived; papilla exhibits marked optic-nerve atrophy and a brownish gray color; its periphery was irregular, but presented no atrophy of the choroid.

DIAGNOSIS.—Grave central disease suspected, but its character not sufficiently declared by distinctive symptoms.

Under general derivative treatment vision steadily and greatly improved, so as to be able, on April 8th, to discern most of No. 6, at twelve inches. But my record of the 10th states, vision rapidly declining. On this day, he first complains of numbness of the left hand, especially of the fingers. Galvanism was used with temporary benefit, from nucha and over the cervical sympathetic to the closed lids. April 25th—vision in right eye totally lost, but with left he still perceives No. XXX. He now describes a sensation throughout the entire surface of the fingers, similar to that of accumulation of dirt under the nails. Treatment with different agents continued through

the month of May. On the 30th, he stated the middle finger of right hand was for some time stiff. Strychnia employed, hypodermically, without avail. June 7th.—For the first time he complains of numbness of right side, of lower extremities and in back, together with a sense of constriction around waist, as of a tight belt. Vision in left eye now rapidly declined, and in spite of all effort the impairment soon reached such a degree, that he could not see sufficiently to walk about alone. In rapid succession, now, other symptoms appeared. Loss of co-ordinating power in lower extremities very observable; can not stand erect without assistance; he staggers and reels when attempting to walk. He describes a sense of enlargement of left chest, as if from a foreign body within; to the eye, that side *appears* more prominent but it measures actually less than the other. Ataxic symptoms, also, appear in the arms, hands and fingers; he dresses himself with difficulty in consequence. He experiences much delay in the act of micturition. His urine contains no albumen, but many crystals of oxalate of lime. Sexual function almost annihilated. 19th.—Rigidity of muscles of the leg and still progressive; gait more unsteady; psychic faculties much heightened, especially in regard to sentiments, sheading tears from trivial causes or, even, without cause, but still retaining power of judgment and of will. 21st—After application of galvanism (galvanic current), he could discern objects which were near. Complains of legs being stiff; extensors of fingers in a state approaching tonic contraction; attempts to flex them occasion pain. Without material change, with appetite good, he continued till July 10th, when he was seized with a paroxysm of sensation of “smothering,” accompanied by a sense of an oppressive weight in lumbar region, and great general debility, and in connection therewith, he has an irresistible impulse to stand erect, for the purpose of better resisting the tendency of “dragging down.” No well pronounced pain experienced, but a vague sense of great discomfort in the left



hypochondrium; face flushed, vessels of conjunctiva congested and eyes suffused. This assemblage of symptoms were all dispelled by the administration of a small quantity of whisky. At this date, all perception of light totally annihilated. Numbness of left side continues, and now in both hands, but to a greater degree in the left. On the 12th, without obvious cause, another paroxysm, similar to that of the 10th, occurred, which continued from noon till night. 18th.—Numbness has extended over the entire trunk and extremities, but the other symptoms are diminished in intensity. Now, when attempting to walk, he describes a sensation in the soles of his feet as if pressing upon a coil of cord or of wire. Galvanism seemed to dilute the intense darkness experienced, and enabled him, for a short time, to discern the reflexion of light from the surface of a gold watch. He complains of general debility and of disturbed sleep. 31st.—Perception of light totally extinguished; the arteries and veins of optic disc are greatly diminished in size, and gray atrophy is well pronounced. The gustatory sense is obtunded and perverted; he perceives a salt taste in his mouth, and requires an unusual quantity of sugar in his coffee to render it palatable. He is, also, less dispondent; has regained the proper use of his fingers, and the grasp is much increased in power; but the sense of constriction about his body still persists, extending from the lumbar region to left hypochondrium and hip. Without essential change he continued in the condition described for several weeks, until he was removed to the immediate care of his friends in the East, from whom, five years later, came the report that he was still living, and that his condition had undergone no essential change.

The case detailed above presents a symptom picture, approximating the typical form of *Tabes Dorsalis*—the designation used in its widest and generic signification, as nearly as generally falls under our observation, and though lacking some of its most characteristic features, it possesses others that are peculiar, well-marked and distinctive. The

discrepancies existing in this case and in others, which have come under my treatment, have induced a preference for the classification of symptoms made by Remak, a score of years since. He distinguishes different forms of the disease according to its apparent seat, but the pathology by him attached to each must, in the light of more recent investigations, be somewhat modified. His classification, containing a larger number of subdivisions, possesses the excellence of greater system, as well as greater perspicuity and intelligibility of description, and is as follows, viz.:

1. *Tabes Basalis*—Usually commences with deranged action of the muscles of the eye, and disorders of vision; anæsthesia and paresis of the hands ensue at a later date.
2. *Tabes Cervicalis*—Characterized by eccentric pains, small immovable pupils and the long duration of the motor disorders.
3. *Tabes Dorsalis*—The power of walking and the functions of the genital and urinary organs and of the rectum are more evidently impaired, and the eccentric pains are very severe.
4. *Tabes Lumbo-Dorsalis*—Pain or pressure over the spinous processes. This symptom occurs only in this form, and is a favorable prognostic sign, as indicating a still existing myelitis.
5. *Tabes Lumbalis*—Is sometimes an independent affection; sometimes united with a uni-lateral lumbo-sacral neuritis.
6. *Tabes Cerebelli*—Is very rare, and characterized by extreme unsteadiness of gait and, sometimes, by amblyopia.

All vital phenomena proceed, primarily, from and are controlled by the autocracy of the central nervous system—cerebro-spinal. For the achievement of any specific vital action, continuity of nervous tissue, constituting a conducting nerve path between center and organ, muscle, skin, &c., is essential. This implies the arrangement of granules of nerve substance into rows or fibrils. By this fibrillation is foreshadowed the great fundamental law by which in the realm of nervous phenomena, Nature works. The law of isolated conduction, is clearly enunciated in the determination of the simplest muscular effort, as well as in

the production of that which is the resultant of the united action of the most complex. This coronal, intrinsic proposition, it is important to bear in mind, in our attempts to account for the progress of disease up or down along the great nervous highway, when once commenced in any one part and announced by characteristic symptoms.

In this, as in a large number of other diseases, without doing violence to any theory or fact, we must premise the existence of a constitutional predisposition, and in rare instances, heredity; if not, all persons subjected to the same influences, *e. g.*, atmospheric vicissitudes, habits of life, specific infection, accident, &c., would be affected in the self same manner.

Again, observation confirms the assertion that symptoms referable in their causal relations to different sections of the cerebro-spinal system, do not observe definite and regular periods in the time or order of their occurrence. In some instances the disease, with remarkable regularity, traverses this vast system from above downward, from basal to lumbar regions, giving evidence of its remorseless presence by characteristic phenomena, at each successive portion. It may, again, commence in the lumbar region and with like regularity and phenomena proceed upward through the medulla oblongata to the thalami optici and optic apparatus, running riot and strewing ruin in its progress; or the symptoms of any two contiguous or separate regions, simultaneously affected, may co-exist, the intermediate portions remaining intact, or, as yet, not sufficiently affected to project the legitimate consequences upon the peripheral nerves arising therefrom. Rarely or never does it simultaneously invade the entire domain and develop *pari passu* throughout its entire length, though it cannot be maintained that such an occurrence is inconsistent with its pathology.

Now, how stands the case with the classification adopted? The symptoms first experienced belong to the Basal group. Amblyopia was the first symptom observed; from no one of the numerous inflammatory affections of

the eye had he ever suffered, nor from any disease of the brain; he had no syphilitic history, was debilitated by no cachexia, but was a man of robust frame and in the habitual enjoyment of perfect health. The lancinating pains usually attacking, capriciously, different parts of the body, and among the first symptoms of invasion were here entirely absent. Some pain he experienced, but it was in no degree characteristic. The fall which he had in 1872, probably, has no causal relation to this attack; but that of November, 1873, into the river, we regard as the *pouit d'appui*, the proximate efficient cause of the disease, through sudden arrest of cutaneous perspiration and other inevitable consequences to the nervous system, though not at the time appreciated. At that very moment, also, the optic nerve, from the habitual use of tobacco, may have suffered trophic disturbances, which were rapidly aggravated by the accident referred to, in its own specific manner. While the continued exposure, incident to the pursuit of his avocation, still farther and energetically promoted the progress of the degenerative process commenced.

The Cervical portion seems to have escaped involvement during the early history of the case. Since he manifested no disturbance of the muscles of the eye; no diplopia or strabismus, convergent or divergent; no ptosis; nor at any time was this portion of the cord to any considerable degree affected, though later in the progress of the disease there was developed in the upper extremities formication, numbness of the fingers and diminished power of grasp. Meanwhile the disease descends to the Dorsal region. Now is experienced numbness in the trunk and commencing inco-ordination of muscular movements in the lower extremities, with aggravation of the symptoms already enumerated, belonging to the basal and cervical groups. This was evinced by progressive amblyopia and tonic contraction of the extensors of the fingers; and anomalous symptoms about the thorax, now supervened, also, impairment of the functions of the urinary and

genital organs; delay in commencing the act of micturition and failure of sexual power, no congress having been indulged in for several months, with the still farther downward progress of the disease to the Lumbo-Dorsalis region. In addition to the category of symptoms already detailed, there ensued increased inco-ordination of muscular movements of the extremities, and sensation of a tight girdle around the waist. The disease having reached the lumbar region, psychic disturbances begin to manifest themselves, and super-added to the symptom-picture we have abnormal sensibility of the soles of the feet with other manifestations of perverted sensibility, besides, great muscular debility and increasing helplessness. No symptoms characteristic of the cerebellar complication arose, unless the seat of co-ordination of muscular movement, as maintained by some, is to be referred to this organ. The cervical sympathetic and the trigeminus seem not to have entirely escaped complication, evinced by flushing of the face and conjunctival congestion, and, also, by perversion of the gustatory sense, in which the glossopharyngeal doubtless participated.

One of the salient features, in the history of this case, is the distinct origin or earlier maturity of the disease in the basal section, and the singular regularity of its advance downwards through the great central nervous highway, announcing its constant and irresistible progress, with corresponding precision by characteristic phenomena. The law of progression of disease is generally in the direction of the function of the part, from center to periphery, except in those which arise from a constitutional diathesis or dyscrasia. The manifestations of this law are often reversed. There is, therefore, no anatomical heresy in the hypothesis that this disease may commence in the posterior columns and posterior roots of the spinal cord; the lumbar, by preference; since in this portion it possesses larger dimensions and a great predominance of gray substance; and, that its extension is upwards towards the brain, giving rise to characteristic signs in

the various portions of the body, which have their nervous centers successively in that of the lumbo-dorsalis, dorsalis-ascendens, cervicalis and basalis—from the latter of which eye symptoms are determined; or it may commence in some one of the mediate sections and proceed in both directions. It is often possible to determine, with almost hair-breadth precision, the height in the cord to which the disease, if considerable, has reached.

It is but a coarse and meagre description (though for general purposes ample), that systematic treatises on anatomy present of the sources of origin of the optic nerve, viz.: from the corpora-quadrigenima, thalami optici, tubercula geniculata, &c. These, in fact, are but mediate ganglia through which pass certain fibres of the optic tract to the hemispheres and cerebral convolutions, or, according to some, are but ganglia into which these fibres penetrate, and from which others, of similar function, proceed, receiving the luminous impressions borne thither by the former, and conducting them to their distal destination in the cortex cerebri, where perception of light takes place. Respecting the relation of the optic apparatus to the brain on the cerebral convolutions, Griesinger expresses himself thus, viz: "The optic nerve and its roots are in the human species relatively small, but the expansion of the nerve within the brain assumes an extraordinary development. A fan-form expansion can be distinguished within the hemispheres passing from the optic tract to the summit of the posterior lobes; other such radiations pass forward in all the anterior convolutions, the high development of which is characteristic of the human brain. This expansion is not to be considered throughout, as a simple continuation of the fibres of the optic nerve itself, but rather as the multiplication of these or of the addition of a new system of fibres of the optic nerves. The high development of the expansion of the optic nerve appears to constitute an essential characteristic of the human brain, and also that of the higher apes, and to represent an apparatus adapted to some of the most important mental functions."

In works treating of the diseases of the eye the association of amaurosis (in its generic signification) with tabes, obtains a recognition far incommensurate with its importance. The omission of it altogether on the part of Mackenzie, is venial, on account of the time and the accepted pathology of his day; but the same indulgent judgment cannot be extended to Walton, who, in his voluminous and, in most respects, excellent work, has totally ignored its existence; though Romberg had nearly a quarter of a century earlier given a clear and extended description of the two affections and their relations. Stelwag, in his classic work, devotes but two brief paragraphs to the subject, and, apparently, intentionally refrains from committing himself to an opinion as to the causal relations of the two affections, diverse in mode of manifestation and remote in situation, but grants the existence of a special amaurosis, and describes the atrophic process as generally advancing from the optic thalamus to the optic tract, its commissure and the nerves. Wells evinces his greater appreciation by extending his observations over less than half a page; while Schweigger, making no distinct mention of the disease under consideration, simply alludes to the condition of gray atrophy presented, and quotes from Virchow: "The mottled gray atrophy of the opticus appears to be connected, especially, with the mottled atrophy of the spinal cord, and, under the circumstances, amaurosis is associated with paralysis and anæsthesia of the extremities."

Trousseau and Isnard regarded tabes, essentially, as a neurosis, and the anatomical changes as merely secondary results; but pathologists of the present day are quite agreed as to the essential nature of the change, which constitutes the disease, viz.: That it consists in a gray degeneration of the posterior roots and posterior columns of the spinal cord; that it is developed simultaneously or successively at various points in the central nervous system, especially predisposed thereto; that it extends also laterally affecting the lateral columns; the extension

laterally may explain the later more severe disturbances of sensibility, the disturbances of co-ordination, the motor-paresis and paralysis, the vesical and sexual weakness.

It is not demonstrable, though highly probable, that the initial stage of this affection is a chronic inflammatory process, and represents, consequently, one form of chronic myelitis, sclerosis, leading to gray degeneration, being the result; "and in proportion as the atrophy progresses and the nerves in certain directions perish, we find cunei-form segments in which the substance, up to that time white, becomes from without inwards grey, there being, apparently, a production of grey matter."—*Virchow*.

The disease develops, in respect to time and location, very variably, but, generally, manifests precedence in the lumbar cord, and extending transversely and longitudinally, it lessens in extent and degree as we ascend, extending throughout the entire extent of the cord into the optic thalamus. In cases in which amaurosis has supervened, the entire optic nerve apparatus has been found presenting degenerative changes, analogous to those found in the spinal cord. The optic *nerves* are often the first and most intensely attacked, the metamorphosis diminishing as we approach the corpora geniculata. It begins, as in the cord, at the periphery of the trunk of the nerve and involves its more central fibres last. It is preceded by a manifest optic neuritis of the ascending form. McLane Hamilton entertains opinions diametrically opposite, asserting that "the change begins at the point of origin of the nerves and progresses towards the distal end." Though it may be impossible, in the present stage of histological knowledge, to find any anatomically demonstrable continuity of gray degeneration between the optic nerves and the posterior columns of the cord, yet, it is not a groundless assumption to assert that such a continuity virtually exists. If this be granted, then extension of degenerative changes from foci in one or more of the sections premised to other sections contiguous, is in entire harmony with other pathological processes. Prodromal symptoms



varied in character and gravity are presented during variable periods, extending through intervals of months or even years, before that, by the successive supervention of positive and characteristic symptoms, the physiognomy of the actual disease is portrayed with sufficient distinctness for recognition. Graefe has observed a case in which the disease, having commenced in the basal region, atrophy of the optic nerve occurred several years before the first symptoms of the spinal disease were manifested. In the case of our patient the disease, unsuspected and undeclared, in the seclusion of the same region of the cerebrum, must have existed from a period, long anterior to December, 1873, and had been insidiously making progress in local development, if not in extension, also; or, if initiated by the occurrence on that day and by the accident alleged, it must have matured with surprising and exceptional rapidity, for in March, when first examined, gray atrophy was not only demonstrable, but was far advanced—a period of less than four months from the date of its invasion. At the date last referred to, there was not the least sign present, objective or subjective, other than amblyopia, to indicate the grave significance of this symptom, or, of its ante-current relation to the spinal complications, which so speedily and in such rapid succession followed, in which all the cranial nerves, except the first, third, fourth, sixth and the last, were to a greater or less degree involved.

## Art. VI.—Apparently Conscious Epileptic Automatism with a Sequel of Aphasia.

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In the practice of Drs. C. W. STEVENS and C. H. HUGHES.

THE medico-legal importance which might, under certain circumstances, be attached to cases answering the description of the above caption, constitutes a sufficient justification for giving place to a completed description of a case reported for the *New York Medical Record* last August.

It differs from the somewhat similar cases reported by Hughlings Jackson, in the absence of the marked, though momentary, lapse of consciousness which characterized the latter, and we think no precisely similar case is recorded by Eccheverria or Abercrombie. The occurrence of this somewhat phenomenal case recalls to mind the position assumed by Biegel, ten or more years ago, accompanying a report of some cases to the *London Lancet*, that *unconsciousness is not an unvarying characteristic of epilepsy*, a position which, we think, as our observations of epileptic and especially of epileptoid disease, increase and become more precise, will be fully sustained.

The medico-legal significance of this case appears in the fact, co-existing with undoubted epileptic disease (often nocturnal), that there was *scarcely a perceptible departure from the individual's normal self in his deportment, in the unappreciable lapse of consciousness, the absence of double*

*consciousness, of exalted mental activity, hallucination, illusion or confusion of mind*, some of which phenomena accompany ordinary somnambulism, and any of which may precede, follow or supplement an epileptic seizure. Its undoubted connection with epilepsy, an attack of which, during sleep, may have preceded the somnambulistic display about to be recorded, reveals the true cause.

In the fall of 1867, Dr. M. got up after midnight, dressed himself, walked a quarter of a mile, to a certain place on his farm, to look at his stock. After he had been there a while, seemingly to him a very short time, he came to a realization of the fact that it was not the proper time for him to be at such a place; although conscious of every step he took to get there. He went back to his house, undressed himself and again retired to bed.

He was conscious of all that he did from the time of rising to dress himself, but did not realize the incongruity of his position and that he ought then to have been in bed. In 1875 he again did about the same thing, getting up and dressing himself, putting on his boots, clothing, cravat, collar and hat, and taking his watch from under his pillow and looking at the time—every act being remembered in the order in which it was done. He this time walked out into the street. When he fully came to a realization of the fact that he ought to have been in bed, he was standing by a fence looking over into a vacant lot. He knew he had come to the lot, but not that he ought not to have been there at that hour of the night, until after a time, it occurred to his mind that he ought to have remained in bed, whither he immediately returned. The patient had had many real epileptic seizures for months preceding these somnambulistic displays, his paroxysms having been so violent and so alarmed his second wife, to whom he had lately been married, that she parted from him.

This patient was put on treatment (bromide of calcium, lacto-phosphate of calcium and ergot), last winter, with the result of a complete arrest of his paroxysms except

the following, which we give in the patient's own words, he being himself a physician:

"Drs. C. W. STEVENS and C. H. HUGHES, St. Louis.

*Gentlemen:*—I will give you a short statement of my condition since I wrote you last. On May 17th, I was asked a question by a friend and I knew and understood perfectly what I was asked, but on trying to answer the question, I was unable to do so. I continued to talk for about twenty minutes, attempting to explain what I was trying to say. Finally, I walked half a block, took a drink of water, went to my office and felt all right. The next time I saw the man to whom I tried to explain the question he had asked me, I obtained all the information I could as regards my actions at the time alluded to. He asked me a great many things, to find out if I knew what I had said, and I remembered nearly all. The night of the 17th inst. I had an attack which was as hard as they used to be. These are all of the appearances of epilepsy that I have had, since I wrote to you six months ago."

It will be observed that this was not the usual *post epileptic*, but an *ante epileptic* display.

The possible medico-legal importance of this case, in view of its undoubted association with epilepsy, is obvious. But suppose the connection with epilepsy had not been so apparent, what would have been the results had some act been done by this same patient, during his apparently conscious somnambulism, involving him in a pecuniary obligation? Suppose he had signed a deed or done an act making him liable in law?

The gentleman has had no repetitions of these attacks up to this date. The Protean forms of epileptoid display incite to cautious thought. They have not in all their possible manifestations been yet recorded.

## Art. VII.—Case of Hemiplegia and Aphas- ia ending in Recovery.

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By A. A. HENSKE, A. M., M. D.

MRS. M., aged 63 years, Irish, and married, consulted me for the first time Sept. 1st, 1879. She was then complaining of a severe and continuous headache, and of a slight numbness of her whole right side. She, also, saw dark spots before her eyes, and had a great and continuous inclination to sleep. There were no signs of gastric disturbance. The pulse was regular, 70 per minute, and of an atheromatous feel. Patient had suffered of inflammatory rheumatism eight years ago, and had returns of it about four and two years ago. A physical examination of the heart revealed considerable enlargement and extensive valvular lesions. The patient appeared to be well nourished and inclined to obesity. I prescribed saline purgations and bromide of sodium in large doses. The described symptoms disappeared until Sept. 6th, when they returned and were more severe.

Patient now, also, complained of tinnitus aurium and nausea. She had become forgetful and incoherent. The movements of the tongue were embarrassed and the speech somewhat confused. Telling her story she continually wept. Asked why she wept, she said she did not know. The pulse was retarded (65 per minute); the heart's action irregular. At first, the face was pale and ghastly; afterwards, became flushed. Saline purgations

and bromide of sodium were again resorted to, also, a fly-blister was applied to the nape of the neck. Sept. 10th, the patient said that she felt well, and had, also, slept well. The bromide of sodium was continued at nights.

The morning, Sept. 14th, our patient was found lying in bed in a comatose condition. The right pupil was contracted, the left a little more dilated; neither reacted to the light. The face was flushed and puffed up with each expiration; the breathing was slow and heavy; pulse 48 per minute; the temperature of the axilla  $96^{\circ}$  F. There was complete inability to swallow. The reflex excitability was entirely abolished on the right side; lessened, but not entirely abolished, on the left side. To an injection per anum, containing a few drops of croton-oil, the bowels responded freely.

Sept. 15.—Patient was able to swallow liquids. The face was swollen, flushed and a little distorted, being drawn to the left side. The pupils were still contracted and did not respond to the light; but she could open and shut her eyelids. Pulse, 65 per minute; temperature,  $102^{\circ}$  F.

Sept. 16th.—Patient's condition about the same as the day before. Pulse, 70 per minute; temperature,  $103^{\circ}$  F.

Sept. 17th.—Patient appeared to be conscious. The reflex excitability of the right side still abolished; that of the left side nearly normal; patient would moan if the skin of the left side were pinched. Pulse, 75 per minute; temperature,  $101\ 1\text{-}2^{\circ}$  F. Iodide of potassium, 60 grains every six hours, was prescribed.

Sept. 18th.—Patient appeared to be quite conscious; could protrude her tongue which deviated to the right side; could open and shut both eyes, pupils normal and responding to the light. Pulse, 80 per minute; temperature,  $99\ 1\text{-}2^{\circ}$  F. The iodide of potassium continued in the same doses.

Sept. 19th.—Considerable improvement. Pulse, 80 per minute; temperature,  $98^{\circ}$  F. Patient took food freely. She had voluntary and normal discharges from the bladder and

bowels. The hemiplegia was well defined, being confined to the right side. The patient could move the limbs of the left side freely. The sensibility of the right side had returned, but was lessened; the limbs of that side were rigid, considerably contracted and slightly swollen. The distortion of her face was hardly noticeable, except when asked to protrude her tongue or when she tried to produce a sound. She was completely aphasic. The only sound she could produce was a deep moan. When questioned, she appeared to understand very well, and tears flowed from her eyes. The iodide of potassium was continued in the same doses.

Sept. 20th.—A rash had broken out all over her body, and there were other symptoms of iodism. The iodide of potassium was discontinued and the patient remained without medicinal treatment.

Sept. 28th.—The iodism had disappeared, and the general condition of the patient the same as Sept. 19th.

October 15th.—In regard to the hemiplegia there was no change for the better, but there was considerable improvement in the aphasic condition. She could say, "Yes, O yes, sister" (calling every one sister), and "tae" for tea. If asked questions, she began to weep. She, apparently, appreciated the meaning of words and sentences, uttered in her hearing, very well; she, also, comprehended the condition in which she was. She shook her head as a negation and nodded as an affirmation. The distortion of her face was hardly visible, even, when speaking; the tongue did not deviate when protruded. There was no irregular contraction of the muscles of mastication. The few words spoken were plainly pronounced. The aphasia was entirely amnesic.

Nov. 1st.—Aphasia about the same. Paralysis slightly improved, the sensibility nearly normal.

Dec. 1st.—Paralysis so far improved that she could slightly move the limbs and stand without support. Aphasia the same.

Dec. 15th.—Patient's vocabulary considerably increased,

she used "yes" and "no" correctly. Paralysis much improved.

Jan. 1st.—Patient could walk without support, but was not able to use her arm. Aphasia, also, much improved.

Jan. 15th.—The aphasia had nearly disappeared. The patient spoke correctly, but slower than before the attack. The mental condition appeared to be normal, although the patient was more irritable and fretful than she used to be, shedding tears profusely at the least circumstance causing annoyance to her. She had perfect motion of her right leg, can walk without difficulty, but could not use the right arm as freely as formerly.

Feb. 15th.—Patient's arm still slightly paralyzed, but she can use it.

The case just narrated is chiefly interesting in the fact that although seen when the premonitory symptoms of cerebral apoplexy could be recognized, and the usually recommended measures were resorted to, only temporary relief, perhaps postponement, of the excessive hæmorrhage was gained. Further, although after the hæmorrhage took place, no drugs, except the iodide of potassium, for four days were prescribed, nor electricity or other measures made use of, gradual recovery from the immediate effect as well as from the remaining hemiplegia and aphasia followed.



## Art. VIII.—Aphonia from Motor Paralysis.

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A CLINICAL STUDY.

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By W<sup>M</sup>. PORTER, A. M., M. D., of St Louis.

IT is well understood by most physicians that aphonia is but a symptom which may pertain to different laryngeal conditions. It is certain, however, that in many instances the precise nature of these conditions is overlooked, and thus a simple cause, undiscovered, may give rise to continued discomfort, if nothing worse. A laryngoscopic examination, while important in every case of loss of voice, does not always solve the question of diagnosis, for often all that is seen must be still further relegated, ere the definite cause is reached.

This is especially true in aphonia resulting from the paralysis of the motor nerves of the larynx. When such diseases as phthisis, syphilis and cancer invade the larynx, inspection may discover, at once, the cause of well-marked objective as well as subjective symptoms. In paresis of the laryngeal muscles as elsewhere, the cause of the impairment may not be, seldom is seen, and is often seated in a remote part of the organism. There is no more interesting illustration, of cause and effect, than the aphonia of a neurosis, general or limited.

In the clinical study of laryngeal paresis, the cases may be somewhat naturally arranged as due to:

- I. Lesion of the nerve centers.
- II. Peripheral disease.

III. Disease of, or pressure upon, the trunk of the motor nerve.

IV. Reflex irritation.<sup>1</sup>

I. In aphonia from paralysis resulting from central lesion. the cause is, generally, readily distinguished on account of evidence aside from that furnished by the larynx. Thus Mackenzie<sup>2</sup> describes a case of immobility of the "right vocal cord with other symptoms of diseased innervation—all confined to the right side." The motor loss may be upon one side, or both, dependant upon the amount and site of the central disease. In most instances the rootlets of the spinal accessory nerves are involved.

A year ago I examined Dr. —, a practitioner from an adjoining State, who, with a history of syphilis, contracted 12 years ago, presented evidence of the later effects of the disease. Among these were gummata of the right tibia, and clavicle and of the frontal bone. He had also symptoms of disturbance of the medula oblongata, among which was paralysis of the adductor of the right vocal cord with consequent aphonia. There was no other laryngeal lesion. Accepting the opinion offered that there was a localized disease of specific character at the base of the brain, he began anti-syphilitic treatment with great earnestness, giving close attention, also, to improving his physical condition by good food, regular exercise, etc. No local medication was used in the larynx, yet, within six months he had regained some power of phonation. From this time, his voice became stronger, and his general health being improved; he has this winter resumed the practice of his profession.

As a rule, however, these cases do badly; indeed from the very nature and seat of the disease we expect an unfavorable termination. Before leaving this part of our subject, it may be remarked, that the change of voice sometimes noted in the insane is, probably, frequently due to pathological processes in the brain, and is not always the result of the delusions or the constant vociferation of mental alienation as some have supposed, but rather a co-

(1) Others have classified the laryngeal paresis according to the muscles affected. The above arrangement is more appropriate in these columns.

(2) Hoarseness and Loss of Voice, p. 29.

existing condition, though proceeding from the same morbid cause.

II. A much more pleasing group, so far as prognosis is concerned, is that in which the paresis is peripheral. This condition is always bilateral—the result of such direct laryngeal injury as often follows catarrhal laryngitis, or in rare cases of diphtheria, or still more rarely succeeding the inhalation of irritating vapors. I have been fortunate in meeting with the following remarkable instance of this class :

Mr. H—, aged 30, in general good health, was examined on account of aphonia of long standing. His history was that eleven and a-half years before, while in the army, he had taken a “severe cold;” that he suddenly lost his voice, and had continued voiceless. He was discharged from service and had been living at home ever since. His habits were good and he showed no evidence of organic disease; his physique was unexceptionally fine. He had abandoned all thought of recovery of his lost function; but indignant at the suggestion of an acquaintance that his condition was the result of syphilis, he desired laryngoscopic testimony to assist in refuting this assertion, as he had since married and was a father.

After a careful examination I found not only no organic lesion apparent, but also little failure of motion. When he attempted phonation, the vocal cords approached the median line, yet leaving a narrow space between them, sufficient for the column of air to pass through without producing vibration. In other words, the larynx was normal in every respect, except a very slight bilateral paralysis of the adductors, just enough to produce aphonia. The immediate result of this examination was satisfactory, it proved a good moral character—so far as his throat was concerned—and gave promise of a return of voice.

Faradization was applied directly to the cords, with the pleasing effect of completely restoring the voice in two days. During the first day there was feeble vocalization, which became perfect on the subsequent day. On account of the long continuance of the aphonia and the short time of treatment, it was not supposed the change was permanent; but since then—five years ago—his voice has been faultless, and there was no further treatment of any kind. Had there been complete paralysis of the

affected muscles, in this length of time, doubtless, there would have been atrophy of both muscles and cords; as it was, the movement was all but complete, and the nutrition of the parts unaltered.

In some respects this is a unique case, and yet, in others, a typical one. Here, as often, there was slight peripheral paralysis—the sequel to the laryngeal inflammation of his camp life—the nerve impulse was not sufficiently evolved, and the muscles did not act with normal power. The result shows that this was an exceedingly simple case, and in cause, condition and indication for treatment there are many that resemble it. As a rule, these cases of peripheral paralysis yield readily.

III. Aponia may also result from pressure along the course of the motor nerves of the larynx, notably, of the recurrent laryngeal of either side. In such cases there is, also, paralysis of the adductor muscles of one side—rarely of both. Though most of these are due to a grave condition, as aneurism or malignant disease, and sometimes to pulmonary consolidation, yet, now and then an exception occurs.

Mrs. D—, aged 25, of strumous habit but fairly well nourished, lost her voice a year previously to applying for treatment. An examination showed paralysis of the adductor of the right cord. There was an enlarged lymphatic gland lying in the carotid triangle in the course of the recurrent nerve. It was concluded that this was the cause of the aponia, especially, as the enlargement of the gland was co-incident with the occurrence of the aponia. Vessication over the gland was employed, and finally a few drops of acetic acid were injected by the hypodermic syringe, into the substance of the neoplasm, at intervals of three days for a fortnight, when softening took place and resolution followed. When the pressure was thus removed from the motor nerve, the voice returned, at first weak and unreliable, but gradually improved and soon became perfect.

A similar case, so far as the laryngeal conditions were concerned, was that of a child, six years old, under the author's care, at the London hospital in 1874. It was admitted with far advanced marasmus, and had

been aphonic for two months. An imperfect view of the glottis was obtained, but enough to see that there was unilateral paralysis of the adductor muscles of the right side. The patient soon died, and at the autopsy a small and very hard gland was found completely surrounding and compressing the right recurrent nerve.

I have met with one case of aphonia caused by a goitre, which evidently interfered with the motor supply of the larynx, and was only relieved when the goitre was reduced by the injection of iodine.

But it is needless to multiply examples of this kind. The plain inference from those already cited is, that aphonia may occur as a result of pressure upon the recurrent laryngeal nerve, and the indication for treatment in such cases is the removal of the interference.

IV. Not infrequently loss of voice is the result of reflex irritation. Many of the cases of so-called "hysterical" aphonia are caused by an undue excitement of the sympathetic, through disease affecting some of its branches. It is a matter of both interest and importance to note the intimate relation existing between the sympathetic system and the pneumogastric nerve. Through irritation of the former, we sometimes find the latter so influenced, that the cardiac rhythm is altered or spasmodic contraction of the bronchial tubes induced,<sup>3</sup> or from the same cause the function of the recurrent nerve may be so impaired as to produce paralysis of the laryngeal muscles. Cases of this kind occur in the practice of most physicians, and when recognized are generally susceptible of relief. Oftentimes the aphonia disappears without direct treatment when the distant cause is modified or removed. Many of the pretended miraculous restorations of the voice have been due, simply, to the return of the normal condition of some part of the organism in which was the disturbing element—perhaps unnoticed.

I am willing to go further than this and state my belief, that there are few cases in which aphonia is simply due to an emotional exaggeration rather than to a definite,

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(3) See report of author's cases. New York Med. Rec., Oct. 11th, 1879.

though often remote morbid cause. Dr. Englemann<sup>4</sup> has described the hystero-neuroses of the larynx as occurring in a mild form "in young girls, but at times it becomes a source of great annoyance. Examination will in such cases reveal a healthy larynx, but, generally, flexion or stenosis and painful dysmenorrhea, sometimes uterine catarrh."

The objection has been urged, that reflex irritation would stimulate muscular fibres to contract, which in the larynx would produce approximation of the cords and consequent dyspnoea. Even upon this theory we would expect the same phenomena, for opposed to the powerful abductor muscles of both sides, we have but a single true adductor, the arytenoideus proprius and the crico-arytenoidei laterales which act obliquely. More probably, however, the paralysis is due to over stimulation.

It is needless to here detail cases of aphonia from reflected cause. The writings of Fordyce Barker,<sup>5</sup> Mayer,<sup>6</sup> Holden,<sup>7</sup> Hegar,<sup>8</sup> Hughlings-Jackson,<sup>9</sup> Brown-Sequard, the essay<sup>4</sup> already quoted and many others, teem with illustrations of perverted functions of different organs from distant irritation, while accomplished laryngoscopists have added to the testimony. Though we may not as yet understand how an impression from a deflected uterus or diseased ovary, may reach the larynx and interfere with its function, yet the fact remains.

These cases are cited, not as showing special skill in treatment, but as instances of the amenability of some forms of aphonia to measures addressed to the cause. In conclusion, the thought may be repeated—it is not enough that the laryngoscopist discover that in any case the aphonia is due to paralysis of one or more of the laryngeal muscles; it is only when the cause of the motor impairment is found, that he can expect to institute means to a successful termination.

(4) *The Hystero-Neuroses*. Gynecological Transactions, 1878

(5) *Journal of the Gynecological Society of Boston*, May, 1872.

(6) *Beitr. Z. Geburtsh. u. Gyn.*, iii. 3. Sitzungs-Berichte.

(7) *New York Med. Jour.*, Aug., 1877.

(8) *Wiener Med. Presse*, 1877, Nos. 11—17.

(9) *London Hospital Reports*.

## Ärt. IX.—Salivation in the Insane.

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By Dr. REINHARD, K nigslutter.

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*Translated from the "Central-Blatt fur Nervenheilkunde, Psychiatrie und Gerichtliche Psychopathologie."*

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By EDWARD W. SAUNDERS, M. D., of St. Louis.

I have been unable to find in medical literature more than a passing mention of this subject; generally, it has only been noticed as a symptom of little importance in the history of a case; and yet, every one who has had much experience with insane patients, will allow that salivation is not at all uncommon amongst them. Often, salivation is found to exist in five or six per cent. of the inmates of an asylum; still it would be erroneous to view them all alike. It would be better to classify them into three groups, arranged according to their etiology, leaving out of the question, of course, all those cases in which salivation is caused by a mouth or throat affection, or by the use of mercury.

In the first group is classed very idiotic patients, with weakness approaching to paralysis, and paralytics; in the second, patients with a mania for self-destruction by poison and obstinate (violent) refusal of food; in the third, which is the largest, patients with primary and secondary mental alienation, in whom there is a condition of irritation in the domain of the sympathetic, seemingly always having its origin in the genital apparatus.

In all the salivation may be of any intensity, but it is always, both for the attendants and the patient, an unpleasant and often a very troublesome symptom, that in many cases has a directly pernicious effect upon the system.

If now we examine more closely into the first group of cases, we see at once in their general condition the cause and the explanation of this symptom.

Here we have insane patients whose mental and physical condition is very low; in whom the functions of vegetative as well as of animal life have been impaired; they are patients in the lowest condition of cretinism, or last stage of idiocy with paralysis, or rather of the general paralysis of the insane. In them we see various manifestations of the imperfect discharge of the functions, having the character of paralysis—for instance the livid hue and coldness of the extremities; the small, mono-crotic, slow pulse. We cannot be mistaken, then, if we attribute the salivation in these cases to the vaso-motor paralysis which manifestly exists, aided by the co-existent hydræmia. We see a confirmation of this view in the fact that some of these patients, on account of weakness or paralysis of the muscles of the lower part of the face, especially of the labial muscles, breathe all the time through the mouth, thus causing dryness of the mucous membrane of the mouth, which in turn, excites the salivary glands to abnormal activity. We see an analogous phenomenon often in people who are not insane, but who, during sleep, breathe through the open mouth. An additional cause is to be found in the habit that many of this class of patients have of putting irritating or hard substances in the mouth, and sucking or chewing them. From what has been said, we would expect to find that the saliva of this class of patients is thin and watery, which is also a fact. To what extent this loss of saliva is detrimental to the system, cannot be proved, but it is a factor that should not be forgotten in giving the prognosis as to the length of life. Of course there can be no rational treatment of these cases of salivation.



[The excessive salivary secretion of such of these patients as eat, indifferently, plaster, paper or bits of clothing, may be materially restrained by adroitly supplying them, as we have sometimes done, with small pieces of alum, astringent woods and vegetable extracts to masticate *ad libitum*. A diet of persimmons between meals would not be contra-indicated, though we never tried the latter.

Syringing of the buccal mucous lining with a solution of plumbi acetat, has proved beneficial in some of these cases, where the psychical condition was not such as to contra-indicate the necessary manipulation, namely: where pre-existing delusions were not aggravated, or new ones excited, by this attempt at local treatment.—ED.]

In the second group the cause of the salivation is a totally different one. Here there is a condition of irritation of psychical or cerebral origin, a process that might be classed, generally, amongst the "conscious reflexes." These patients imagine constantly that they are forced to take bad-tasting, injurious or even poisonous compounds—they taste these properties plainly and are then unable to get rid of the taste; and now the same thing happens in them that occurs in many healthy persons when they think of some abominably-tasting medicine, or, perhaps, dream of biting into a green persimmon (schlehen)—the saliva flows freely and they must spit it out constantly. Besides, the flow of saliva is increased by the efforts of the patients to get rid of the remains of the poison to be found between their teeth, in the cavities of their teeth and the buccal cavity, or else of the illusory bad taste. In their fruitless endeavors they keep the tongue moving about in every direction in the mouth, pick their teeth and search all the corners of the mouth energetically with their fingers. In this way the mucous membrane of the mouth becomes, finally, very much irritated. At first the saliva, in this class of patients, is thin and watery and seems to be chiefly secreted under the influence of chorda tympani nerve irritation (chorda-speichel), at least I have never been able to find many gelatinous masses in it. However, this watery character is gradually lost, as the mucous membrane of the mouth becomes more and more irritated, owing to the fact that its epithelium and that of the ducts of the mucous glands is mingled in greater quantity with the saliva. The secretion then becomes white and turbid and much thicker. This is more pronounced,

as the catarrh of the buccal and pharyngeal mucous membrane becomes more intense—an invariable consequence of obstinate resistance to food. When these concomitant affections are very severe, the saliva often becomes purulent—creamy—without diminishing in quantity.

The amount of expectoration from many of these patients is truly astonishing. I have seen some who expectorated to the amount  $1\frac{1}{2}$  to 2 liters in twenty-four hours. If to this amount is added the quantity of saliva that was swallowed with the food and during the short time that they slept, we have a quantity treble the normal amount. It is worthy of note that in many of these patients, although their minds are becoming continuously more and more imbecile with the decline of the disease and the diminution of the illusions as to poisoning, still the abnormal flow of saliva does not diminish so rapidly, but sometimes remains nearly the same from habit.

In the patients of this group the injurious effects of salivation upon the whole system are most readily seen and are easily explained. The digestive function already seriously impaired by the want of nourishment, the little that is taken having to be forcibly introduced, must certainly suffer still more from the want of the assistance of the saliva, which plays an eminent part in the chemistry of digestion. This effect could be renewed no doubt, by giving the patients only such food as can be digested without the aid of the saliva. By this means, however, as much would be lost in one way as could be gained in the other, if we take a larger view of the subject; for if the patient were fed upon exclusively nitrogenous diet, the hydræmia already existing, owing to the salivation, would be still further aggravated by the increased loss of water from the kidneys.

Accordingly to this class of patients suffering from salivation and obstinately refusing nourishment, it is best to give food containing as much fat as possible, avoiding the amylaceæ. These indications are best fulfilled by using unskimmed milk, sweet or sour, and, indeed, this article of diet cannot be praised too warmly. Of course

this regimen is greatly assisted by frequently giving the patients water to drink. In order to hinder, or at least limit, the production of bacteria and consequent fermentation in the *primæ viæ*, chlorate of potash should be given internally, in addition to the local treatment of the mouth and pharynx, with a salycilic acid solution, used very frequently. The chlorate of potash is given in his milk or in drinking water. In addition, it would be advisable to treat the mucous membrane of the mouth by the topical application of mild astringents, such as Decoct. cort. quercus, or a weak solution of tannin. In many cases this treatment succeeds in reducing the flow of saliva. Subcutaneous injections of morphine may be used, symptomatically, in order to combat the mental, or rather, cerebral irritation, which is the prime cause of the refusal of food and the salivation. To be effectual, the dose must not be too small, and it is advantageous to combine a small quantity of atropine with the morphine. I must, however, confess that in the majority of these cases I have had no lasting good effects from morphine, and the patients soon begin to bear it badly.

I will now describe the third group of cases of salivation of the insane. I have already said that this is the largest group, and in it by far the greatest number of cases are females. Whilst in the cases belonging to the first two groups the saliva is more or less watery in character, in these cases we find it, generally, thick and glairy—the quantity, too, is never so great as it is in some cases belonging to the second group. Still, even in these cases under consideration, the quantity of saliva, is, at times, not inconsiderable. It is at first as clear as water, but after the affection has lasted for some time, it becomes white and turbid, from the presence of glandular elements in larger proportion. Upon more careful examination the secretion is found to contain an abundance of gelatinous masses, which accounts for its tenacious character. In a word, we find in these cases a considerable increase, both relative and absolute, of the so-called sympathetic

saliva (saliva secreted under the influence of the sympathetic). This points to a condition of irritation in the domain of the cervical sympathetic, and the next question is whether these patients do not present other symptoms, having a similar origin. Such is the case, for almost without exception, the pupils are found to be dilated and re-acting very sluggishly to the light. The amount of dilation, too, is in proportion to the severity of the salivation. When the latter becomes periodically worse, as often happens in these cases, the mydriasis also increases in the majority of them; in addition there are signs of irritation of the cardiac sympathetic, and the pulse becomes somewhat smaller and harder. Examining into the source and cause of this, sometimes more, sometimes less, intense and extensive irritation of the sympathetic, we obtain the same results in every case. Patients of this class invariably suffer from irritation of the genital organs—the majority of them are masturbators. In the few male patients that belong to this class, this is the only apparent cause for the irritative condition of the sympathetic nervous system. In proportion to the extent to which they indulge in this vice at different times, do they manifest these disorders, especially salivation, in the domain of the sympathetic, to a varying degree. The same is true of the female patients. In them however, besides the central genital irritation that is superinduced, leading to the practice of masturbation, there is peripheral irritation in the genital system, dependent partly upon physiological processes in these organs, and partly on pathological changes. In reference to the form of these causes (physiological processes) V. Krafft-Ebing, in his work "Investigation upon the Insanity of the Menstrual Epoch (*Archiv. fur Psychiatrie*, Bd. VIII. Heft. 1) in several places mentions the occurrence of salivation at the menstrual period, without giving any opinion as to how this symptom is to be explained. I can confirm his observations on this point from my own experience. So far as my observations extend, these

women are generally masturbators. In those who are masturbators, there is usually some degree of salivation in the intermenstrual periods. Undoubtedly, then, at the time of menstruation both symptoms become much worse. Only in exceptional cases does it happen that the salivation comes on for the first time with the catamenial flow, not preceded by masturbation. Moreover, I found that when menstruation was the exciting cause of the salivation, or aggravated it, if already present, there was always at the same time more or less excitement existing, frequently in the form of nymphomania. In these cases the explanation of the whole train of symptoms is probably as follows: The growth of the Graafian follicle and its bursting, in conjunction with the greater turgescence of the internal organs of generation brings about in the sympathetic system, a more intense and widespread state of irritation than normal. Certainly we must presuppose an unstable nervous system, and this in practice is found to be almost invariably the case, since those who are affected in this manner are generally individuals possessing a strong predisposition to nervous and mental disorders. In reference to the remainder of the female patients belonging to this class, we find that they are nearly all cases of perpueral insanity, or of insanity from lactation, in which there are recognizable pathological changes in the genital apparatus. Here there can, generally, be found erosions at the external os, a moderate degree of hypertrophy and flexion of the cervix, evidences of sub-acute or chronic metritis, or else catarrh of a portion or, of the whole, of the vaginal mucous membrane. In these patients the irritation thus produced becomes often so intense that they are continually manipulating with their genital organs. They often lie in an ecstatic state, with a smile of supreme happiness upon their faces, and reciting obscene verses. The pupils are very widely dilated, the eyes brilliant, the pulse rapid and hard, the face somewhat pale, while salivation is present in proportion to the intensity of these

symptoms. With reference to the prognostic value of salivation in these cases, it is a less unfavorable symptom in cases belonging to the third class than it is in those of the second; since in the former the appetite and digestion are generally unimpaired, and only occasionally do they refuse food for a short time

However, even in them, severe salivation must, in the course of time, exercise an unfavorable influence upon digestion, assimilation and tissue metamorphosis. The bad effects will be more lasting in proportion to the extent to which the other debilitating influences are at work, whether masturbation or pathological changes in the genital organs or both. In this class of cases of salivation, we can accomplish most by treatment. Besides watching these patients and giving them something to do to prevent them, or rather hinder them, as much as possible from masturbating, we can also successfully use drugs to control the irritation of central or peripheral origin, existing in the genital organs, and, secondarily, in the domain of the sympathetic. Morphine, with or without the addition of atropine, used subcutaneously, has a happy effect in many cases, especially in those in whom the irritation seems to be entirely of central origin. In many cases in which the salivation was dependent upon menstrual excitement, or else was aggravated by it, bromide of potassium, in large doses, as high as 6.00 *grammes* (one and a half drachms), per diem, was of great use. In addition, I have tried the subcutaneous employment of camphor, and have sometimes had good results from it, while hypodermic morphine in these cases nearly always failed to effect any good result. I have used both these drugs, especially the former, in the salivation of the puerperal insane, and of the insane from lactation. At the same time, in these cases, which rarely fail to show morbid changes in the genital apparatus, a rational local treatment accomplishes the greatest good. In reference to vaginal injections, I give the decided preference over all others to a 2 % solution (9 grains to the fluid ounce) of carbolic acid. Under this treatment, the salivation soon

begins to improve. I cannot close this article without saying that these three types of salivation in the insane are not always separatable in practice, since, in a few cases, it happens that to the causes at work in the first and third classes, those mentioned in the second may be added for a time. I have never seen any other modifications of these types. The possibility mentioned, is very exceptional in cases belonging to the first class.

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## Art. X.—Reflex Cardiac Gangliopathy with Hereditary Diathesis.

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By C. H. HUGHES, M. D.

NOTWITHSTANDING the great advance that has been made in the direction of a just recognition of the ganglionic maladies, since Edward John Tilt, in the midst of an excellent contribution to the pathology of the ganglionic nervous system (*Change of Life*, 3d ed., p. 129, anno 1870), reproached the Profession for looking upon the latter, "in a pathological point of view, as a *terra incognita*, and neglecting its diseases, or very incompletely considering them, in systematic works on pathology, and scarcely better treating them in works on nervous diseases," and notwithstanding the later appearance of Milner Fothergill's invaluable treatise on the "Neurosal and Reflex Disorders of the Heart," added to Tilt's own inestimable book, and some of the still more recent very sensible utterances of Austin Flint, Jr., in this country, on cardiac diseases, have greatly atoned for the

sins of omission charged on the Profession in the above quotation, the ganglionic disorders of the heart are not yet so generally recognized as to render further clinical confirmations of them unnecessary.

It, doubtless, yet seems to many, as it did to Dr. Tilt, quite "incomprehensible that so much vital force for good or evil," as both physiological and pathological testimony confirm, "should be centralized in those little irregular lumps of nervous matter, and in sundry tangled skeins of nerves, the geography of which, like the polar regions, is differently mapped out by successive observers," but while it seems incomprehensible to this careful clinical observer, his experience has taught him, as it has others, as well as the physiologist, that "these knots of nervous matter and these tangled skeins of nerves no less certainly control the blood vessels, and are indissolubly connected with the supreme power which guides the processes of healthy or diseased nutrition," and preside over certain deranged organic movements which are called functional disorders.

It would be interesting, though not as we conceive profitable, to here discuss the manner in which the three cardiac ganglia—of Remak, Bidder and Ludwig—are affected, and to trace their sympathetic connections, but as the purpose of this paper is only clinical and its object brevity, we relegate this problem to the reader.

A professional man, twice married, aged forty-five years—but looks younger—one of twin brothers, and of a family of eleven children; has always been strictly temperate; habituated to no narcotic or stimulant, save coffee, and to this not immoderately. Except an attack of dysentery and jaundice, of short duration, about sixteen years ago, and an occasional malarial chill since then, his general health has been very good. He is a little above medium stature, well built, of good weight and healthy appearance, eats heartily, sleeps well and abundantly and feels well generally, except some dizziness at times, and an occasional



nightmare. Has had no dyspepsia. Has one living epileptic child. His wife, the child's mother, died of cancer.

His father lived to the age of 80 years, and died of senile decline; though he had paralysis agitans for twenty years preceding his death. His mother died at ninety years of age, without appreciable disease. He never knew of either of his parents having had a physician, *though his father's pulse used to intermit.*

This gentleman *had a brother whose pulse intermitted from childhood*, who died at the age of twenty-two. His twin brother's pulse became intermittent in consequence of drinking tea, but took to behaving properly on the abandonment of the beverage. A sister, now at the age of sixty-eight years, has had paralysis agitans. Another sister, aged 52, and a brother, aged 40, are quite healthy. His twin brother is very "nervous and fearful." He always used to feel that he would be grabbed by a dog; and on driving down a hill would fear that the breeching would break or that the team would upset or go over a precipice. For several years the patient has had a gradually increasing hydrocele of the right testicle.

About the first of last July he felt some headache, and was, in consequence, led to examine his pulse, when he discovered an intermission of the second and sixteenth beat. About the middle of July he consulted me, when I also detected irregularity, every eighth beat omitting. No sphygmographic trace was taken. Pulse beats and heart beats synchronous. He never could detect any irregularity of pulse till this month. He thinks mental strain, may have been a factor in causing the resultant irregularity, but his easy temperament and satisfied manner of taking life seem to contradict this hypothesis.

Possibly, also, the contemplation of matrimony, which he was at that time considering, may have been another factor, but I am inclined to think that the exciting cause of the cardiac disturbance proceeded mainly from below

upwards, rather than from above downwards, and was due to irritation of one or both testicles—the result of distension of the right vaginal tunic and pressure on the testicles.

The gentleman was married in August. His heart troubled him a great deal in his bridal tour; but it is now, Jan. 26th, quite regular, though more frequent and excitable than normal. His headache has greatly diminished. To-day his pulse, on first examination, after a moderately brisk walk, was 96; on applying the sphygmophone, an instrument that was new to him, his pulse immediately, thereafter, increased ten beats per minute.

The gentleman says he was, from the death of his last wife to his recent marriage, a continent man. It is not improbable that his improvement is, in a great measure, due to the regular natural depletion of the testicles and seminal vesicles, and to the diminution of scrotal distension and pressure on the testicles. But whether we consider the irritation as having traversed the sympathetic chain and chord to the cardiac ganglia, from the *testicles* or from the *brain*, or both, the exciting cause of the heart disorder was reflex.

This case was referred to our friend, Dr. Wm. Porter, whose proficiency and interest in the exploration of cardiac phenomena, at once suggested him as the proper person to conjointly examine it. The result of his examination, therefore, shall herewith supplement our description, and dispense with further detail by us. The conviction that there existed no structural heart lesion, was communicated to Dr. Porter, at the time the case was sent to him.

“ST. LOUIS, Sept. 27th, 1879.

DEAR DOCTOR: At your request I examined Dr.— a month since. There was no direct evidence of cardiac lesion, though the functional disturbance was marked. Pulse 110—including time for a missed beat once in eight—and compressible. The intermission and frequency were not influenced by gentle exercise or position. The transverse line of cardiac dullness was 2 1-0 inches. First sound of the heart, short, abrupt and indistinct, not dull and heavy, as is usual in hypertrophy; second sound, well defined and somewhat heightened. Neither a namic

nor valvular murmur. Respiration, 20—and normal. There was a trace of albumen in the urine and scales of bladder epithelium, but no renal casts were found.

To-day I again saw Dr.—— on his return from a short vacation. Pulse, 84, and almost normal in character, except an intermission, once in about twenty beats. When the patient's attention is suddenly directed to the cardiac movement, the intermissions are more frequent and the heart's action more rapid.

Respectfully,

TO DR. CHAS. H. HUGHES.

WM. PORTER."

When we consider how almost omni-present is that ganglionic chain which we call the sympathetic nervous system, and how intimate are its connections with the spinal cord and brain, and in what close *rapport* by these media of communication, are placed the ganglionic centers of the heart with those of the cerebrum, as well as of the generative apparatus, it is not at all strange that reflex cardiac disease should be extremely common, as, in fact, we find it to be, and manifest in the greatest variety of number and rhythm of the heart's beats. Influences from above downward—mental causes, such as excessive emotions, inducing palpitations and syncope, have been recognized from time immemorial, and the gastric and abdominal reflexes, as in dyspepsia, are nothing new in neural pathology.

The reflex gangliopathic disorders of the heart, too, connected with ovarian irritation in women of neurotic temperaments, confront us every day; and so commonly is cardiac irritation associated with genital excitation, that Tilt's experience confirms the accuracy of Schmideman, who has paid so much attention to nervous affections. The latter says, "so often as a young man consults me for cardialgia, I suspect onanism."—(P. 140, *op. cit.*)

We should not like to make so strong an assertion, nevertheless, we have now under observation a monorchid, seventeen years old, whose left testicle can be felt with the finger quite low down in the inguinal canal; whose heart is at times quite irregular and always abnormally rapid in its beats. The case above detailed may be

regarded as the analogue in the male of those reflex cardiac neuroses, which, in the opposite sex, begin in a wave of morbid irritation, starting in an ovary and going on to the heart. The cardiac difficulty would, probably, entirely disappear for the present, on the evacuation of the fluid from the distended scrotum, as we have advised, since it sustains the relationship to the disorder of exciting cause.

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## S E L E C T I O N S .

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### The Propositions of Dr. Arthur Ladbroke Wigan on the Duality of the Mind.

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**I**N 1844, Dr. Arthur Ladbroke Wigan put forth and, in a very ingenious manner, attempted to prove the following propositions which, in view of the present progress of cerebral localization and the acknowledged vicarious action of the cerebral hemispheres, are quite interesting reading, and we reproduce them, as the book is out of print.

1. That each cerebrum is a distinct and perfect whole, as an organ of thought.
2. That a separate and distinct process of thinking or ratiocination may be carried on in each cerebrum simultaneously.
3. That each cerebrum is capable of a distinct and separate volition, and that these are very often opposing volitions.
4. That, in the healthy brain, one of the cerebra is almost always superior in power to the other, and capable of exercising control over the volitions of its fellow, and of preventing them from passing into acts, or from being manifested to others.
5. That when one of these cerebra becomes the subject of functional disorder, or of positive change of structure, of such a kind as to vitiate mind or induce insanity, the healthy organ can still, up to a certain point, control the morbid volitions of its fellow.

6. That this point depends partly on the extent of the disease or disorder, and partly on the degree of cultivation of the general brain in the art of self-government.

7. That when the disease or disorder of one cerebrum becomes sufficiently aggravated to defy the control of the other, the case is then one of the commonest forms of mental derangement or insanity; and that a lesser degree of discrepancy between the functions of the two cerebra constitutes the state of conscious delusion.

8. That in the insane, it is almost always possible to trace the intermixture of two synchronous trains of thought, and that it is the irregularly alternate utterance of portions of these two trains of thought which constitute incoherence.

9. That of the two distinct simultaneous trains of thought, one may be rational and the other irrational, or both may be irrational; but that, in either case, the effect is the same, to deprive the discourse of coherence or congruity.

Even in furious mania, this double process may be generally perceived; often it takes the form of a colloquy between the diseased mind and the healthy one, and sometimes, even, resembles the steady continuous argument or narrative of a sane man, more or less frequently interrupted by a madman; but persevering with tenacity of purpose in the endeavour to overpower the intruder,

10. That when both cerebra are the subjects of disease, which is not of remittent periodicity, there are no lucid intervals, no attempt at self-control, and no means of promoting the cure; and that a spontaneous cure is rarely to be expected in such cases.

11. That, however, where such mental derangement depends on inflammation, fever, gout, impoverished or diseased blood, or manifest bodily disease, it may often be cured by curing the malady which gave rise to it.

12. That in cases of insanity, not depending on structural injury, in which the patients retain the partial use of reason (from one of the cerebra remaining healthy or only slightly affected), the only mode in which the medical art can promote the cure beyond the means alluded to is by presenting motives of encouragement to the sound brain to exercise and strengthen its control over the unsound brain.

13. That the power of the higher organs of the intellect to coerce the mere instincts and propensities, as well as the power of one cerebrum to control the volitions of the other, may be indefinitely increased by exercise and moral cultivation; may be partially or wholly lost by desuetude or neglect; or, from depraved habits and criminal indulgence in childhood, a general vicious education in a polluted moral atmosphere, may never have been acquired.

14. That one cerebrum may be entirely destroyed by disease, cancer, softening, atrophy or absorption; may be *annihilated*, and in its place a yawning chasm; yet the mind remain complete and capable of exercising its functions in the same manner and to the same extent that one eye is capable of exercising the faculty of vision when its fellow is injured or destroyed; although there are some exercises of the brain, as of the eye, which are better performed with two organs than one. In the case of

vision, the power of measuring distances, for example, and in the case of the brain, the power of concentrating the thoughts upon subject, deep consideration, hard study; but in this latter case, it is difficult to decide how far the diminished power depends on diminution of general vigor from formidable and necessarily fatal disease.

15. That a lesion or injury of both cerebra is incompatible with such an exercise of the intellectual functions, as the common sense of mankind would designate *sound mind*.

16. That: from the apparent division of each cerebrum into three lobes it is a natural and reasonable presumption that the three portions have distinct offices, and highly probable that the three great divisions of the mental functions laid down by phrenologists, are founded in nature; whether these distinctions correspond with the natural divisions is a different question, but the fact of different portions of the brain executing different functions, is too well established to admit of denial from any physiologist.

17. That it is an error to suppose the two sides of the cranium to be always alike; that on the contrary, it is rarely found that the two halves of the exterior surface exactly correspond; that indeed, in the insane, there is often a notable difference—still more frequent in idiots, and especially in congenital idiots.

18. That the object and effect of a well-managed education are to establish and confirm the power of concentrating the energies of both brains on the same subject at the same time; that is, to make both cerebra carry on the same train of thought together, as the object of moral discipline is to strengthen the power of self-control; not merely the power of both intellectual organs to govern the animal propensities and passions, but the intellectual antagonism of the two brains, each (so to speak) a sentinel and security for the other while both are healthy; and the healthy one to correct and control the erroneous judgments of its fellow when disordered.

19. That it is the exercise of this power of compelling the combined attention of both brains to the same object, till it becomes easy and habitual, that constitutes the great superiority of the disciplined scholar over the self-educated man; the latter may perhaps possess a greater stock of useful knowledge, but set him to study a new subject, and he is soon outstripped by the other, who has acquired the very difficult accomplishment of *thinking of only one thing at a time*; that is, of concentrating the action of both brains on the same subject.

20. That every man is, in his own person, conscious of two volitions, and very often conflicting volitions, quite distinct from the government of the passions by the intellect; a consciousness so universal, that it enters into all figurative language on the moral feelings and sentiments, has been enlisted into the service of every religion, and forms the basis of some of them, as the Manichean.

PROCEEDINGS OF THE PSYCHOLOGICAL SOCIETY, BERLIN.—*Translated by Edward W. Saunders.*

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*Dr. Laehr—Mechanical Restraint ; Gastrowitz—Treatment of Dread and Certain Contra-indications of Chloral ; Folk and Gock—Digitalis in Excitement.*

THE president, Dr. Laehr, thanked the members for their congratulations sent him on the occasion of the celebration of the 25th anniversary of the asylum, and referred, feelingly, to the sudden death of Koppe. The members, at his request, rose from their seats, in honor of the deceased.

Dr. Laehr then delivered an address on the question: "Is mechanical restraint allowable to physicians in the treatment of the insane; and if so, to what extent?" As follows:

Three years ago, at our 23d meeting, a similar theme was discussed. We were at that time assailed severely, owing to a misapprehension, and to the fact that the time had not yet come for a calm consideration of the subject. Our expression of what was then the prevailing sentiment, can be found in the very wording of the subject which was under discussion: "Cannot humanity, when carried too far, be of disadvantage in the treatment of the patients?" In the debate also this circumstance appeared to have exercised considerable influence. Perhaps this, too, is an unfavorable time for a discussion, but, at any rate, during the last year or two, the views upon the question have become clearer.

Even in England, where an original opinion, which runs counter to the received doctrines, makes slower headway than here, there have been several voices

raised against the hitherto received opinion, as we learn from the *brochure* of *Davies*. In America, the debates on this subject last year were very animated. The Association of South-West Germany has this subject for discussion at its next meeting. In the meeting in Vienna, on the occasion of the 25th anniversary of the asylum there, the extraordinary method was adopted of putting the question to the vote, and also the German society of Alienists has taken this subject for discussion at its next meeting in the Autumn. There are then sufficient reasons why our society should express itself with regard to this subject, and thereby render the discussion in our general meeting more productive of good results. It appears to me, for instance, that amongst us in Germany the opinions are not so radically at variance, that an agreement is prevented only by false assumptions, and if this be the case, an understanding could easily be reached. I will discuss the question whether restraint is allowable or not, in the treatment of the insane. In the treatment of other classes of patients, restraint is employed without a second thought, and in many text-books, on surgery for instance, astonishment is expressed that we should make such ado about employing it. We force a child to take its medicine, when it is in need of it and refuses it; we do not hesitate to plunge a typhoid fever patient into a cold bath, when his temperature rises above  $40^{\circ}$  C., even though he makes resistance; and many surgeons have no scruples about ordering a patient to be held and bound in order to operate upon him. Taking a patient to an asylum is putting a restraint upon him, and is done generally against his will, often by the use of force. We recommend, for scientific reason, that a patient should not be gotten into an asylum by the use of deception, but if need be, by force. We give him, within the asylum, the greatest amount of liberty consistent with the good government of the institution, and give him that plan of treatment which has been found to be the best for him. We carefully guard him against all causes of excitement while he is in the acute stage,—isolate him, even against his will. When he has become more sober, we begin often with psychological treatment, in addition to dietetic treatment. We attempt to induce the patient to do certain things, and to abstain from doing certain other things. The majority of patients, when within the asylum, comply of their own accord; in the case of



those who refuse to obey, the methods of influencing them are very various, and are determined, not only by the nature of their disease, but also by the means that are at our disposal. Sometimes a gentle word, sometimes a stern command has the desired effect; in one case, the promise of something to eat, in another, the prospect of obtaining a request. Many patients, though of mature age, are just like children in this respect. We call this method "moral restraint," the same that we employ in ordinary relations of life, whenever the duty is imposed upon us of governing some one, and it is the duty of the physician to induce the patient to carry out his regulations. There are cases in which this moral restraint is not sufficient. Under these circumstances, in private practice, the physician gives up the case, when the patient will not follow his directions, and the family will not force him to do so. In an institution we cannot do this, since there it is our duty not only to give directions, but also, in the interest of the State or of the friends of the patients, to see that they are carried out. At this point the opinions of medical men become divided. Moral restraint is approved of by all, but many are unwilling to resort to mechanical restraint. The latter is, undoubtedly, a two-edged sword, and is capable, when not employed in the right place in proper manner, of doing harm, by embittering the patient, while possibly, it may even fail to bring him into submission. However, the greater the experience, skill and self-possession of the physician, and the better the means of help at his command, personal and mechanical, as well as that afforded by the construction of the building, the less will be the danger of his making a mistake, and the sooner he will discover it, if he is so unfortunate as to make one. Every one has observed that there are cases, which, when left to themselves, get continually worse, while if their conduct is controlled before it is too late, they become more rational, and if curable at all, make a good recovery, or if incurable, their existence becomes at least a bearable one. Often the exercise of force on a single occasion only will be sufficient in inducing a patient thereafter to bate himself, to go out into the fresh air to take his meals, or to be cleanly in his habits. He sees his powerlessness, and makes no more resistance. Often he is glad that force has been used upon him, and that he is now able to eat, to bathe, to walk out, and to be cleanly.

There are some who would gladly obey, and long for some one else to supply the defect in their power of will. A recent example will illustrate this point. Frau E. came to us recently from an asylum, in which every patient is allowed, on principle, the greatest amount of freedom possible. She had been a torment to her attendants, through her discontent and her wailing. As this had lasted for several months, the superintendent concluded to recommend the friends of the patient to transfer her to another asylum, either from pity towards his nurses, or that he was principled against the employment of force. In her new quarters, the patient proved also a scourge to her attendants. After observing her for some time, and finding that she kept up her lamentations only from a force of habit, while she was perfectly able to stop it, if she would, I explained to her, that she could not remain in the ward reserved for quiet patients, unless she would behave herself, but that I would put her in another ward, where she could disturb no one. Evidently, she did not believe that I was in earnest, and kept on as before. I then had her brought into an observation ward by several female attendants, who succeeded in doing so without any trouble. In a few hours she became much quieter, and wished to return. Since she complied with the conditions that I had made, I granted her wish. This had to be repeated several times, but the intervals of quiet became progressively longer, and now she is convalescent; declared to be perfectly well by her friends, after repeated visits, and she is, moreover, as well as her friends; very thankful for the restraint that was put upon her, as such patients generally are. I need not add that such mechanical restraint should be employed only by order of a physician, and should be carried out by reliable attendants, under his personal supervision, if it is to effect any good result. This condition, however, is not different from that which is required in all medical treatment. If now, it is granted, that mechanical restraint is admissible in the treatment of certain forms of insanity, always, of course, by direction under the supervision of a physician; that, in fact, no asylum can get along without it, that, in reality, the conveying of a patient to a room, against his will, is employing restraint, granting this, it appears to me, that relatively, but small importance is attached to the question, whether this restraint shall be applied by the hands of attendants, or by mechanical

inventions. The only question is, to attain the object desired, whilst, at the same time, the patient is treated with the greatest possible consideration. That a safety, or, as many others term it, a restraint jacket, can be dispensed with, is proven by the experience of many asylums; and it is a fact, that in other asylums, in which non-restraint has not been adopted, from principle, it is seldom used, not a single time, perhaps, during a number of years. In my institution we have not used it for years. There are also, other mechanical appliances, and at one time, I recommended the wet sheet for some classes of patients. This can be used as an adjunct to the jacket. In fact, I know of no one in Germany who upholds the principle of absolute non-restraint. Even those who wish to abolish restraint, acknowledge that circumstances may arise that would justify its employment. I know of no one, either who is fond of employing it or would have it used in certain forms of insanity. To what extent it may be considered necessary in practice, will depend upon the ability, the tact, the experience, and the means at command of the physician. He must have the choice of the method which will be most humane to the patient, and at the same time accomplish the purpose of curing him. An abuse of this power is condemned, of course, but this objection can be made against any potent therapeutic means. It has been said that the question of non-restraint does not hinge upon the jacket now and then, but that the word expresses a system, in which a new spirit of humanity, and therefore, perfection in the medical treatment of the insane has been introduced. I cannot subscribe to this, since all the means which have been introduced to take the place of mechanical restraint, were in use before Conolly's time, and like all other innovations, they were slowly improved upon, and even now, have not reached perfection. I must lay the more stress upon this, because my career began just at the time when Conolly's labors became known in Germany. His system of non-restraint was not a new departure in the treatment of the insane. It was rather a consequence of the new impulse, which was given at the time when the treatment of the insane fell into the hands of physicians, when they began to live with them, to be in daily intercourse with them, to observe their diseases, and to see how they ought to be attended. This was the period when medicine ceased to be a school of philosophy,

and became a school of science. Since that time our department of therapeutics, like many other, has been slowly, but steadily developing, and in Germany it would be rather difficult to classify the asylums according to the question of non-restraint. The public itself, for whom the asylums exist, reposes confidence in them according to the standing of the physicians in charge, and to their means at their command, irrespective of the question whether they use restraint or not, where they may consider it advisable.

The speaker then left it to the society to decide whether the question should be further discussed. In consideration of the importance of the question, Ideler, Gastrowitz, Zinn, and Schaefer, as alternate, were elected to further investigate the subject, and report at the next meeting.

Gastrowitz: "Some observations upon the treatment of conditions of dread."

In the introduction to this address, the speaker called especial attention to the difficulty of forming a correct judgment in the use of therapeutic agents. He thought it would be better to limit our efforts at attaining a cure, based upon a certain theory of the manifestations of the disease. Starting from the better-known attendant symptoms of the (state of dread) fright; he analyzed the different modes of manifestation of the various, principal conditions of dread, which he stated could be best explained upon the theory of a diminution of tone in the medulla oblongata, which want of tone could be brought about either by central or peripheral causes. He spoke of the drugs hitherto in general use, and first of all, the narcotics—opium, morphine and chloral. The first two he considered to be so useful, because they improve the tone, and therefore acted not only as narcotics, but as tonics. Still there were many cases in which opium and its derivatives only restrained the dread, as the dam in the running stream, to let it break forth with greater violence afterwards. A small number of patients who become worse under the use of the same medicines, since after

long-continued administration, the symptoms of chronic intoxication appeared, and the novel sensations they experience arouse the dread anew. It would be desirable if the unqualified advocates of subcutaneous morphine would tell us their bad results also. In addition to the well-known contra-indications against chloral, the speaker added the following: 1. Extensive adhesions between the pulmonary and parietal pleurae, discernible in persussion. 2. A certain incapability of the nervous system to be influenced by the drug, shown by the absence of the symptom first described by himself, of contraction of the pupils. Such patients have moderately wide pupils; they get no relief at all, or only a short sleep, from ordinary doses of the drug—3 to 4 grammes. If the administration of the drug is pushed farther, they become suddenly cyanotic, and there is failure of the heart's action, and with these symptoms death might supervene, as he had actually seen in the practice of other physicians.

The intensified action of chloral, when small doses of morphine are given with it, is to be attributed to the effect of the morphine in diminishing the secretions—a fact proven by Moreau, in the case of the intestinal secretions, and by Cl. Bernard in the case of the secretion of the sublingual glands. In this way the chloral is forced to remain for a longer time in the body, and its action more or less intensified. *Therefore, large doses of morphine and chloral should not be given at once*, as is often done, for in this way fatal results may ensue. It is best, as advised by the speaker, ten years ago, to combine  $\frac{1}{2}$ –1 gramme of chloral with minimum doses of morphine, and administer this under careful observation for some time, but not for a period extending over weeks. Codein has the same effect as opium. Often, subcutaneous morphine, strange to say, does not have the same happy effect as codein or opium in much smaller doses, administered by the mouth, and here a change is of advantage. Digitalis he has found useless, though administered for a long time in medium doses. It is remarkable that in

conditions of dread, commencing with an accelerated pulse, it never once reduced its frequency, that is, it failed to display its physiological effect. Bromide of potassium, as is well known, is serviceable in cases in which sexual excitement is a cause of the trouble; the combination of it with extr. cannabis indicæ, as recommended by Clouston, he has not found of any advantage, owing, possibly, to the bad quality of the latter preparation. In two cases of emphysema, and in one of emphysema, complicated with a *vitium cordis*, he obtained striking results with iodide of potassium, as advised by Lee. He used a solution of the strength of 10:200—at first, with a little morphine added, afterwards, without the morphine. The dose was a tablespoonful, in sweetened water, two or three times a day. It is well to give it well diluted, as otherwise a repugnance for it, with loss of appetite is easily produced. The speaker ended by referring to the cold-water treatment, which he had not employed often, but from what experience he had had with it, he was inclined to think that during convalescence it ranked first amongst the therapeutic agencies.

Folk related a case that had come under his observation, in which, after the administration of digitalis, the patient became quiet, although the pulse remained as frequent as before. Gock said: "In Eberswald a number of observations have been made upon the effect of digitalis in conditions of excitement. Only those cases which were attended by an increase of the temperature and of the pulse rate, without a local affection to account for it, were benefitted by this agent."—Dr. Schaefer, *Allgemeine Zeitschrift für Psychiatric*, 36 Bund, 5 Heft, Berlin, March 15, 1879.

## La Menti di Carlo Livi.

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*Pci Dottori, E. Morselli e A. Tamburini.*

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The Memory of Carlo Livi by Doctors E. Morselli and A. Tamburini.

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Translated by JOSEPH WORKMAN, M. D., Toronto, Canada.

THE January number of the *Revista Sperimentale di Freniatria e di Medicina Legale* gives the conclusion of a compressed and eulogistic biography of the illustrious alienist, whose name adorns the heading of our present article. We have read, with warm gratification, this affectionate tribute of two sorrowing pupils to the memory of their venerated master, and we cannot but regret that our available space precludes the reproduction in our own pages of the whole memoir, for we cannot doubt that it would be read by every member of the American specialty of alienism, with fraternal interest, and not without profitable and encouraging instruction.

Carlo Livi, in that unsuccessful struggle for liberty and national independence, through which his oppressed country was doomed to pass in the memorable year of 1848, fearlessly entered the patriotic ranks of the revolutionists, as a common soldier. This spartan band, "on the 29th day of May fought with a valor worthy of their ancient fathers, but in vain, at Curtatone and Montanara; they were in numbers scarcely five thousand, badly armed, badly fed, badly commanded, and they were vanquished,

decimated by thirty-five thousand Austrians with fifty pieces of artillery. They struggled desperately through eleven hours, resisting the persevering renewals of attack by the enemy, who slaughtered many, and made few prisoners."

Such was the youthful experience of Carlo Livi, but he lived to see his country rescued from the iron grasp of the tyrants, and to become himself one of her most illustrious benefactors.

We must, however, take up the story of his useful life at an advanced period, after he had accomplished many valuable and much needed reforms in several of the Italian asylums for the insane; we now introduce the reader to the words of his eulogists, in the following translation, from the glowing Italian into our own inadequately representative tongue:

"But if such were the material benefits which the asylum of Reggio derived from the brief direction of Livi, greater, and perhaps better known, were the moral. In fact, through the exclusive actions of our venerated master, that institution became an important scientific center of psychiatric studies, for which, beyond the vast clinical material furnished by a large number of curable cases, the administration spared no expense necessary to endow it with all the means required for the experimental progress of our science. On the arrival of Livi, the asylum became the seat of a psychiatric clinique of the neighboring University of Modena, and the sagacity of the Director sufficed to obtain from the administration, the institution of practical positions for those young physicians who desired to dedicate themselves to psychiatry. At the same time, Livi, aided by the Hon. President of the asylum, the Deputy *Fornaciari*, requested and the minister of public instruction assented, that the graduates who had come out successful in the competition for governmental posts in the interior, and who wished to devote themselves to psychiatric studies, should be sent to the asylum to perfectionate themselves in the study of mental medicine. By this means the Hospice, the first of all in Italy, was raised to a comparative eminence among the principal scientific institutions, and the primary universities of the Kingdom, and it remains the only example in cultivated



Europe of a theoretico-practical school of psychiatry. For the better instruction, afterwards, of his pupils, Livi omitted nothing, and first of all he established a rich library of many select books, relating to the specialty, as well as of Italian and foreign periodicals: he undertook an important series of observations on the relations between epileptic and maniacal paroxysms, and the meteorological changes of the atmosphere; he instituted a pathological museum with a numerous collection of *crania*, and preparations related to the normal, and the morbid anatomy of the nervous system; he donated to the asylum a laboratory for observations, provided with instruments, the best adapted for somatic examination of the insane; finally, in order to compare the new times with the old—the present of psychiatry with the past—he collected the frightful apparatus used when, in the treatment of the insane, *force* held the place of *reason*, and he made of them a strange museum of mixed antiquities, where so much, alas! may be learned, that it would be for the decency of medicine, and the honor of humanity, that all should be consigned to eternal oblivion.

In the meantime Livi was preparing, in his mind, a new project, for the execution of which Italian science ought to be ever grateful. The medicine of alienism had already in Italy an excellent organ in the *Archivio delle Malattie Nervose e Mentali*, which, for almost a quarter of a century remained the only proof of scientific activity among Italian alienists; but it appeared to Livi, that to that activity a second field of exercise might be given, as the number of the schools had increased, and that of the cultivators of the new science appeared sufficiently augmented. On the other hand, there was, in Italian medical literature a void, rather shameful, which should be filled; *legal medicine* stood in need of a journal all its own, which might save medical legists from the necessity of begging space in other scientific periodicals, and might impart to the forum, that authority which is necessary for its ample and practical perfectionment. Livi was thus led to the founding of the *Revista Sperimentale di Freniatria e di Medicina Legale*, in which he purposed to apply to the study of psychical observations and to that of medico-forensic problems, that logical method learned by him in the traditions of the Tuscan school; that is to say, the method of the divine *Galileo*, the great *Redi*, and the illustrious *Buffalini*. The harmony between two sciences

which have so many points in common, their subjection to a sole objective and experimental method, the necessity for a community of cognitions and understandings, between physicians and jurist-experts, and finally, the reasons for the publication of this new periodical were expressed with eloquence, life and efficacy, in a preface which is certainly one of the finest productions that ever went forth from his splendid genius. Under such auspices the journal was hailed at its appearance with lively demonstrations of sympathy, and from the first it showed that it had in itself the elements of an independent existence, and of its future development. Certainly, it was to the name and to the authority of Carlo Livi, that it owed the validity and robustness of which it has always given proof; but that the *Revista* has met the wants of Italian science, has been clearly shown by the encouragements, praises, counsels and collaborations of such eminent men as *Carrara, Mancini, Schiff, Holtzendorff, Kraft-Ebing, Brierre de Boismont, Ullersperger* and *Brusa*. Of contemporary origin with the *Revista* was the *Gazetta del Frenocomig di Reggio*; rendered so attractive by its homeliness, conjoined with its brightness, its freshness of style and elegance of diction, and that ingenuous vivacity, with which the master pen, and the lively affection of Livi described so many good and pleasing things, and the persons and facts that gave lustre to the little world of his *hospice*. Of that golden *Gazetta*, it may well be said, that the beauteous mind of the physician, and the finely analytic spirit of the man of good heart, were conspicuous on every page, whilst an air of inimitable delicacy and profundity of knowledge, was shed forth from its every line.

From such valuable labors, it might be expected that his fame would augment both within and beyond Italy; and such was the fact. From all parts new honors and new demonstrations of esteem flowed in to him, alike from the Government, the alienistic administration and, finally, from his specialistic *confreres*. As his writings were sought after by psychiatrists and medical jurists, these enquirers were continually, both at home and abroad, in quest of his views of diseases, on practical psychiatry, and medico-forensic judgments. In the midst of so great and so various engagements, he still found time for his asylum duties, for the school, and for the *Revista* and the *Gazetta*, and over and above, for his original productions. At the Congress in Imola, so great was the

reverence of his colleagues, that in the first meeting he was, by acclamation, elected vice-president, although, from important impeding engagements, he was not yet present; and, still more, the Congress, which was forthwith to discuss the subject of transfusion of blood in the cure of insanity, adjourned the discussion because *he* was absent, who, "first, in Italy, had carried into operation" this potent modifier of diseased organism. Having subsequently arrived, he read his important memoir on "*Lypemania Stupida Curata Colla Trasfusione del Sangue*," exposing that classic case treated by him in the asylum of Reggio, probably the only one on record, with safe and precise result; he also presented his project "*Villa di Salute*" for the wealthy insane; and proposed for the consideration of the next Congress of alienists, the presentation of a theme on "*Asylum Agricultural Colonies*."

In the school of which he was the master, his profound knowledge, and that vigor, so distinctly Italian, with which his lectures were adorned, will not be forgotten. He did not, however, trust himself to casual improvisations, nor did he seek to capture the attention of his hearers, by addressing himself to their imagination rather than to their reason; on the contrary, with the modesty and sincerity which distinguish great minds, he followed the laudible custom of putting on paper, his principal ideas, adding to them accessory and pertinent observations, during the course of delivery. This habit of Livi proceeded in a great measure from his high respect for form, and he held to it in both the investment and the substance of his thoughts, regarding the Italian language, when its powers are understood, as adequate to the expression of the nicest modifications of thought, as well as of the experimental sciences. His language, free from distortion and pedantry, was simple and pure, and his ideas, thus clothed, acquired such a clearness and freshness, as to show to the life, all the serenity of his intellect, and to render partakers of it, almost unconsciously, all his hearers; and thus it was that their attention was held captive by a two-fold power, and that his instructions proved so profitable. We know not how otherwise to account for the fact, that he, although not gifted with that adapted talent required for inprinting on science imperishable foot prints by original discoveries or grand doctrinary systems, yet had the merit of enamoring so many youths with his beloved science, and of initiating a fruitful practical

and scientific movement, which must commend his name to posterity better than that of many superior to him in the novelty of their researches, and the individuality of their conceptions. It is the fact, that Italian psychiatry, to him at last was indebted for its organization, its amelioration, and we may say, for its whole moral reconstruction, and a great part also of the material requirements of insane asylums. The asylum of Siena, as we have seen, owed to him almost everything; St. Lazaro of Reggio had, by his advice, first *Zani*, and three and a half years afterwards, himself, as superintendent; St. Croce di Macerata was enlarged by one of his pupils, and was remade (in discipline) on the ideas and instructions of Livi; in the provincial asylum of Voghera, next, nothing was undertaken that did not emanate from the counsels and opinions of our master; finally, it is to be recorded that although very many reforms in the great asylum of Aversa originated in the natural genius and happy disposition of *Dr. Gaspare Virgilio*, yet not a few were by this last friend and admirer of Livi, derived from the asylum of Reggio. From all this it must be apparent how great was the diffusion of the ideas of our master, and how great has been the good effected by him, for the insane of Italy.

As regards the doctrinal part of science, whether the school founded by Livi has advanced Italian psychiatry, or seeds capable of germinating to useful fruit were sown by his instructions, it pertains not to us, his loving pupils, to speak; yet we well might say, that the teachings of Livi are conspicuous for their most happy eclectic character, for their safe direction, and, as we may well say, for their *Galilvan* exactitude. His school was really of such a character as to become the cradle of experimental, resting on logical method; it was not scientifically exclusive but placing above all authority, experience and observation, as "the sole, faithful and secure interpreters of nature," it nevertheless did not disdain those sympathetic conceptions and rational doctrines, without which the vast complex of the humanly knowable would run on in isolated rivulets unconscious of their real affinities, not only those most distant, but even the nearest; and hence must result general sterility. Exclusivism was in the estimation of Livi a defect; his potent genius carried him to the comprehension of vast speculative doctrines, as well as to minute, and sometimes, (permit us the word,) to

emasculate, analysis<sup>1</sup> of specialization. In medicine, as in science, he has himself told us, there must be speculators, divided into two classes: "the first is of those, who, of powerful synthetic genius, but also learned and expert in the science of facts, understand how to rise from these to certain laws governing them; which laws, if they do not express the ultimate reason of ideal knowledge, are yet, to him who duly values them, the ladder of ascent to that eminence." To this class Livi belonged, and certainly not to the other, composed of daring and strong speculators, who are richer in imagination than in intellect, and draw their inspirations to philosophise on nature, not from nature herself, but from their own brains. Livi, in short, followed in the steps of his master, *Puccinotti*, who, although not indulging in any other than the experimental philosophy, yet did not ignore the deductive method. If there is any part of medical science, in which this eclecticism of method is useful and necessary, it is certainly psychiatry, whether in the symptomatology of insanity, or in its medico-forensic applications.

As to the observance and the diagnosis of mental maladies, Livi, educated in the school of *Buffalini*, did not avail himself of any single criterion, it being impossible, in his opinion, to define any form, whatever, of insanity, basing our decision on an isolated and exclusive series of phenomena, and conveniently overlooking all others. Thus, not merely from physio-pathological study of the patient, but still farther from the rational valuation of all the symptoms, and an anamnestic exigesis, he drew the basis of those admirable expert judgments, which may serve as the applications of scientific data in particular cases of forensic psychiatry.

In the life and genius of Livi, yet another aspect would merit analysis and comment; and that is, his position as a medical expert in the tribunals, and a psychological observer in his relations to that most harmful of human aberrations—crime. On another occasion we shall speak of his influence on the doctrinal evolution of forensic cerebralism, to which he contributed by labors, highly applauded abroad, and by publications of numerous important cases. Accepting the onerous duty of reporting on the doubtful mental state of delinquents, or of the criminal insane (an undertaking often very difficult and always very weighty), Livi had a most elevated conception of the responsibility resting upon him in the presence

of justice and of science, and of solving to the very bottom, the problem of imputability; therefore, he never tired in investigating, in the most acute and profound manner, all the phenomena of the mind led astray by insanity or by passion. Expertly cognizant of the human heart, he possessed a singular keenness of perception in his psychological examinations, and an exquisite analytic faculty in his interpretation of the less prominent symptoms of mental alterations. Taught by long habit, he discovered in the insane, better than in the sane, certain lurking places of the soul, and it was his daily study of the psychical anomalies which led him to contend with so much ardor, and, for psychological reasons, for the abolition of capital punishment; not indeed that, as might be with others, his long residence among the insane, and his knowledge of their morbid impulses, had rendered him prone to justify too often criminal acts; on the contrary, if there was any forensic cerebralism in which he excelled, it was in his most sagacious detection of all simulations, however artfully exhibited. Profound, secret and impenetrable did he regard the masterhood of the intellectual functions, and, hence, so much the more in his observations of cases of forensic psychology, did he exercise his searching powers, testing the entire organism of the accused, and bit by bit exploring the whole psychical mechanism which he had before him; in such arduous and patient investigations he was unsurpassable. In his view, it is required of medicine not alone to heal and cure the infirm man, but in her application to juridical science, she must protect and defend him in his rights; therefore, two sacred duties are to be obeyed by the medical legist—that of the scientist and that of the citizen. Of this profound conviction and sincere sentiment of responsibility, Carlo Livi became the victim at the yet green age of 54 years. It was the year 1877, and never, perhaps, had brighter days shone on his life; glory, family, affections, position, esteem and universal respect, all smiled on him, and the rigid and powerful force of his intellect and his vigorous constitution, seemed to promise to him other rewards, more ample and well merited, of his hard labors. But in the May of that year he was summoned to Livorno, as an expert, in a very important case. Whether it was that the organic fibre, though

[*To be Continued.*]

CLINICAL AND NECROSCOPIC ILLUSTRATIONS  
OF LOCALIZED BRAIN DISEASE.

TUMOR OF THE PONS VAROLII.—Last year, Dr. Hirschberg reported in the *Berliner Medizinisch Psychologisch Gesellschaft*, the case of a child three years old, presenting paralysis of the left oculo-motor, paresis of the right oculo-motor of the right facial, and slight paresis of the right and lower extremities, visual disturbances, bilateral choked papillæ.

He diagnosed a tubercular neoplasm, mainly implicating the left half of the pons Varolii. After five months there were contractures of both right extremities with coreiac movements, both oculo-motors were paralyzed, the left especially, with bilateral atrophy of the optic nerve.

There was no disturbance of the sensorium. The autopsy showed a yellow, hard tubercle, the size of a walnut, in the left half of the corpora quadrigemini, extending over to the pons Varolii.

A SUGGESTIVE CASE OF HEMIPLEGIA AND APHASIA WITH AUTOPSY—Dr. A. A. Henske, physician to the hospital of the Little Sisters of the Poor, of this city, reported to the *St. Louis Medical and Surgical Journal*, for November, 1879, the case of an Irish railroad laborer, who had been struck on the left side of the head by an iron bar, causing unconsciousness for several days. On the return of consciousness, complete motor and partial sensory paralysis, with aphasia, were revealed. When the patient first came under Dr. H's observation, Sept., '77, the only word he could utter was "no," which he used both for affirmation and negation. His intellect seemed clear, and he made himself understood by nodding or shaking the head and by gesticulating with his left hand. His facial expression was intelligent and impressive. When asked his age, and an incorrect number of years were named, he said "no" accompanied by a *negative* turning of the head; but when the correct number of years were mentioned, he responded "no," with an affirmative nod.

Within the last two years his vocabulary increased considerably. He learned to say: "*yes, water, milk, God damn, left him alone* (meaning, let him alone), etc."

The paralysis, however, gradually increased; the patient grew apathetic and imbecile, had nocturnal epileptic paroxysms, with loud screaming spells; defecated involuntarily;

had extensive bedsores ; and, on the 9th of October, 1879, he became comatose, and on the next day he died. His age was 59 years.

He had no rheumatism or organic heart disease.

The autopsy revealed softening of part of the middle and posterior portion (second and third convolutions) of the left anterior lobe and of the anterior portion of the left middle lobe of the brain. The convolutions of the Island of Riel were destroyed, and the left corpus striatum was also affected. The softened brain substance had the appearance of a thick, yellowish, creamy liquid. Other parts of the brain appeared normal. There was no fracture nor depression of the skull, but the scalp over the affected region was cicatrized.

[We saw this patient several weeks before his demise, and noticed the improvement in his vocabulary.

In fact, the man had learned to speak before the fatal change, much better than would be inferred from Dr. Henske's brief description, and much better than can possibly be explainable, in view of the fatal sequel and the destructive cerebral changes in the brain which undoubtedly led to it, without assuming the gradual education of the opposite speech center to the performance of a vicarious function in the co-ordination of verbal expression. We then carried on quite a satisfactory conversation with this patient, in which he gave his name, named several things he liked to eat, and some that he disliked ; told how long he had been in the hospital, where he was born, and with some verbal assistance and prompting from us, gave something of his life's history besides.—ED.]

SOFT GLIOMA OF THE PONS AND CEREBELLUM—In the practice of Dr. Voorhies, and reported with other cases of cerebral disease by Dr. J. H. Mackenzie, in the *Cincinnati Lancet and Clinic* of Feb. 14th, occurred an interesting case of the above disease, the essential facts of which we here transcribe. The patient was a boy aged eight years, who, when first seen by Dr. Voorhies, had pain in the back of his head, ptosis of the left eyelid, unsteady gait, mouth drawn to the left side and vomited after eating. His pulse and bowels were regular, and his appetite was good. There was no anæsthesia on the side of the face. Head inclined to the left side. Sitting near his mother, he suddenly fell into her lap, and when helped up, he trembled greatly and could not stand. Vomiting and evacuation of the bowels followed,



after which he rallied. Three days subsequently, a similar attack occurred, from which he again rallied, but was clumsy in his movements, without appreciable intellectual impairment. At school he had darting pains in his head, often vomiting without apparent cause, and grasped things with difficulty with his left hand. A week later, the symptoms were somewhat aggravated pulse, 80 ptosis; of *right eye, none in left*. Three weeks after Dr. V. first saw him, his condition was much worse.

His countenance had a silly expression, and his mental capacity appeared like that of a boy three or four years old. He was garrulous, and his articulation was thick and drawling, but he seemed to understand anything that was said to him. He was playful and cheerful.

Three weeks after Dr. Voorhies first saw him, Dr. Mackenzie reports, that :

The special senses were not impaired, and general sensibility of limbs seemed normal. Eyes moved equally, the pupils were normal, no strabismus. No absolute paralysis anywhere. The movements of the limbs were quite feeble, particularly the left hand. He could neither walk nor stand, and his head seemed too heavy for the muscles supporting it. Ophthalmoscopic examination of the fundus of the eyes showed nothing abnormal, heart sounds were healthy, pulse 80, with fair force, and temperature normal.

He finally became quite helpless and remained in bed, amusing himself with his toys. His appetite was good but he did not sleep well; intelligence was about as before. Memory good, articulation indistinct; left hand helpless. Some power in left foot; strabismus in right eye; left pupil dilated; ptosis of right eyelid; on right side of face some anæsthesia; lies most of the time on left side; suffers pain in the back of head to the right of median line; pulse 72, irregular and slower; temperature in right axilla 98.4° sudamina over breast and abdomen. For the last week of his life he had complete anæsthesia on the right side of his face and left arm. Kept his right foot in motion most of the time. Until within two days of death his appetite continued good; his intellect and memory about as before. Two days before death his pulse increased in frequency to 120, his right foot was in constant motion, articulation became so imperfect that he could not be understood, though he seemed to understand. He died on the 10th of February.

Dr. Voorhies removed the brain and found disease of the pons Varolii, which part, together with the medulla oblongata, he sent to Dr. Mackenzie. The rest of the brain was quite normal.

The right side of the pons Varolii was much larger than the other and very soft, so that it flattened out from its own weight. The mass was diffluent and white. The softening involved the whole of the right side of the cerebrum to the medulla oblongata, and extended along the middle peduncle for some distance into the right hemisphere of the cerebellum,

The fifth nerve could not be traced into the mass any distance. The arteries of the membranes were not diseased.

Microscopical examination disclosed round and oval cells embedded in a granular stroma. Few of them were distinctly nucleated; most of them contained granular contents. The round cells averaged 1-3000 of an inch in diameter, the oval cells 1-1000 of an inch in their long diameter. The growth was by no means deficient in vessels, and the vessel-walls were in many places clearly implicated in the morbid process, containing distinct oval cells.

This was a case of soft glioma of the pons Varolii and cerebellum. The case is interesting, from the comparative rarity of this form of glioma, and its uncommon seat. The symptoms were somewhat distinctive, the unsteadiness of gait, persistent vomiting (although that is not an infrequent symptom of tumors situated elsewhere) and the anæsthesia of the right side of the face all rather pointed to the pons and cerebellum. A curious feature, in the history, is the changeableness of some of the symptoms: when first seen there was ptosis of the left eye, then of the right eye. In January there was no ptosis at all; and the same variability was observed in regard to the strabismus.

[A case similar to the above appears in a recent number of *Brain*, the New English Journal of Neurology.—Ed.]

#### FOUR NEW CASES OF ATHETOSIS.—By A. Brousse.

The first two cases were cases of so-called hemi-athetosis. In both, cerebral atrophy of childhood, hemiplegia of left side, and hemiathetosis of left hand were present; the second was subject to epileptiform attacks. They were distinguished from post-hemiplegic chorea, essentially, only by the slowness of the involuntary movements, and the restriction of these movements to the hand and foot. In the third case, one of double athetosis—which, according to *Oulmont*, alone deserves the name—cerebral atrophy and idiocy were noted. All four extremities participated in the movements. In the fourth and last case, the face and neck also exhibited the characteristic movements, which alternated with contraction of the knees and joints of the feet.

The author came to the following conclusions:

I. Athetosis is a symptom that may present itself clinically quite differently.

II. Whether single or double-sided it shows great likeness to chorea, of which it may be considered a variety. (See *Bourneville*, *Charcot*, v. *Fetzer* II. Abth. IV. Theil. Reporter.)

III. Transitions between typical athetosis and chorea are seen.

IV. Athetosis occurs in more or less completely different forms. Three principal forms may be distinguished:

1.—*Typical Form.* Involuntary movements persisting during rest. 2.—*Incomplete complicated form.* Involuntary movements only at intervals, or simultaneously with voluntary movements. 3.—*Mixed or transition form.* With the movements of the extremities are associated movements of the face, neck, and even other parts of the body. (Compare with this exposition the report of Dehn, in *Centralblatt*, Nro. 22, 1879, Reporter.)

V. There exists an, as yet, unexplained relation between cerebral atrophy and athetosis. *Goldstein*. Aachen.—(Extracted from *Montpellier Medical*, 1879, and translated into German in *Centralblatt fuer Nervenheilkunde, Psychiatrie und Gerichtliche Psychopathologie.*)—Dean.

CONTRIBUTION TO THE PATHOLOGICAL ANATOMY OF CHOREA.—By DR. C. EISENLOHR, of Hamburg.—Translated by Dr. D. V. Dean.

During my service in a general charity hospital, I had an opportunity to make a necropsy in a case of chorea in which the central nervous system—specifically the spinal cord—furnished a positive lesion. The case was that of a fourteen-year-old girl, whose chorea, according to the positive accounts of her mother, was congenital. The child had, from birth, exhibited characteristic choreic movements of the muscles of the face and head, and had learned only lately to walk, and imperfectly, but was of passably good physical and mental development. During a prolonged stay in the hospital during '75 and '76, the intensity of the choreic movements was much mitigated, and locomotion and speech were considerably improved. The abnormal movements of the extremities in no way differed from those of ordinary chorea minor, and the grimacing of the face continued. No paralysis. The heart was normal and the pulse always regular. In the year 1877, during a long residence of the patient at home under unfavorable circumstances, she had marked exacerbations of the choreic movements of the upper extremities, and, at the same time, strong contractions of the lower extremities set in. There were adduction of the thighs and flexion of the legs, so that the knees were drawn together with great force, pressing against each other, and walking or standing was absolutely impossible. Passive

resolution of the contractions caused considerable pain. In the Fall of 1877, while patient was suffering from remittent fever, ulcerous pneumonia set in, running a quick course and followed by breaking down and by intestinal tuberculosis; and, in the course of a few months, she succumbed. On section, the brain presented, macroscopically, nothing abnormal. In the cord, after artificial hardening, a sclerotic fleck was found in the right lateral column of the cervical portion, having its greatest area at the level of the third cervical nerve. Here the right postero-lateral column was visibly slimmer than the left. In a carmine preparation, the part immediately bordering upon the base and the lateral border of the posterior cornu, extending nearly to the middle of the lateral column, was intensely colored, the anterior half of the column remaining quite free. The external boundary of the degenerated part was not very sharp, but ran out in numerous processes along the radiations of the pia. The processes that lay mostly along side the posterior roots, bending outward, seemed to pass into them. The posterior roots and posterior cornu, with the rest of the transverse section of the cord, were entirely normal. The changed part was characterized, histologically, by a marked thickening of the neuroglia network with narrowing of the meshes, nearly complete disappearance of the medullary sheaths and axis-cylinders—which in only isolated cases were visible in the sclerotic tissue—and by great development of Deiter's cells. The vascular walls did not appear to be changed, and there were no corpora amylacea or granular cells. Upward as well as downward from the third cervical nerve, the degeneration rapidly decreased. At the level of the fourth cervical nerve, in the postero-lateral column, there appeared, also, a triangular fleck, which was separated from the posterior cornu by the intact processus reticularis. The nerve fibres were almost entirely wanting in this spot. In the region of the fifth and of the sixth cervical nerve, the sclerotic portion turned somewhat more toward the periphery, and contained only a few nerve fibres in the transverse section, and, at the eighth cervical, there was not a trace of the degenerated part left. The changes ceased entirely at the first cervical nerve. Passing on to the medulla oblongata there was nothing abnormal observable, and the oblongata itself, as also the pons,—especially, the pyramids and the longitudinal fibres of the pons,—was

entirely normal. In the dorsal and lumbar portion, no change, whatever, could be seen. The trunk of the right nervus ischiaticus was examined in transverse sections, and nothing peculiar found. It is apparent enough, from the foregoing description, that the change in the cord was a true sclerosis, and did not belong to the category of connective-tissue proliferation described by Ellis, and so thoroughly corroborated by Fr. Schultze (D. Arch. f. Klin. Med. XX. Bd.).

As regards the connection between the anatomical changes found, and the phenonema of the chorea during life, it is to be remarked, that the former can, in no way, be considered a sufficient cause for the latter. To be sure, the alteration in the cord is, by no means, without significance in the chorea existing from birth, but it belongs to a series of grosser anatomical lesions, whose connection with the especially characteristic spasms is not plain, either as to their histological nature, or as to their locality. I am strongly inclined to think the changes in the cord are congenital, the residue of a foetal inflammatory process, though I can furnish no positive proof of the fact. However, I may cite a strikingly analogous case of Fr. Schultze's, of a sclerotic focus found in the left lateral column of the upper cervical portion of the cord, in a child, twenty months old, that had suffered an attack of tetanus, with spasms of the glottis, which change Schultze looked upon as congenital (*Centralblatt*, 1878, Nro. 8). And Kahler and Pick have reported a similar case of a sclerotic fleck in the left lateral column of the upper cervical portion of the cord in a syphilitic child (Prag. V. J. S. Y. 142. Band 1879). In another place (*ibid.* Nro. VII, S. 25), they express the opinion, based on two cases, that in severe cases of chorea the white substance of the cord shows decided changes of the nerve fibres. As may be seen, this agrees with what I found.

I add a remark, pertaining to the pathology of chorea, concerning the arrhythmia of the pulse, in connection with this disease, as reported by some authors, since this anomaly is not confirmed by some recent observers, and is thought by them to be a very rare occurrence (v. Ziemssen, *Chorea*, in *s. Handbuch* XII. 2, S. 415). As against some twenty cases, under my observation, that were not complicated with heart affections, I had opportunity in three cases to observe an exquisite irregularity of the pulse for a considerable period of time, this irregularity

ceasing with the recovery from the chorea. That this arrhythmia cannot be ascribed wholly and solely to the disturbance of circulation caused by the spasmodic muscular contraction, is shown by the circumstance, that in other cases of more intense character, this irregularity did not exist. Accordingly, chorea of the heart is not so exceedingly rare.—*Centralblatt fuer Nervenheilkunde Psychiatrie und Gerichtliche Psychopathologic*, Hamburg, Dec. 22, 1879.

CASE OF BLOODY SWEAT.—At the last meeting of the King William County Medical Association, Dr. R. G. Hill reported an interesting case of "bloody sweat," the subject being a boy four years of age, suffering from malarial fever. During each sweating stage, blood oozed from the face and neck. Febrifuges, followed by quinine, afforded relief; but two months later he was taken with hemorrhage from the alimentary canal, accompanied with both vomiting and purging of blood, from which he died. No autopsy was made.—*Va. Med. Monthly*.

#### A RARE FORM OF NEUROSIS.

In the transactions of the Psychical Society at their meeting in Berlin, March 15, 1879, Boettcher relates the following: A middle-aged man got a fall upon the back of his head, which, however, did not cause him to lose consciousness. Immediately after the accident, his voice acquired a falsetto tone, but it could be brought back to its natural pitch by making pressure upon the spot on the occiput on which he fell. Nothing abnormal could be discovered by laryngoscopic examination. The gentlemen present declared that it was impossible to give a definite opinion as to the anatomical cause of the phenomenon in this case. Dr. Sander advised that continuous pressure be made upon the injured spot.—(*Allgemeine Zeitschrift fuer Psychiatrie*, Band 36, Heft 5.)—*Saunders*.

CHOLERIC CONVULSIONS IN NEW-BORN CHILD.—*Dr. Coles* reported the following case: I have a case of a child who had chorea of the muscles of the forearm and hand, and was so affected at the time of birth. I am satisfied that this condition of the hand is in some way related to

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## ERRATA.

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On Page 242 read "Choreic" for "Choleric," and on Page 258 add the words, "Agents of Neurotic."

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that class of deformities which we meet with in *talipes varus*. (This child has *talipes varus* in one foot.) When it is asleep its hands are perfectly natural, but if you wake it up and touch the hand, it immediately assumes this position (the doctor illustrated the position), and its fingers become twisted—evidently a choreaic spasm of the fingers. The hands are affected alternately. The child is about three weeks old.—*Proceedings of the St. Louis Obstetrical and Gynecological Society, Jan. 15th, 1880.*

CEREBRAL AND OCULAR DISORDERS IN THE INEBRIATED. This form of disease of the eye appears as a sequel to cerebral congestion after exposure to cold, especially among drunkards.

An intoxicated person exhibited grave cerebral symptoms after prolonged exposure to excessive cold; he remained forty-eight hours unconscious, and when the meningeal symptoms disappeared, an incomplete paralysis of the third pair was noted.—(*Gazette Hebdom.*)—*St. Louis Courier of Medicine.*

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## Society of Biology.

SECTION OF THE POSTERIOR COLUMNS OF THE SPINAL CORD.—

M. LABORDE CONCLUDES THAT THEIR FUNCTIONS ARE UNKNOWN.—*Translated by E. M. Nelson, M. D.*

M. Laborde remarked that young cats, still nursed by their mothers, are wonderfully adapted to experiments upon the spinal column; the spinal column may be opened to a considerable extent without their seeming very much affected. In an animal, in these conditions, M. Laborde has been able to divide the posterior columns, and afterward, enough time passed to make sure that the section affected only these cords and that the rest of the cord was intact. The cat never presented any trouble, either of sensibility or motility. A slight degree of ataxia of movement followed the operation and rapidly disappeared. The animal is still living to-day, eight months after the experiment. The functions of the posterior cords are then still unknown. At a subsequent meeting, M. Laborde called to mind the fact that he has already shown to the Society, a cat, in which he cut the posterior cords of the spinal cord ten months ago,

and in which sensibility never has been altered; a second animal, in which *section of the grey axis, added to that of the posterior cords has produced anæsthesia of the lower limbs.* He presents, to-day, a "cobaye" paraplegic after section of the antero lateral cords, but whose lower limbs have preserved their sensibility intact. M. Laborde insists upon the clearness of the results of this triple experimentation, the operative details of which have been watched with the most scrupulous care.

ATROPHY OF PAPILLA OF THE OPTIC NERVE FOLLOWING TRAUMATISM.—*M. Galezowski, Nov. 29th, 1879.—Papillary atrophy may be consecutive to a traumatism, and simulate the atrophy which accompanies progressive locomotor ataxia.* Sometimes this atrophy succeeds injuries of the cranium, which have set up meningitis and optic neuritis, sometimes it results from the presence of foreign bodies in the orbit; finally, in a third series of cases, it supervenes long after the injury. In these cases, the loss of sight has been immediate, and yet, the lesions revealed by the ophthalmoscope, have only appeared later. We may explain this course of affection by supposing that the optic nerve has been bruised or torn at the level of the optic foramen, by fracture of the top of the orbit. At this point, the central artery of the retina has not yet penetrated into the nerve. There is then no reason why the circulation of the fundus of the eye should be immediately disturbed, and atrophy develops gradually in the nerve separated from the nerve centers. In some cases, after two or three years, papillary atrophy takes place on the opposite side, consecutively to the atrophy of traumatic origin of one papilla.

M. Magnan asked if in these cases of bilateral atrophy, the hereditary antecedents of the patients observed, had been carefully investigated, and M. Laborde cites the case of a man, in whom atrophy of the two papillæ has been consecutive to an injury of the eye, but whose sister has presented the same lesions without our being able to attribute them to any exterior cause. M. Hallopeau observed that the ocular troubles sometimes precede by ten or twenty years the other symptoms of ataxia. The facts cited by M. Galezowski have importance with reference to the ætiological value of traumatism, only if the subjects are followed during a long time; as, otherwise, the traumatism may be the cause of an ataxia commencing with the papillary troubles; finally, if the opinions of M. Galezowski are correct, the pearl-like

atrophy of the papilla loses its diagnostic value in locomotor ataxia.

A NEW AND IMPORTANT DISCOVERY CONCERNING THE AUDITORY NERVE.—THE SENSE OF SPACE.—By *M. Duval*.—At the Feb. 21st session, says *Le Progres Medical*, M. Mathias Duval presented to the society an important anatomical fact, which he believes that he has discovered in the course of his researches upon the origins of the cranial nerves. It relates to the origin of the auditory nerve; according to M. Duval, the auditory nerve has two quite distinct roots, the posterior one proceeding from a nucleus, described by all authors, the other, anterior, proceeding from a nucleus for motor fibres. Some fibres of the anterior root turn back into the cerebellum. Now, we know that the cerebellum is the center for the co-ordination of movements.

In associating this anatomical fact with the physiological researches of M. de Cyon, upon the sense of space, and with some pathological facts, tending to prove that vertigo has for a cause, a lesion of the semi-circular canals, M. Duval concludes that the anterior root of the auditory nerve forms the *nerve of space*, of which the semi-circular canals are the peripheric organs.—*Gazette Hebdomadaire*, Nov. 21st, Dec. 5th and 13th.

## Anatomical Society.

ABSENCE OF CHARACTERISTIC SYMPTOMS OF TUMOR.—CEREBRAL TUMOR.—RIGHT HEMIPLEGIA.—APHASIA.

On January 13th. 1879, entered at La Pitie, ward St. Athanase, No. 34, service of M. Gallard, a locksmith named Pierson, aged 57 years, in whom was no syphilitic or alcoholic antecedents, and who says he has always been well. Three or four days ago only, he perceived that he could not move as easily as usual the fingers of his right hand; then he noticed that the leg on that side could no more sustain him as previously.

When he entered the hospital there was determined a right hemiplegia, much more marked in the upper extremity than in the lower. The patient can still walk alone. Right facial hemiplegia; no trouble of speech; no contractions; sensibility is a little diminished on the right side.

Patient says that he has had no headache; that he has

never vomited, nor has he ever had any loss of consciousness which might be likened to epileptiform attacks. There is no trouble of vision, nor deviation of one of the ocular globes, nor inequality of the pupils. Nothing in the organs of the abdomen. Nothing at the heart.

In presence of this right hemiplegia, coming on gradually, we thought that we had to deal with a cerebral softening. The absence of every other symptom excluded the idea of a cerebral tumor.

During the week following his admission the paralytic symptoms increased little by little. The leg grew so weak that he could not get up from the bed. But at the end of two weeks arose a new symptom, aphasia.

The patient commenced by stammering, then lost completely the use of speech. The appearance of this new symptom seemed to confirm the diagnosis of softening. He only grew weaker from that moment. At the end of about a month, contracture appeared in the right arm. The forearm was flexed and pronated; a little later there was also a contracture of the lower limb. Sensibility was almost wholly lost on the right side. The patient died March 14th without having had either vomiting or epileptiform convulsions. There was the commencement of a bed sore on the sacrum.

*Autopsy.* The meninges were found a little injected; the right cerebral hemisphere is sound. The left hemisphere is a little prominent at the level of the fissure of Roland. In this region the cerebral substance is yellow and softened, but on palpation it is also found that it covers a hard tumor.

In fact, after removing a layer of cerebral substance about 1-10 inch thick, a tumor is reached of about the size of an orange, a little elongated, following the axis of the fissure of Roland. It is, as it were, covered with the softened cerebral substance which, furthermore, does not adhere to it. It is located just exactly before the ascending parietal convolution as it turns backward, flattening out.

In front it reaches to the termination of the three frontal convolutions upon the ascending frontal. It is this last which, widened, pressed back, and thinned, covers the tumor.

Above, this last extends even to the superior border of the hemisphere. Below, it touches the foot of the third frontal convolution. It is evidently to the pressure exercised by the tumor upon the convolution of Broca that the aphasia should be ascribed, the cerebral substance not

being softened at that point. This observation is interesting from the point of view of difficulty of diagnosis. The absence of the ordinary signs of cerebral tumors, the existence of right hemiplegia associated with aphasia, all concurred in fact to make us believe in the existence of a softening.—*Le Progres Medical*, Nov., 1879.

A NEW SYMPTOM AND DIFFERENTIAL DIAGNOSTIC PROOF OF DIVERS FORMS OF FACIAL PARALYSIS.—*Translated from the Gazette des Hospitiaux*, by S. Pollak, M. D.

The modifications in the secretion of sweat by alteration of the nervous system, central or peripheric, have hitherto been objects of only fragmentary and accessory studies. The works referring to this subject are very poor—mere statements, and without physiological analysis.

This lacuna is due to different causes, and especially to the prevalent opinion that the sudorific function is only a phenomenon of filtration, depending necessarily and absolutely on cutaneous circulation.

The existence of secreo-sudorific nerves has been theoretically admitted by many physiologists, among whom, M. Vulpian, in his lectures on the vaso-motor apparatus. But it has been recently established, experimentally, by Goltz, Luchsinger, Ostroumow, Vulpian, Adam Kiewicz, Nawrocki, etc.,

Pilocarpine constitutes a precious diaphoretic agent, which M. Strauss compares, in a certain measure, to the action of electricity upon muscles and motor nerves.

He thinks the time has come, to study methodically, in divers diseases of the nervous system, as in hemiplegia, paralysis, etc., the modification in sudorific secretion, by means of pilocarpine.

The sudoriparous glands must be interrogated, just as the muscles and nerves are explored by electricity. The semiology and physiology of diaphoresis will be much advanced by it.

In support of his views M. Strauss communicates the results of his experiments upon the modification of the sweat brought about in facial paralysis.

His researches are: 1st, in facial paralysis of cerebral origin (hemorrhage, softening, etc.) 2d, of peripheric origin.

In facial paralysis of cerebral origin, there is no appreciable difference between the sudation of the paralysed and the healthy half of the face, neither in the moment of breaking out, duration, nor quantity.

Just as the electric exploration of nerves and muscles

shows no difference between the healthy and paralyzed side. "sudorale reaction," by means of pilocarpine, is the same on both sides.

M. Strauss had, unfortunately, no opportunity to experiment upon cases of peripheric facial paralysis of the "mild form, *i. e.* with integrity of faradic and galvanic reaction of paralysed muscles. He hopes soon to be able to fill the hiatus. Theoretically, he thinks, that the sodurale function will be as on the healthy side.

But he has been able to study fine cases of facial paralysis of the "grave" form, with loss of faradic contractility, exaggeration of galvanic contractility of muscles, or loss of both modes of contractility at the same time. A great many experiments with subcutaneous injections of pilocarpine were made, and in all (except in a case of facial paralysis, in consequence of otitis interna, where the results were not clearly defined,) a retardation of several minutes in the breaking out of the sweat of the paralyzed side, was seen.

But after that time, perspiration was about the same, quantitatively, on both sides. It would even appear more abundant and last longer on the paralyzed side. But the most significant and constant symptom is the *retardation of sudation of the paralyzed side.*

M. Strauss compares this fact, with electro muscular phenomenon observed, at the same time.

He thinks that there is a "reaction" of degenerescence of motor nerves and muscles, as seen by Baierlacher, Erb, Vulpian, Onimus, etc. He thence concludes, that in a physiologico-pathological view, there is one more link, between the nervo muscular and nervo glandular system.

As to the signs furnished by ptyalism, on administration of pilocarpine, the results are less clear.

In either form of facial paralysis saliva is seen to flow from both sides. Nevertheless, in several cases of "grave" facial paralysis (with probable participation of the corda tympani) the patient invariably declared that the saliva commenced to flow from the healthy side.

## Society of the Hospitals.

PARIS, February 28th, 1880.

*Hysteria.—Vaso-Motor Troubles.*—M. Dujardin-Beaumetz presented to the Medical Society of the Hospitals of Paris a woman in whom the slightest touch of the skin quickly

provokes the appearance of wheals like those of urticaria. The marks which are traced with the finger upon the skin become elevated, and their elevation persists for four or five hours. The temperature at these points is higher than in the neighboring parts. M. Vulpian has seen an analogous fact in a non-hysterical man. M. Dujardin-Beaumetz observed the production of these cutaneous elevations at the points where a magnet was applied or punctures were made in another hysterical subject. At the end of a certain time these elevations spread and present then distinctly the character of patches of urticaria.

In the discussion of the subject M. Strauss recalled that in a German work, published in 1878, in the *Centralblatt* and entitled "Vaso-Motor Troubles of the Skin" are found related a number of cases of urticaria, provoked in the same manner.

M. Besnier remarked that the influence of friction upon the appearance of urticaria is easy to note in a good number of patients. That which is peculiar in the patient of M. Dujardin-Beaumetz, is the co-incidence of this with hysteria.

M. Constantin Paul has ascertained in one patient, a sort of balancing, or alternation between the "nettle" eruptions and intense hepatic pains. It might be supposed that there were produced on the part of the liver vaso-motor troubles, similar to those of the external integument.—*Le Progres Med.*, Feb. 28th, 1880.

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## CEREBRAL AND NEURO-THERAPEUTICS.

THE THERAPEUTICAL EFFECTS AND DOSAGE OF ELECTRICITY.—By *Geo. M. Beard, M. D.*

Dr. Geo. M. Beard, in a paper read before the American Neurological Association, June 9th, 1879, and published in the *Journal of Nervous and Mental Diseases*, thus recapitulates his views on this practical subject:

1. The therapeutical effects of electricity—stimulant, sedative and tonic—can be obtained by either pole, and by any direction of the current, ascending, descending, diagonal or reversed, the practical difference being of *degree* rather than of kind. This is true even in electrolysis. On the whole the positive is the more calming, the negative the more irritating.

2. Individual exceptions, as seen in the pathological reactions of some forms of paralysis, and in certain temperaments and phases of disease, do not disprove this rule. These exceptions are to be respected in practice.

3. The dosage of electricity is a complex resultant of (1) the strength of the current; (2) the length of the application; (3) the quality of the application (size of the electrodes, etc.); (4) the method of application (general, central, or local); (5) the position of the poles; and (6) the temperament of the patient.

4. Attempts to prescribe electricity mathematically, by the deflection of the needle of the galvanometer, or by the resistance of the rheostat, are unscientific and illusory. Water rheostats are, however, a practical convenience, because they enable us to avoid sudden interruptions, and to gradually increase or diminish the current.

5. The therapeutical effects of electricity are very considerably, though not entirely, of a *reflex* character. This is true not only of general or central, but of many local applications. Hence, in part, the mistake of carrying the laws of electro-tonus into electro-therapeutics.

6. The range of dosage of electricity is very wide, both in regard of strength and length of application, Although the sensitiveness of the patient is the best guide, yet in some cases currents that can scarcely be felt, and applications of but a moment's duration, are required; while in other cases, quite painful currents, or applications prolonged for hours, may be useful.

THE NEW ANÆSTHETIC—BROMIDE OF ETHYL, or hydrobromic ether, first employed by Dr. Lawrence Turnbull, is a colorless liquid with a specific gravity, a little greater than that of water. Its vapor is not inflammable. Its anæsthetic action is rapid, and recovery is speedy after its administration. The cerebral anæmia and fatal sycopa of chloroform do not characterize its action. Nausea and vomiting are less frequent than from other anæsthetics, respiration is but little influenced, and general excitement and the tendency to struggle occur less frequently.

Anæsthesia is usually affected in two or three minutes. The pupils dilate with anæsthesia and contract with return of consciousness.

"The most rapid production of complete insensibility" in the experience of Dr. R. J. Lewis (*Phil. Med. Times*) from whom the above and following facts are gleaned,



was in one minute, in the case of a girl eight years old; the longest, four minutes.

The quantity consumed has varied from one drachm, in a case of iridectomy, to eleven drachms, in a forty-minute amputation of the fore-arm.

Its use is recommended with the ordinary anæsthetic precautions.

M. ARLOING'S CONCLUSIONS CONCERNING CHLORAL.—That it decomposes into chloroform and alkaline formiates in the blood.

Its anæsthetic effects are due to chloroform.

The alkalines formiate mechanically, assist in bringing about anæsthesia by promoting the rapidity of the circulation, and thereby the impregnation of the nervous elements by the drug.

ERGOT *vs.* ALCOHOL.—Dr. Thomas W. Poole, who lately astonished the medical world with some startlingly heterodox, but very plausibly sustained teachings on physiological therapeutics, discourses, in the *Canada Lancet*, on ergot *vs.* brandy in uterine hemorrhage, maintaining that the two being physiologically antagonistic—the one contracting and the other dilating the arterioles—should not be conjointly administered. He thinks the general inefficacy of tincture of ergot is due to its alcohol.

NITRITE OF STRYCHNIA HYPODERMIA FOR THE CURE OF OPTIC ATROPHY.—Dr. David Webster, *Trans-American Ophthal. Soc.* 1879, reports a case of *apparent* atrophy of the left optic nerve (the right was totally blind), in which recovery followed the hypodermic use of one-eightieth of a grain of nitrite of strychnia, continued for two weeks.

With the left eye, when first examined, the patient could only distinctly discern objects so as to count them at twelve inches distant. There was pupillary dilation with two-thirds nystagmus and great nictitation. After the first day the latter symptoms disappeared, and vision power rose to 20-40, and after 14 days to 20-20. There was no change in the papilla.

CHARLES NAPIER'S THERAPEUTICS FOR DIPOMANIA consist of a farinaceous food, boiled and seasoned with butter or olive oil.

DR. DUPUY concludes, concerning *Kava-Kava*, that it is sialagogue, specially stimulating to the central nervous system, diuretic, blennostatic, anti-catarrhal (uro-genital,) and prevents painful micturation and priapism.

The anti-catarrhal action seems to be due to the resin, and the diuretic effects to a neutral, crystalizable principle called kavaine, and perhaps also to an alkaloid not yet discovered, whose presence would explain more satisfactorily the phenomena excited in the central nervous system, as well as the alterations in the circulation and secretions of the uro-genital apparatus.

PHYSICAL EFFECT OF MENTAL IMPRESSION.—Dr. Richard Maurice Bucke, Medical Superintendent of the Asylum for the Insane, at London, Ontario Province, Canada, in his recent very thoughtful book, which receives further notice in our pages, gives (on page 164,) this example, of the effects of sympathetic mental impression: "I once attended a lady who died under peculiarly painful circumstances. A few minutes after her death I met her husband in another room. He had been summoned on account of her critical condition. He said "how is ——?" I said "It is all over." He said "dead?" These were the only words spoken by either of us. His face showed very little sign of emotion. The moment he spoke, or even, I think, before he spoke the word "*dead*" I felt an intense vibration or thrill of grief sweep through my body. Instantly the tears literally poured from my eyes. All this during the moment while I stood looking at him. Almost at the same instant tears ran from his eyes in a stream, *and directly afterwards blood poured from his nostrils*. This man, who was about twenty-five years old, and in excellent health, died in about three months after this of a broken heart."

THE THIRTY-THIRD ANNUAL MEETING OF THE ASSOCIATION  
OF MEDICAL SUPERINTENDENTS OF AMERICAN HOSPITALS  
FOR THE INSANE.

At the meeting last year, at Providence, 47 members were representing institutions in the American States and Canadian Provinces.

Dr. C. H. Nichols, of Bloomingdale, resigned the chair, and Drs. Clement A. Walker, of Boston, and Callender, of Nashville, were elected, respectively, President and Vice-President. This old and distinguished body of medical men was entertained by the profession and citizens of Providence in a manner characteristic of the hospitality of her people and of the respect in which this honorable Associa-

tion of our professional brethren is held wherever it is known.

Dr. Ray read the paper on "the curability of the insane, *vide ante*, and an interesting discussion followed, which is reported in full in the *Journal of Insanity*, a repetition of which would be stale to our readers, since most of them take that excellent psychiatric journal.

Dr. Kirkbride thought the paper would do much good in the profession; Dr. Steves, that formerly insanity was considered a remarkably incurable disease, while recently it had been regarded as curable as ordinary physical diseases.

Dr. Nichols said an improvement had been made in the treatment of insanity during the last thirty-five years—a larger proportion of a given type were now cured. To relapses of insanity he applied the same reasoning as to recurrences of other diseases.

Drs. Godding, Browne and Kempster concurred with Dr. Ray. Dr. Harlow said the type of insanity had somewhat changed. To test recovery the patient should be tried among his friends, and remain rational at least one year before being pronounced cured.

Dr. Morse saw no reason why one year should be the limit period of cure.

The apparent increase in the number of incurable cases and decreased proportion of recoveries was due, in Ohio, to the fact that all the insane were the wards of the State.

Dr. Camden thought that though many cases discharged as cured, relapsed; many cases discharged as only improved, recovered at home. In Dr. Butler's large experience, though recovered cases relapsed, more cases discharged as much improved, continued to improve, and were reported as permanent cures by the patient and his friends. Dr. Shultz remarked, that the present hospital populations were less curable now than formerly.

Dr. Clark thought the term "cured" should be accepted in its relative sense. Drs. Chenault, May, Bancroft, Callender, Strong and Ray further discussed the paper.

Dr. Shew gave, in a paper, his impressions received during a visit to the Insane Colony at Gheel, Belgium, in 1878, which were in accord with the views of most psychiatric physicians who have visited that unique colony. In the discussion which followed Dr. Bancroft

said, it was all narrowed down to a question of expense.

The asylums of to-day furnish the best known system for the care of the chronic and pauper insane; Dr. Kempster, that the cost of caring for the chronic insane in his asylum has been greater than the care of the acute. Dr. Nichols said the chronic poor insane can be comfortably and properly cared for at less cost than the acute and active cases, especially under the same superintendence—that the plan recommended by the Association in 1866, and now being carried into effect, is the only practicable one.

Dr. Kirkbride thought that every State was able to provide hospitals for the proper accommodation of all of its insane. Drs. Ray, Stearns, Draper, Clark, Strew and Lathrop also remarked on the paper, mainly in concurrence of its views.

Dr. Draper's paper on the "Responsibility of the Insane while in Confinement in Hospitals," excited an interesting discussion, the general sentiment being that while before courts the line of demarkation between responsibility and irresponsibility could not well be drawn, the insane, under the peculiar surroundings and restraints of well conducted asylum life, do possess a modified degree of responsibility.

Hon. Amos C. Barstow, in an eloquent speech of welcome, complimented the Association on its work of science and philanthropy. A concluding reference to Dr. Ray, called forth from this eminent alienist some well chosen remarks in review of the history of Butler Hospital, of which he was the first Superintendent, and some justly complimentary allusions to the present capable and accomplished Superintendent, Dr. Amos W. Sawyer.

President Walker responded to the speech of welcome in behalf of the Association. Dr. Clark spoke in behalf of the Canadian members, and in behalf of the citizens remarks were made by Governor Van Zandt, Chief Justice Durfee; Professor Chase, Pres't State Board of Charities; Alderman Toby, Rev. Dr. Robinson and Prof. Dinan, of Brown University.

The remainder of the session was accupied with the subject of cerebral traumatism, introduced by Dr. Curwen's paper on a case of suicidal pistol shot, with *post mortem* details; the discussion of subjects germane to Dr. Echeverria's paper, translated by Dr. Curwen from the *Annales Medico Psychologiques*, and some clinical cases with necropsies, reported by Drs. Kirkbride and Hess,

from the Pennsylvania Hospital for the Insane, which led to extended discussion.

Dr. Reed—some interesting experiments in establishing communication with the several parts of an institution by means of gas pipe.

Drs. Noyes, of Michigan, Channing and Russell, of Massachusetts, McLane, Hamilton and other eminent medical gentlemen were introduced during the session.

After the presentation and discussion of some interesting microscopic preparations, by Dr. Walter Kempster, from the spinal cord, an excursion on the bay and an expression of thanks for the many kindnesses and courtesies shown them during their session. The Association adjourned to meet at Philadelphia on the twenty-fifth of May, proximo.

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## The New England Psychological Society.

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DEC. 15th, 1879.

The society met at the Worcester Hospital, the President in the chair. Present: Drs. Harlow, Bancroft, Draper, Earle, Shew, Stearns, Park, Fisher, Geo. Brown, Lathrop, Ira Russell and Quinby.

The records of the last meeting were read. In moving their approval, Dr. Earle wished especially to commend the change made, at the last meeting, in the by-laws regarding associate members. He had always felt uncomfortable at the position of these members of the society and was glad now to admit them to full association. At the opening of the National Association, he had assisted in passing one vote, for which he had always been sorry. It was a mistake not to admit the Superintendents of the Idiotic Schools.

Dr. George Brown remarked that he was not thin-skinned and had always enjoyed the meetings of the National Society. He knew, however, that there was some feeling among his associates on account of the vote spoken of by Dr. Earle, and that, growing out of this, much had been said and written for which he, at least, was exceedingly sorry. When elected to this society as an associate member he was glad to accept and now had to thank the society for conferring full membership.

Dr. Bancroft was glad to feel that the associate members were now placed upon an equal basis with the

other members of the society. Out of the action of the National Association had grown, he had no doubt, much ill-feeling, and no little writing, which he believed could do no good to either party.

Dr. H. W. Buel, of Litchfield, Conn., and Dr. W. B. Hallock, of Cromwell, Conn., were elected members of the society.

Dr. Earle thought it well to delay, for the present, the election of honorary members, as societies often made a mistake by being in too great haste in this matter. He hoped, however, that Hack Tuke would, at some-time, be elected an honorary member of this society, since he regarded him as the only man in the specialty, in England, who understood and appreciated what was being done by us in America.

On proceeding to the election of officers for the following year, Dr. Earle wished to say, that at the beginning of the society it was thought that its meetings would be as much of a social as of a scientific character, and for this reason but little attention was given to the subject of the election of officers. He now felt that it was time for the society to take action upon this point for the future. As Dr. Walker holds the presidency of the National Association, it may become a question with the society whether it be proper that he should be elected to the same position in this society and thus hold the two highest offices in the specialty at the same time.

Dr. Bancroft had hardly thought of the matter, and, if it had not been brought up, should have deposited his ballot according to custom. There might, possibly, be arguments for a contrary course.

Dr. Stearns did not know how weighty reasons there might be for departing from the usual custom, but, unless there were such, he feared that any action of this kind, at the present time, might be regarded as a slight by the Boston members of the society.

Dr. Fisher wished to disclaim any feeling on the part of the Boston members, and would suggest two ways out of the matter: to re-elect the present President, or elect a new President and retain Dr. Walker as Vice-President.

Dr. Shew thought the old custom should be followed, unless for better reasons than those already given.

Dr. Geo. Brown felt that electing Dr. Walker, President, would serve to fuse the interests of the two societies.

Dr. Draper was not present at the second meeting of

the society, and was sorry to hear that a new President was elected, at that time. He should like to see this rotation abolished. The society then proceeded to ballot and elected the following officers:

Dr. Clement A. Walker, President; Dr. A. M. Shew, Vice-President; Dr. H. M. Quinby, Sec'y and Treasurer.

On motion of Dr. Shew, seconded by Dr. Fisher, the following committee was appointed to consider the subject of the election of officers and report at the next meeting: Drs. Shew, Bancroft and Geo. Brown.

Voted that the next meeting be held Mar. 9th, 1880, at 2 P. M., at the Bay State House.

Dr. Park then read a paper on the "Recoveries from Insanity," basing his remarks upon a series of tables compiled from the records of the Worcester Lunatic Hospital, from its opening to the present time, and giving the results of this compilation for the first seven years. According to the reports of these earlier years, from 82 to 90 per cent. of recent cases recovered, but in following the history of these cases, as it appears in the subsequent records of the institution, this percentage is reduced from 1-3 to 1-2.

Dr. Earle remarked that Dr. Park was working in the right direction. We all wish to know what the curability of the disease is. The public have been misled in this matter and much unnecessary expense in the treatment of insanity has resulted. It is a debt which we, as superintendents of the hospitals, owe to the public to now show them the truth.

They should understand that this burden is upon them, and they can then take measure to meet it. The whole subject of statistics must be revised, before any proper deductions can be made therefrom. This association must take a stand on new ground if it is to have the influence which it should have.

In reply to a question by Dr. Shew, Dr. Earle said that it was a fact that a larger portion of acute cases came to the hospitals formerly than now.

Dr. Stearns' attention was drawn to this subject while making up his first report as Superintendent of the Hartford Retreat. He then found that he should make a very poor showing in comparison with his predecessors, and was thus led to remark upon the steady decrease in the rate of recovery during the latter years of the Retreat's existence. He hoped Dr. Park would follow up

these statistics, and trace each case as far as possible.

Dr. Earle then read a paper entitled "Studies Relative to the Curability of Insanity," in which he traced the history, subsequent to their discharge, for twenty-five persons reported as recovered at the Worcester Lunatic Hospital in 1843.

Dr. Shew expressed much interest in the paper of Dr. Earle, and thought it would be instructive to follow out these statistics in regard to the number discharged improved, who really recover after leaving the hospital. He had done this in thirty-three cases thus reported, at Middletown, last year, and found that nine had recovered.

Dr. Stearns regarded the tracing of those twenty-five cases as one of the most important steps taken in the specialty, but he thought something should be said to counteract the vast effect such a showing would have upon the public.

He moved that Dr. Earle be requested to publish his paper.

The society then adjourned.

H. M. QUINBY, Sec'y and Treas.

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## IDIOSYNCRACIES OF CONSTITUTION AND PATHOLOGICAL EFFECTS OF NEUROTIC THERAPEUTIC.

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DEATH CAUSED BY ELECTRICITY.—On January 17th, Mr Bruno, the euphoneum player in the orchestra of Hol' theatre, Aston, a suburb of Birmingham, died in forty minutes after catching hold of the wires connecting the battery and stage lights, the premises being lighted by electricity. *Scientific American Abridged.*

CHLORAL ERYTHEMA.—M. Martinet discussing erythema, which sometimes appears, especially after eating or the use of alcoholic liquors, finds that it occurs *only in certain individuals predisposed to its influence*, that it is accompanied by palpitation dyspnœa, often severe, but that there is frequently no fever and the duration is often brief. Witkowski, in the *Deutsch Med. Wochenschrift*, makes the practical point that those in whom the chloral rash appears after the ingestion of 30 to 90 grs. are most liable to the fatal accidents that sometimes follow the use of the drug.—*Chicago Med. Gazette Abridged.*



**IODOFORM NARCOSIS.**—Dr. Oberlander reports two cases which confirm the experiments of Binz on the narcotic action of iodoform. A syphilitic woman had taken twenty-four grammes of the drug, in pills of one centigramme, in eighty days. Suddenly she was seized with weakness, vertigo, and diplopia, and fell, after two days, into a profound sleep, which, after thirty-six hours, was followed by nervous exaltation, severe cephalalgia, delirium, and disordered speech. Then followed a period of weakness and staggering; then the cephalalgia, vertigo and diplopia re-appeared. All this lasted two weeks. In the second case the syphilitic woman was aged 69, and presented symptoms of poisoning in seven days after having taken about five grammes. The sleep continued five days, and was followed for several weeks by a sensation of debility and vertigo.—(*Zeit f. prakt. Med.*, 1879.)—*N. Y. Med. Journal.*

AT THE DANVERS, MASS., State Lunatic Hospital, since Dr. J. J. Putnam began his labors there as pathologist, six naked-eye autopsies have been made. The principal morbid appearances found were:

1. Obliteration of the internal carotid artery, with necrosis of a large amount of brain tissue.
2. Diffused inflammation of the membranes and surface of the brain; atrophy of convolutions; emphysema of the lungs.
3. Large fibroid tumor of the uterus.
4. Hypertrophy of the heart; œdema of the lungs.
5. Signs of old pelvic diseases, causing great dilatation of both Fallopian tubes.
6. In this case no notable morbid change was discovered.

Of the autopsies made during the year 1879, at the St. Louis Insane Asylum, one showed cerebral hemorrhage with lateral convulsions; one of cerebellar abscess with muscular inco-ordination; another, a tumor of the *corpus striatum* with paralysis of limbs of the opposite side and aphasia and dysphagia. The fifth case illustrates the manner in which delusions may arise from disease of some organ from the brain. This patient had the delusion that his enemies were continually screwing his stomach in a vise, and the *post mortem* investigation disclosed the fact that that organ was the seat of extensive cancerous disease.

One case is mentioned on account of the unusual size of the brain, its weight being 63¾ ounces.

## EDITORIAL DEPARTMENT.

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OUR RECEPTION by the Medical Press, whose acquaintance we have solicited, has been most gratifying. Indeed, so uniformly complimentary have been the notices by all the exchanges received, that possibly the very manifest disposition to approve our purposes and not to early place discouraging obstacles in our way, may have lead our friends to lightly list our imperfections or to entirely overlook them. We are conscious of deficiencies—who is not?—and, *apropos* to the subject, we may be permitted to say that candid criticism, couched in courteous terms and coming from worthy sources, ought not to be shunned by the medical journalist. "The wounds of a friend are faithful," and adverse criticisms from friendly sources may be no less profitable than encouraging compliments.

The nearest approach to criticism comes from two of our Chicago cotemporaries (whose good opinions we heartily reciprocate and hope to retain), in the shape of an exception to that portion of our January editorial, wherein we express our preference for the conclusions of practical experience respecting the pathology of insanity and the proper management and treatment of the insane, over mere theoretical notions respecting them. We have thoughtfully noted the exceptions of these estimable journals, and are still unpersuaded of error. Notwithstanding the anomalous views implied or directly expressed in these and other quarters of late, to the effect that those who have become most familiar by personal intercourse with the insane, in the capacity of physicians, know least about them, we must continue to hold the opposite opinion until confronted by more cogent convictions to the contrary. With a disposition to be as complaisant as may be compatible with our conception of the truth, we must continue to hold that our views are in accord with the universal sentiment of mankind, namely, that those who, by actual observation and practical study, know most about a subject are best qualified to judge and express the soundest opinions thereon: the proper methods of caring for and treating the insane, constituting no exception to the rule.

THE PROPOSITIONS OF THE MEDICAL SUPERINTENDENTS OF HOSPITALS FOR THE INSANE—INSANE ASYLUM REFORM IN NEW YORK, ETC.—We observe with regret the unjust efforts that have been and are still being made, in certain quarters, to disparage American psychiatry, and the undoubtedly good and meritorious work done in this field of medical labor by the alienists of this country. The course pursued in New York, especially, under the specious plea of "insane asylum reform," appears to us to have been extremely reprehensible and unprofessional. Aside from its detrimental effect on the welfare of the insane through the unwarrantable popular distrust—always smouldering among the uninformed—which this agitation has sought and seeks to fan into a resistless flame of popular indignation

directed towards the hospitals for the insane in that State, the whole movement is unprofessional. There is no warrant in the code of ethics for the arraignment before the populace by one set of physicians, of another body of the same profession in acknowledged honorable fellowship, as incompetent, retrogressive and barbarous, and calling to their assistance in such an unprofessional crusade, such political stump-speakers and clerical rhetoricians and other citizens as joined in petitioning the legislature and the Cooper Institute harrangues of 1878.

It is no wonder that that movement ignominiously failed. Real reform in methods of hospital practice ought not to be, and cannot be, promoted by such procedures. The politicians and clergymen who joined in that assault upon the hospitals for the insane of New York, would be equally as ready to laud a worthless nostrum as they were to damage the good reputations of our professional brethren in that State. Such methods of seeking to bring public odium and contumely on our medical brethren are, as the *New York Journal* has rightly characterized them, "ill advised, unwise and harmful." They evince a reckless disregard of the welfare of the insane and of our profession.

If medicine in this country has gathered no laurels in psychiatry, as has been sought to be impressed upon the public mind of New York, it has gathered none in any department of medicine. We have been accustomed to point to the modern hospitals for the insane as monuments commemorative of the humane mission of scientific medicine. To call upon the public to assist in demolishing our own handiwork, or to ask them to join in denunciation of those of our representative brethren in charge of these institutions, is a kind of self degradation which we can not countenance. Public sensational assaults made by medical men, in which the populace are invited to join, cannot redound to the honor or glory of our common profession, and to seek to instill distrust and prejudice towards one of the oldest, most dignified, conservative, respectable, earnest and representative bodies of our medical men by inflammatory appeals to popular sympathy and prejudice, with the rhetorical artifices of demagoguery, must lead, either to the conclusion on the part of the people that medicine has not done much good generally, and that the insane had better be relegated to the old non-medical "keeper," or that physicians as a class, are a very inferior and inefficient body of men, or that one portion of the profession is actually ignorant of what the other has done, or that medical men may know something of practical neurology and yet understand little of clinical psychiatry and the best methods of treating and providing for the insane.

The Medical Superintendents of American hospitals for the insane, with few exceptions, are representative men and an honor to our common profession. They belong, with us, to a common fraternal family—they are our brethren and equals,—the peers generally, of those who assail them, and we have no sympathy with such assaults. As our compeers, in a noble and reputed honorable calling they are entitled to honorable treatment—the same courteous and professional consideration before the public—respecting their views of hospital management, and the treatment of their patients, that would be accorded by any other considerable body

of reputable medical men, interested in the management of any other hospitals, or engaged in the pursuit of any other special department of medicine. We care not how much of honest and efficient surveillance the hospitals for the insane shall have (they should have enough to prevent their corridors from becoming public thoroughfares for curiosity seekers and sensation mongers), nor how many organizations are formed for the protection and amelioration of the condition of the insane in alms houses and penal institutions (there is room in the latter, for the exercise of a large and vigilant philanthropy); nor do we now propose to discuss the relative merits of the English over the Canadian and New York plans of having a half dozen or more commissioners instead of *one* asylum inspector; nor the propriety of having dual governors or consulting physicians for asylums for the insane; nor the many other propositions, practicable and impracticable, novel or old, lately made, concerning these institutions. Our purpose now is to record our condemnation of such methods of discussing medical subjects as lead one portion of the public to believe that our brethren, engaged in the practice of psychiatry, have been so derelict, inefficient and retrogressive that great reforms are needed, while, from others of the laity, come such reproof and rebuke as is contained in the report of the New York Legislative Committee on "public health relative to lunatic asylums," the pith of which is in the following extract:—"This attack, by medical men, on the scientific work of a State institution evinces an ignorance and a spirit of recklessness unworthy of a great and liberal profession, and should be condemned by all who have the interest of science and humanity at heart."

We make this protest simply on principle, for we are confident that the body of our brethren, now assailed, will, out of this agitation, rise higher than ever before in public and professional esteem: their wise and experience-proven propositions, respecting the insane, will, through it, become better known and they need only to be well understood to be appreciated; and to them, as they are being presented in our pages, we invite the considerate attention of the profession.

**THE SAFETY BEADSTEAD**—This is the ordinary, full length and width hospital bedstead, constructed of wood and so altered as to exactly resemble a child's crib, having high banister sides and high open balustered detached top, which, when necessary, may be attached, closed down and fastened. A few of these bedsteads may be found in some of the best conducted hospitals for the insane in this country, and one or more of them would be a valuable addition to any hospital that receives and treats delirium tremens, puerperal mania, etc. They can or ought only to be locked or unlocked with the physician's key, a key which generally is, and always should be, of different construction from that of the nurses' or attendants'. In certain cases and under certain circumstances, familiar to all who have had extensive medical care of the insane, this bedstead is a means of restraint and safety far more protective and humane to patients than the hands of attendants. It never gets tired, sleepy or incautious, nor fearful, rough or brutal; nor returns word for word; nor blow for blow; nor looks defiance; nor makes grimaces; nor threateningly gesticulates; nor utters imprecations, real or

imaginary, to the patient. Were we to become afflicted with any one of those forms of insanity for which, by skillful alienist physicians, it is employed we feel that we should infinitely prefer to be safely placed to sleep in so humane a contrivance, and removed from the presence of imaginary tormentors than to be intrusted to the constant restraint of human hands. Among those who most require it at times are the persistently homicidal and suicidal, who constantly and cunningly plan to escape the attendant's vigilance; patients who constantly keep in motion or stand stock still like a statue, never wanting to lie down or sleep, or such as would continually strip themselves and expose their nude persons.

Nocturnal epileptics likewise and certain infirm patients should, for obvious reasons, sleep in such a bed rather than on the floor.

This bedstead is just as essential in certain other cases and not more objectionable than the stomach pump and forced alimentation.

With an exceptionally good corps of attendants, nearly all forms of mechanical restraint may be largely dispensed with, as is now demonstrable in our hospitals for the insane, but where mechanical restraint *can* be done away with, it is not always the wisest moral management of certain patients not to use it, for the reason that some patients prefer to be thus restrained to being personally controlled. For medical men to create, through the columns of the secular press or elsewhere beyond the pale of legitimate professional discussion, a popular prejudice against this bedstead as it is used in our best hospitals for the insane, and especially against a particular institution, among a dozen or more that have it, by calling it the *Utica crib*, and designating it as a barbarous appliance, is as unjust and unprofessional as it would be to thus inveigh against the forcible feeding of the insane, the involuntary medication of children; the inhumanity of the cold bath in certain forms and degrees of fever; or against anæsthesia; or, Sayre's plaster jacket; or any of the more formidable appliances of surgery. These are methods of restraint employed by science against disease, yet it would not be difficult for influential medical men, fluent and rhetorical of speech and pen, to so bias the public mind against them, as, perhaps for a time, to bring into disrepute, those who might persist in employing them.

If the safety bedstead were ever so unlike the cribs in which, in innocent infancy, we were wont, in security, to fall asleep to a mother's lullaby—even it were the barbarous and inhumane contrivance it has been pictured to be—as barbarous looking even as the boiled oil process, by which bleeding stumps were staunched before Ambrose Pare taught the profession a better lesson in hæmostatics, there is a way to secure amendments of objectionable methods of practice in hospitals for the insane without invoking indignation upon a large and reputable portion of our brethren in the profession, and seeking to cast upon them the unjust odium of greater inhumanity than the rest of mankind, and less than average medical ability. It required no *vis a tergo* of popular clamor to promote the humanitarian advances of Pinel and Tuke or Connolly.

The profession knows and the world concedes, that medicine has been especially the friend of the insane; that, under the care of physicians, the condition of these unfortunates has steadily improved from that memora-

ble day that immortalized the humanity of medicine in the dungeon cells of Bicetre to this—until now, outside of the alms houses and penitentiaries, there are no more turnkeys and Bedlams, for these children of misfortune. American alienists have done their share in promoting this reform, and we cannot be silent and see them traduced.

We are opposed to having the medical or surgical appliances of any kind of hospital disparagingly discussed before non-medical tribunals, or prescribed by legislative enactment. We would not even thus discuss or proscribe the brutal looking actual cautery, or thus either proscribe or prescribe the aspiration of the liver for melancholia. Let us not, in these matters, disregard professional propriety.

AUBANEL PRIZE.—We learn from *Le Progres Medical* that the Medico-Psychological Society will award in 1881, the Aubanel prize of 3,000 francs to the author of the best work upon a subject of mental and nervous pathology. The manuscripts are to be presented before January 1st, 1881, to the General Secretary, M. le Dr. Motet, 161 Rue de Charonne, Paris, France, and bear a motto to be reproduced upon a sealed envelope, containing the name of the author.

THE EFFECTS OF TEA.—Dr. Geo. M. Beard, in his new book, endorses Dr. Dana's conclusions in preference to Dr. Morton on this subject. There is a *jewel* of truth down deep in the well here, which we would like to see brought fully to the surface.

APOLOGETIC.—We find ourselves again compelled by miscalculation of space at our disposal to omit the notices of several books, and to exclude some most excellent selections. Among the former are Dr. Geo. M. Beard's new book on "Nervous Exhaustion," and Dr. Richard Maurice Bucke's book on "Man's Moral Nature," both of which we commend to our readers.

The older writers sought to unify diseases. Dr. Beard goes a long way in this direction, so far as the earlier stages of many diseases are concerned. The psychical evidence of disease comes in for a good share of Dr. Beard's attention.

In Dr. Bucke's book the advocates of moral insanity will find comfort and new arguments.

We had also prepared, but must omit, a lengthy and somewhat specific notice of the individual excellences of our many exchanges.

The new journals—Chicago Medical Gazette, Kansas Medical Index, Indiana Medical Reporter, New Jersey Country Practitioner, Louisville Medical Herald, New York Anatomical and Albany Medical Annals, the Philadelphia Medical News and Library, and Youngstown (Ohio) "Transactions"—all present good appearances and have made upon us a good impression. We shall speak of them again.

THE THIRTY-FOURTH ANNUAL MEETING OF THE ASSOCIATION OF MEDICAL SUPERINTENDENTS OF AMERICAN INSTITUTIONS FOR THE INSANE, will be held at the Continental Hotel, in the city of Philadelphia, Penn., commencing at 10 A. M., on Tuesday, May 25th, 1880.

*Resolved*, that the Secretary, when giving notice of the time and place of the next meeting, be requested to urge on the members the importance

of prompt attention at the organization, and of remaining with the Association till the close of the session.

By standing resolution, the Trustees of the several institutions are invited to attend the meetings of the Association.

When an Assistant Physician represents an institution, a notice stating the fact should be sent to the Secretary.

**THE PATHOLOGY OF INSANITY AS SHOWN AT THE HOSPITALS FOR THE INSANE.**—To those especially interested in the care and treatment of the insane nothing is of greater interest than the advancement made within the past few years in our knowledge of the pathology of diseases of the brain and nervous system. To the intelligent laborers in this field we are indebted, in a large measure, for the elevation of obscure nervous affections and mental derangements from the region of superstition and charlatanism to their legitimate place in medical science, alongside other diseases which are amenable to proper treatment.

Post-mortem examinations of those who have died, with well ascertained mental disturbances, will do more towards making medical practice in these diseases scientific and successful, than any number of physiological experiments alone.

The last annual report of the State Lunatic Asylum at Utica, N. Y., gives an account of some of the pathological work done during the past year in that excellent institution. Most of our readers are aware that for years past Dr. Gray has given much attention to the pathology of the brain, and has made valuable contributions to the literature of the subject. For some time past Mr. Theodore Deecke, an accomplished microscopist, has had charge of the pathological department in this institution, and has done work of great practical value.

In this report the histories of nine typical cases of insanity are given, and annexed to each is the autopsy and a full account of the microscopical appearances of the various tissues. This gives us the best possible opportunity of getting at a glance the part played by certain alterations in the brain, the blood vessels, and the blood itself, in connection with insanity.

There are two cases each of acute mania, sub-acute mania, melancholia and dementia, and one case of general paresis.

One striking thing in the history of these cases is that, apparently similar causes do not operate to produce the same form of mental disturbance. Here we have two cases of syphilis in which characteristic lesions are found in the brain, and yet one man had melancholia, the extreme of mental depression; the other general paresis, with its characteristic mental exaltation.

Again, one case of sub-acute mania is seen as a result of phthisis, and is slow in its advent and progress; another case of sub-acute mania in an apparently well person comes on suddenly, has paroxysms of great excitement, runs a rapid course and is caused by great mental shock and the consequent disturbance of circulation, in a person already weakened by overwork.

And yet, from the pathological view of these cases, we get one very constant factor in the production of insanity, namely: an alteration of the walls of the blood vessels in the brain. In seven of these cases, embracing all the general forms of insanity, there were found sufficient changes in the arteries of the brain to mark their departure from health and to explain many of the pathological changes in the brain substance.

The importance of these changes seems to be fully appreciated in the examinations made at Utica, for in the preceding year, out of the eighteen autopsies, fully reported in all but one instance, the arteries of the brain were found so altered as to materially interfere with the nutrition of the nerve tissue, and in many instances to cause death.

It is probably true that the importance of these vascular changes has not been generally appreciated, because autopsies upon the insane have not been made with sufficient completeness in all instances. At Utica hundreds of consecutive microscopical sections of the same brain are made with an end in view of obtaining a knowledge of the minutest changes in blood vessels, as well as of the relations between the vessels and alterations of brain tissue.

Another marked feature in these post mortem cases is the very painstaking examinations of the blood of those having died insane. This is a new feature in pathological investigations in this class of cases, and for only three years past has been done at Utica. The examinations are both microscopical and chemical. The number of white and red corpuscles was determined for a given square of a micrometer, and their relative proportions ascertained. The record in each case is the average taken from six examinations. The amount of hæmoglobin was determined in each case by spectroscopic analysis after Preyer's method.

The report shows that in a majority of cases the number of blood corpuscles was sensibly diminished as compared with healthy blood. The same fact was noticed regarding the percentage of hæmoglobin. No general conclusions concerning the fluctuation of these essential constituents of the blood is made, but we shall look forward with interest to future developments in this field, as it is one which promises important results.

The changes in the nerve tissue were noted especially with reference to their locality, both as to the special convolution involved, and to the layers of the cortex. The general conclusion from all these investigations is, that in all cases of insanity, some portion of the gray cortex of the brain undergoes pathological change.

The *Cincinnati Lancet and Clinic* which does not entertain a very exalted opinion of St. Louis go-ahead-activeness, nevertheless pays a justly high compliment to Dr. Nelson, the new editor in chief of the *St. Louis Courier of Medicine* which we are gratified to see.



CONCERNING DR. L. C. GRAY AND THE TENDEN REFLEX.—In our article on Tenden Reflex (Jan. number) occurs this passage: "Dr. Gray in his April, 1879, paper reports, in substance and more at length many of the points made against this sign by ourself in the previous Feb. number of the *St. Louis Medical and Surgical Journal*." A note from Dr. Gray states the above "is considered to contain an imputation upon him, amounting to a charge of plagiarism." and explaining that had he known of our article he would have given us proper credit, &c.

We most cheerfully state that no such imputation was intended, and we have no doubt but Dr. Gray would, as he states, have mentioned our contribution had he known of its previous existence.

## OFFICIAL CHANGES AND NEW APPOINTMENTS.

DR. ORPHEUS EVERTS, for eleven years Superintendent of the Indiana Hospital for the Insane, at Indianapolis, succeeds Dr. Chipley, lately deceased, as Superintendent of the "Cincinnati Sanitarium."

This is a most judicious selection, and can not fail to be promotive of the continued usefulness and prosperity of this well-known private hospital for the insane.

DR. R. S. DEWEY, the new Superintendent and Physician of the new Hospital for the Insane, at Kankakee, Ills.—the Eastern Illinois Lunatic Hospital—ought, from his antecedents, to make a good medical and executive chief of that institution.

He served for many years as the first assistant physician under that efficient Superintendent Physician of the Hospital for the Insane, at Elgin, Dr. E. A. Kilbourne.

Dr. Dewey has also contributed some thoughtful papers to the medical press, on subjects connected with the welfare of the insane

We congratulate the Trustees of the hospital at Kankakee on having chosen its medical head independently of political considerations.

DR. D. D. RICHARDSON—The Commissioners for the new State Hospital for the Insane at Warren, Penn., have made a most commendable selection of a Medical Superintendent, in the person of Dr. D. D. Richardson, for the last twelve years the medical chief of the insane department of the Philadelphia hospital. This is a well-deserved promotion.

DR. A. M. FAUNTLEROY, recently elected Superintendent of the Western (Va.) Lunatic Asylum at Staunton, is well and favorably known to the profession of Virginia and other States—having been the contributor of many valuable articles to medical literature. He was the physician to the Blind, Deaf and Dumb Institution, at Staunton. In 1871 he was elected President of the Medical Society of Virginia, and has since been elected an Honorary Fellow of that body. The *Va. Med. Monthly* says, his election meets with the cordial approval of the profession and citizens of Virginia.

Dr. Fauntleroy has been so long connected with the management of the institution at Staunton that he can not have failed to acquire a large fund of that kind of practical experience which so greatly assists in the successful diagnosis and management of the maladies—mental or otherwise—of the insane.

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## IN MEMORIAM.

Dr. Wm. S. Chipley, who died at College Hill, Ohio, Feb. 11th, 1880, of dilation and valvular insufficiency of the heart, was born in Lexington, Ky., October 18th, 1810. He was a student in the office of the distinguished Dr. Benj. Dudley, and received the degree of Doctor of Medicine from the Transylvania University, 1831. He located soon after at Columbus, Georgia, where he remained for ten years. Returning to Lexington, Ky., he devoted himself to his profession; and as a general practitioner, a teacher of medical science in the Transylvania School, and Medical Superintendent of the Eastern Lunatic Asylum of Kentucky, at Lexington, the oldest and for a long time the largest institution of the kind west of the mountains, he achieved a reputation worthy of his calling, which grew wider and better with his years. On retiring from the Superintendency of the State Asylum, Dr. Chipley opened a private asylum for the treatment of mental disorders, in Lexington, but was soon afterwards burned out, with great loss to himself pecuniarily, as the insurance company which carried a risk on his building and furniture failed before adjustment of the losses could be made.

In the course of events Dr. Chipley was restored to the Superintendency of the State Asylum at Lexington, only, however, to be displaced again by political influences, a few weeks afterwards.

For the last five years Dr. Chipley had charge of the "Cincinnati Sanitarium," where he died—and although well advanced in years—bereft of his wife and removed from his children and life-time associations, he brought to his new field of labor, reputation, skill and habits of industry which soon placed the "Sanitarium" upon a basis of usefulness, which alone was required to ensure success.

Professionally, he had laid broad foundations in general principles of science, and remained a student to the last, as the well selected and well marked books in his private office bear testimony. His mind was compact and comprehensive, rather than diffuse and speculative. He was not inclined to adopt new theories and remedies without careful consideration. Conservative without timidity, he was rational rather than ideal, in sentiment as well as in science.

Dr. Chipley leaves four children, all grown,—and his aged mother, whose home had been with him—and who was to have celebrated her ninety-first birthday on the day of her son's death. Dr. Chipley's father was a minister of the Gospel—long and familiarly known at Lexington as "Father Chipley."

O. E.

THE DEATH OF CARL FRIEDRICH FLEMMING.—The *Allgemeine Zeitschrift fuer Psychiatrie und Psychisch-Gerichtliche Medicin*, comes to us with a memorial page, clothed in mourning, to the memory of its senior editor, Carl Friedrich Flemming. He was born Dec. 27th, 1779, at Juensterbock, and died at Weisbaden, Jan. 27th. of the present year, and was buried at Schwerin, in Mecklenburg, Feb. 3d.

His surviving collaborators thus speak of him :

“As a true knight in the arena of intellectual combat, he has, throughout a long life, fought victoriously for his profession. He built the first hospital for the insane in Germany ; aided in the founding of this Journal ; was one of the founders of the Association of German Physicians for the Insane. As president of this association, he directed and presided over its destiny for many years. His scientific and practical experiences are recorded in numerous publications. By his long and active life, the versatility of his acquirements, his untiring capability for work, and his ceaseless aspirations after progress, and his co-operation in so many ways, he, more prominently than any other, aided in the construction and recognition of German psychiatry as a specialty. With him the last pioneer of German alienism has been lowered into the grave.”

LOCKHART CLARK AND D. J. CORRIGAN.—The recent death of these two great men is a severe loss to medicine in Great Britain. It is to us a source of regret that we cannot honor their memories with the space their past distinguished services to the profession deserve.

The latter was born in Dublin, in 1802, and was the last survivor of that immortal phalanx of Irishmen, Marsh, Stokes and Graves, whose memories will live so long as the heart of mankind, whose diseases they contributed so much to elucidate, shall continue to beat.

The former, born in 1812, has contributed more, perhaps, than any other Englishman, toward the enlightenment of his countrymen, upon the physiology and pathology of the nervous system. Every modern English alienist of note has paid just tribute to his genius and researches.

The pages of Maudsley and Blandford, especially, bear record of his valuable labors in cerebral histology.

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THE  
ALIENIST & NEUROLOGIST.

VOL. I.

JULY, 1880.

NO. 3.

Original Contributions.

Art. I.—Topical Diagnosis of Disease of  
the Brain.

“*Topische Diagnostik der Gehirn-Krankheiten.*”—Von Dr. Nothnagel,  
*Berlin, 1879.*

SEPPILLI—WORKMAN.

IN this recently published work, *Nothnagel* has been able to form a treasury of all those cases, scattered in medical literature, of cerebral diseases well defined in their seat, and well observed in their clinical manifestations, and thus to establish the symptomatology according to the diverse regions of the brain, and to declare from them, most useful precepts for diagnosis of their seat. He does not at all enter into physiological questions, because, as he well observes, the diagnosis of the seat of cerebral lesions ought to be founded solely on experience and

Not having in hand, the above treatise, we have to acknowledge our indebtedness to Dr. Seppilli, one of the editors of the *Revista Sperimentale*, for this very interesting summary of its most important contents, clothed in the attractive garb of his own pure and lovely Italian. We do not, however, reproduce the whole of Dr. Seppilli's review, which would be too lengthy for the available pages of the ALIENIST AND NEUROLOGIST, but content ourselves with the presentation of its most instructive passages.—Ed.

observations at the bedside of the patients, or on the anatomical table. In the introduction to the work, he indicates the method which he has followed, in order to reach conclusions of some value in relation to topographic diagnosis, and before all, to demonstrate how it is that from the rich assemblage of cerebral lesions connected with diseased foci, in which the morbid process has a chronic course, or is stationary or quite circumscribed, and (not causing compression, or provoking disturbance in the circulation, or a phlogistic state), does not, in any way, influence the surrounding parts. Hence, the author takes no account of cases of acute encephalitis, but, instead, of these, of those in which the inflammatory phenomena have disappeared, leaving, however, foci of stationary softening, or of old and encapsulated abscesses. The best material for local diagnosis is given by hemorrhagic foci, and by softening, but in this selection we should proceed with much caution, since it is not infrequent to observe that conclusions are drawn from foci-extensive, multiple, or too recent. According to Nothnagel, we ought to wait, at least, for a period of from six to eight weeks after the outset, before referring the observed phenomena, to a morbid focus. Cerebral tumors very frequently lead to diagnostic errors with respect to location. If, however, these are considered with much prudence, they may sometimes have special interest in the diagnosis of seat, since they are associated with a series of important phenomena characterized by excitement."

[The reviewer—then proceeds to quote at some length, observations on cases detailed by the author, which we must pass over,—that we may reach their analysis, as presented nearer the conclusion.]

#### ANALYSIS OF THE OBSERVATIONS.

The author, after having collected the clinical observations of cortical lesions, according to their seats, proceeds to study, in the complex way, in what manner and in what cases the several functions of motion, sense, etc., are

altered. He, however, takes special account of those cases in which the lesions embrace only the gray substance, and the medullary substance lying immediately under it.

I. *Disturbance of Motility.*

From analysis of the cortical lesions pertaining to the frontal, temporal, occipital and parietal convolutions, and those of the insula, it results that, *with exception of the central convolutions of the paracentral lobule, all the other regions of the cortex may be diseased without paralysis of motion being produced.* In some rare cases, in which the last named convolutions have been observed, an accurate examination shows, most usually, that the central convolutions have shared, either directly or indirectly, in the morbid process; and though the same cannot be said of some few cases (4 and 6), it yet seems more logical to ascribe the discrepancy to some oversight in the autopsy, or to some complication, than to oppose so small a number of cases to the results declared from a large number of significant observations. On the other hand, *lesions of movement are manifested when a morbid process has its seat in the anterior and posterior central convolutions, and in the paracentral lobule.* This is demonstrated in those cases in which the lesion is so often exclusively limited to the central convolutions, and when it follows secondary atrophy in the motor zone, consequent on the amputation or loss of an extremity. There are, however, some cases which seem opposed to the fact here stated, but when accurately analyzed they are not so; the author demonstrates this examination of a case observed by himself, and that by Samt, as well as others, in which neoplasms were described, which, from their nature, were unaccompanied by grave functional disturbances, or by any whatever; also the cases recorded by *Lusanne* and *Lemoigne*, in support of their theory, that motor function is unrelated to the cortex. Therefore, from a diagnostic point of view, he establishes the following corollary:—*“When in any case the disorders of motion may be, or ought to be, attributed to a cortical affection, this is found in the*

*central convolutions and the paracentral lobule alone, or at the same time in other parts.*

As regards the depth to which a cortical lesion should reach in order to produce disorders of motion, it can only be established that these arise even when the morbid process is quite superficial, or has hardly compromised more than a little of the cortex of the central convolutions. It is then of great physiological consequence, that in superficial lesions, which have reached no depth towards the centrum ovale, paralysis of motion has not only existed from the outset, *but may persist permanently.*

The author then proceeds to consider under what form disorders of motility, depending on a cortical lesion, may be manifested. (a)—*Paralysis of Motion.*—This is presented under the form of hemiplegia total, equal to that depending on a diseased focus in the corpus striatum, and in such a case, it is impossible to make exact diagnosis of the seat, (this fact was established also by Maragliano, *vide* this *Revista*, Anno iv. Fasc. iv.), most frequently, paralysis, from cortical lesions, affect single cerebral nerves, or a single extremity, or both extremities, without participation by the cerebral nerves. The French authors call these monoplegias and dissociate hemiplegias (*stuckweise hemiplegie*). Up to the present time, the following forms have been mentioned: 1st, isolate ptosis; 2d, facial paralysis; 3d, hypoglossal paralysis; 4th, paralysis of one extremity, and most frequently of the superior; 5th, paralysis of two extremities, without that of a cerebral nerve; 6th, paralysis of an arm, with that of a cerebral nerve, most frequently the facial (paralysis of this nerve, and of the inferior limbs has not yet been noted); 7th, paralysis only limited, or extending to the nerve ramifications of an extremity.

From the assemblage of cases of monoplegia, studied by the author, it results that *in paralysis of the facial and hypoglossal, the lesion falls on the inferior third of the central convolution, respective to the fissure of Rolando; in paralysis of a superior limb, the middle third is affected, and*



especially that of the ascending frontal; in paralysis of a leg, or of this and an arm, the superior third is affected. The paracentral lobe seems to be solely in relation with the limbs. The author shows that monoplegias and dissociate hemiplegias do not, of themselves, suffice for the diagnosis of a cortical lesion, as he has observed, that also in hemorrhages, or in softening of the pons, though in very rare cases, we may find a paralysis limited only to one extremity without the participation of cerebral nerves. The same may happen from lesions of the cerebral peduncle, or of the internal capsule and the centrum ovale. On the other side, then, if it is considered that the above named forms of paralysis are frequent in cortical lesions, and very rare in those of other parts of the brain, we may, in a given case of monoplegia (of cerebral origin), regard it with great probability as of cortical position.

In the monoplegic form, in the circumstances accompanying it, and the mode of its development, what relations exist which may serve as a point of departure for a precise diagnosis? First of all, we are to consider that isolate ptosis, without other symptoms, and the paralysis of a single extremity, have, up to this time, at least, been met with only in cortical lesions (the latter, perhaps, only in cases of central foci). Further, paralysis of the facial, which proceeds isolated in basilar affections of the pons and the corpora striata, is extended to all its branches, whilst that depending on cortical paralysis, according to the author's observations, is generally circumscribed to the interior portion of the facial. These are, however, cases of cortical lesions with complete facial paralysis (Hitzig, Samt). Hence, it results, that the dissociate form of simple paralysis, in cortical monoplegias, offers great diagnostic probability, but not absolute security.

The slow and unforeseen development of monoplegia, with or without loss of consciousness, does not, in a majority of cases, constitute a differential character, since both these possibilities are met with, resulting from lesions,

situate in different localities. But the concomitant phenomena frequently offer a point of departure for different diagnosis. And thus, if with a paralysis of motion of one or both of the extremities, there are associated vaso-motor and sensitive disturbances, it may be admitted, with great probability, or almost with security, that the focus of disease has not its seat in the cortex. On the other hand, if with isolate facial paralysis, there is found aphasia, of contemporary origin, we should search for the seat of the focus, not in the corpus striatum or in the pons, but in the cortex. For the diagnosis of a cortical monoplegia, the most important signs are given by the phenomena of excitation of motion, which precede, follow and accompany the paralytic phenomena.

From these considerations, the author concluded, that *the form of a monoplegia and its mode of development are almost never secure signs for the admission of either its cortical or its non-cortical origin, whilst, however, this decision may be deduced from certain phenomena which sometimes accompany monoplegias.*

(b). *Motor Phenomena—Excitement.* These are divided by the author into two groups, as follows:

*1st. Secondary Contractures.*—These are absolutely analogous to those which are developed in subsequence to certain foci in the centrum ovale, in the internal capsule, in the cerebral peduncle and in the pons. They do not possess the least value as diagnostics for cortical lesions.

*2nd. Convulsions; in part chronic, and in part tonic, which arise in an accessional manner, and are limited to one-half of the body, or to a certain nerve ramification (epilepsia partialis et unilateralis)*—The relation of these localized convulsions with the paralysis of motion varies in an extraordinary manner. Thus, in cases of softening and of hemorrhage at one time, the convulsions precede the paralysis, at another, they follow it some hours after, or even some weeks or months.

In neoplasms, the localized convulsions very frequently

precede the paralysis which is developed more tardily. In the majority of the cases, the convulsions are of the chronic nature; frequently there are also tonic contractions, which either constitute the entire paroxysm, or precede the chronic. The convulsive phenomena comprehend almost all the paralyzed parts; as a general rule, they are not always limited to these. It is characteristic of these convulsions, to commence, ordinarily, in the same group of muscles. Consciousness, in most of these cases, remaining intact.

*3rd. Epileptic Attack.*—The convulsions extend to both sides of the body, but they differ from those of the classic common epilepsy. In epilepsy of cortical origin, the commencement of an access is most frequently represented by phenomena of excitement of motion, which are in some cases, extensive. In certain patients, the paroxysm commences constantly in the facial muscles, or in those of the neck, or of one extremity. This mode of comportment is so typical, that even when paralysis of motion does not exist, as in some cases of tumor of the convexity, it ought always to lead to the suspicion of cortical epilepsy. The more extensive is the convulsion, the more frequent is the loss of consciousness. The history of cases teaches, that in hemorrhagic foci, different from those of neoplasms, epilepsy, general or local in its repetitions, is usually presented with the same characters. In the majority of cases, from the incubation of the disease to the bursting out of the first epileptic attack, a considerable interval of time elapses (rarely less than six weeks).

The author next enters on the study of the diagnostic significance of the phenomena above stated, and formulates the two following conclusions:

“The partial convulsions, which result in sequence to a hemorrhage or a softening, may be taken as indicating, with probability, but not with certainty, a cortical lesion. On the contrary, it having, up to the present time, been observed, that only in morbid processes of the cortex,

parts already paralyzed present later partial convulsions, there is reason, in similar circumstances, to make diagnosis of a cortical affection."

"The general epileptiform attacks, which are manifested under the above type, and are developed in the tardy course of an epileptiform hemiplegia, dissociate or total, may be considered as one of the most important and reliable signs of a morbid process localized in the central convolutions."

## II. *Disturbances of the Muscular Sense.*

"In cortical lesions, very rarely have symptoms been described which may or ought to be ascribed to a disorder of the muscular sense. The reason of this consists in the frequent omission of research exclusively directed to such disturbances.

The case of *Wetter*, and another of *Kahler* (sense of prickling or stinging in all the right half of the body; no disturbance of cuta-nervous sensibility, nor any paralysis; ataxy of the right arm; a caseous tumor in the cortex of the posterior part of the left frontal and the left parietal lobe), demonstrate that *lesion of the muscular sense may exist as a unique symptom, without paralysis of motion, and without cutaneous anæsthesia.* In all the cases it has been observed that the patient had no idea of the position or the locality of the affected extremity.

The clinical observations are too few and dubious to permit us to establish to what part of the hemispheres the symptom pertains. In some cases, the lesion was in the parietal lobe; in others, a lesion of the central convolutions was added. For the present, there is datum, perhaps, for concluding that the *cortical regions, whose lesions determine, on the one side, paralysis of motion, on the other, disturbances of the muscular senses, are in close relations, but are not identical.* Further observations may show whether the central terminal apparatus of the muscular sense, shall be found on the anterior part of the parietal lobe.

### III. *Disturbances of the Cutaneous Sensibility.*

The author cites briefly some observations on cutaneous anæsthesia, associated with other morbid phenomena, in which a lesion of the parietal lobes is met with constantly. On the other hand, in a large series of cases of lesions limited to the central convolutions, hemi-anæsthesia was never met with.

The researches of Meynert have made it presumable, that in the lesions of the occipital lobes, anæsthesia may be manifested; but such a supposition has not, in reality, found support in the assemblage of morbid cases collected, because, in those cases in which a real anæsthesia existed, other regions were injured, and anæsthesia and other disturbances of sensibility were absolutely wanting in lesions of the occipital lobes.

Hutchinson believes that lesions of the sphenoidal lobes give place to alterations of sensibility; but, according to the author, nothing positive in this regard exists. The same may be said of the opinion of Ferrier, as to lesions of the hippocampus, in connection with disturbances of sensibility.

Nothnagel states, that it is not yet possible to establish a connection between the disorders of cutaneous sensibility and cortical lesions.

From the clinical cases we may be inclined to admit, as relatively quite possible, that the parietal convolutions ought to be considered in the first line of the disturbances of sensibility. Nevertheless, it ought to be added, that, for the present no case of cortical lesion is known, in which a permanent anæsthesia has been noted, without involving the medullary substance through a considerable extent. It follows, that, for diagnosis of cortical lesions, disturbances of cutaneous sensibility have no value.

### IV. *Disturbances of the Visual Faculty.*

These may be divided into two groups. To the first appertains hemi-anopsia. The visual faculty of the nasal retinal section of the eye, opposite to the seat of the focus of the brain disease, and that of the temporal section

of the homonymous eye, are injured. Hemi-anopsia may be lasting, and may pass as a symptom of decadence.

To the second group there belongs a special form of visual disturbances, first described by Furstner, and afterwards by Reinhard. It is observed only in the eye opposite the cerebral focus (which is unilateral). We do not here treat of an ordinary ambliopia, nor of a simple weakening of the visual power, but of a disturbance of the sense of colors and forms, and a loss or diminution of perception of depth (*profondita?* space). In very slight cases the optic nerve receives and conducts the visual impression in the normal manner, and the patient can indicate, with exactness, the retinal images, but he judges erroneously of their relations in space, and confounds the lines and letters when he writes and reads, etc. To this there is accidentally added a mistaking of colors; at such times, the patient sees everything as if through a gray veil, and badly distinguishes objects; in some cases blindness exists.

The clinical cases which serve as illustrations of these two groups of visual disorders are but few. Among those of the first group, there does not exist even one of a lesion limited to the cerebral surface; *the medullary substance is always involved through a considerable extension* (Pooley, Hirschberg, Wernicke, Baumgarten). The author believes that in the case of Huguenin, the morbid phenomena were due not to the cortical lesion alone, but in part—especially the hemi-anæsthesia—to that of the medullary striatum. Thus, too, in the cases of Furstner, which belong to the second group, the lesion of one was limited to the occipital lobe, and in the others it extended further. All the clinical cases of visual disturbances with lesion of the hemispheres (excepting the case of Huguenin) had this fact in common, that they presented lesion of the occipital lobes, which, indeed, in two cases, were found the only parts affected.

*It may therefore be concluded that visual disturbances (comprehending both groups) depend on alterations in this*

*region.* This will be confirmed by the following observations of *Huguenin*, 1st, on the brain of a person of 50 years, blind in the left eye. On the left side were found modifications of the optic, atrophy of the *pulvinar*, of the anterior and posterior quadra-gemini, and of the external corpus geniculatum; further, there was a notable diminution of the convolution of the occipital lobes, which was more marked on the right than on the left side. 2d, in a woman who during many years, had very little sight in both eyes; pronounced atrophy of the cortex was found in the convolution of both sides.

Visual disturbances have, however, been reported by *Furstner* and *Reinhard*, without any lesion in the occipital lobes. For the present, it is not possible to explain these differences. As worthy of consideration, in further observations the following points may stand as merely recorded: Unilateral lesions, with a focus in the cerebral cortex, and in the corresponding medullary stratus, if they are the principal condition of the visual disturbances, have up to the present always been followed by hemi-anopsia, and not by unilateral visual disturbances, but with these, when they have been dependent on cortical disease, diffused and extensive lesions, usually in both hemispheres, have been associated. In pronounced hemi-anopsia (excepting the case of *Huguenin*), the occipital region, either alone or associated with other parts, has been found affected.

What diagnostic value, in relation to cortical lesions, have visual disturbances?

It is certain that neither in hemi-anopsia, nor in ambliopia and unilateral amaurosis, can they alone, suffice to establish the precise seat of a morbid focus, since hemi-anopsia may depend also on lesions of the optic thalamus, and visual disturbances on lesions of the posterior part of the internal capsule. However, certain visual disturbances, together with other clinical phenomena may, in a concrete case, establish with more or less probability, a lesion of the cortex, or of other parts of the brain. The author then remarks as follows: A hemi-

anopsia, which arises as a unique and unexpected symptom, and, perhaps, after an apoplectiform attack, even when ophthalmoscopic examination is negative, may be referred to a cortical lesion, and hence to the probable existence of a focus in the occipital lobes. If in addition other phenomena present, as hemi-anæsthesia, hemiplegia, aphasia, the interpretation is not then secure, as from observation, made, it is necessary to admit a greater extension of the morbid process, and in certain circumstances, no cortical lesion whatever may be present. Unilateral visual disturbances may be held to depend on cortical lesion, when along with negative ophthalmoscopic report, symptoms of a diffuse cortical lesion are observed without phenomena indicating a focus; they may be referred to a morbid focus situate more deeply (*internal capsule*), if with them there is present a notable hemi-paralysis of the cutaneous sensibility, and of other nerves of sense. What portion of the cortex should be regarded as affected in the first case we, as yet have not data to establish.

V. *Disturbances of the Auditory Faculty.*

There is an interesting special form of auditory disturbances, which *Wernicke* first put into relation with a given lesion of the cortex; he called it *sensorial aphasia*. *Kussmaul* gave it the name of *word deafness* (*Taubheit*). The patients hear well, distinguish noises, and the single words of those who speak. The acoustic nerve, therefore, receives and conducts the sonorous sensations, which reach consciousness; yet they do not comprehend what is said to them, and they reply non-pertinently; they do not perform the acts requested, or they perform quite different ones, and thus they appear to be deaf, or demented; but by attentive observance we may be persuaded of the contrary. Aphasic phenomena are also noted.

What part of the cortex is the seat of lesion in this form of auditory disturbance? *Wernicke* holds that we are here concerned with a lesion of the temporal lobe, and more especially with the T'. *Nothnagel* finds nothing to the contrary. The relations of the acoustic nerve with the



temporal lobe, have been demonstrated by *Huguenin*, from a recent case, in which deafness had existed in connection with atrophy of the T'.

But cases of disease of the temporal lobes exist without deafness. *Kahler* and *Pick* have sought to give an explanation of this fact. They have established that deafness exists in the lesions of the left side, and is wanting in those of the right side. The same relation would here be constructed as for ataxic aphasia; the acoustic, verbal images would also be accumulated in a predominant manner in the left hemisphere. The author observes that some of the above cases should be left out of consideration, as from the description of them no certainty results of an affection of the T', whilst in other cases, the fact is not met with, or it exists only in an insignificant manner.

Several cases of lesion of the entire left hemisphere and hence of the T', have been known, without deafness. They are, however, old cases, for explanation of which *Kahler* and *Pick* have recourse to the vicarious action of other parts. Finally, from a diagnostic point of view, the author sums up in the following manner: *When a symptomatic representation of word deafness is presented, it may be held as very probable that some morbid process, exists in the left T'.*

#### VI. Disorders of Language.

Examination of the rich material related to aphasia leads the author to hold, as beyond discussion, the great and real importance which the posterior extremity of the F<sup>3</sup> (3rd frontal,—and almost always of the left, though exceptionally of the right side), has in language. Disorders of speech are also met with, from lesions of the temporal lobe, and more especially of the T' of the left, and through these, of the white medullary substance in the vicinity of the F<sup>3</sup>, or of the left insula alone. In the greater part of the cases of foci in the parietal lobes, these disorders have not been met with, and in

the few cases in which they have been present, there is reason to doubt whether they should not be put in relation with parts overlooked in the examination, rather than with lesion of the parietal convolutions. *Kussmaul* asserts that he has not succeeded in finding observations, sufficient and exact, in which the lesions of the occipital lobes had provoked true aphasic disorders.

Is it possible to refer the diverse forms of dysphasia and aphasia to given lesions of the cortex? *Wernicke* has located motorial aphasia in the  $F^3$ , and sensorial in the  $T'$ . *Kussmaul* has found, 1st, that in cases of true ataxic aphasia, or of aphasia from ataxia and amnesia combined, there is found, almost without exception, a lesion of the anterior region of the cortex, either alone or along with that of the posterior part; 2nd, in true aphasia from amnesia, at one time the anterior region only is affected, or at another the posterior. *Nothnagel* adds, that the region of *Broca*, the posterior third of the  $F^3$  the great importance, which is past denial, in the motile co-ordination of words; and after examination of several cases he lays it down, that *in isolated lesions of the region of Broca, ataxic aphasia is almost never wanting, or there is at least a mixed form of aphasia from ataxia and amnesia. But the relation of ataxic aphasia with destruction of the  $F^3$  cannot be held as exclusive*, since there are cases (apparently quite exceptionable), in which ataxic aphasia has been met with, with lesion in other parts (the insula, temporal and parietal convolutions).

It is not possible, from existing clinical facts to draw conclusions regarding the cortical localization of aphasia from amnesia. The same fact obtains as to agraphia and ataxia.

#### VII. *Disturbances, Trophic and Vaso-Motor.*

The author here expends but few words, and concludes that these disturbance have not up to the present any significance for the topographic diagnosis of cortical lesions.

VIII. *Psychical Disturbances.*

The author here limits himself to the observation, that it is to-day absolutely impossible to resolve the question whether the disorders of the intellect, which in general depend on that of the cortex, have any given location, or are on the contrary, a confederate solidarity.

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**Art. II.—What Shall be Done with the Inebriate?\***

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By GURDON W. RUSSELL, M. D., of Hartford, Conn.

**I**N considering this question, practically, we may regard the habitual drunkard and the inebriate as one and the same, for though some have made a distinction, yet for our purpose, it is a refinement of nosology, of no more real use than is much of the nosology in medicine dividing and subdividing the symptoms of a disease, which should be general and characteristic as a whole, and which is to be subjected in the main to the same general treatment. This subject was so thoroughly discussed at our last meeting, that there is not much remaining unsaid, and I must be excused, therefore, if my remarks are mainly to the question, "What shall we do with the inebriate?"

Drunkenness, or the excessive use of alcoholic liquors, is so extensive, seizing upon so many persons, that from its very frequency, it becomes hard to deal with. When we consider the number who are the subjects of alcohol, and the number who are afflicted with poverty, and those naturally dependent on them, the saying is, not far

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\*Read before the New England Psychological Society, Sept. 13, 1879.

from correct, that it takes one-half of the world to properly care for the other; and so a *government* must be very paternal, indeed, which undertakes to provide for all of them, upon all infractions of law or of morals. There must be a certain limit to the care or oversight exercised by any government; for, if its energies or duties are engrossed by petty interferences or directions, then the great objects and duties of government are apt to be lost sight of, and its strength and influence frittered away upon minor details, and such a course acts injuriously upon the people, also taking away the robustness and independence from the individual, learning him to depend less upon himself and more upon a few.

So the law declares certain acts to be crimes, but it does not interfere with every wrong doing, nor can it remedy the numerous cases of cruelties in families, of abuses of parents and children, of petty quarrels and annoyances among neighbors, unless there are of a gross and aggravated character, and are publicly brought to its notice. These, in their effect upon men, are often much more serious in their nature and injurious in their results than many of the offences which it does seize upon and attempt to adjudicate.

But drunkenness is a crime; it is so considered in the law, and divine declaration has said that: "No drunkard shall inherit the Kingdom of Heaven."

It is, therefore, a subject of so much importance that we cannot escape from it; nor do I feel that I can grapple satisfactorily with the question: "What shall we do with the Inebriate?"

He who answers, that with no alcohol there would be no inebriation, summarily disposes of this matter; but then other questions might arise, whether upon the whole, considered in its whole breadth, both in relation to its use by man, and its use in the manufactures and arts, the world is not better by its discovery; and also whether all, or even a majority of those who now abuse it would, in its absence, be good citizens, perfectly moral

in their character, free from all evil passions, and wicked conduct—in a word, perfect patterns of the upright man. That certain of them would be better, and that a majority even would be better, I have no doubt. But a large number are defective by nature, and by this I mean, that their mental and physical characteristics, even at the time of their generation, and added to during the period of pregnancy, and further increased by their surroundings after birth, are so bad, that they fall into evil habits easily, have no very deep sense of the sins which they commit, and are rather surprised, than otherwise, that society ever feels bound to interfere with their conduct. Now, exactly where this doctrine will lead, I shall not speculate upon, for enough has been written upon it, but if investigators and close observers knew this to be true, then the whole responsibility does not fall upon the inferior resultant or debased nature or understanding, but would rest, in part, upon some of the progenitors.

This view should lead us, therefore, to be lenient in our judgment, and endeavor to overcome a part of the evil by moral means; leaving the law to deal with those subjects found to be incorrigible, and some do seem to be perfectly incorrigible, headstrong, sensual, devilish.

“Not all the blood, of all the Howards,  
Can ennoble knaves to cowards.”

They are amenable to neither entreaty or command; the strong hand of the law only can control, whilst it does not reform them.

As the law regards drunkenness as a crime, it will be well to consider why the law should not, in all cases, be enforced; whether with the common drunkard or the occasional drunkard, or whether it occurs in the lowest or highest classes of society. If all cases were punished, then the magistracy would be necessarily increased, and a large part of society would be under punishment; the moral influence of this, of course, is bad, and, so wisely, the law takes no cognizance of cases not brought to its notice; one may get drunk in his own room, day after

day, yet, if he does not seriously injure himself or squander his property, and is not likely to become a tax upon the community; is not noisy, so as to disturb his neighbors, and does no personal violence to another, the chances are that he is persistently let alone. The paternal government does not interfere with him as long as he interferes with no one else.

This may be the best course; some will consider it the most judicious, but we should not forget that what the man has done is a crime, so pronounced by the law, yet ignored by the law, leaving its enactments to be broken without punishment, and so lessening the terms as other enactments, and, perhaps, encouraging the transgressor in further and more serious crimes. Now, no one becomes bad all at once, and possibly, if the law had been enforced at its first transgression, then all the future life of the transgressor might have been fair.

That such would be the case in some instances, I have no doubt. The accidents of time and associations may induce the first drunkenness, without any such intentions on the part of the man, and when brought before the law, he recognizes, at once, if there is any virtue in him, the perilous position he is in, and cries out in the bitterness of his sorrow, "My God! what will become of me? this must be stopped!" And the chances are that it is stopped; it is his first, and only experience. I recall the case of a young man, who, after a military parade, rode about the streets with prostitutes, drinking at saloons until all were drunk; who was arrested by the police and arraigned before the justice. The shock was so great to his moral sense, that he never sinned again. Yet, if his case had been ignored by the law, or his conduct only gently reprimanded by a friend, the chances are that this drunkenness, of an accident, would have degenerated into the drunkenness of a habit. I think there are like operations in other crimes, when the criminal, to his great astonishment, finds himself a victim of the law, and the inmate of a jail. The crime was, in no way,

premeditated, and was the result of associations—in a word, was an accident. He realizes his condition, and resolves never again to be called a criminal. If he is in earnest, and has in him the elements of a man, he guides his way carefully even afterwards. His being inveighed with his crime, was not unlike the way of the one who was inveighed into drunkenness. Had it been overlooked, and the sinfulness of it not been made apparent, then, perhaps, he would have drifted into other and greater crimes. It is the persistency in drunkenness and other crimes, that makes them so difficult to be remedied. The moral nature, like the physical structure, soon adapts itself to its surroundings. The man becomes a drunkard, easily; he also becomes a thief, easily; he becomes untruthful, easily. I know that many fall into these ways easily, for, as I have explained, it is their nature; but not a few are the result of no deliberate intent, only of time and places and associations. Few women lapse from virtue, deliberately; it is usually the result of accident; but persistence in prostitution, from any cause, gives little chance of reformation, and much less in those, when from moral debasement, their occupation is regarded as a trade—as legitimate as any other. A young girl, who seemed to be intelligent, and was working in a book-binding establishment, told her physician that she might as well be in a house of ill-fame as to be there, required to work all day. Now, with such a mental organization, no one is to be reformed as a drunkard or a thief, or a strumpet; for drunkenness is not regarded as a very bad thing, nor theft as a crime, and fornication as just a matter between two persons only. It is in this persistency that we find our greatest obstacle to reformation, and to this, I shall soon further refer. A London police-officer once said that he would walk from Sands road to John O'Greath's house, to see a professional burglar who had fully reformed.

Thus much has been written, not because I believe that every first transgression should be met with the penalties of the law, but that it should be in some way

noticed, and, if possible, checked. All crime or vice grows by what it feeds on, and it grows very quickly, and is not easily eradicated. "Whatsoever a man soweth, that shall he reap."

I may add in this connection the opinions of Sir Wm. Gull, who "advocated punishing a mere drunkard, and doing it early. He would publish the name of a man found drunk, and if found a second or more times, he would put the number of times opposite his name, for public reprobation, although quite aware that society would not at present agree with him in this." In the early days of New England, drunkenness was quite common, and the punishment was frequent; besides being fined, the criminal was sometimes whipped, and at others put in the stocks, but a certain number continued to get drunk, and were frequently punished. A few were, undoubtedly, deterred from sinning again by the first punishment, but soon this became too often an old story, considered of no special account and really of no benefit so far as reformation was concerned, and in that respect corresponds very well with the punishment now accorded to common drunkards everywhere. After a certain time the man becomes reckless, or his nature is so blunted, that he loses his self respect,—becomes a liar, lazy, feeble, and too often destitute. He feels no degradation in imprisonment, and is so lost to all sense of honor, that he is really of little use in the world. If it were not for the sake of those dependent upon him, we should very likely say that he is as worthless as a dead man. And, yet, right here comes in the question, "What shall we do with the Inebriate;" for he is one of us, and must be provided for. If he has arrived at that point, where he is wasting his property, or has wholly wasted it, is a source of anxiety and fear to his friends, and is constantly becoming a tax upon society, why then he is a useless fellow, and society has a right to try to make a better man of him. It has been exerting this right, perhaps, for years, but to no avail; imprisonment has followed im-



prisonment, but he is a drunkard still. The short sentences which have been imposed, have allowed him to recuperate, and he comes out of prison in better health than when he went in, with no idea of reformation in his mind, or if he does entertain it, only very feebly, with as much power as he possesses perhaps, but usually only to relapse upon the first temptation. I know some of these men to say that they do not like the taste of liquor, and that it is very disagreeable to them. This is doubtless true, sometimes, for there are men who are seized with a sudden frenzy for alcohol. These are usually periodical drinkers, who will remain temperate for weeks or months, and then suddenly, without any warning to those around them, feeling an irresistible desire for alcohol, start off upon some specious plea, and are soon drinking all the stimulants they can procure.

But, to most of them, I question if the taste is disagreeable at first; it becomes disagreeable no doubt, after a week's debauch, when the stomach retains neither alcohol or anything else. Then the poor victim is in a miserable condition; he cannot stop drinking if he wishes; his mental power, for resistance, is at the lowest; he may be as ugly, as cruel, as obstinate, perhaps, as ever; all the bad elements of his nature are as active as ever, or even more so, for his restraining power is gone; the balance-wheel of the machinery is deranged and it drives on in its un-governed motion, until arrested by a superior hand. A dear friend, gentle, unselfish, generous to a fault, had, in early and middle life, been subject to periodical drinking. Through the influence of friends, and the great mercy of God, he had been able to restrain himself for years, but as advancing age, and imaginary pecuniary troubles came upon him, he occasionally indulged in excesses. Like many others, he thought they were concealed from the public, though he openly entered nearly every saloon on the street, and like some of them, deserted alone, he would continue in his debauch until some one

ordered him to stop. He seemed to have no power, and did have no power to stop of himself, and so day after day his drinking continued. Repeatedly, I have said to him, "Now, this must be stopped," and the gentle replies were: "Well, if you say so, I will stop," and he did, and there was no transgression again—until the next time, a period of four or six months afterwards, perhaps. Sometimes, when I knew of his excesses, I kept away for days, to ascertain if he would not stop of his own will, but never; though he always did when a firm voice commanded him.

Now I do not wish to regard this case of my friend as one typical of all drunkards, or of all inebriates, if that term suits anyone better; but it is typical of a class of them. Nervous, sensitive, refined, generous and intelligent; a perfect gentleman in his dress and manner; sympathetic, delicate and obliging, there was a restlessness and indecision about him, a disposition for excitement, and disinclination for the daily processes of active life, that showed how deeply he was excited by all the sensitive parts of his organization, and how little he was controlled by the solid reasoning faculties of his mind; and I do say, that he was typical of the class of impassioned, impulsive, periodical inebriates, whose cases are most interesting as objects of study.

And, now, right here arises the point, as to the actual disease in this case, either of the brain or of any other organ. Aside from the time when in an actual debauch, or the short time succeeding it, his mind was as active as ever; neither in his enunciation or actions, did he show that it was at all disturbed. He regretted his numerous falls, and was thoroughly ashamed, and again and again resolved, that by divine aid, there should be no recurrence. It is difficult to conceive of any structural change in the brain in such a case, though it might follow, and doubtless does follow after a while, in the periodical, as it usually follows in the common drunkard. There was functual disturbance, doubtless, and

this is probably true in most of these cases. These people bear disappointment poorly, great good fortune or great calamities affect them alike; a little excitement throws them off their balance, and they fly to the stimulant to raise their spirits if depressed; to raise them still higher, if already exalted. It matters but little what the exciting cause may be, some irritation in business or disturbance in domestic affairs, or prolonged idleness, are equally efficient. I have repeatedly seen it to occur upon trivial or grave occasions; a quarrel about a trifle excites the anger; a birth in the family, excites a joy, a death assures the grief, and the common result is a resort to alcohol.

These men are not hereditary drunkards, but they are born with certain tendencies, which we call hereditary, and which are developed under certain conditions. There is not unfrequently a strumous element, or a syphilitic one, or some constitutional taint existing, in the parents, or great mental disturbance at the time of or shortly before the generation, or decided ill-health on the part of the mother during pregnancy; a neuræsthenic condition which forbids the expectation of a healthy child; so rheumatic diseases, and consumptions, and apoplexies and intemperance are readily developed, and it is curious how far back these peculiarities may be traced, often through several generations. These families, however, like the notably intemperate ones, are pretty sure to die out soon, or if any one member survives to a ripe old age, it is due, doubtless, to some struggling spermatozoon who has come down from former ages, and escaped contamination in his generations of transmission. He stands out a living and lasting example of some stout old fellow of a century or centuries ago; and his extraordinary vitality, his red hair possibly, or some peculiarity of features, are only matters of tradition in his family.

I have repeatedly requested these men to come to me, or to apply to some friend, as soon as their

urgent desire for stimulants was upon them, and although they promise well, yet I have never known of one who complied with it; and further, I have never known of one who has said that he would not do it, but in a half-ashamed way would offer some pretended excuse for not keeping his promise; but likely it was like this that he felt the need of something, and thought he would just take a glass of beer and stop there; he did not intend to take anything more, only the one glass. Fool that he was, he could not stop; he had not the force to do it, if he was disposed, and I doubt if often they are much disposed. Having commenced, there is but one course, to keep on, until consciousness is drowned in insensibility, or until he is arrested in his debauch. He is now, I believe, in a majority of cases powerless to stop of himself; having fired the train of powder, it burns itself out, unless tramped upon and scattered.

I say that this is the course in a majority of the cases, yet, I once found a young man, who, periodically drank to the greatest excess, who limited himself to a debauch of sixty days. When called to see him, on one occasion, he said: "This is my last day, you need not give me any medicine, doctor, I shall stop now." "I don't believe it," I replied. "Yes I can; on my last tear I had a grand old bum, and I kept at it for sixty days, and then stopped and came out all right, and I can now." "But why did you not stop before?" "Oh, I was on a tear, and wanted to have it out; this is my last day, and I shall drink no more,"—and he did not. There were intervals of months between these turns, and then he was sober, quiet, industrious and gave no anxiety to his friends. His father said that he was the smartest of his sons; was quick at figures, and could do more business than any of them. But he was coarse, sensual, with no realization of his conduct; he made no regrets, expressed no sorrow. He had been at Binghampton once, where he remained one day, and in an insane asylum once or twice, where he remained not much

longer. Good advice and counsel, he assented to, but it, apparently, made no impression upon him; he talked lightly of his excesses; appeared pleased in recounting his vulgarity and brutality, and in no way showed any shame for what he had done. His education was fair, his intelligence good, was fond of reading, but was more fond of attending to his horse; lounging about the stable, and talking to the laborers. He was affectionate to his wife and children; the darling of his mother, who secretly supplied him with money; the darling of his father, when sober; the curse of his life, when drunk. Feared, coaxed, petted and blamed, with no high moral sense about him, but unrestrained, and filled with low ideas, how could he ever be anything from himself. With one parent supporting him, and the other alternately encouraging and blaming him, how could such divided counsels ever bring about anything but misery, even if the mental organization was healthy. His father was active, industrious; one of the most laborious of men, working seven days out of seven, taking no recreation whatever,—wholly absorbed in making money; one of his sons was feeble-minded; another, amiable, gentlemanly, attending to business quietly, and a good citizen, probably come down from a spermatozoon of previous ages. His mother was quiet, unpretending, rheumatic and somewhat peculiar; one or more of her brothers were also peculiar, visionary, unstable. The boy came naturally by all that pertained to him; all that was bad in him had fallen into good ground for growth; whatever of good was in him, had received but little of encouragement, and had taken care of itself.

Now this case I have dwelt upon somewhat, because it is one in which there may be differing views. I can see here no evidence of a brain diseased, and in truth, no evidence of insanity. There is moral perversity which is very plain, and existing at all times, and at the period of the debauch, perhaps a certain amount of functial brain disturbance, but this must be small, when the man limits

his debauch to sixty days, and concludes it at the time appointed. He stops then, willingly, but no inducements will lead him to stop before. About forty years of age and, physically, very strong, he is able to endure yet a great deal of abuse of himself, and, probably, will continue it as long as he lives.

There is no use in spending much time with such a person as this. Reason has no influence with him; shame has no abidement in him; his animal gratification is supreme; all his ideas and tastes are low; though ordinarily well-informed and well-behaved, when temperate, yet he is "sensual-devilish," when drunk. What shall be done with him?

Possibly, something might have been accomplished at the outset of his dissipation. He should have been told that drunkenness was a crime against the laws of God and man, and then publicly flogged. Probably it would have done the most good, in this case, to have flogged him first, and then to have given him the advice, for if there is anything which fellows like him fear, it is punishment upon the back, which hurts; which comes quickly and unexpectedly, and which hurts him where he is most sensitive, not mentally, but bodily; if this did not restrain him, then he should be confined, and made to labor, receiving such moral instructions as suited his case; and to effect much good, the period of confinement should not be short. Not much can be made out of him, and he does not require a great amount of sympathy to be wasted upon him.

In the case of my friend, previously mentioned, flogging would have killed him outright. His fine sensibilities would have been mortified beyond expression; his honor and dignity would have been wounded in their most sensitive part. His shame for being drunk was great enough, but he could never have lifted his head after this, and he would have terminated his life with his own hands. Though his religious sentiments were strong, and he was earnest in his prayers for strength to be kept

from temptation, yet I think a public flogging would have killed him. It would have done nothing in effecting a reformation; it would have led him to overlook the crime, in the punishment which he thought still greater. What could have been done with him? Proper restraint, suitable occupation, the presence of a friend, always near to encourage and admonish, and that friend, perhaps, a wife. But it is a lottery, with the chances against him, and most men are like him. The increased responsibilities, and sometimes perplexities, weigh hard upon all such nervous, impulsive, sensitive beings. If the woman was wise and patient above most women, then there would be a reasonable probability of success in reformation, or such a partial reformation as would make life tolerably pleasant to both of them. With one of a different character, he would soon be completely ruined. What he needs, and all like him need, is the restraining influence of a mind, stronger and more judicious than their own, whether this be of wife or friend.

What is the pathological condition of this man? There is no indication of any disease of the brain. I mean by this, that there is no reason to suppose that there is any structural lesion of this organ, produced by his use of alcoholic stimulants, for his use of them is short and at unfrequent intervals. There is in all probability some functional disturbance, similar to what has already been mentioned, and back of this, and dominating it, is the mental condition coeval with his origin, controlled and modified, perhaps, increased and intensified just as likely, by the circumstances of education and association. His mind is clear, active, intelligent, when not under the influence of stimulants; he transacts his business with discretion, his judgment is unimpaired; he is not insane; it is a perverted use of the term to call him so. His recovery is rapid; it is as frequent as the attack; unless he dies by accident, or by some sudden complications. If, however, this evil course is persisted in for many years, then the foundation is laid for organic changes, which may be fatal.

Very unlike this man, but similar to the one just previously mentioned, is a class of young men, with little, or with much education, of uncontrolled appetites and possessive of wealth; these are usually, but not always, idlers, selfish and sensual, with little regard for others; with no respect for age or friends, and possessing very little of moral sense; their aim is to "enjoy life," as they phrase it, and this enjoyment consists in spending money freely, in drinking and riotous living, in habits of idleness and wontonness. These become hard and continuous drinkers, and, fortunately, die early. Fortunes are destroyed, the hearts of parents and friends are broken, anguish overwhelms all connected with them; their life is one of wretchedness and misery. If reproached, they are indignant; if it is told them, after repeated disgrace, that they are not to be trusted, as their promises have always been broken, then they talk of their affronted honor. Why, there is not enough of honor in a regiment of them to supply an honest man for one day; they are not to be trusted; they are deceptive beyond measure; they are wholly unreliable. This is the class that oftenest get into our insane hospitals, and are the quickest in getting out; one of them will demoralize a whole ward in forty-eight hours. So curious is their sense of honor, that they prefer to be sent to a hospital for the insane, rather than to a hospital for inebriates. They show wonderful perception here, in considering what is regarded as a crime, as being less disgraceful than a calamity. Nothing, at Binghampton, some years since, gave me more pain, than to see there a large number of these fellows, sauntering idly about the halls, with hands in their pockets, restless, uneasy; recounting to one another, with evident pleasure, their dissolute lives, with a make-believe of good behavior, and waiting impatiently for the three months to expire, when as one said, "the old man will come down, and we will go to Europe, and have a good time."

All sympathy is thrown away upon these fellows. They need and will listen to good advice, but all of them cannot



appreciate it; and they need also the restraining influence of labor, and of a strong hand. But excessive drinking and excessive venery soon makes an end of them; a few only are permanently reformed.

These men are not insane; their mental power is weak for good, but very strong for evil; their moral perversity is great; it is true, certainly, of them, that they are as "prone to evil as the sparks to fly upward."

The common drunkard is a difficult subject to deal with; the persistent use of alcohol has led to unhealthy changes in the brain, in the digestive organs and the kidneys; the whole nervous system is in a diseased state. His intemperance may have so effected the brain, that he never afterwards fully recovers his mental powers, even if he lays aside his stimulants; the unnatural congestion of the cerebral vessels causes certain structural changes in this organ, which cannot but effect its power. When, from disease of any kind, we find the brain unusually firm, or unusually soft, we think we have the evidences of disease unmistakable. When we find these evidences in persons habitually intemperate, then it is fair to suppose that alcohol has been the primary cause. In one instance, I found the brain almost as firm as if it had been macerated in alcohol; the stomach was in a perfectly healthy condition, no erosions, no inflammations—his excesses for many years had not troubled his digestive organs; his mental powers were weak, however; his ambition was destroyed, and he was content to perform the offices of a menial; but he was not an insane drunkard, nor was he demented as we speak of senile dementia, but there was a diminution of active mental force, which settled him down in life into a very circumscribed area. The chances of reforming such a man are small indeed, and usually he is not worth much when he is reformed. No organ, and especially so delicate a one as the brain, can be subjected for years to such harsh treatment as the drunkard gives it, and not show evidence of disease; if the scalpel does not reveal it, and it often does not, we may hope

that the microscope will yet effect something in this direction. But whether the pathological condition is ever more clearly revealed or not, yet we may judge from psychological manifestations, that some change has certainly taken place, and perhaps, if the exact change was known, we should be no better prepared to treat it. It is here, as sometimes elsewhere, that the careful study of the rational symptoms, will afford all useful suggestions for treatment. I would be one of the last to undervalue the study of pathology, which should be the base of therapeutics, but the minute investigation into the diseased structure, does not always produce the most useful practitioner. It may be fairly questioned, whether some of the older physicians, who made a careful study of symptoms, did not do as much in effecting a removal of disease as the minutest etiologist, who is proud of his precision.

If I might venture to suggest, in your presence, who know so much better than myself, I would say that it is a question whether a violent case of insanity, though it recovers, yet always recovers fully, completely, so that the patient is himself again, as he was before the attack. I can understand that this may be the case, if the mental disturbance is functional, due to some derangement of the digestive organs, for instance; but if it is due to excessive brain action, as sudden grief, or intense application to business, then there is a chance that the brain has received a shock or undergone a change, which permits of a recovery, indeed, but a recovery which leaves it short of its original power. That this does not always occur, only proves that the cerebral disease was comparatively slight. The fact, that insanity is generally incurable, if it continues for some length of time, would indicate that the brain is exceedingly sensitive to injurious impressions. The recoveries which have taken place in cases of insanity of long standing, are truly wonderful, and are of themselves worthy of careful study; one or two about which Dr. Butler has spoken to me, when the insanity had lasted nearly twenty years, I think, were quite remarkable,

but even here he doubted, if all the faculties were in perfection again; there was still something singular about these persons, he said.

Every case of habitual drunkenness is not a case of dipsomania, and this it is well to bear in mind. Some men drink steadily, day after day, and drink to excess, without becoming, daily, absolutely drunk; they may approach pretty near this point, and occasionally become dead drunk, that is insensible; it is fair to term these men as drunkards. Not always is there with them, that raging thirst for alcohol, which cannot be resisted. They drink as a matter of habit, and if opportunity is not afforded for their accustomed stimulant for a day or so, whilst they suffer from a general uneasiness, as any one may, whose habits are interrupted, yet they are not raging, uncontrollable, upon the border of mania a potu. Their moral strength seems to keep down the emotional nature which some have, and carries them on safely for a short time. These men are phlegmatic, not easily excited, not led away by passion or nervous excitement at any time; the very fact, that they are so passive, has enabled them to resist the destructive poison of alcohol. There is not fire enough in them to be kindled by a stimulant which would overturn a dozen of more nervous men; for, from their very nature, as well as from long habit, it has required large doses to arouse them. A friend, in the company of Daniel Webster, found him to be a very dull companion, and remarked, that he was much disappointed in him. "Wait until he has taken a few more glasses of brandy," was the reply, "and then judge;" and he afterwards thought differently. Silas Wright, one among the great men of this nation, was another, and so phlegmatic and unimpressible was he, that, while the stimulant doubtless gave increased mental activity, yet it affected but little, or at all, his general conduct. So that what Mr. Clay said of him, "His brain is never drunk," was not far from the truth. Probably, in both of these celebrated men, there were to be found, some of the

pathological changes which are to be found in the brains of habitual and excessive drinkers. But they were dipsomaniacs in no true sense of the word; they liked the stimulant, and were incommoded by its absence, but they had none of the frenzy of the dipsomaniac; they could have been shut up in a prison or confined in any hospital, and could only have suffered the uneasiness of interruption of the habit. It is doubtful if delirium tremens would have been developed in either instance. When set at liberty again, both would probably have returned to their former ways, but more moderately, and, perhaps never to the previous excesses. It may be, however, that in both, the use of stimulants had so changed the brain structure that in their latter days they were led to consider as serious and grievous injuries, those disappointments which would have been more lightly regarded in earlier days.

How, unlike these men, is the conduct of the true dipsomaniac. If he drinks steadily, he drinks excessively, and is soon hopelessly drunk; it is done with passion, with fury; he will not be controlled; all interference is resented, all advice is disregarded; his reason is beyond his control. If brandy is kept from him he will drink alcohol itself, or cologne, or bay rum, or spirits of camphor, anything, in fact, which is within his reach; his one desire is to obtain some fluid which contains alcohol; he will even drain the bottles containing anatomical preparations; nothing comes amiss which he fancies will gratify his thirst. This man is diseased, he was not diseased when he first commenced to drink, but the continuous use of stimulants has developed in him a disease, which is fairly no less a disease than that of many other monomaniacs. The disposition to its development was apt; perhaps it was hereditary, perhaps it was a nature, sensitive to every emotion, which yielded to every impression; a will which was feeble, and always surrendered to any attack, however slight.

While the excessive use of alcoholic stimulants is the

cause of a large percentage of the cases of insanity, yet it must be remembered that insanity is one of the causes of drunkenness. When a man begins to indulge in stimulants who has always been temperate and orderly in his conduct, then it may be well to carefully investigate his case; possibly other symptoms of insanity may be found, besides his drunkenness, which will appear as only one of the evidences of a mind disordered. This idea is no new one, but is mentioned as a well-established fact, of which all of you may have cognizance. Why should he not resort to stimulants, just as the insane do other unreasonable things? The popular feeling that one who becomes a drunkard and is pronounced insane, is insane because of his drunkenness, is not always true, and it is well for us to bear this in mind. We can afford to be discriminating and charitable in some of these cases, though they are far in the minority. The disposition to charge the most of crime upon the use of alcohol, is no more justifiable, than to attribute the most of insanity to the same agent. If there was no alcohol in existence, there would still be crime in abundance. Men would kill, and steal and falsify; crimes against persons and against property would still be frequent, as long as anger and hate and covetousness are allowed to prevail.

It is easy to dispose of the insane drunkard; he is an insane man, and requires the treatment of other insane persons. While the excessive use of intoxicants was the cause of his insanity, yet he needs not to be separated from other insane on account of this cause; it would be idle to strictly classify as to causes of derangement. So the Insane Hospital becomes the place for these men; the prospect of cure, when the cause is from chronic alcoholism, may be very small, indeed, but they need the protecting care of society, nevertheless. Dr. Fisher has written so well upon this part of the subject, that I need say nothing further. But what can be done with the large class of drunkards, who are not insane, in the true and generally accepted sense of the word?

If drunkenness is a crime, or a vice, or a disease, and the victim does not or cannot control himself, is wasteful of his property, is injurious to himself or others, then he should be placed under control, and be subjected to such treatment as promises to be for his benefit. If this is fully recognized, and becomes well established, then the plan is easily worked out, and almost establishes itself. When the four and six-bottle men were common, and it was considered a very proper thing to be tumbled under the table after dinner, then it would have been impossible to have interfered with the drunkard in the manner proposed. While the gentleman might have acknowledged that it was a very proper thing to send the laborer, found drunk, to the work-house or the jail, yet he was not willing to acknowledge the application of the law to himself or to any like him. Happily, the coarseness and vulgarity and brutality, even of the higher class of a former age have passed away, and there has come in an improvement of manners, if not of morals, but probably of morals also. So that, as society is now constituted and regulated, the time is more propitious than before for effective dealing with this subject. It is well to remember, however, that no legislation, which does not receive the sanction of public opinion, is satisfactorily carried out. It is a great mistake to legislate far in advance of it, for it effects nothing, and tends to bring the law itself into disgrace.

Probably, public opinion now sanctions the efforts which have been made towards restraining the drunkard. After much discussion and much hesitation, men have come to acknowledge that something more must be done for them, than merely imposing a small fine, or committing them to jail. Whether they accept the theory, that drunkenness is a disease or not, is another question; the probability is that they regard it more as a vice, or disposition of the drunkard himself, than as originating from any disease. But the public is disposed to listen to the discussion which is now going on, and to view favorably the proposed efforts for reform. It only remains,

therefore, for educated men, who look deeply into these matters, and all others effecting the social body, to study, carefully and dispassionately, all the problems which are proposed, and not allow themselves to be lead astray by fanciful ideas or impracticable schemes.

So if you say that every one, who becomes drunk or drinks to excess, is insane, and must be subjected to confinement, you state a proposition which is opposed by the common sense of mankind, and is wholly impracticable in its execution.

But, if the views which have been held in this paper are accepted, why, then some may be subjected to punishment, more committed to work-houses, or asylums especially for the inebriate, and some let alone, as they now are, and probably always will be.

If then, the inebriate is committed to a work-house, or a special asylum, these institutions should have full control of him, just as much as the prison-keeper has over his prisoners, or as the superintendent of a hospital for the insane has over his patients. Without this, control is a farce, and treatment worse than useless; it amounts, in fact, only to such detention and such treatment as the inebriate himself is willing to submit to or affirms. When an insane person is taken to an Insane Hospital, it is for the purpose of improvement, of using the means which experience has found useful in such cases; if restraint is one of them, then that is yielded to, and the patient submits his own will, or is supposed to, to that of one who knows more than he does himself. It would strike the common mind, even, as absolute folly, to allow such a one, whose insanity had been manifested in violence, his full liberty of action, else why was he restrained at all; with his liberty, he is liable to continue in just such practices, as before his removal to a hospital, and so, what benefit is to accrue from it, or what benefit is to accrue in any case where this license is allowed?

If then, from any account, whether from actual disease or infirmity of will, it is thought best to restrain the ine-

briate, it should be done so effectually, that he is prevented from any further access to intoxicating liquors; having been brought into difficulty through the use of alcohol, he must let alcohol alone, absolutely, totally; all opportunities for obtaining it must be shut off, for one indulgence may destroy the effect of months or even years of treatment. It may seem hard to many, that so severe a confinement and guardianship as this should be exacted, but I am satisfied that there are many whose reforms will never be effected without it; and, in truth, there are too many whose reforms will never be effected with it. But for those desirous and anxious for reformation, it is believed that this will avail much.

Men regard places of confinement with different ideas; a prison is more disgraceful than a jail; a jail more disgraceful than a work-house, and an inebriate asylum less objectionable than an Insane Hospital. If it is decided that the inebriate should not be admitted to the latter, then one of those already mentioned must be resorted to, so that he must go either by force or willingly to one of them, that is if he goes to any public institution. I know that in some places he has been sent to an alms-house, as if poverty was not affliction enough without being obliged to herd with criminals. If he is sent to prison or to jail, whether for drunkenness or some other crime committed while drunk, then he undergoes the punishment which the law inflicts, but gets no benefit from efforts for reformation. The infractor of the law is punished, and if he happens to be a drunkard, he is punished again and again; he is fined, perhaps, and "sent up," as the phrase is, no way disgraced by his short term of punishment, and in no way bettered by it, unless it be by a partial and temporary return to health, which gives him a longer lease of life and fits him for repeated indulgences.

It would seem then, that there were left for us two resources for these men, the work-house and the hospital for inebriates. They might well accommodate all persons guilty of simple inebriety, whether continuous or paroxys-



mal whether they were committed by law, or entered voluntarily; as few would go to a work-house of their own accord, there would be left for them the hospital for inebriates, and this also would almost necessarily include those who were able to pay for their treatment.

The work-house then should be specially designed for the inebriate committed by law, and who would find no other place for reformation.

The inebriate hospital should be designed for those who have not committed great crimes, who can make proper compensation, who recognize their condition and are desirous of reformation, or whose friends desire it for them. This latter is to a certain extent exclusive, and so cannot ask any great amount of aid from the State, for it would be an unjust principle for the State to aid one class of citizens and not all. So that to private benevolence must be left the establishment of hospitals, looking to its own income for its means of support.

In both, however, the same principles of government and reformation should be established, and, what I now say, may be considered of general application.

When men undertake to accomplish any object, they set about it in a certain way, and the reasons and methods are supposed to be necessary. The soldier, when he enters the army, does it with the full knowledge of what it is for, and submits his will to the will of another; the boy enters a school for the purpose of obtaining instruction, and applies himself to his books, following the command of his teachers; he is there for an object, and it is not lost sight of; he is not in school merely to pass a certain number of hours in idleness, and then allowed to go out into the world as ignorant as when he entered it, but he is instructed, and is told why he is instructed, that he is in school for this very purpose, and must improve his opportunities, and, very likely is admonished, in no gentle way, if he does not improve them. What would be thought of a teacher, who so neglected his duties, that he furnished amusements only for his scholars, and neglected

their studies for fear of putting upon them something distasteful? And so I might go on, showing how that any one, who undertakes anything, goes about it in an appointed way, gives his energies to it, submits himself to the will of another, if necessary, works out his task, and does it often laboriously, perseveringly, if he expects to succeed. Just so much as he is inferior in mental or physical ability, just so much the more is he dependent upon others, and must be guided by them. Whether as an artisan or a day laborer, he does not lay out his work for himself, and say that he will execute it so and so, but he follows the commands and designs of his superiors, and he is willing to do it, for thus he accomplishes the very object of his work.

Of course you perceive my design in dwelling upon this point, for I wish to show how necessary it is that certain principles should be well established, and well understood and acquiesced in; that certain methods of treatment, thought to be necessary in the treatment of inebriety, should be carried out, even if they did not meet the full approval of the inebriate, or were not considered necessary by him. And so there should be no ignoring of their inebriety, or the cause for which they entered the hospital. With judicious firmness, they should be told of their weakness, and the way pointed out by which they might return to society again. As this can be fully understood, why should it not be done? The delicacy which is used in our intercourse with insane persons, need not be practiced here.

Some of the inebriates will acquiesce in this, and say that this course is all very proper for Jones, or Brown, or Smith, but is not necessary for them; that they only require the detention of a few days, when they will be all right again, and they will become drunk no more; that their mind is strong, and capable of resisting any temptation; that there need be no fears of their drinking again, for they do not want, and have a dislike for the very taste of alcohol. If these remarks had not been often made

before, we should have more confidence in them; the truth is, these men need the counsel and guidance of a wiser and more stable mind than their own, and they especially need the discipline which comes from restraint and the judicious use of labor.

Perhaps nothing is better for them than systematic labor; its effect in strengthening the body, in building up and renovating a feeble, or weakened nervous system, renders it one of the most useful of remedial measures. And this is just the way to put it, that labor is a remedial measure, which must be accepted and acquiesced in by all inebriates, inmates of hospitals or work-houses. Like other remedial measures, it holds its place with therapeutical agencies, with amusements, attention to diet, and general conduct and proper advice. It is not the least of them; in my opinion, it is the chief of them, and suited especially to their erratic, impulsive and often ill directed lives. Stability, fixedness of purpose, in a word, a stronger power of their own will for good, is what is especially needed. Some of them will get it for the first time under such a system.

I have said enough already to show that I have no confidence in a short period of treatment; how much can be done by a long course, is as yet a problem, not fully worked out, but promising much, and I would like to impress you, gentlemen, with earnestness and as much confidence as I have myself, that it is in this direction, that it is to the remedial influence of labor, and long continued restraint, that we are to look for successful treatment of the inebriate. Various amusements are proper, yes, are absolutely necessary; but more than amusements are wanting; these men perceive this very thing themselves, and feel the need of something more profitable. Why, the very insane perceive this, also, and mere amusements are not always satisfactory to them; and doubtless more occupation in labor may be found of greater benefit to them, than was ever supposed.

If it were possible for the inebriate to enjoy some of

the profits of his labor, it would be well. Some system might be devised by which this could be accomplished, but I have no great faith that any prison or hospital can be made a very profitable manufactory; prisons in general have not been successful in this respect, and with inebriates, the enforced and lengthened hours of labor could not be exacted; labor and amusements, instruction, and various methods of passing the time, agreeably and profitably, should all be employed.

Now some may say that with enforced labor we should never receive any patients, voluntarily, or any whose fortunes were abundant. But, if labor is a remedial agent, is especially necessary in these cases, and is considered so very generally, why then the inebriate must be very unreasonable, and so must his friends, who refuse to adopt it as a way out of his difficulties. A firm decision on our part, if we so regard it, will carry confidence and, ultimately, respect. Though the one, who is willing to pay largely for his treatment may object to this, yet, it should be required of all, according to their ability. To take away this, is to take away one of our best remedies; it is requiring us to make bricks without straw, when it is difficult enough to make them with it.

In a work-house it would be especially desirable that a portion of the proceeds of labor should be given to the inebriate. Very often the only means of support of the family is taken away, when the father, or the husband, is shut up. Though he may be drunk and neglect his work for half of his time, yet he contributes to their support, and, perhaps, supports them wholly. To bring them upon the town by his incarceration, especially if it was for a long time, would be hard for the family, and prejudice the public against any such scheme which proposed to increase its burdens. It might be found, however, that the repeated arrests of the common drunkard, with the expenses of convictions and detention in prison, under the system of short sentences, would amount to more, in the aggregate, than would the cost

of the support of the family. But men do not understand, or do not wish to understand, that a sum which is indirectly saved, can possibly be larger, than one which is directly paid out.

I ought to allude to another agency in reforming the inebriate, and that is the influence of association and co-operation. To this was due, in part, the success of the Washingtonian Movement, a few years ago, and is now found so successful in some reformatory institutions. Their weekly gatherings led to the binding together of men in the same cause; naturally emotional, this gave them something to do, to think about, to act in. As no long time elapsed between these meetings, so the dangerous periods were sheeted over, and, perhaps, safely passed. Each one knew that if he was absent, his case would be enquired into—he himself be sought out. Even with these men came relapses, with all their mutual guardianship and sympathies. If they met but once a month, or once in six months, the chances are that they would recur much oftener.

It is now well known that short terms of imprisonment have no effect in reforming the criminal; on the contrary, they tend to confirm him in his course. All that the drunkard gets, by his detention, is a better state of health for a short time only; he is in no way reformed, as he is imprisoned again and again, so he becomes more and more confirmed in his habit, and generally continues in it, until death comes to his relief. A detention of a year to three years may appear to be too long, and to many to be too severe, for "only getting drunk," as may be said, but it is not too long if it is necessary for his cure, and probably it is necessary often times. When it is not, then the inebriate may be permitted to go out, and remain unconnected with the asylum, only so far that he should report to it at certain times. He may be allowed his liberty and attend to his ordinary business, if he does not abuse his privilege. But he should understand, that if he commences to drink again, he will be arrested and

brought back, to undergo further detention. Such was the "Crofton" Prison System, which having been found to work well with the convict, may be applied to the inebriate also. The strong arm of the law should reach out and apprehend these men, if they escape, or violate their "ticket of leave."

I apprehend that too much stress has been laid upon the want of will power in inebriates, and that, thereby the public have not always formally regarded the opinions of physicians in this matter. I fully acknowledge, that the will is often feeble, and that after the man has commenced his drinking, it is very difficult, if not impossible, for many of them to stop. I have previously said enough about this, and will now only state that the extent of it is somewhat exaggerated, and will mention this case in illustration: A man in middle life, whose mother died young, with consumption, and a brother also, with the same disease, commenced drinking when in college; this he had followed pretty steadily, often excessively, though occasionally with some months of intervals. His tastes were decidedly literary, and he was able, with his pen, to earn a fair livelihood. Brilliant, witty, learned, his conversation was pleasing and instructive, and he was as companionable a man as one would often find. After a long while he was at Binghampton, where he was perfectly correct in his habits; in a week his health was good, and he followed his occupation as a writer, remaining mostly in his room, but allowed full liberty, upon his promise not to abuse it; there is no reason to suppose that he ever abused it, although he was there more than once. To show how much he could control himself while an inmate of that institution, he told me that there being an important public meeting in Albany, he obtained permission from the Superintendent to attend it, provided he would promise to abstain from stimulants during his absence. He left Binghampton on a cold, unpleasant day in winter, and arrived in Albany at night. He went to his hotel, chilled by his long ride, knowing no one; he was cold,

a stranger and every way uncomfortable; on any other occasion he would have drank a glass of whisky at once, or a dozen of them, but now he hesitated, and this was the way the subject lay in his mind. "I want the whisky, I feel that it will do me good; a hot tod will warm me up, and put me all right; just one, and there I will stop; no one will know it, and I shall be better for it. But shall I stop when I have drank once, can I? The Doctor will certainly know it when I return, and then there will be no further liberty for me; it will grieve him I know, to think I have broken my promise, and that he can put no further confidence in me, I will not drink at all;" and he did not; it was a great struggle, he said, but he was successful.

Now why did he not drink, as he had hundreds of times before? He gave the true reasons; the fear that he could not be content with one glass, and then there would come an awful period of debauch; the fear that he would be restrained in his liberty, being subjected to a longer detention, and the regret that he had abused the confidence reposed in him. It was certainly an unlooked for triumph on his part, and one cannot help asking if he could so govern himself in this instance, why could he not do so in many others. I cannot answer it satisfactorily, but it has cautioned me not to allow too much for this claimed "feeble will power." His will was feeble enough, if he drank but once; he knew his weakness and in this instance, refrained. His periodical excesses were, and are now great, and in endeavoring to learn the exciting causes, I have found that general ill-health, perplexities in business, a want of occupation, anything, in fact, which disturbed him, was very sure to lead to a debauch.

When at Binghampton, he studied this subject of inebriety quite closely, and he was capable of doing it; one of his results he told me was this: "You cannot make much out of these fellows, Doctor, if they do not wish to reform." It occurred to me that there was a great truth here, and that joined to the wish, there must be added a con-

siderable length of time, and a great amount of patience.

This paper is already too long, and yet there are more points which might have been developed, but with the essay read at the previous meeting, the ground has been pretty well covered. I will only say that a law in Connecticut, which gave asylums full authority to hold inebriates, was found to be defective in this: that it authorized no one to apprehend fugitives, and officers hesitated to act under it. At the last session of the legislature, an additional act was passed, remedying this defect, and now it is believed to be as perfect as it can be made. With authority to apprehend inebriates who have escaped, and to hold them from a few months to three years, subject of course, to the right of habeas corpus, which all enjoy, there is much to expect, that considerable may be affected in reforming them. It becomes us all to study this subject of inebriety dispassionately, and to bring to its investigation all the knowledge and candor, and earnest desire for truth, that we should bring to any subject in psychology.

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## Art. III.--The Medico-Legal Aspect of Cerebral Localization and Aphasia.

By C. H. HUGHES, M. D.

CONCLUDED.

THE hysterical, the choreic, the cataleptic, the emotional, the hyperæmic and reflex forms of speech failure have neither distinct clinical significance, nor are they often likely to have medico-legal importance, separate from the diseases with which they may be associated. They need not, therefore, be considered here, and we mention them mainly to exclude them, as we likewise do the speechlessness of nightmare. Marc' and others, however, have noted the temporary impairment of the mental faculties in chorea, and the defect in the speech power in this disorder, is, probably, as much dependent on the cerebral disorder implicating the speech center along with other portions of the cortex, as on disturbance of the motor area for the organs of articulation. There are circumstances, too, under which aphasia occurring in the course of cerebral hyperæmia, might have corroborative significance in a question of doubtful sanity, but if we were to discuss all these possibilities, we should transcend the limit of the evening. We may say, however, in order not to be understood as under-rating the matter, that such a degree of general cerebral congestion, if persistent for any length of time, as would paralyze the speech co-ordinating power, would probably also simultaneously impair the higher psychical faculties.

The occasional aphasia of drunkenness has never been pathologically defined with sufficient distinctness. It is often, no doubt, a sort of incomplete and transitory glosso-labial paralysis, like the other forms of inco-ordination

The regional diagram and remarks on cerebral localization, are omitted, the latter being covered by the excellent epitome of Nochnigel, *Vide Art. I.*—Ed.

seen in inebriates, or the peculiar and more permanent defects of speech displayed by general paralytics. This latter form of speech defect, also, need not be considered apart from the graver disease with which it is associated, and which has other characteristic signs. Nor need we note any of the glosso-plegias causing speech defect.

The momentary speechlessness, sometimes occurring in persons overcome by fright or profound surprise, at being the unwilling or unexpected witnesses of some horrible tragedy, might possibly have to be considered where an innocent person is indicted as *particeps criminis* from the fact of his being present, and uttering no protest or cry of alarm; but, in such cases, the proper explanation, I believe, has always been, and is still likely to be, made and received; so well understood is the fact, by the common mind, that intense fear may for a time, paralyze the power of speech, as well as of motion.

I saw, recently, an account of a man who could neither read nor write, having been imprisoned for forgery. An aphasic person might sign as well as speak a name not his own, and yet mean it for himself, though I have never seen such a phenomenon. I have, nevertheless, seen enough of these singular cases to eradicate from my mind much former scepticism on the subject, respecting the almost infinite possibilities of distorted or perverted expression to be found in these cases. But aphasics, who can write any name at all, are generally capable of making their own proper signatures, though, it must not be forgotten, that these persons do sometimes forget even their own name, as well as how to write it, and it is a reasonable conjecture, that their mental conception of their cognomen, probably, no more closely approximates the real thing in some instances, than the cross or other marks they make to represent it. These things are very singular, and seem to militate against the idea of the unity of all the faculties of the mind into one entirety.

In the asylum at Fulton, I had a patient, who, in several years—all the time I knew him—I never heard

He had, many years before he became insane, received an injury to the parietal bone, near the sagito-lambdoidal sutural junction on the right side, causing depression and fracture of the inner and outer tables of the skull.

After I had loosened two buttons of bone, with the trephine, and, at the moment of elevating them, he exclaimed: "Oh! it hurts!" He had lived, all the time I knew him, like a mere automaton; going forward, if started by a gentle push from behind, and not halting in his walk until he had gone the whole length of the asylum corridor, 125 feet, and come in contact with the semi-circular wire window-guard, where the flowers were kept, at the end of the hall. If turned about here, and started back in like manner, he would go on as before, stopping only at the opposite window-guard. Since the operation, he has continued to speak well and freely, and is much less automatic in his movements, but remains quite insane, though he now lives at his home. This is not true aphasia, but it was a phase of insanity, which might be called aphasic. The cranial injury in this instance, it will be observed, was quite remote from the speech center.

This man also had symptoms that simulated catalepsy. He would stay wherever he was placed, and maintain his limbs in the position we would put them.

Where the insanity is placed beyond doubt, as it was in this instance, the significance of any co-existent aphasia, real or apparent, is likely to be overshadowed by the graver cerebral disease, but there are cases where the perversion or impairment of the speaking power, especially if associated with motor paralysis of certain facial muscles, gives the patient the semblance of being insane. This complicates the subject of aphasia in its forensic aspects. In some forms of insanity there is often an indisposition, a disinclination to speak, especially in silent melancholia unaccompanied with any paralysis of the motor tract or the speech center, and a real aphasia may co-exist with undoubted mental aberration. This may also sometimes

complicate, the subject, and only discriminating clinical observation of both sane and insane aphasics, will enable us to form a correct judgment. To form right conclusions upon which to base opinions that shall prove satisfactory to ourselves, and intelligible to courts and juries, we must become practically familiar with the habitual expression of the mind diseased, as well as the mind rational and unclouded.

We must make companions of and gain, so far as we can, the familiar confidence of the insane as well as the sane. We must see the former, as we every day may see the latter, face to face, and divested of every psychical mask. We must learn to interpret mental action through the obstinate silence which some maniacs display, as well as through the vague and violent expressions, fantastic dress or indifference to dress, and appearance of others.

Long range conjectures, as to what ought to constitute insanity, but which clinical demonstrations disperse, as the wakefulness of the morning drives away the dreams of the night, and comparison of real cases submitted to our judgment with ideal standards, will mislead us, and the blind expert thus misleading the blind judge and jury, they all fall into the ditch together.

The physician can no more ignore or disparage clinical psychiatry in the study of psychical problems, whether for solution at the bedside or on the witness stand, than he can dispense with clinical research, in fitting him for understanding other diseases.

If, "in the gestures, movements, looks and general aspect of the insane person, in his proposals, actions and shades of conduct, which are imperceptible to others, the physician often derives his first thought, respecting the treatment which is suited to each patient committed to his care," how much more important it is that we should either "live with the insane," or often visit them, in order to safely determine, whether actions readily attributed by the non-professional to insanity, are actually the offspring of mental disease or of a non-psychical, and, purely local cerebral affection, such as that of aphasia.

Aphasia, dissociated from mental impairment, is much more frequent than that connected with insanity, so that in a case of suspected mental disease, the burden of proof would fall on those who might maintain the co-existence of mental aberration, and the legal presumption would be, in such a case, in favor of sanity.

In 1862, a cabin-boy, sleeping in the texas of a Mississippi steamer—on which I was at the time—while the boat was rounding out into the stream from Mound City, was struck in the left temple by a glancing minnie-ball, fired from the shore by Guerrillas. He was insensible for a while, and when he recovered consciousness could not speak, until after the depressed bone was raised. He recovered completely, both from the aphasia and concussion, and in a few weeks was again waiting on the cabin table. This is simple traumatic aphasia.

I saw, during the past year, three cases of aphasia, one of them uncomplicated with paralysis, two of whom are living; the other had cerebral softening, quite general in the left hemisphere, and died paralytic. His aphasia, though not really very marked when I saw him, actually improved towards the close of his life. His right hemisphere took on a vicarious function. The post mortem revealed a healthy third frontal convolution on the right side, while the corresponding left side was completely disorganized.

This patient was in the Old Men's Hospital, in charge of the Little Sisters of the Poor, and I am indebted to Dr. Henske, the visiting surgeon, for having called me to see him. (An abstract of the case appeared in the April number). The man learned to say a great many words correctly, after failing once or several times, in his attempts to speak them, so that it was undoubtedly an instance of successful education of the vicarious function of the opposite speech center. His ability to speak, and his improved fluency of speech, notwithstanding the destruction of the whole of the left frontal lobe, can not be explainable on any other hypothesis. Of the two other cases, one

was an intelligent patient, though somewhat mentally confused in the beginning, of Dr. Dean's, at the City Hospital, (which was reported in the January number of this journal).

His chief expression for a long time was "somebody, somebody, somebody," with which, and a copious gesticulation (he was an actor,) he had for awhile to indicate all his wants. He soon greatly improved, enlarged his vocabulary of words, and learned to write, though he is not yet entirely well. The other case I saw with Dr. Newman, at St. Luke's. The disease was associated with syphilitic hemiplegia; the man's oral vocabulary was and still is very limited and imperfect; though there being no agraphia, he expresses himself with pen or pencil moderately well.

When hemiplegia exists, it adds to the gravity of the case; It indicates that the cerebral lesion for a time, at least, extends beyond the convolution of Broca, and we have then, if we can, to define its further limits. Especially, have we then to determine to what extent the intellectual centers of the cortex are involved. This will have to be done, largely, by interrogation of the psychical symptoms. If, through the impaired communicating power, we are yet enabled to discern the undoubted existence of hallucinations, delusions, or marked illusions, or if coma exists, our task is not very difficult.

With the power of normal mental expression destroyed or weakened by disease, the precise mental status of an aphasic may be wrongly interpreted, especially if there be associated paralysis of the nerves distributed to the face, so as to cause alteration in natural expression. This was so in the case of Wm. T. Beven, a case which I consider entitled to be classed among the *causes celebres*.

The particular forms of insanity with which real aphasia is most likely to be associated, that are apt to have any medico-legal importance, are the insanity of old age—senile insanity as it is called—and the general paralysis of the insane.

When aphasia occurs in the prime of life, it is not so likely

to be fatal to either mentality or life. Beyond the prime, it is often associated with degenerative changes in the arteries, which admit of rupture and extravasation of blood. The destructive lesion in the latter case being more extensive than in the former, and more likely to more generally implicate the cortex. The young often recover from aphasia; the very aged seldom, if ever. Some famous cases in old men have engaged the attention of courts in this country, in which the testimony of reputable medical men has been obtained on either side, such, for example, as the celebrated Parish Will Case, where four or five well-known physicians testified on one side, and the eminent Drs. I. Ray, Pliny Earle<sup>1</sup> and Bell on the other (the latter three being skillful experts); and the more recent case of David B. Lawler, where Drs. Comegys and Bartholow, of Cincinnati, held opposite opinions as to the testators mental capacity.<sup>2</sup>

The most important and recent medico-legal case, I now recall, is that of Wm. T. Beven, reported in the *American Journal of Insanity*, for January, 1879, already referred to, where reputable medical men again differed, as to the mental status of the individual.

In this instance the man was the defendant in a suit brought for the recovery of money on a deed of trust, signed by himself, when he was aphasic, and so hemiplegic on his right side, that he had to make his signature with the left hand.

So that these cases, whether, we will that they should or should not, do get before the Courts, and doctors will be called upon to aid in deciding them, and they will, probably, continue to differ concerning them, as they have done heretofore, according to the range of their observations, but we should endeavor to so understand them, that we may more often agree.

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1. Contributions to Mental Pathology. By I. Ray, 1873, page 314.

Vide Some Medical Questions of the Lawler Will Case. By Roberts Bartholow, *Journal of Psychological Medicine*, Vol. IV. No. 3.

Art. IV.—On the Propositions of the Association of Medical Superintendents of American Hospitals for the Insane.

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BY JOHN CURWEN, M. D.,

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XIV.—“A large hospital should consist of a main central building, with wings.”

This means, as a matter of course, that the whole should be so joined together, that the communication between the different parts shall be under the same roof, and not that the buildings shall be separated one from the other by a considerable intervening space, even if the different buildings should be connected by covered ways. There is no advantage claimed for separate buildings, which cannot be better and more pleasantly obtained, and with greater economy in construction by having all the wards in direct connection, one with the other; and there are advantages attending this latter arrangement which can never be obtained in the other.

The patients in one ward constitute a distinct family, and, as before stated, the classification should be such as to make this family as homogeneous as possible, and there need be no more communication, and in reality, there is no more between one ward and another, than between one house and another adjoining in the same street.

Various reasons have been assigned for the separation of the buildings, but they all resolve themselves into one; the fancy of their advocates, that such would be better for the insane themselves. The experiment was tried by Dr. Kirkbride more than thirty years ago, under the most favorable circumstance, and with every desire and effort to make it a success, and it was a failure, as evinced by the fact that, from the result of that trial, he is opposed to



cottages and other separate buildings. After a residence of thirty-six years among the insane, the writer has not yet been able to find among them advocates for any such separation, but, on the contrary, they much prefer being in a building, where all the wards can be most readily reached by the officers, with whom they feel that they can thus obtain more ready and more frequent communication.

The great outcry against hospitals for the insane arises from "the alleged abuses so frequently practiced on the patients." It must be readily acknowledged, by every reflecting mind, that such abuses can be more readily practiced when the patients are in separate buildings, which the officers cannot reach without being seen by some one; and attendants, who would be likely to abuse patients, would be on the watch constantly for the officers, and could always find one or more patients who would keep a careful lookout for the approach of the officers. Besides the greater extent of distance to be traveled by the officers in such separate buildings, the constant change in winter from warm to cold, and cold to warm, would not be very beneficial to the health of the officers or the inmates; and even the most strenuous advocates of the separation of the buildings would scarcely feel inclined, on a dark and stormy night, particularly if it was very cold and snowing, to go to visit a sick patient in the most remote building, just before going to bed, or, as some gentleman would advocate, once or twice between bed time and day light.

But when the wards are all under the same roof with an equable temperature in all, the officers can go in slippers and dressing gown to any part unheralded and unannounced, and learn by such unexpected visits, just how things are and what the condition of any patient may be, without any risk to their own health; and, certainly, it would not be very conducive to the health of the more delicate and feeble of the inmates to be obliged to pass through these constant and frequent changes, from heat

to cold, whenever they wished to attend the entertainments and religious services which should be held in the evening for their amusement and instruction.

XV.—“The main central building should contain the officers receiving rooms for company and apartments, entirely private, for the superintending physician and family, in case that officer resides in the hospital building.”

The main central building should have a neat handsome front, calculated to convey a pleasing and cheerful impression to all who may see it, but at the same time should be free from that gaudy ornamentation, in which a certain class of architects, at the present day, seem to take especial delight.

In this central building should be arranged all the offices for the transaction of the business of the Institution.

The office of the superintendent and physician should be located in the most convenient place, near the main entrance, so that those who may call to see him may not be required to go to any distance; and, the office should be so arranged as to have two parts, one of which can be used for more strictly private work, so that he may, when required, be free from interruption; and in one of the rooms they should be a large fire-proof safe, in which all the medical records and books and papers pertaining to the medical affairs of the Institution should be kept. These rooms should be connected, by a private stairway, with the apartments of the superintendent above. The ordinary business office should be in such proximity that persons could readily pass from one to the other without disadvantage or inconvenience, and so as to allow, also, of ready communication between the superintendent and the officer who may have charge of the business operations of the hospital.

Not far from these should be the rooms for the reception of visitors, and in which the patients, as a rule, may see their friends; though, in cases of severe

sickness, or great excitement, rooms should be provided in the wards where the friends may see the patients without interfering with the other patients. Adjoining these rooms, should be a wash-room and water-closet, for the convenience of visitors and others who may come from a distance.

In the rear of the first story should be all the store-rooms, required for the different articles needed for the use of the Institution, and also the kitchen and all the rooms required for the various things to be used in that department, with a dining-room for those employed in the various domestic and out-door arrangements of the Institution. A room should also be arranged, connected with the kitchen, for the preparation of all vegetables and other articles to be cooked, so that the kitchen may, at all times, be free from such dirt.

It would be well, also, to have the bakery arranged convenient to the kitchen, with the rooms required for the storage of flour, and of the bread, after it is baked, and from which it can be distributed to the different dining-rooms.

In the cellar, under the kitchen, should also be provided rooms, thoroughly ventilated, and cut off from all communications with other parts of the house, for the storage of fish, vinegar, molasses, etc., with convenient means of taking them in, when brought to the hospital, with as little labor as possible.

A convenient mode of effecting all these arrangements, without unduly increasing the size of the central building, will be to place the kitchen and all the other rooms mentioned, in a one-story building, and a vestibule between the rooms in the center, and the kitchen, open at each side, with large windows from the floor to the ceiling, to prevent the odors from the kitchen spreading over the center, and all the chimneys may be carried up in the rear walls of the center, and, if needed, be used also for ventilating purposes.

Apartments, strictly private, should be provided for

the superintendent and his family, in the second story; and in the rear of the same floor should be the main apothecary-shop of the hospital, with a room for a medical library, and the usual investigations now required to be conducted in the determination of diseased conditions and microscopic investigations; with a room, also, for the storage of the larger and heavier articles for medical use.

The rooms for the assistant physicians should be immediately adjoining these rooms, so that they may be convenient at all times.

The rooms for the steward and matron could also be arranged on this floor; though it is an excellent arrangement to have an officer on each floor of the Institution.

In the third story front, will be arranged rooms for the accommodation of the Trustees and others, whose business may require them to visit the hospital. In the rear should be the chapel for the religious services, and in the fourth story front, could be arranged the amusement hall, where all the entertainments for the patients could be held without any alteration or interference with the arrangement of the chapel. It must be understood, that the detail of all arrangements in the main central building must be in accordance with the extent of the hospital and the requirements of its particular locality, but abundant rooms should be provided for all the officers usually required, so that while their apartments are strictly private, they may not be far from their regular work, and may be convenient when required out of regular office hours.

The great error committed in the erection of the majority of hospitals for the insane consists in not making ample arrangements for the domestic operations of the institution in the way of store-rooms and other conveniences of that kind, and also in the proper provision of abundant accommodation for those employed in the domestic operations of the hospital, so that they may not

be required to go far from their work, and, particularly, should not be required to mount many flights of stairs. Part of this latter accommodation could readily be obtained in the construction of the building in which the boilers for heating the hospital, the laundry and other similar matters are placed, and this building can be so connected by an underground archway, that females can pass to and from without exposure in any kind of weather or at any hours. Of course, all these are matters of great moment in the domestic economy of the hospital, and it should be carefully kept in mind, that the health and comfort, of all those employed in the different departments of the hospital, is absolutely necessary to the proper, economical working of the establishment.

XVI.—“The wings should be so arranged that if rooms are placed on both sides of a corridor, the corridors should be furnished at both ends with moveable glazed sashes, for the free admission of both light and air.”

The main points of this proposition have been discussed, when speaking of the arrangement of the rooms and corridors, in the remarks on a previous proposition, but it may be well to state, that economy of construction and greater compactness of arrangement can be had by placing the rooms on both sides of the corridor, and providing for the bright and cheerful appearance of the ward, as before stated, by the movable glazed sashes at both ends, and large bay-windows on both sides in the center of the corridor.

XVII.—“The lighting should be by gas, on account of its convenience, cleanliness, safety and economy.”

Within the last few years, a number of different methods for making gas for lighting buildings, have been before the public, each claiming certain merits and advantages over others, previously in use, on the score of economy and better light; but, after trial, the majority have been found to have certain defects, which interfered seriously with the proper provision of light, in ways differing in different arrangements, but

calculated to cause annoyance and difficulty. The plan, which has been found most free from trouble, in every way, is the manufacture from bituminous coal; and, while it may be, in some cases, rather more expensive, there are no drawbacks, such as has been found in most of the other modes, and there is a certainty and reliability at all seasons, which have not been found to attend the majority of the plans heretofore devised.

The reasons for the use of gas, in preference of any other mode of lighting, are given so concisely in the proposition, that it is not worth while to enlarge on them.

XVIII.—“The apartments for washing clothing, etc., should be detached from the hospital building” (in connection with proposition).

XXII.—“The boilers, for generating steam and warming the building, should be in a detached structure, connected with which may be the engine for pumping water, driving the washing apparatus, and other machinery.”

A building, erected about one hundred feet in the rear of the main central building, can readily be constructed so as to accommodate, not only all that may be included in the above proposition, but much more equally essential.

In the basement may be the boilers for generating steam for heating the hospital, with ample storage room for all the coal needed during the year; a room for the storage of pipe and other fixtures so needful in an institution heated by steam; a blacksmith shop with all the machinery needed for cutting pipe etc.; the engine for driving all the machinery of the laundry, of the carpenter shop, etc. etc.; the fans and engines for the forced ventilation of the institution; a room for making soap and for washing the worst class of clothing, and mortuary room, properly fitted up, with whatever may be needed in that department.

In the second story, on one side, may be the laundry,

proper, the ironing-room, the drying-room with a strong forced ventilation of hot air, and with all the fixtures and machinery so needful in this department; a room for assorting and mending all the clothing, so arranged that the person in charge can have a proper supervision of the whole range of rooms; and on the other side, a carpenter shop, with rooms in this and the story above for the men employed in the different out-door operations.

In the story over the laundry department should be the rooms for all the women employed in that department and in the kitchen, with wash-room, etc. This building should, of course, be connected with the main central building by an underground archway, so that the women can pass to and fro at all seasons without exposure; and the part for the women should be so arranged as to be entirely separated from that for the use of the men. Over the carpenter shop should be a large room for furniture in which it can be made, repaired, varnished; and another, adjoining, in which it can be stored; and in close proximity, to these rooms, can be a large room for making and repairing mattresses. The main chimney for the boilers will be, of course, in this building, and should be so arranged as to be an efficient aid in the process of ventilation, and this may be done by having a large cast-iron pipe in the center, through which the gases and smokes shall ascend, and a space between that and the brick work into which pipes from different parts of the hospital can be brought. In very many cases it will be found most advantageous to have the pumps for the supply of water placed near the stream from which the supply will be obtained, and then the apparatus for making the gas can be placed in some part of the same building, so that the same men can attend to both the supply of water and gas.

It is a matter worthy of serious consideration, when the supply of water is taken from a stream or river, whether it is not wisest and best, in every point of view, to sink the well, from which the water may be

pumped, at some distance from the stream, and tunnel towards it, so that the water may be filtered by percolation through the sand and gravel, before it is pumped into the tanks or reservoirs.

It may entail a slight additional expense in the first construction, but will be of immense service afterward, in keeping the water, at all times, clear and free from any matter likely to be thrown into the stream.

XIX.—“The draining should be under ground, and all the inlets to the sewers should be properly secured, to prevent offensive emanations.”

The sewers should be carefully laid in the best quality of hard brick, with the best kind of hydraulic cement, should be oval in form, with the point of the oval downward, so as more readily to be kept clean by the constant stream of water passing through them; should be not less than three feet in their long diameter, and have ventilating openings at different points in their course, so constructed, that they could be entered, if required to be examined and repaired; and the outlet, if possible, should be under the water of the stream into which the sewer empties.

All the pipes leading from the different parts of the building and laundry into the sewer, should be of iron, carefully examined in the interior before they are put in for any irregularities and projections, which might act as impediments to articles passing through them, and all the pipe, thus laid, should have such a descent in its course, as to free itself readily from all matters which might otherwise accumulate in them, and the pipes should also be as free as possible from bends and short curves. No part of the brick sewer should be laid within any part of the building, and when the necessity does not exist, for catching the rain-water in cisterns for domestic use, all the water falling on the buildings might be conveyed into the sewer, the inlets from the pavement being properly secured by traps, while the pipes from the roof might be left open, to act as ventilators to the sewer.



The question of the successful utilization of sewage is yet undecided, and, although in many places it seems to have received a satisfactory solution, the methods used are so diverse, that time must be given to decide which will ultimately be the best and most satisfactory, as to cost and freedom from unpleasant effects in the production of various diseases, which have, heretofore, been attributed to the free use of the sewage on the lands about the buildings. During many months of the year, owing to the coldness of the weather, no use could be made of the material, and there would be required large tanks for its storage, and this might become very inconvenient and troublesome.

XX.—“All hospitals should be warmed by passing an abundance of pure fresh air, from the external atmosphere, over pipes or plates containing steam under low pressure, or hot water, the temperature of which does not exceed 212° F., and placed in the basement or cellar of the building to be heated.”

The section of country, in which the hospital may be located, will determine the amount of heat which it will be necessary to secure for the maintenance of the proper temperature during the winter season. In those sections where the changes are not great, and where a moderate amount of heat only will be required, heating by hot water has been thought by some to be sufficient, but in those sections where the range of temperature is very low for days at a time, where the winters are long and severe, and where high winds prevail for any length of time in cold weather, steam will be found, by far, the most efficient means of maintaining that degree of temperature in the coldest weather, which will best conduce to the health and comfort of the inmates. Without entering into a statement of the arguments for the two different systems of heating (which our space will not permit), it may suffice to say that as steam is now used to a certain extent for a variety of operations about the hospital; it will be found most convenient in every

way, to extend the system, and use steam for all purposes, as it is more manageable, is more quickly applied, and at all times more efficient in its action, and on the whole, more economical.

Where forced ventilation by fans (as will be mentioned hereafter) is used, a greater amount of heat will be needed, for the reason that the constant change of air, by such means, requires that the degree of heat be steadily maintained, and as the current of air is constantly changing, unless a good degree of heat is preserved, the proper and pleasant temperature will not be reached, and feeble and delicate patients will suffer.

Cast-iron radiators, of which there are several forms, are preferable to wrought-iron pipe for heating, as the cast-iron retains the heat longer; a larger amount of steam can be introduced into them, and the condensation of the steam is not so rapid, and the amount of radiating surface, for a given area, is more compact.

In the arrangement of these radiators, special care should be taken that the amount of radiating surface is properly calculated to the contents of the room to be heated, and that it should be ample for the coldest weather; and the radiators should be completely surrounded on the top and sides with tin to prevent the diffusion of the heat into the air chambers and oblige it to pass into the room, and the bottom should have in it a sliding door to graduate the amount of fresh air admitted in accordance with the external temperature. It is not safe to have less than one foot of radiating surface to every seventy-five feet of air to be heated, for then it will not be necessary to carry so high a degree of steam at the boiler, and provision will be thus made for the severest cold, without any undue forcing of the apparatus which it is always desirable to avoid.

One point of great practical importance should be looked after, to arrange the pipes conducting the steam to the radiators in such a manner, that a pipe from the boiler should carry the steam separately to each section of the

building. Where the steam is carried in one main pipe to all the sections, the life of the steam seems to be taken out of it in great measure before it reaches the extreme wings, and the degree of heat needed in those wards, is often, in the severest weather, not fully obtained; but where a separate pipe carries the steam to each particular section, it can be done in a smaller pipe, and the force of the steam can be more readily maintained at all times. By this means, also, any ward can be heated without the necessity of heating the whole building, as occasions will often arise, where it may be requisite to have certain wards heated, and not the whole house. It is also more economical to maintain a regular steady heat during the night, as well as the day, in cold weather, so that the radiators may not become chilled, and the pipes cooled, which carry the steam to them, while the rooms do not become cool and the patients exposed to the risk of taking cold by any sudden and severe change, which may occur during the latter part of the night.

XXI.—“A complete system of forced ventilation in connection with the heating is indispensable, to give purity to the air of a hospital for the insane, and no expense that is required to effect this object, thoroughly, can be deemed either misplaced or injudicious.”

In order to maintain efficient ventilation, it is absolutely necessary that an abundant supply of fresh air, from a point above the building, sufficiently elevated to be free from all contaminating influences of every kind, should be driven into the different rooms. It has been considered by some, that if efficient means of withdrawing the foul air from the rooms is provided, the problem of ventilation is solved, but this leaves the air to be drawn from the cellars and the parts around the building, where it is liable to be affected by a variety of deleterious influences; and when cold weather comes, every external opening will be closed, and the strong probability is that vitiated air will be drawn into the rooms from unexpected sources. But when the fans are placed in a separate building with

towers over them, raised considerably above the roof of the building, the air can be obtained free from every probable contamination, and thus driven pure, steadily and regularly into every room. The best plan is to have one fan for each department of the building, male and female, situated at some central point in the rear of the main building, so that by a proper arrangement of tunnels, every part of the central building and wings, can be fully supplied with all the air which they may need. These fans should be at least twelve feet in diameter, and each fan should have an engine attached to its shaft, so that it may be run without any interference with the other machinery, or any likelihood of stoppage from other causes, which might arise by connection with a series of belts and pullies used for other work. These fans should be kept in motion both day and night, at a regular rate, calculated to force into every part of the institution, such a supply of fresh air, as will change that of the rooms every minute.

Some think that if the fans are run during the day it will answer the purpose, but a little reflection will show, that with the whole house closed and every means of ingress of air cut off, and where the number of inmates is large and the wards reasonably or quite full, the air will be much more quickly contaminated at night, and on that account a steady supply of fresh air should be driven in so as to displace the foul air likely to accumulate. By this means the inmates will breathe a purer, fresher air when they really most need it, and be less exposed to to any danger arising from vitiated air, the source of so much ill health, and the origin of so many troublesome diseases.

We speak what we do know, when we affirm that the freedom from zymotic diseases enjoyed by many institutions for the insane, must be attributed to the regular and steady supply of fresh air which has been driven into the rooms by the constant action of the fans, and in the over crowded condition of many hospitals this degree of health could

never have been maintained, but by the continued action of the fans through the whole twenty-four hours.

Another matter which will be found of importance, will be placing a number of radiators over each fan so that the air in severe winter weather may be moderated before it passes into the air shafts, and over the radiators in the air-chambers, thus preventing the freezing of so many pipes, the risk to those whose duty calls them into those parts from the great change from the heat of the air-chambers to the low temperature of the air shafts, and the greater ease of maintaining an equable temperature. Then at certain seasons when it is necessary to moderate the temperature in the morning, or in the evening, or during a cold or wet period of weather, the requisite amount of heat could be obtained in this way, without the labor and expense of generating steam in the boilers for heating the hospital.

XXII.—“The boilers for generating steam for warming the building should be in a detached structure, connected with which may be the engine for pumping water, driving the washing apparatus and other machinery.”

By this arrangement all risk from accident of any kind to the boilers will be removed from the building in which the officers and patients reside; the dust and dirt from handling the coal and ashes will be kept from the main building, and all unpleasant effuvia from the laundry and other rooms connected with it, will be prevented from reaching the wards, and also all the noise and confusion so incident to that character of work and from the machinery.

XXIII.—“All water-closets should, as far as possible, be made of indestructible materials, be simple in their arrangements and have a strong downward ventilation connected with them.”

No part of a hospital for the insane is more difficult to keep pure and free from offensive emanations, and on this account the floors should be of large slate tile, well laid in cement so as to be firm and solid, and all parts of

the apparatus in these rooms should be of iron, lined with porcelain, and well painted on the outside.

Two plans have been used to obtain an effective downward ventilation. One consists in connecting all the downward pipes from the closets with a pipe which passes to the main chimney stack of the boilers, for heating the hospital and for the machinery, and having this stack arranged with a large iron pipe in the center, through which all the smoke and gases shall pass up, while into the space between this iron pipe and the brick work of the chimney, all the pipes from the water-closets shall be carried so that a current of air will be created upward in the chimney drawn from the water-closets. To make this thoroughly effective, the pipes should be carried as directly as possible, so as to avoid all bends and turns.

The other plan will be to exhaust the air from the pipes by means of a fan or blower, and thus create a strong downward current and prevent all unpleasant effuvia rising into the room, and also take from the room any odors which might come from other sources.

The efficiency of this will depend on the strength and rapidity of the blower, and the care taken to keep it steadily and regularly in action; and where it has been tried, it has given entire satisfaction.

Both plans must be provided with a trap between the main sewer and the point at which the air is taken from the pipes of the closets.

In addition to this ventilation an abundant supply of water should be provided, which shall flush the hoppers and pipes freely and regularly, and thus add to the efficiency of the ventilation.

The vital importance attached to the subject of heating and ventilation may be inferred from the following resolutions, adopted in 1848, before the proposition under consideration were formulated:

RESOLVED, That it is the deliberate conviction of this Association, that an abundance of pure air, at a proper temperature, is an essential

element in the treatment of the sick, especially in hospitals; and whether for those afflicted with ordinary disease, or for the insane, and that no expense that is required to effect this object, thoroughly, can be deemed either misplaced or injudicious.

RESOLVED, That the experiments recently made in various institutions in this country and elsewhere, prove to the satisfaction of the members of this Association, that the best means of supplying warmth in winter, at present known to them, consists in passing fresh air from the external atmosphere over pipes or plates containing steam under low pressure, or hot water, the temperature of which at the boiler, does not exceed 212° F., and placed in large air-chambers in the basement or cellar of the building to be heated.

RESOLVED, That a complete system of forced ventilation, connected with such a mode of heating, is indispensable in every institution devoted to these purposes, and where all possible benefits are sought to be derived from its arrangements.

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## Art. V.--An Improved Æsthesiometer and Some of its Uses.\*

By C. H. HUGHES, M. D.

IF two points of a pair of compasses, blunted or guarded with small bulbs of rubber or cork be simultaneously applied to any portion of the body on the same longitudinal line, they can only be perceived as two distinct points, provided the skin remains immovable, when they are a certain distance apart. The distance at which the two points of contact with the skin are recognizable, varies in the healthy individual, at different parts of the body and at the same parts of the body in the same person, in diseased conditions of the nervous system.

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\*This paper was intended to accompany the instrument described in the January number of this Journal, but was crowded out by other matter. We give it place now to satisfy a number of the subscribers who have asked for information, by letter, concerning our new instrument. An explanation of the abbreviations for the distance points of the æsthesiometer, there illustrated and described, is appended.

This fact gives diagnostic value to the employment of the æsthesiometer.

In *hyperæsthesia* or abnormal exaltation of sensibility in a part, the two blunt points are distinguishable when much nearer together than they could be perceived by the individual when in health; while in *anæsthesia*, the points are distinctly felt when placed at a much greater distance from each other on the skin.

Loss of sensibility may even be so great that the two points can not be separately recognized if applied on the same longitudinal line, at *any* distance apart, and sensibility to touch may be so exalted that the points can scarcely be so closely approximated as not to be distinctly felt as two.

In determining normal algesia, hyperalgesia and analgesia, the reversible sharp points will likewise be of service.

In estimating possible *hyperæsthesia*, some allowance must be made, in certain instances, for greater natural delicacy of skin in certain individuals, in certain active mental temperaments, and in persons whose occupations require and lead to a high state of cultivation of the sense of touch; the tactile sense being greatly increased in the fingers of the blind, who learn to so appreciate distance, by touch, as to construct the finest fabrics, play the most delicate instruments, thread needles with their tongues, and, it is said, to even distinguish colors through variations in their grain, though an old and eminent superintendent of the blind told me he doubted this, while he knew it to be a fact, that some of his pupils could readily distinguish proximity to solid objects, without touching them.

“The Bengalese spinning women can distinguish the threads of the cocoon with a tactile sensibility which is almost incredible;” while in armless persons, the toes have been taught to rival the fingers in power of tactile appreciation.

The tactile perceptive power is also modified in



certain mental states, as in profound melancholia, and in some forms of insanity, being often lessened in the depressed and chronic stages of mental disease, and in some cases of violent recent general mania, as well as heightened in some of the acute forms of this disease.

Cutaneous sensibility, as is well known, is likewise often modified or suspended in hysteria, catalepsia, ecstasy, preceding and during the epileptic paroxysm, as well as in affections of the spinal cord, and under the use of certain drugs, as strychnia and atropia, the former increasing and the latter diminishing it.

When employing the æsthesiometer for diagnostic purposes, we should be assured that these medicines, as well as alcohol, opium, chloral, bromide of potassium and other obtending agents, are not present in the system in any considerable quantity, to retard cutaneous sensibility and vitiate our conclusions.

When the morbid change in the nerve function exists in one limb only, or on one side of the body, as in hemi-anæsthesia, it is best always to compare the sound with the unsound part.

Successful æsthesiometrical mensuration requires that the patient should have no definite idea of the number of points you are going to apply, or how many you expect him to feel. Some tact is, therefore, required to avoid the influence of imagination and expectant attention, and the exercise of the guessing faculty on the part of the patient.

It is always best in the beginning to apply but one point, and afterwards to let the patient see that he has answered correctly, and afterwards to proceed with the examination to its close, without letting him know whether or not his replies are accurate. Though some little tact in manipulation is requisite, in order to elicit from the patient more than mere guesses, as to the number of points he feels, there is not really so much difficulty experienced here as novices realize, in employing the microscope and other instruments.

It would be a grave error, if we should mistake a patient's mere guess of two points, when only one is applied, or of three, when only two are brought in contact with the skin, for a real abnormal sensation of that kind.

Where this latter perversion of contactile discrimination has really been found, there has co-existed cerebral "inflammation or congestion, sometimes the result of an intra-cranial tumor at the base of the brain, and especially in one of the cerebral peduncles, or in one of the lateral halves of the annular protuberance. The sites of this phenomenon are the face, neck and hand;" but most commonly the face. As McLain Hamilton observes: "there seems to be, in some individuals, a discouraging stupidity which prompts them, in answer to the question 'how many points do you feel?' to oftentimes reply 'three,' when they know that the instrument has but two points."

I witnessed this lately in a blind man, who began by guessing "three" and "two," without regard to the number of points he actually felt, when there was nothing the matter with his nerves. He had probably gleaned from my conversation, in his hearing, with Dr. McWorkman, the Superintendent of the Blind Asylum, that an individual's sensations were very deceptive as to the number of points applied to certain parts, and endeavored to make up in guessing what he lacked in power of tactile perception. After being told he was only guessing, his answers became more satisfactory.

In the use of the *æsthesiometer*, we must keep constantly in mind the fact, that what is normal to one part is not always normal to another. For instance, in the partial *anæsthesia* of alcoholism, or that associated with commencing disease, or partial section of the posterior portion of the peduncular expansion, or in disease of the tactile center of Ferrier, it is not necessary that the points should not be discriminated at all, but that they should not be felt at a distance apart, at which they can be readily appreciated on the opposite side; and, in chronic spinal

meningitis, where the sensibility is so greatly increased, the points *need not* be discriminated in the middle of the arm, thigh, or back, at the distance of only a line or two apart, to indicate the disease, but if they are felt an inch, or an inch and a-half apart, that would be sufficient.

The best instrument, now in common use, is that of Sieveking, the original inventor. All the others, however, except Carroll's, being preferred by different neurologists, because of their being more compact and requiring less room in the pocket-case.

An examination and comparison will show wherein the one I have devised differs from its predecessors, and its advantages, both for convenience and utility.\*

The objection which has been urged against instruments, constructed on the principle of dividers, does not hold, in either my own or Sieveking's, for, in both, one of the points is stationary, while a screw secures the sliding point from dropping down unobserved, towards the other, after removal from contact with the patient's skin.

To Brown Sequard, more than to any other physician, belongs the credit of having utilized this instrument in diagnosis, while to Weber the credit is due, of giving us the best approximative normal distance record for the the points in different localities of the body surface.

Weber found the spot for the nicest discrimination to be, as this instrument shows, the tip of the tongue. He gives it as .0433 of an inch, a minute decimal fraction less than half a line. The finger-tips and the tip and volar side of the thumb, as might be suspected from their tactile dexterity, come next in order of discriminating power.

The lips come next, their red surface being more sensitive than the lighter parts. Next comes the great toe, on its volar aspect; then the eyelids, the skin over the cheeks and the lower part of the forehead.

A wide range of sensibility exists on the dorsum of

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\*For cut see January number of this Journal. The instrument is manufactured by Aloe & Herstein, of St. Louis.

the hand and foot, from two and a-third to seven lines for the former, and from six to almost thirteen lines for the latter.

The hands and feet are more sensitive than the forearms and legs, and the forearms and legs are less sensitive than the middle of the fleshy part of the thighs and the middle of the back; the elbow and knee joints are more sensitive than the segment of the limbs they connect; the face and occiput are more sensitive than the top of the head, and the abdominal than the dorsal surface of the body. The foreskin, the soles of the feet and axilla, notwithstanding their special sensibility, are far below the lips and the tips of the nose and fingers in perceptive power as to distance.

These are Weber's results, and they have been accepted as quite correct, and generally adopted as the standard of comparison, which may be found in many books on practice. His table may be consulted with profit by any one wishing to use this instrument.

Explanations of abbreviations on the æsthesiometer, described, and illustrated in the January number of this Journal.

Mid.,  
Neck,  
Arm,  
Bak. } Are for the middle of the neck, arm, back, leg and thigh.  
Leg,  
Thig.. }

Lumb., } Are for lumbar and cervical vertebral regions.  
Cer. V. }

Stcr.—Is for Sternum.

Fl. D. Sac. } Are for the dorsum of the foot, the sacrum and the acro-  
Acc. } mial region.

Pat.—Is for the patella.

Ver., Nk.—Are for the vertex, and for the neck under the lower jaw.

Occ.—For occiput, lower part.

L. For.—Lower forehead.

D. H. Metc.—Dorsum of the hand and metacarpal region.

Zyg.—Zygoma.

G. to: Pm. ck.—Great toe, palm of hand, cheek.

D. 3 F. } Dorsum of the third finger, and tip of the nose.  
Nose. T. }

Lip. } Red surface of lips, and palmar aspect of second finger.  
2 F. P. }

F. T.—Finger tip.

T. T.—Tongue tip.

## Art. VI.--Post-Mortem Notes with History of Convulsions.

By HENRY H. MUDD, M. D.,

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MRS. S., aged 35 years, mulatto, has been an active, intelligent woman, serving for the last two years as cashier in a large barber-shop in our city. She has had occasional epileptic seizures, at the menstrual epoch. In August, 1879, she had slight hemorrhage, supposed to come from the lungs.

Health about as usual during the early winter of 1879-80, but during the latter part of winter had severe pains in the right shoulder, in both hands and wrists, with wandering pains over body and extremities, supposed to be rheumatic, but without any swelling of parts involved.

About the 1st of March, 1880, she commenced complaining of pains in her head, and after sudden movements, when the pain was severe, she would place her hand to the side of her head—near the ear. This complaint became more constant during the latter part of April, when she became more irritable than was her habit, but less talkative, and rather dull and sleepy. Her companions noticed that she was reluctant to use her hands as usual, and complained of being weak.

On or about the 11th of May, while at work in the office, she became dizzy and felt numbness of right side of body, became semi-conscious, but after resting was able to get home, when I saw her for the first time, with reference to her present condition. I found her somewhat nervous with anxious expression, and complaining of pain in the back of her head. I was called again to see her on the 17th of May, after she had been taken home, having suffered another attack while at work. She was again suffering severely with the back of her head; was pale, somewhat confused, but with no fever; her pulse

was about 80. I saw the patient again Friday, May 21, soon after a severe convulsion; from this time to death, convulsions continued at varying intervals; when severe, they involved all the extremities and the face; when less, violent, only the right side was convulsed. She became unconscious, and noticed nothing after the evening of the 21st; reclined on left side and moved, at intervals between the spasms, the right arm and leg, but did not use the left; face was turned to left; eyes half open—pupil very small; breathing was impeded by mucous which collected in the throat, but was regular and easy when freed of this impediment. Temperature hitherto normal, began slowly to increase, and on the evening of May 23d, reached the highest point observed, 103 1-2; pulse at this time was 140. Patient died at 2 a. m. the 24th of May; post-mortem at 4 p. m., same day.

Calvarium removed; dura-mater normal, except a mass resembling a pachionian body had perforated the membrane an inch to the right of the longitudinal sinus. The dura-mater was firmly adherent along the left side of the longitudinal fissure to the arachnoid by pachionian granules. Beneath the arachnoid, and extending over the superior and inferior parietal lobes, the angular gyrus, the superior temper-sphenoidal and first occipital convolutions, there was a very thin layer of venous colored extravasated blood on left side, with well-marked clods, 1-8 of an inch thick, in or about the upper posterior extremity of the inter-parietal fissure. There was also effusion under the arachnoid, over part of same region, on the right side, but it was not so well marked and more limited in area.

A slight opalescence was observed along the vessels on the base of the brain, and more serum was found in the arachnoid than usual.

The fissure of sylvius, on the under surface of the brain did not correspond with the depression which rests on posterior border of the lesser wing of the sphenoid, but was found presenting well down toward the middle of the anterior extremity of the middle lobe.

Sections were freely made through the substance of the cortex, through the cerebellum, the basal ganglia, the pons and the medulla, but nothing abnormal was observed by those present, viz: Drs. Hodgen, Hughes, Black and myself, as well as a number of students. The only perceptible lesion here found, was in the effusion under the arachnoid and over the lateral posterior surface of the brain. There was an entire absence of inflammatory lesion about this effusion.

Seppilli, as translated by Workman, present number of the *ALIENIST AND NEUROLOGIST*, in his review of Nothnagel's observations on "Topical Diagnosis of Disease of the Brain," says, "In epilepsy of cortical origin, the commencement of an access is most frequently represented by phenomena of excitement of motion, which are in some cases extensive. In certain patients the paroxysm commences constantly in the facial muscles, or in those of the neck, or of one extremity. \* \* \* \*"

The partial convulsions which result in sequence to a hemorrhage or a softening, may be taken as indicating with probability, but not with certainty, a cortical lesion."

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## Art. VII.--Case of Morbid Juvenile Pyrophobia caused by Malarial Toxhæmia.

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Reported by WILLIS P. KING, M. D., of Sedalia, Mo.

**M.** Is a ten-year-old, pale, fair haired boy, of good intelligence, learns his lessons well, and has always appeared to have pretty good general health. There is no history of insanity, epilepsy, apoplexy, dipsomania or paralysis in his ancestry.

His father, however, is a very nervous man; always extremely agitated and alarmed when any of the family are sick, and constantly fearing wind and rain-storms, and when

the latter come, he confidently expects the house to be blown down or some other calamity to happen. He faints at sight of blood or on suffering pain. The mother is just the contrary. During the summer and autumn of 1879, M. had a tertian ague, regularly recurring for a period of two or three months. A Homœopathic physician treated him unsuccessfully.

On the 27th of September, 1879, his mother consulted me about her boy. She stated that he had become so morbidly fearful of fire, that they could scarcely have a fire in the house, even for cooking purposes. On visiting him, I found his body considerably wasted from the prolonged ague. His face was very pale and puffy. His pulse constantly over one hundred, and his temperature above normal, the former being most accelerated, and the latter exalted in the afternoon. He ate but little, and slept fitfully. He was up and dressed, and generally "about the house," before the rest of the family, but spent a goodly portion of his time reclining on a sofa. All of his thoughts seemed to be taken up with the subject of fire. He stated to me that he knew the town would be burned down; the flues of all the houses were out of repair; the houses were nearly all of wood, and the people didn't seem to have any sense of their danger." His mother stated that when the bell of the City Hall rang the hours of nine, twelve and six, he would run out in great agitation, exclaiming that there was a fire, and would scan the horizon in all directions for the object of his fears. He went repeatedly during the day from room to room, and inspected the stoves and the flues about the house. He went to bed at night protesting against the building of fires, and in the morning, when the cook began the preparations for breakfast, at the first noise of poker or shovel, he would bound out of bed (when at his worst, not taking time to put on his pants) and would hurry down to the kitchen and would try to prevent the cook from making the fire. He had to be literally guarded by his mother during the preparation of the meal, and as



soon as this was done, the fire had to be extinguished to allay his fears. He would deliberately extinguish the fire in the sitting room against his mother's orders. In one instance on a cool morning, when there was more fire than usual, he procured a bucket of water, and in spite of the exertions of his mother to prevent him, he succeeded in opening the stove with his foot—plunging his boot into the fire to keep the stove door open—and dashed the water into and over the stove and carpet.

These contests were of daily occurrence. Threats of punishment would not deter him. Although very irritable, he conversed intelligently on all subjects except fire. Upon this subject he seemed utterly incapable of reasoning correctly. I discovered no evidence of epilepsy or epileptoid—day time or nocturnal. The sole exciting cause of all this pyrophobia seemed to be cerebral hyperæmia, dependent upon malarial toxhæmia. Upon consultation with eminent authority, he was put upon five-grain doses of quinine, three or four times a day; the bromides of sodium and calcium with the syr. calc. lactophos before meals. Ether was poured upon the crown of his head, and allowed to evaporate, several times a day. Under this treatment he improved steadily, after about the first week. Within six weeks he was apparently well, so far as the pyrophobia was concerned, but he was kept upon the treatment for some months, in order to prevent a relapse.

## SELECTIONS.

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ILLUSTRATIONS OF JUVENILE INSANITY.\*—*By Isaac N. Kerlin, M. D.*—The establishment of institutions for children of defective mind, in many of our American States, is bringing to our knowledge facts and statistics on this important subject, which prove that *juvenile affective insanity* is more common than has been hitherto stated; indeed, it is not improbable that lesser degrees of this disorder have been allowed to go unrecognized, being, as they so generally are, the temporary consequences of sympathetic disturbances, or the sequelæ of acute diseases, removed when the cause is dismissed or outgrown.

*Case I.*—Bessie was three years old when brought to my notice. It is said that one year before she had a fall which injured her spine, followed by fever and convulsions; on her recovery from these symptoms, she was found with vacant, staring eyes; her feet turned inward, and her gait was tottering; she ran wildly from thing to thing, and seemed to have but momentary enjoyment in each; she knew not when danger was near. Before her illness she had begun to talk, knew her parents and called them by name; after it she not only lost their names, but was wanting, in great measure, in that natural affection which before had endeared them to her. Her destructiveness was very marked, her habits became filthy, and her tastes strangely perverted. She was placed in an institution; it did not pain her to see her mother leave; she was at home in a strange place, at home with anybody. She ran among the other children, without interest in any of them. She amused herself with what came within reach, and injured or destroyed everything that amused her. Seven months after her admission her condition is thus described: Her eyes are not now staring and vacant, her feet are not now unsteady, but as she prances through our apartments and grounds she carries, in her sure and steady step, the glad tidings of approaching recovery; she is not now wild with the aimless capers of imbecility; her enjoyments are natural, and her affections are full and spontaneous. At a recent visit of her father, he was recognized by her before he had yet seen her, and his ear caught the sound of "Papa! papa!" before he saw from whence it came. She had been wisely, painfully taken from her home, though only three years old, very soon after her calamity, and had been placed under circumstances favorable to her recovery. The result proves the self-sacrificing good sense of her parents, who, having the welfare of their child alone at heart, listened not to the false notions of

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\*Extracted from the Proceedings of the Association of Medical Officers of American Institutions for Idiotic and Feeble-Minded Persons.

*popular affection*, which inculcate indulgence at home as the pity for early misfortune, but took the best and the earliest means to restore the lost one.

*Case II.*—Tom McK., aged twelve, when first brought to our knowledge, was described as an incorrigible boy, who had been passed from one county home to another, through a juvenile reformatory, and, at last, to prevent his own self-destruction, because of his propensity to climb the rods and water-spouts of the refuge, and to ramble dangerously over its roofings, he was locked in a secure room. Excepting his under stature, nervous manner, and glittering eyes, there was nothing in the aspect of the pale-faced boy to suggest any unlikeness to normal boyhood; indeed, his aptness in language both usual and profane, would suggest precocity. A study of his case under treatment, will discover no inability to acquire knowledge; he is but little more backward in his studies than would be any neglected boy; he is full of mischief and deceit; the usual indifference of a bad boy to punishment is morbidly increased in his case; and there is moral hebetude and a causeless willfulness that have taken the place of the fretfulness, kickings, and bitings of his earlier childhood.

*Result of Treatment.*—The blind propensity to climb lightning-rods seemed to have been extinguished on the first day of our intercourse, when he was gravely requested to climb a rod fastened to a stack one hundred and eight feet high and straighten the point, which had been injured in a storm. The little fellow seemed to measure the difficulties, and to compute the impossibility, but he did not guess the purpose of his physician; he shamefacedly turned away from the chimney, evidently discomfited, and from that day he has had the freedom of the grounds, without showing any unusual disposition to clamber. The restlessness of the eye, and its strange glitter, are no longer noticeable, and by the appliances of our means of teaching in the school, and the agreeable, but constant, occupation and exercise found out of school, the boy is certainly getting well. If any doubt existed as to his title to insanity, the diagnosis seemed complete when, a few days since, the writer discovered Tom's mother in the insane department of a county home, one of the saddest of demented, and learned that the father had always been an unsteady, wild and violent man, seriously addicted to liquor. The boy's conception, birth and childhood, nay, his whole history was laid in physical disorder, fright and disoluteness. There are no other children.

*Case III.*—Annie W., a pretty little child of seven years, was brought to me two years ago, she was slightly under stature for her age, had a peculiarly delicate and waxen skin, and a brilliant, unsettled black eye; the toes, turned in slightly, and in walking she bore the most of her weight on the outer side of the right foot; the tongue, in protruding, diverged from the median line to the left somewhat. These indications could only be read by the physician; any causal observer would not surmise that the pretty, petite girl could be a subject for an Institution for feeble-minded children, and would be slow to believe the mother, who flushed with exasperation while telling her trials, and betraying her own unfitness to nurse and rear such a babe. When brought to us she was described as obstinate to the last degree, and she proved so; as

clambering over sheds and out-buildings, if allowed any freedom; as running into danger without any apprehension or attention; but worse than all she repeated the livelong day, ringing in monotonous changes the the solitary idea of "marble steps." Marble steps formed the substantive of almost every sentence.—"Can my mother have marble steps?" "Has that man marble steps?" "Anne wants marble steps,"—wherever meeting with her mother, whenever sitting in her lap, when being rocked in her cradle or put in her bed, this monotone of marble steps was poured into her mother's ears, until the woman was wild with this horror, and the child had become to her an object of aversion.

This strange child was brought to our Institution, and I have only to add that to-day there are no marks upon her, and no impulses betraying any other than the reaction of child-life to its best impressions. The child is healed, to all appearances.

Now family history helps us to the comprehension of such a case as this. Annie's father died of softening of the brain, at thirty-five, after a life of excesses, leaving two babes buried—one of cholera infantum and one of convulsions—and two living children,—Anne, already described, and a little girl of five years of age, who is dwarfed, and, as the mother feared, "growing like Anne." A son of the mother's sister, aged twenty, is in an insane asylum, and is said "never to have been all right" So that as far as the family history of this little girl is made up, her own blight is suggested in a poor inheritance.

*Case IV.*—M. P., *æt.* thirteen; reasoning exact in all particulars; possessing a copious vocabulary and most retentive memory; but in natural attachment to friend, sister, or mother entirely wanting; oblivious to all rules of order and discipline, delighting only in antagonisms; all methods of conciliation, restraint, or punishment which an intelligent, excellent mother could devise have failed, and under sheer exhaustion of all home efforts she has been committed to our care.

Since her admission she has unceasingly worried to be whipped. It has been the subject of the most complacent reflection that "some of these days I expect the matron will whip me." She has diligently inquired into the special character of our whippings, whether they leave marks, whether they draw blood, and eagerly imagining the delights of a flogging. She claps her hands with anticipation, exclaiming, "Oh, I shall be so happy if they will only give me a good whipping!"

All the small deprivations which would afflict another child are lost on her in the ineffable joy of punishment, and she is daily and hourly circumventing all rules, misbehaving in all conceivable ways, irritating, annoying and disturbing, until her wishes for suffering shall be gratified.

*Conclusions:*—1st. The affective insanity of children is manifested in paroxysmal passion, destructiveness, and incorrigibility, in emotional storms and fantastic willfulness.

2d. Delusions rarely exist, for these doubtless depend on a prior organization of definite ideas, which being more or less limited in the child's mind, the extent of delusion is likely to be also limited.

3d. The diagnosis in those uncertain cases which border on normal childhood, as in Case IV., consists in the unlikeness of the patient in general behavior to the usual standard of childhood. Headache, coated tongue, and sick stomach are frequent, as also irregularity of the heart's action and low vital temperature; a singular lustre of the eyes was noticeable in all the cases above enumerated.

To diagnose between idiocy and juvenile insanity is not so difficult; the latter condition is excitable, erratic, intractable, intense; speech, sight, and hearing are generally all perfect, which is an exceptional fact in idiocy and imbecility; the moral nature is usually perverted to the last degree in the insane child; while the idiot and *enfant arriere* are trustful, kind and loving; the insane child is suspicious, secretive, and violent in its likes and dislikes. We should not omit from our investigation a careful inquiry into the antecedents of the child; family history may throw much light upon doubtful features, aiding not only in our diagnosis, but in the prognosis and treatment.

[One interesting case and its treatment are omitted for want of space, and for like reason are many valuable reflections of Dr. Kerlin's paper.—ED.]

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## La Menti di Carlo Livi.

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Translated by JOSEPH WORKMAN, M. D., Toronto, Canada.

Whether it was that the organic fibre, though robust, had felt the injury of the feverish activity of the last three years, or that in the exercise of his present duties he had, solicitous even to the utmost scruple, surpassed the wonted tension of his cerebral powers, he became extraordinarily fatigued and tired in that trial. On the 30th, at the close of the debate, after a tiresome and annoying discussion, he was prostrated under vertigo, and symptoms of ischæmia presented, followed by congestion of the brain; on the night following, with all its gravity and terrors, cerebral apoplexy occurred. In the

days following, successive alternations of better and worse took place, but despite of every care and of all the affections and hopes of those around him—children, friends, fellow-citizens—Carlo Livi ceased to live on the night of the 4th of June, 1877.

The demonstrations of sympathy and esteem which, during the few days of his illness, reached his family from every part of Italy, and the solicitude of the city of Livorno for the health and the relief of the illustrious sick one, showed how painful was the fear of his unexpected loss. But when the sorrowful announcement left no longer any hope, the grief and lamentations were universal. In that bereavement, his family and his intimate friends had the comfort, that not one scientist, juris-expert or alienist was unmoved. The honors rendered him were truly touching; municipal officers, moral societies, public authorities, friends, citizens and colleagues, all rivaled in rendering still more solemn the mournful occasion, and in following his remains to their last resting place. Among the scientific institutions represented in the noble demonstration, we may record the universities of Modena, Siena, Pisa, Bologna, Pavia, Padova, Roma, Torino, and the Superior Institute of Florence. By request of the municipality of Reggio, inspired, no doubt, by the generous counsels of the Deputy Fornaciari, for many years his friend, not to say brother, the body of Carlo Livi was sent from Livorno to Reggio, and accompanied by two escorts of his dear patients, and the entire body of the citizens, it was buried in the suburban cemetery of S. Maurizio, near the tomb of his Giuseppina, who was taken from her loving husband and children four years before. There, at a little distance from the *Hospice*, rendered sacred by his name, was closed the mortal horizon of that laborious and splendid person; and if it is true that thought is a perpetual undulation of atoms, it is certain that on the visitation of his grave, by so many unhappy ones, to whom the paternal heart of Livi restored mental light, a piteous groan will be uttered over his venerated ashes.

Carlo Livi had a body equal to his mind; both were beautiful and strong. He was tall, his complexion was white and rosy, his hair rich and already gray, marking a pleasant contrast with the youthful freshness of his face. He had brown and lively eyes, but of an expression so benevolent and sincere, that he appeared always smiling. His voice was sweet and almost always low, but in the

emotions of his mind it could always reach the hearts of his auditors and move their affections; in rare moments of displeasure it assumed a certain tremor, which modified, without altering it, and thus all the more commanded respect and deference. It was remarkable that with his profound knowledge of our language, and his exquisite elegance of form, he yet commenced his discourses in public with such slowness, that he sometimes appeared embarrassed or timid, whilst he was only pondering; but after a brief period, his words flowed forth limpid and abundant, pure and plain in phraseology, and inimitably new in ideas.

He thought highly of himself, not from pride but from dignity, and from his whole person there breathed that serenity of mind which only a just consciousness of its own value imparts. He had a noble carriage, sometimes even majestic, when he treated of grave matters; nevertheless this seriousness of aspect, instead of repelling others, drew them to him; so great were the courtesy of his demeanor, and the benevolence of his physiognomy; and great as these were towards his equals and inferiors, they were yet greater towards the afflicted ones entrusted to his care. He thus possessed in a high degree that natural gift which the physicians of mental infirmities ought to have, whether bestowed by nature or acquired by education; such were *Ideler* and *Pisani*, of whom it may be said, that they affected all their marvellous cures of the insane, by means of the attractiveness and the profound respect which they evinced towards each individual.

He was most affectionate in his own family, to whom he devoted all the spare moments that his numerous occupations left him. If in his last hours a thought flitted through his stricken mind, it assuredly was upon the dear children whom he had wished to see, and now unhappily could not, placed in honorable and secure positions.

He loved, in an especial manner, young persons, to whom he was rather a father than a master; but from the reserve of his mind, he but rarely gave himself over to excessive intimacy; thus he was sparing in his friendships, but he cultivated social relations with sincerity and delicacy, in which he differed from those who, in order to rise to fame, do not hesitate to grasp at it by every available artifice. Instead of this, he went around loftily, and he was content with the captivation of the minds of

his patients, who respected him in life, and now speak of him dead, with filial tenderness. He had no enemies, which must be ascribed more to his merit than to fortune; for if any one caused him displeasure, he took care to conceal from the eyes of strangers, resentment proper to his dignity, and even when opportunity offered he would not return offences.

He had an enthusiasm for all that is true, lovely and noble, and with such a sentiment he governed himself most loyally in every eventuality. Cultivated and wise—but not in that culture and wisdom which go around displaying themselves in public—he possessed a most exquisite sense of art; Tuscan as he was in his entire disposition and genius, in this he was superlatively Tuscan; and the proof of this remains in all done and directed by him in the asylums of Siena and Reggio.

In practical observations as well as in his scientific speculations, his mind laid hold preferentially of the elevated side, or, so to speak, the æsthetic. He abhorred, wherever he found them, niggardliness and littleness; not that he was by nature adapted to daring attempts and originality of genius, but he possessed, in the highest degree, that faculty of assimilating and elaborating the discoveries of others, which assumes, sometimes, the aspect and importance of an original creation. He was tardy in taking a resolution, but tenacious in maintaining it, not with obstinacy or haughtiness, but by the action of that close consideration and prudence which he bestowed on every thing. His firmness of character was evinced with augmented force, in relation to political and scientific questions, but, however tender he was as to the privileges of his own opinions, he never manifested intolerance towards those of others. When in any discussion he failed to persuade, rather than to protract a useless argument, he preferred to close it by his silence, for it seemed to him more consistent with dignity to conserve esteem towards a clever adversary, than to gain a reluctant and, perhaps, unstable proselyte.

In his political opinions (as to-day we are free to speak on politics), he ever held the same views as he did at the age of 35 years, when he fought for his country at Curtatone; he was liberal from conviction, from intolerance, and moderate without pusillanimity.

It may, perhaps, by some be cast as a reproof on Livi, that in his philosophic and religious opinions he



tardily reached that point which some others are, to-day, wont to arrive at more speedily and, we may say, much more easily. This is quite true; for between that Livi who wrote the exordium of the work "*Contro la pena di morti*" (Siena, 1862), and the Livi who gave the stupendous discourse "*Del Metodo Sperimentale in Freniatria e in Medicina Legale*" (Reggio, 1875), some may have observed in the two productions a notable difference. But if we duly consider the times in which the mind of Livi was developed, the education he received, and the magnanimous race to which he belonged, inclined to the culture of poetry and art, and if we take into account the peculiar bent of his genius, we shall not marvel either at his transformation or the manner or time in which it was effected. On the contrary, we should rather rejoice that the change was made, and that it was so made as to demonstrate the truth of the maxim written by himself: "There is, in the defects of great minds, a something that is useful—almost good—when applied to our own instruction." And the instruction we may derive from the case of Livi is that when a mind, nurtured by invigorating studies and a moral individuality so excellent as was that of Livi, after a long journey under the cloudy horizon of metaphysics, reposes confidently in the certainty of modern science, it has reached a stage which assures its future stability.

Livi, perhaps, felt all the bitterness of this inward conflict, and all the more acutely must he have felt it, because of the long and gloomy phases which crossed his mind, now, from its virility, less ductile than in early years. But his intellect was not of that order which rests satisfied with first proofs, or becomes discomfited by the first difficulties of doubt. His medical education, based on the experimental method, which, to use the words of Buffalini, admits only "cognitions of facts," led him onward to scrutinize, in their innermost, the reasons of new ideas, and in the scrutinizing and weighing of these he arrived at those convictions, in search of which he had so long been engaged. Thus was he at last conquered by modern philosophy, which is really more benefited by such conquests than by the discovery of new truths, inasmuch as they facilitate the journey to that goal, where, after infinite efforts amid the distrusts of the vulgar, the grand problem is to be solved, which is, in the words of Livi himself, "*the unfolding of the mechanism of human reason.*"—Macerata, 8th October, 1879.

We hardly dare venture the anticipation that all the readers of the ALIENIST AND NEUROLOGIST will find in the abstract from the memoir of Carlo Livi, which we have above presented, the same interest and gratification which the translator has realized in the perusal of the entire article. Our deep regret is that the elegiac tribute of Livi's two loving disciples cannot be presented, uncurtailed, in the pages of this Journal, for we feel assured that there is not, on all this Continent, a single medical superintendent or officer of our insane institutions who will fail to recognize in the character and practical life of Livi, a perfect embodiment of all those mental and moral qualities which are recognized as indispensable endowments in every competent psychiatric practitioner. We trust this expression of our appreciation of the article will be kindly accepted by the reader, as our justification for the devotion of so much space to its insertion.

We must not, however, close our remarks without taking exception to an assertion made by Livi's eulogists. It is found in the following words: "He had no enemies." Now, of all the inscriptions which may ever be found on the tombstone of any medical superintendent of an insane asylum, this is the very very worst we could desire to read, even on that of our "direst foe." That any man—nay, that even an angel—shall faithfully, fearlessly and *humanly* discharge the incumbent duties of an asylum superintendent for any number of years, or even of months, and escape the making of enemies, is (and we speak from dear-bought experience) one of the most flagrant absurdities within the reach of our conceptive powers. If we could believe that Livi never made enemies, yea, bitter and unrelenting ones, then should we conclude that his eulogists had better have concealed the fact; at all events, we ourselves trust that no such violation of truth will ever find a place in our obituary announcement, for it would be an enormous falsehood; and though *de mortuis nil nisi bonum* is a very charitable maxim, yet as nothing is good which is not true, we desire no better monumental record than that we made scores of enemies, among knaves and hypocrites, and friends only among the honest and truthful.

[*Concluded.*]

## ANATOMICAL AND PHYSIOLOGICAL EXCERPTS.

THE PHYSIOLOGY OF THE OPTIC AREA OF THE CORTEX OF THE BRAIN.—*Prof. Monk.*—The author commences by referring to the results of his first experiments, in 1877-8, to determine the situation and extent of the optic area, which was found to extend over the whole posterior lobe, including the side of the gyrus medialis which lies next the falx. Extirpation of several of these portions produced in the animal experimented upon, only psychical blindness (*seelenblind*) that is, the animal had no recollection of the appearances of objects previously seen; its recollection of previous visual impressions was lost. When the whole portion was extirpated, the animal became in addition retina blind? *rindenblind* that is, visual impression was lost in particular portions of the retina, and recovery, which in the first case was rapid, was here slow and incomplete. The object of his present experiments was to determine in the first place whether, by extirpation of the cortex of *one* posterior lobe, the connection of each hemisphere with both retinæ could be demonstrated, and thereby whether a physiological demonstration upon the dog, of the incomplete decussation of the optic nerves, shown to exist by Gudden's anatomical researches, might not be given.

One optic area was totally extirpated, the whole posterior portion of the hemisphere, and the cortex of the gyrus medialis, looking toward the falx being included. Seven dogs in whom the cortex was cut away to the depth of 3 Mm. over the area named, were kept alive for thirteen weeks. In all of them it was discovered that the extreme outer portion of the retina does *not* belong to the optic area of the opposite side, and that just as much of the left retina belongs to the optic area of the left side, as there is of the right retina, which is not supplied from this area. Each retina, therefore, is chiefly connected with the optic area of the opposite side, and only to a small extent in its extreme outer portion, with the optic area of the same side. The second object in view was to determine, on one hand, the relative position of the sensitive layer of the retina; on the other, that of the perceptive cortical layer.

Accordingly, we see that systematically conducted partial extirpations of the optic area have proved that the extreme outer portion of each retina is connected with

the extreme outer portion of the optic area of the same side. The much larger remaining portion of the retina belongs to the much larger remaining portion of the opposite optic area. The retina may be imagined to be projected upon the optic area in such a manner that the lateral border of that portion of the retina supplied from the opposite side corresponds to the lateral border of that portion of the optic area that supplies the inner border of the retina to the median border of the optic area, the superior border of the retina to the superior border of the optic area, and the inferior border of the retina to posterior border of the optic area. Diagrams are given to illustrate this very interesting discovery, which makes an important addition to our knowledge of the semi-decussation of the optic nerves in the optic chiasm in the higher mammalia. It teaches us also, that in the optic chiasm all the fibres of the optic nerve are transposed. Thus it comes to pass that the fibres, when they have passed through the chiasm, have reversed their relative positions.—*Dr. Nieder, Bochum, Ibid.—Saunders.*

LUCAS' EXPERIMENTAL INVESTIGATIONS CONCERNING THE ARTERIAL CIRCULATION IN THE BRAIN.—The author used for the purposes of injection, an alcoholic solution of fine sealing wax (sometimes also a solution of asphalt in benzine). The results confirmed the statements of Duret in most points, except that he always succeeded when the injection had been well done, in finding very considerable anastomoses between the arteries within the pia mater. Besides a network of anastomoses between the smallest arteries, he could often see relatively large vessels, with a lumen of more than one-fourth mm. diameter, directly communicating with each other.—*Dr. Obersteiner, Vienna.—Abstracted from Review Department of Centralblatt fuer Nervenheilkunde, &c., Nov. 1st, 1879. M. & W. M. & W. M.*

THE RELATIONS OF THE DEVELOPMENTAL BRAIN TO THE CRANIUM.—*Ch. Ferc.* Our author undertook to investigate the topographical relations of the cerebral convulsions to the subsequent sutures of the cranium, in the foetus and in the child. He limited his attention to the Sulcus Fossa Sylvii. He has established the following facts in the foetus, as in later life, the Sulcus Rolandoi, as soon as it becomes perceptible, is found to be in its whole length behind the satura coronalis.

The Fossa Sylvii in the foetus is situated quite high up, and sinks, as the brain becomes more fully developed,

gradually downward. On the other hand, the Fissura parieto-occipitalis is found in the developmental stage, proportionately very far in front of the Sutura lambdoidalis. From these two facts he concludes that in the fœtus and in the child, the occipito-temporal region is more largely developed at the expense of the parietal lobe.

In grown persons the relations between the convolutions and the cranial sutures remain the same at different ages.—*Dr. Obersteiner, Vienna.—ibid.*

FORM OF THE CORPUS STRIATUM.—*Dr. John C. Dalton* concludes an able contribution on Cerebral Anatomy in No. 1, Vol. 2, of the Annals of the New York Anatomical and Surgical Society, with the italicized statement, that "this important ganglion, situated in the interior and at the base of the brain, has the same annular form which is reflected externally in the general configuration of the hemisphere," and he makes it appear quite "evident that the fissure of Rolando is not really in interruption to the general run of the convolutions."

The force of the paper commends it, the author and the "Annals," to every student of the brain.

EXCITABILITY OF THE DEPRESSOR-NERVE BEFORE AND AFTER PRICKING THE FLOOR OF THE FOURTH VENTRICLE.—At the close of a paper upon this subject before the Paris Anatomical Society last year, M. Laffont presented the following conclusions as the result of his experiments:

A. There exist in the bulb below the short diagonal of the floor of the fourth ventricle, two symmetrical vasodilator centers for the liver and intra-abdominal organs. These two centers are separately excitable.

B. The action of the pricking of the floor of the fourth ventricle, that is to say, of these centers, is double:

1st. Local irritation, producing an over-activity of the circulation of the abdominal viscera.

2d. Alteration due to the consecutive paralysis of the altered center which is no longer excitable, either directly (by a new pricking) nor by reflex action (excitation of the central end of the depressor nerve of the same side.)

C. After excitation and consecutive paralysis of one of the two intra-bulbar vaso-dilator centers, the over-activity of the circulation of the abdominal viscera may again be produced either directly (pricking at the intact center), or by reflex action (excitation of the central end of the depressor-nerve of the sound side).—*Le Progres Medical*, April 3d, 1880.

## CLINICAL NEUROLOGY.

AMYOTROPHIC LATERAL SCLEROSIS.—*M. Charcot, Hospital Salpetriere.—Translated by Dr. E. M. Nelson, St. Louis.*—We may say, in a general way, that certain paralyses show themselves principally by the rigidity or spasmodic contraction of muscular masses; while others are marked by the absence of this symptom, or even by an opposite condition, flaccidity of the members. This two-fold division, summary as it is, suffices to show the practical interest which attaches to the symptom of *contracture*.

For several years, observers have shown the importance of different phenomena which may be designated under the generic name of tendon-reflexes. The minute examination which has been made, may some day throw great light upon the pathological conditions which favor the appearance of contractures. These reflexes, when they do not exceed a certain degree, belong to normal conditions. But when they show themselves manifestly exalted, they constitute a morbid symptom of real importance, both from a purely clinical point of view and form the point of view of physiological theory.

Now, in the actual state of our physiological knowledge, permanent spasmodic contraction of the muscles, passes with just title for a strange inexplicable phenomenon, or, it may be paradoxical in some sort.

Moreover, numerous researches recently undertaken in France and abroad, tend to show that the exaltation of tendon-reflex and contracture are allied facts, equivalents as it were, or at least belonging to the same series; that the physiological interpretation which belongs to one, belongs equally to the other; of such a nature, therefore, that permanent spasmodic contracture will be found to be despoiled of its paradoxical character.

Here is the case to which Mr. Charcot calls attention; it is most valuable from the point of view of the thesis, which he proposes to develop:

It is the case of a woman, aged forty-seven years. She is confined to bed, and appeared absolutely immobile—inert. However, her intelligence is perfect, and, although, she can no more make herself understood, she renders a very good account of her condition. We decide, at first sight, that this woman is paralyzed in all her limbs, that

the head holds itself no more in its normal position, and that it turns sometimes to the right, and sometimes to the left, without power to be replaced voluntarily. We should suppose then, that this unfortunate is affected with a total flaccid paralysis. But it is far from being the truth. Moreover, a more minute examination is indispensable to render account of the relative condition of the different parts of the body.

In that which concerns the lower limbs, we perceive, in fact, that they have an attitude quite peculiar; the feet are extended, the knees are fixed—the one to the other; the two legs appear rigid. Nevertheless we can flex them and do not encounter a very great resistance. Sometimes this resistance is more considerable than in ordinary conditions; it suffices, in order to show this, to provoke this passive flexion successively in this patient and in a healthy person; we show then that the stiffness truly exist, or, in other terms, that the flaccidity of the limb is replaced by that which has been called the *flexibilitas cerea*. If we percuss with a Skoda's hammer the patellar tendon, immediately the limb starts, and even at times remains animated for some time with rapid movements of spinal epilepsy. Finally, these two limbs are emaciated, not atrophied, and what we observe upon one may be observed upon the other. As to sensibility it is everywhere intact; the patient presents in this regard no morbid troubles, and we may affirm, that aside from exceptional circumstances, she will never present them.

As to the functions of the bladder and rectum there is nothing further abnormal to signalize; so that if we confine ourselves to the start of the lower limbs, in making an abstract of the morbid characters which will be questioned directly, we should notice in this patient only symptoms of spasmodic paraplegia.

But the upper extremities present also peculiar characters, and at first their attitude is most remarkable. They are semi-flexed upon the chest, insupination, the hands turned forward, the fingers drawn up. Furthermore, these limbs are extremely emaciated, and in appearance, flaccid, so that to consider them separately we might believe ourselves in the presence of a case of progressive muscular atrophy. It is not so, however, and here again we are dealing with a spasmodic paralysis. In fact, if we examine closely what remains of the muscular masses of the arm and forearm, we distinguish in certain points a cutaneous

trembling corresponding to the spontaneous and passing fibrillar contractions; furthermore, the forced flexion of these members determine the same sensation of resistance as in the lower limbs; finally percussion of the tendon of the triceps determines a reflex manifestly exaggerated; and if, instead of provoking the reflex action of this muscle, we strike lightly the anterior face of the forearm at the different points, which correspond to the flexor tendons of the fingers, the "claw" becomes more pronounced under the influence of each of these shocks, a most important characteristic, since the tendon reflex of the tendons of the fingers is little pronounced or even wanting most generally in the normal state. It is necessary to note likewise the fact that the two upper extremities are affected symmetrically and that sensibility is preserved intact.

If now we analyze the details which the attitude of the head, and the expression of the face present, here is what we may observe: The neck is powerless to support the head; the chin rests against the sternum, and if the patient is turned a little backward, the head is carried down by its weight, and the anterior muscles are absolutely incapable of restoring it to its usual position. As to the face, it presents a physiognomy which may be characterized in one word: labio-glosso-laryngeal paralysis. But here we have to do with a labio-glosso-laryngeal paralysis, a little different from that which Duchenne has described, and the peculiar mask which results from it often permits us to recognize, at first sight, this kind of disease. Wrinkles in great number, furrows deeply creased, and specially the naso-labial furrows, as also those of the frontal region, the great open eyes, as if the lids had difficulty to close, impress a truly specific stamp on this face, which, by its "crying-child" aspect, is easily differentiated from the inert mask of the paralysis of Duchenne.

The patient cannot articulate a single word; she emits a monotonous nasal sound, at each instant interrupted by a movement of painful deglutition. She can, however, make her tongue protrude slightly, small and trembling between the dental arches, feebly separated. But she cannot whistle, blow, or even swallow, without choking consequently, and allows the saliva to flow continually from the half-closed mouth.

The history of the patient allows us to seize the



conditions of the strange combination of all these phenomena in some sort incompatible.

The first symptoms appeared two and a-half years ago,—piercing pains in the loins and thighs. Then she commenced to feel weak in her legs, walking with difficulty, “as if she had a bullet under each foot.” Three months later, paralysis of the upper extremities appeared, characterized by loss of motor power, with fibrillar contractions and stiffness. Towards the sixth month the difficulty of speech appeared. Little by little the symptoms became aggravated, and, after ten months, she became absolutely powerless. M. Huchard treated her at the Hospital Laennec, and was able immediately to give the diagnosis of amyotrophic lateral sclerosis. It was only after eighteen months that this woman was admitted to La Salpetriere, and then, for the first time, some troubles in deglutition appeared, as also transitory dyspnœic difficulties (April, 1879). Up to that date, which can be considered as the apogee of the spasmodic period, all the symptoms of reflex excitability had only increased. But from then, and in proportion as the muscular atrophy complication was more accentuated, they diminished progressively, at first in the upper, then in the lower limbs; and so it is that to-day the patient presents only a trace of spasmodic symptoms, with which she had been previously affected to so high a degree. Another case is detailed, of almost identical character, except that the patient, a man thirty-five years old, was first affected a year ago, and that the course of the disease has been somewhat more rapid in his case than in that of the woman. The prognosis in both cases is death, after a brief delay—*Le Progres Medical*, Jan. 8, 1880.

PROBABLE ASSOCIATION OF ATAXY AND GENERAL PARALYSIS.—In one of his last clinical lessons, Dr. M. Raynaud has presented two cases of locomotor ataxy presenting some quite curious anomalies.

The first was a typical case of progressive locomotor ataxy. The first anomaly present is the preservation of the sense of heat; but the most curious and most unaccustomed fact is the difficulty of speech with which this patient is affected, notwithstanding the absence of ataxy of the tongue.

There is not in this patient, paralysis of the tongue, nor of the orbicularis muscle of the lips, nor of the larynx. There is no flow of saliva from the mouth, none of that

hebetude of countenance so characteristic of labio-glossolaryngeal paralysis.

The rhythmic movements of sclerosis *en plaques* are wanting, as well as the tremblings, so characteristic. We do not find here the contractures of the advanced period of the disease.

In general paralysis difficulty of speech is usually associated with very marked psychic phenomena. Now here the intellect remains perfect. Furthermore, there is no trembling of the hands, no inequality of the pupils. All that can be said is that a phenomenon of general paralysis is superposed upon a clearly marked ataxy.

M. M. Raynaud is brought to think, 1st, that there is the beginning of a general progressive paralysis. 2nd, that the anomalous phenomena are purely bulbar, and then it is necessary to admit that the lesion has made a jump, causing a lesion of the roots of the glossopharyngeal nerves or of the restiform bodies.

In the second ataxic there were hemorrhages associated with very slightly advanced lesions of the lungs, and preceding the appearance of the ataxic phenomena.—*Gazette des Hospitaux*, April 24, 1880.—*Nelson*.

CEREBRAL SYPHILIS.—At the Societe Medicale des Hopitaux, March 12, 1880, M. Fournier presented a specimen from a patient who had been treated repeatedly in his wards for various manifestations of syphilis. She had been treated each time for a couple of weeks, and then left without doing anything further. This time she presented an extensive syphilis of the back, of ulcerative character, a clavicular periostosis, a frontal gummy periostosis on the left side; she complained, moreover, of headache, of diffused pains of the head, but especially referred to the side opposite the frontal periostosis, and of some slight vertigo. Under the influence of treatment, this condition improved some little, when she was taken intercurrently with a hemorrhage variola, to which she succumbed in a few days.

At the autopsy there were found no more traces of the gummy periostosis, but there were found evidences of cerebral syphilis which were quite unexpected. There were, in the first place, deep erosions of the anterior part upon the right, lesions which have been described by Virchow, under the name of dry caries. The dura-mater was adherent and presented, upon its external face, characteristic gummatous indications. The membranes

were thickened and presented all the characteristics of a gummatous meningitis. There was a perfect blending of the meninges and cerebral substance, and finally, a considerable thickening of the cranium.

This autopsy shows, then, that cerebral syphilis may produce grave lesions without evidencing it by symptoms of any importance. A second conclusion is that in cerebral syphilis, aside from the specific lesions, there exist lesions of ordinary character, common lesions, which are most grave, and which escape treatment. Now, specific treatment is of no avail against these common lesions; mercury and iodide of potassium can serve nothing in such cases, and the patients die of these ordinary lesions.

CEREBRO-SPINAL SYPHILIS.—In considering an observation on this subject by M. du Cazal, M. Fournier said: "This observation shows once more that phenomena most serious may be produced in consequence of a syphilis in appearance most benign and insignificant. It is an almost constant fact that the mildest cases of syphilis come out later in the direst effects. In the greatest number of cases of centro-spinal syphilis, if the antecedents are interrogated, almost nothing is found. Patients affected with syphilis of the spinal cord or of the brain, commence with a chancre of no gravity or a very light eruption. This is not the law, but it is the usual case. I have always noted a singular contrast between the apparent benignity of certain cases of syphilis and the gravity of the later manifestations.

It is true that the most benign cases of syphilis in appearance, are those which are least thoroughly treated. We may not affirm it; but there is room to admit a possible relation between the two things: the insufficiency of treatment and the gravity of the ultimate phenomena.

However this be, the mildness of a commencement of a case of syphilis should be far from inspiring any security as to future manifestations.

Another interesting point occurs in the communication of M. Cazal, namely: that in syphilis, the type of the paralysis is never pure. To hemiplegia or to paraplegia, are almost always added paralysis of the special senses. It is so, that at the same time with a paraplegia is determined, for example, a paralysis of the third pair, of the facial or of the recurrent. This singular association of paralysis, whose points of departure may be far removed

from each other, is hardly observed except in syphilis.—*Gazette des Hopitaux*, March 23, 1880.—*Nelson*.

AN ATROPHIED CEREBELLUM—The patient, a female 32 years of age, during convalescence from a severe attack of typhus fever, manifested the following symptoms: tremor, with uncertainty of movements, unsteadiness of gait, difficulty in speaking, and pain in the cervical region; at the same time a diminution of the mental faculties, with hallucinations, were observed. A careful examination, about six weeks before death, revealed functional irregularity of all the muscles, clonic contractions of the facial muscles, especially on the right side, rotation of the balls, alternate opening and closing of the mouth, and retraction of the tongue. There was rigidity of the muscles of the neck and partly also of the pectoral muscles; contraction of the arms, particularly of the right one; ataxic movements of the bracial muscles were always observed. The lower extremities were semi-flexed, and similar movements were noticed in them. With the exception of considerable hyperæsthesia and pain in the occipital region, there were no marked abnormalities of sensibility.

On post-mortem, the cerebellum (56 grm.) was found very much, but systematically, atrophied; its general outline, however, was normal. The convolutions, as also the nucleus dentatus appeared atrophied.

A microscopical examination showed considerable atrophy of the cortical substance; the individual lobules are peculiarly irregular and distorted. On the surface of the cortical layer of the cerebellum, there appears a ridge of oval cells which send processes towards the deeper layers; the cells of Purkinje are either entirely absent, or else small round cellular bodies without distinct nuclei and processes take their place. The granular layer is remarkably narrow; in the medullary layer, which, like the whole cortical layer of the cerebellum, consists for the most part of a net-work of fibres of connective tissue, there are but few nerve fibres.

Analogous changes, but less marked, were observed in the vermiform body process.

The cells of the nucleus dentatus appeared smaller and fewer in number than normally.

The author traces the whole process to a gradual irritation proceeding from the meninges, which may have been caused by the typhus fever. The vocal paralysis must be placed on an equal footing with the disturbance

of function observed in the entire muscular system.—Z. Seppelli.—*Revista Sperimentale di Freniatria, etc.*, vol. V., number 4, 1880.

THE CHOROIDAL PIGMENT IN THE INSANE.—In the insane, especially in those forms of insanity of an intermitting character, or in those which depend upon a pellagrous cachexia, the fundus of the eye is unchanged, in consequence of a more or less defined depigmentation of the choroid and paleness and cloudiness of the retina, although a similar condition of affairs may exist in the healthy eye, yet they do not reach that degree.

The simultaneous occurrence of these intro-ocular phenomena with certain pathological conditions of the brain, which are calculated to favor the production of active or passive hyperæmia of the choroidal vessels, makes it appear highly probable, that such disturbances in the circulation are the main cause of the morbid changes in the fundus above referred to.—C. Riva—*Ibid.*—Lutz.

THE MECHANISM OF ANÆSTHETIC DEATH.—On the mechanism of death by anæsthetics, M. Arloing concludes that in the first phase of anæsthesia, the attention should be directed at times to the heart and respiration, as well with ether as with chloroform. In the second phase we should watch the heart, and with redoubled vigilance if we use chloroform, because it is at that period that we are likely to see apoplexy occur, especially with that agent. In the third case we should watch the respiration with care.

CARDIAC PHENOMENA UNDER ELECTRIC EXCITATION.—Mm. Dustro and Morat are studying the action of continuous currents and of very frequent induced currents upon the apex of the heart. It results from their study that, if the apex of the heart is excited apart from the rest of the organ, there is observed at first a contraction on closing the circuit; then if the strength of the current is increased, a contraction at the opening and one at the closing; then a regular rhythm, with successive pulsations and finally tetanization.

M. MAREY, does not admit the explanation which Mm. Dustro and Morat have given of the phenomena of the pulsation of the apex of the heart under the influence of a continued current. According to him, the intermission is due to this, that at a certain moment the heart become refractory to the excitation: at this

moment, the continuous current acts no more, the heart obeys it no more, and so forth. Then the continued action of the current results in producing an intermittent response of the muscle.

**SWEAT PHENOMENA, ATROPINE AND PILOCARPINE.**—The excitation of the peripheric and of the sciatic brings about an abundant secretion of sweat in the cat. Cl-Bernard claimed, with Dupuy and Allfort, that, in the horse it was the section of the sympathetic which effected the increased secretion. Mm. Vulpian and Raynaud thought that such a seeming discord could not exist between the two animals. They have repeated the experiments of Dupuy, and they have seen that the excito-sudoral nerve fibres destined for the skin of the face proceed, either from the sympathetic nervous filaments which accompany the vertebral artery in its ascending tract across the transverse apophyses of the cerebral vertebrae, and by the intervention of these filaments from the superior thoracic ganglion; or from the parts of the sympathetic which arise from the medulla oblongata and pons Varolii. These excito-sudoral fibres take their places in the different cutaneous nerves; they are, perhaps, numerous in the cutaneous filets of the trigeminal nerves.

M. Straus communicates a number of experiments upon local sweating, obtained by means of hypodermic injections of pilocarpine. 1st—If you inject pilocarpine under the skin, you obtain around the injection a circle of little drops of sweat. If the dose is moderate, all remains there, and the sweat does not become general. 2d—If, upon a subject in free perspiration, you make an injection of atropine, you see the sweat arrested first in the points where the injection was made. 3d, If, before making the injection of pilocarpine, you produce upon the skin an intense refrigeration, you have no more phenomena of local sweating.

M. PREVOST, presents a note upon the physiological effects of brom-hydrate of coniine. This substance paralyzes motor nerves, and the pneumo-gastric and excites secretion, it passes off in the urine. It controls the action of the secretory nerves, but does not modify muscular contraction.

MAREY'S NEW INSTRUMENT, THE POLYGRAPH, permits the registration at the same time, of the pulse, the respiration and the movement of the heart. It contains all the instruments necessary for myographic researches. It can be carried in the hand.

CEREBRAL THERMOMETRY.—Before the Paris Academy of Medicine, Dec. 30th, 1879, M. Broca made the following remarks upon local cerebral temperatures: Finally, in cerebral affections, in aphasia and the paralysis which may be caused either by an embolus in the Sylvian artery or by an acute or chronic encephalitis of the cerebral region which surrounds that artery, the employment of a thermometer permits a diagnosis which the identity of the symptoms would render otherwise almost impossible. In fact, in case of embolus of the sylvian artery, the temperature which is found lowered in the temporal region, is found, on the contrary, quite notably increased at the frontal region, and sometimes even also a little at the occipital region. This depends upon the fact, that the re-establishment of the circulation in the region which ceases to be supplied by the Sylvian artery takes place, principally, by the anastomoses of this artery with the vessels which nourish the anterior part of the frontal lobe, and, in proportion, much less by the posterior anastomoses of the sylvian.

In the cerebral softening by encephalitis, we observe nothing analogous. If the encephalitis is acute, the temperature is notably increased in all the part affected; if the encephalitis is chronic, the differences are less appreciable, but always of the same kind.

Encephalitis is not susceptible generally of being treated by surgical means. There is, however, one case where the surgeon may be called upon to interfere, and with great advantage: it is when following a depression of the cranium, some bony fragments, irritating the cerebral substance, produces sometimes long after the injury, such accidents as symptomatic epilepsy, etc. If then the trephine is applied, the epilepsy ceases once the cause has been removed. In such a case we find that the temperature is elevated at the point where it is best to apply the trephine.

M. Broca used an ordinary thermometer in making these researches, covering over the bulb with a sort of hood and waiting till the column became stationary.—*Gazette des Hopitaux*, Jan. 3d, 1880.—*Nelson*.

THE MUSCULAR TONICITY OF TABETICS.—Mm. Debove and Boudet, of Paris, have undertaken at the hospital of Bicetre, a series of researches upon the muscular tonicity of tabetics, researches of which we give here, briefly, the results: The muscular tonicity of tabetics is profoundly

affected. M. Tschirjew has maintained that it is diminished. They have found it preserved in a number of muscles and were especially struck by its inequality in the different muscular groups of the same limb. They recognized the difference by palpation, auscultation and the study of the muscular twitching. In most ataxics they determined by the touch that the muscles of the same limb presented an unequal consistence, which, it would appear, should be attributed to a diminution of tonicity of certain of them. In examining these same muscles by means of a myophone, invented by one of them, they have been able to catch great variations in the tonality, and especially in the intensity of the muscular bruit. Now the muscular bruit being due to the tonus, they conclude that this last was very unequal in ataxics.

With the aid of registering apparatus, they have recognized that the *lost time* varies from one muscular group to another, and that these variations are more pronounced than in a physiological state.

The different researches have forced them to admit, in ataxics, a very great inequality of muscular tonicity as the cause of the inco-ordination of the movements. They intend to offer, in a further paper, their researches in all their details, and to show, that they can make understood the moter inco-ordination of subjects affected with sclerosis of the posterior cords.—*Le Progres Medical, Feb. 26, 1880.—Meeting of February 15 and 21, 1880, Society of Biology.—Nelson.*

QUESTIONS AND ANSWERS CONCERNING CHLORAL.—Dr. H. H. Kane, 191 W. Tenth Street, New York City, specially requests members of the profession with any experience, whatever, in the use of the Hydrate of Chloral to answer the following questions, and give any information they may possess with reference to the literature of the subject:

1. What is your usual commencing dose?
2. What is the largest amount you have administered at one dose, and the largest amount in twenty-four hours.
3. In what diseases have you used it (by the mouth, rectum, or hypodermatically), and with what results?
4. Have you known it to affect the sight?
5. Have you ever seen cutaneous eruptions produced by it?
6. Do you know of any instances where death resulted from or was attributed to its use? If so, please give full particulars as to disease for



which given; condition of pulse, pupils, respiration and *temperature*; manner of death; condition of heart, lungs and kidneys; general condition, age, temperament, employment, etc., etc. If an autopsy was held, please state the condition there found.

7. Have you seen any peculiar manifestations from chloral—as tetanus, convulsions, or delirium?
8. Do you know of any cases of the chloral-habit? If so, please state the amount used, the disease for which the drug was originally administered, the person's temperament, and the present condition of the patient.

Physicians are earnestly requested to answer the above questions, in order that the resulting statistics may be as valuable as possible. All communications will be considered strictly confidential, the writer's name not being used when a request to that effect is made.

To which we answer for ourselves as follows :

1. Twenty-five grains in ordinary sleeplessness; 40 grains more frequently, in the persistent insomnia of melancholia, or where encephalic pain or marked eccentric nervous irritation are associated with the sleeplessness; 25 grains in the fitful somnolency of some of the fevers, where delirium exists. In these latter cases associated with potassium bromide 40 grains, largely diluted with water.
2. Sixty grains to a sane person; 80 to a maniac with high excitement. Two of such doses, with never less than a twelve hour's interval between them.
3. Epilepsia, during the paroxysm, acute mania, delerium tremens. In infantile convulsions, by mouth and rectum; very frequently by the rectum in these cases. In delirium tremens, and in mania and epilepsia, have given one hundred grains per rectum in beef tea, with good results—*sixty grains*, however, have often sufficed in this way. For the convulsions of children, from ten to thirty grains *per ani*, according to age, not repeating, unless the first enema has come prematurely away; have never used it hypodermically. I consider it too irritating an agent, to be used in this way. Have employed it externally as an anodyne counter-irritant in intercostal neuralgia, etc., etc.
4. Have never known it to permanently effect the sight. Have had hysterical cases, complain after the abortive treatment of a paroxysm by this agent, of dimness and perversion of vision. I have known its use to be followed by headache even after a single dose, causing long sleep, sometimes; but most usually the headache resulted from the interruption of the induced sleep.
5. Yes, especially in inebriates, and when given with egg-nog, as I used to often give it.
6. Several cases—not less than five—of sudden death, apparently from heart paralysis in persons who had become chloral habituates, and had become accustomed to take the drug *ad libitum*. They were under no physician's treatment at the time.

7. Once a temporary trismus, often delirium from small doses—5 to 10 grains—at hour intervals, so that I no longer give it in this manner.
8. Yes. For opium or alcoholic intemperance or after debauches. Sanguine nervous, or nervous temperament. I can recall five of these patients who are now dead. One of the patients had used as much as 30 *grs.* of morph. sulph., hypodermically, and died suddenly, though general dropsy preceded her death some weeks.

I have seen much mischief done by the constant and persistent saturation of the blood—with chloral. If a patient has taken chloral in five to ten grain doses, every hour or two, in a case of high cerebral excitement, for ten or more hours, and has not been sent to sleep for an interval of several hours by this plan, I would consider it dangerous to give a full dose of forty to fifty or sixty grains before an elapsed interval of from eight to twelve hours for elimination of the previous ineffectual doses which have poisoned the blood and irritated and exhausted, rather than tranquilized and recuperated the cerebral centres, whereas a single dose of forty to sixty grains, according to the intensity of the excitement, may be given with impunity when there has been no previous abortive action of the drug.

PHENOMENA OF CERVICAL DISLOCATION AND COMPRESSION IN AN EXECUTED CRIMINAL.—Dr. Geo. L. Porter, in his report to the Bridgeport (Conn.,) Medical Society, June 9th, on the case of Hoyt, the parricide, who was hanged there on the 13th of May, says:

The left lateral and the anterior ligaments of the third and latter cervical vertebra were ruptured, and a small portion of the anterior superior surface of the body of the latter vertebra was broken off, causing compression without rupture of the spinal cord.

There was no contraction of the muscles, nor any general convulsions. Immediately upon the fall, a tremor went down the body, there was a quivering of the legs, a slight shaking of the foot, and then the body, without any self-motion, swung passively in the breeze.

Immediately the pulse of the left wrist was felt and counted by Dr. Lander; the time was noticed by Dr. Wilson, and the results tabulated by the other Medical men. The trap fell at 40 minutes and 30 seconds after 11 o'clock. Immediately the following numbers were taken:

Minutes.....	1st	2nd	3d	4th	5th	6th	to	10th
Number of )	54	53	60	54	97	Too rapid to count and sometimes imperceptible.		
Pulse beats }								

Dr. Lander then took the right wrist and found the pulse beat there as follows:

Minutes.	10th	11th	12th	12:30
Beats.	52	22	21	Stopped beating.

At the end of 20 minutes, there was no heart sound recognizable on auscultation.

The pupils of both eyes were dilated. In the right eye, under the ophthalmoscope the cornea was ruptured in its outer coat in a horizontal direction, nearly across; the anterior capsule was lacerated; the whole fundus was pale; the arteries were pale and the veins nearly empty of blood. In the left eye the cornea was intact; the anterior capsule was lacerated; the fundus pale, and the arteries and veins emptied of blood.

The features were peaceful and composed. The knot had tightened just behind the left ear. Thirty-four and a-half minutes after the fall the body was quickly removed and electricity applied with the result of muscular contractions everywhere except at the heart.

THE TENDON-REFLEX PHENOMENON.—In order to ascertain what are the variations in this phenomenon, under normal and abnormal conditions, Dr. W. R. Gowers, Assistant Professor of Clinical Medicine in University College, London, assisted by Mr. A. E. Broster, resident medical officer at the National Hospital for the Paralyzed and Epileptic, examined 300 individuals, of whom 150 were suffering from no known paralytic condition of the lower extremities. Of these some were, as far as was known, in perfectly normal health, but the majority were the subjects of simple epilepsy. Of the whole 300 cases the movement was entirely absent on this mode of testing, on both sides, in seventeen. The observations were carefully made.

“Four of the seventeen were suffering from undoubted locomotor ataxy; a fifth had atrophy of the optic nerves, and commencing ataxy was suspected. Of the remaining twelve, two were under treatment for paraplegic weakness of legs, but presented no indication of ataxy. These were:

(1.) A man, *æt.* 52.

(2.) A man, *æt.* 45; with some weakness of the legs, especially in the flexors, which had apparently been left by an attack of spinal meningitis. Sensation of the leg was normal.

The remaining ten patients were as follows:

1.) A woman, *æt.* 58, who had had an attack of right hemiplegia, but had recovered so as to be able to walk five miles. The patellar reflex was absent on both sides (as in all the cases now under consideration).

(2.) A man, æt. 58, suffering from some mental disturbance and slight weakness, deafness, and considerable auditory-nerve vertigo.

(3.) A man, æt. 36, suffering from tumor cerebri, not syphilitic, of which he afterwards died. When tested he was suffering from slight weakness in the right arm, but was able to walk a long distance.

(4.) A girl, æt. 11, suffering from chorea; a good walker.

(5.) A man, æt. 19, suffering from epilepsy, whose legs were curved from old rickets, and who was not able to walk more than a mile.

(6.) A man, æt. 30, suffering from epilepsy and considerable cardiac disease; able to walk about two miles.

The remaining four cases were all young epileptics.

(7.) A boy, æt. 7; a bad walker.

(8.) A girl, æt. 19; a bad walker.

(9.) A girl, æt. 22; walking power not good—about a mile.

(10.) A girl, æt. 20; walking power not good.

Whenever the reflex was apparently absent it was tested repeatedly with great care, without the intervention of the clothes or with only a single garment.

It would thus appear that the knee reflex cannot be obtained, at least with the hand, in about four per cent. of patients suffering from disease of the nervous system who present no symptom of locomotor ataxy, and that in many of these, from sex and age, the possibility of commencing ataxy can be certainly excluded; but that, in most of them, the loss is associated with defective power of continued exertion with the legs.

*In at least half the cases of nervous disease in which the knee reflex cannot be obtained with the hand, the patient is not suffering from locomotor ataxy.* To those who have followed recent discussion on this subject this statement will appear surprising. Hitherto apparently, the symptom has rarely been searched for except in ataxics or in few persons in normal condition for the sake of comparison.

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\* Since this paper was read, Dr. Berger has published (*Centralbl. fuer Nervenheilkunde*, No. 4, 1879) the results of the examination of 1409 healthy individuals. He found that no reflex could be obtained by any method of examination in 22, or 1.56 per cent. In comparing this result with those which I have obtained, it must be remembered that most of the persons tested by me were suffering from some affection of the nervous system.

Twenty-seven cases of hemiplegia from cerebral disease were examined. They were of various duration and degree of recovery: most attended as out patients and so were able to walk. The reflex was equal in the two legs in 13 of the cases, and it was unequal in 14. In the latter, without an exception, the excess of movement was on the paralyzed side. The occurrence of this excess seems to bear no necessary relation to the development of the ankle clonus, which is often present in old hemiplegics. This ankle clonus was marked in several of the cases in which the knee reflex was equal on the two sides, and it was absent in several cases in which the excess of movement on the paralyzed side was very large.

In order to estimate the average degree of movement, apart from any weakness of the legs, the range of movement (of one foot) which could be excited by such a tap as usually develops the maximum effect, has been compared in one hundred epileptics whose walking power was reasonably good. The amount of movement was estimated by the eye, checked by an occasional measurement. Of the 100, 37 were women and 63 were men. The results are shown in the following table:

Movement in inches.	Men.	Women.	Total	each degree.
$\frac{1}{2}$ ...	3 ...	1 ...	4	4
1 ...	22 ...	6 ...	28	28
2 ...	19 ...	18 ...	27	27
3 ...	14 ...	11 ...	25	25
4 ...	3 ...	1 ...	4	4
5 ...	2 ...	— ...	2	2

It appears from this that in 90 per cent. of individuals possessing good walking power, the range of movement is between 1 and 3 inches. The mean of the whole is just 2 inches, and about as many present a slight excess above the average movement, as present a deficiency. The reflex was entirely absent in no patient with good walking power, although in 4 it was slight, not more than half an inch. In only 6 did it exceed 3 inches.—

*Gowers*

TO SUCCESSFULLY REUNITE SEVERED NERVES.—Dr. Backowicki concludes, after a hundred experiments, on the sciatic, vagus and hypoglossal, with catgut, silk and silver wire, that they should be sutured with catgut within twenty-four hours after section, and through the neurilemma only. He attributes the failure of Eulenberg and others to get successful results, to ligating *through the nerve substance*.

PROCEEDINGS OF THE THIRTY-FOURTH ANNUAL  
MEETING OF THE ASSOCIATION OF MEDICAL  
SUPERINTENDENTS OF AMERICAN  
HOSPITALS FOR THE INSANE.

The Thirty-Fourth Annual Meeting of the Association was called to order at 11 A. M., May 25th, 1870, in Parlor C., of Continental Hotel, in the City of Philadelphia, by the President, Dr. Clement A. Walker. The minutes of the last meeting were read. The following members were present during the sessions of the Association:

- J. K. BAUDY, M. D., St. Vincent's Institution for the Insane, St. Louis, Mo.  
D. F. BOUGHTON, M. D., State Hospital for the Insane, Mendota, Wis.  
J. P. BROWN, M. D., State Lunatic Hospital, Taunton, Mass.  
PETER BRYCE, M. D., Alabama Insane Hospital, Tuscaloosa, Ala.  
R. M. BUCKE, M. D., Asylum for the Insane, London, Ont.  
D. R. BURRELL, M. D., Brigham Hall, Canandaigua, N. Y.  
H. A. BUTTOLPH, M. D., State Asylum for the Insane, at Morristown, Morris Plains, N. J.  
JOHN H. CALLENDER, M. D., Tennessee Hospital for the Insane, Nashville, Tennessee.  
T. B. CAMDEN, M. D., West Virginia Hospital for the Insane, Weston, W. Va.  
JOHN B. CHAPIN, M. D., Willard Asylum for the Insane, Willard, N. Y.  
DANIEL CLARK, M. D., Asylum for the Insane, Toronto, Canada.  
H. F. CARRIEL, M. D., Hospital for the Insane, Jacksonville, Ill.  
JOHN CURWEN, M. D., Penna. State Lunatic Hospital, Harrisburg, Penna.  
THEO. DIMON, M. D., Asylum for Insane Criminals, Auburn, N. Y.  
B. D. EASTMAN, M. D., Topeka Insane Asylum, Topeka, Kas.  
ORPHEUS EVERTS, M. D., Cincinnati Sanitarium, College Hill, O.  
F. T. FULLER, M. D., Assistant Physician Insane Asylum, Raleigh, N. C.  
W. W. GODDING, M. D., Gov't Hospital for the Insane, Washington, D. C.  
JOHN P. GRAY, M. D., State Lunatic Asylum, Utica, N. Y.  
RICHARD GUNDRY, M. D., Maryland Hospital for the Insane, Cantonville, Md.  
JOHN C. HALL, M. D., Friends' Asylum for the Insane, Frankford, Philadelphia, Penna.  
HENRY M. HURD, M. D., Eastern Michigan Asylum, Pontiac, Mich.  
WALTER KEMPSTER, M. D., Northern Hospital for the Insane, Winnebago, Wisconsin.  
THOMAS S. KIRKBRIDE, M. D., Penna. Hospital for the Insane, Phila., Penna.  
A. E. MACDONALD, M. D., City Lunatic Asylum, Ward's Island, New York.  
C. F. MACDONALD, M. D., Binghampton Asylum for the Insane, Binghampton, N. Y.  
S. B. MCGLUMPHY, M. D., Dakota Hospital for the Insane, Yankton, Dakota Territory.  
C. S. MAY, M. D., Danvers Lunatic Hospital, Danvers, Mass.  
W. G. METCALF, M. D., Asylum for the Insane, Kingston, Ont.  
C. A. MILLER, M. D., Longview Asylum, Carthage, Ohio.  
D. A. MORSE, M. D., Dayton Asylum for the Insane, Dayton, Ohio.  
CHARLES H. NICHOLS, M. D., Bloomingdale Asylum for the Insane, N. Y. City.  
GEO. C. PALMER, M. D., Michigan Asylum for the Insane, Kalamazoo, Mich.  
T. O. POWELL, M. D., Georgia Insane Asylum, Milledgeville, Ga.  
ISAAC RAY, M. D., Philadelphia, Pa.  
JOSEPH A. REED, M. D., Western Penna. Hospital for the Insane, Dixmont, Pa.  
D. D. RICHARDSON, M. D., State Hospital for the Insane, Warren, Penna.

JOSEPH G. ROGERS, M. D., Indiana Hospital for the Insane, Indianapolis, Ind.  
JOHN W. SAWYER, M. D., Butler Hospital, Providence, R. I.  
S. S. SCHULTZ, M. D., State Hospital for the Insane, Danville, Penna.  
G. A. SHURTLEFF, M. D., Asylum for the Insane, Stockton, Cal.  
JAMES T. STEEVES, M. D., Provincial Lunatic Asylum, St. John, N. B.  
J. STRONG, M. D., Cleveland Asylum for the Insane, Cleveland, O.  
J. D. THOMSON, M. D., Mount Hope Retreat, Baltimore, Md.  
CLEMENT A. WALKER, M. D., Boston Lunatic Hospital, Boston, Mass.  
JOHN W. WARD, M. D., N. J. State Lunatic Asylum, Trenton, N. J.  
H. WARDNER, M. D., Southern Hospital for the Insane, Anna, Ills.  
J. H. WORTHINGTON, M. D., Baltimore, Md.  
JOHN S. WOODSIDE, Assistant Physician, Kings County Lunatic Asylum,  
Flatbush, N. Y.

Also :—

ALFRED T. LIVINGSTON, M. D., Philadelphia, Penna.  
I. N. KERLIN, M. D., Supt. of the Institution for Feeble-Minded Children,  
Media, Penna.  
GARDNER A. CHURCHILL, Trustee of the Lunatic Hospital, Danvers, Mass.  
GEO. W. JONES, Trustee of the Willard Asylum for the Insane, Willard, N. Y.  
TRAILL GREEN, M. D., Trustee of the Penna. State Lunatic Hospital, Harris-  
burg, Pa.  
WM. CORSON, Commissioner of the State Hospital for the Insane, Warren, Pa.  
JOHN C. ALLEN and HENRY HAINES, Managers of the Friends' Asylum for the  
Insane, Frankford, Philadelphia, Penna.

The President announced as the Committee on Business—Drs.  
Kirkbride, Ray and Curwen.

On motion of Dr. Gray, it was

*Resolved*, That the members of the Medical Profession of Philadelphia  
be invited to attend the meetings of the Association.

The Secretary read letters from Drs. Harlow, Stearns and Reynolds,  
expressing their regret in being unable to attend this meeting; also from  
Miss Dix, expressing kindest regards to the members; also an invitation  
from Dr. I. N. Kerlin, of the Institution for Feeble-Minded Children, at  
Media, to visit and spend a day at that institution, which was referred to  
the Committee on Business. The Secretary also stated that Dr. Kirkbride  
had received an invitation from Prest. Allen, of Girard College, to visit  
that Institution; also, that it was probable that an invitation would be  
received to visit the new hospital at Norristown.

On motion of Dr. Curwen, Dr. I. N. Kerlin was invited to take a seat  
with the Association.

On motion of Dr. Nichols, a recess of twenty minutes was taken to  
enable the Committee on Business to arrange the business of the Association

On re-assembling, the President announced the following committees :  
Committee on Resolutions—Drs. Nichols, Bucke and Bryce.

On Time and Place of Next Meeting—Drs. Clark, Kempster and  
Shurtleff.

To Audit the Treasurer's Accounts—Drs. Gundry, Eastman and May.

The Committee on business made the following report, which was  
unanimously adopted :

Continue this session to 1 P. M. ; meet at 4 P. M.

*Wednesday*.—Leave the hotel at 9.50 A. M. for the department of males of the Pennsylvania Hospital for the Insane; hold a meeting there at 10.30 A. M.; adjourn at 12 M., to visit the wards. Dine at 2 P. M. Leave at 4 P. M., for the department for females; hold a meeting there at 5 P. M., and leave the Hospital at 9.30 P. M. for the hotel.

*Thursday*.—Meet at 10 A. M. for business; adjourn at 1 P. M. Visit Girard College at 4 P. M.

*Friday*.—Meet at 10 A. M. for business; adjourn at 12 M. Leave west Philadelphia at 2.30 P. M., by special train for Friends' Asylum at Frankford; return in the evening.

*Saturday*.—Meet at 10 A. M. for business.

The Treasurer then laid before the Association his accounts, which were, on motion, referred to the Auditing Committee.

Dr. Steeves then read the memorial of Dr. John Waddell, which was, on motion, directed to be entered on the minutes of the Association.

The committee appointed to prepare a memorial record of the death of the late Dr. John Waddell, of Canada, a member of this association, presented the following:

John Waddell, whose father was a native of Shotts, Scotland, was born in Truro, Nova Scotia on March 17th, 1810. He was the youngest son of the Reverend John Waddell, an eminent Presbyterian clergyman, and brother of the late James Waddell, also a distinguished member of the Presbyterian Church. The early part of his education was received at the Grammar School in Truro; subsequently he attended the Picton Academy, where he spent several years completing a full course of liberal culture. At the end of this period he engaged in business, continuing for one year; but, finding this enterprise uncongenial, it was abandoned. In the year 1834 he commenced the study of medicine in his native place, under the preceptorship of Dr. Lyna. He next proceeded to Glasgow, continuing his medical studies there; and on the 18th of October, 1839, he received his diploma from the Royal College of Surgeons, London. After obtaining his degree the Doctor attended medical lectures in Paris, during the winter of 1839 and 1840. In the summer of 1840 he returned to Truro, Nova Scotia, and entered on the practice of his chosen profession. During the following nine years he was engaged in general practice, and, being eminently successful, he extended his name and fame far beyond the immediate sphere of his labors. In 1849, Dr. Waddell was appointed the Medical Superintendent of the Provincial Lunatic Asylum, at St. John, New Brunswick, and in December, of that year, he entered upon the duties connected therewith. In the management of this Institution the Doctor found a sphere congenial to his order of mind, and he soon won a reputation more than provincial. In a pre-eminent degree he possessed the qualities of mind and heart to ensure success in his chosen field. His administrative ability was of a high order: he was prudent, practical and economical in his management, and adverse to the use of too definitely written rules, preferring a frequent resort to himself as the source of authority in the house which he controlled. His fine *personel*, gentlemanly bearing, suave manners and cheerful disposition gained for him, at once, the confidence and esteem of his associates, and the public as well.

While Dr. Waddell was urbane, generous and forgiving, yet he possessed great firmness of character, when opposed in his cherished views or plans: his opponent found "a foeman worthy of his steel." Dr. Waddell continued Superintendent of the Asylum at St. John, from December, 1849,



to the first of May, 1875, a period extending upwards of 26 years, and during all that time he labored with great assiduity and with marked success in the medical treatment of the patients, the general management of the house, and in all that pertained to the prosperity of the institution; for the best part of his life was devoted to a noble purpose, caring for the helpless and insane, going in and out among them at all hours of the day and night ministering to their diseased bodies and minds—performing the office of a faithful physician. Early in the history of this Association, Dr. Waddell became an active member, taking a deep interest in its work, and earnestly promoting its welfare. His agreeable, social qualities, varied information and practical good sense, made him a great favorite among the members of the Association. On the doctor's retiring from the Superintendency of the Asylum, he again took up his residence at Truro, his birth-place, where he himself and his friends hoped that he might enjoy many years of quiet and peace after his arduous life duties had been so well performed. But this hope was not realized; the good doctor had almost finished his course; he had well nigh fallen before his armor was removed. The watching, the anxiety, too long continued without sufficient aid, had so wrought upon his physical system and mind, that a nervous affection fastened upon him, to which he soon succumbed. On Thursday, the 29th of August, 1878, our friend, a christian gentleman, passed away peacefully to his rest and his reward.

JAMES S. STEEVES,  
CALVIN S. MAY.

The Secretary read a telegram from Dr. C. H. Hughes conveying good wishes and prosperity to the members, and regretting his inability to attend this meeting.

Dr. May introduced to the Association, Mr. Gardner A. Churchhill, Trustee of the Danvers (Mass.) Hospital for the Insane, and Dr. J. B. Chapin also introduced Mr. Geo. W. Jones, Trustee of the Willard Asylum for the Insane, Willard, N. Y.

On motion of Dr. Gray, the Association adjourned to 4 P. M.

The Association was called to order by the President, at 4.30 P. M. Dr. Bryce then read the memorial of Dr. Thos. F. Green, prepared at the request of the Association, which was, on motion, directed to be entered on the minutes:

Dr. Thomas F. Green was born in Beaufort, S. C., on the 25th of Dec., 1804. He died in Midway, Ga., on the the 13th of February, 1879, of apoplexy, while superintendent of the Georgia Lunatic Asylum. His parents were of the best class of Irish people. His father, a warm-hearted, highly-educated, enthusiastic young Irish patriot, joined in the ill-fated rebellion of 1798, and was forced to flee the country. His wife, who was a Fitzgerald, a lady of noble blood, came with him to America. He had no fortune save his talents, no friends save those whom he won by his virtues; he began to teach, and as a teacher, came to Beaufort, S. C. Here his oldest son, Thomas Fitzgerald, was born. He removed to Savannah, Georgia, where he taught a high school, and then was elected a professor in Athens, in the Georgia University. He afterwards removed to Milledgeville, the Capital of Georgia, and here the son was educated. He was past his majority when he studied medicine and began to practice. He located in Milledgeville and was doing well as a physician, when the current of his life was changed, and turned into a direction, which was to be full of blessings to his race.

A northern philanthropist, who was interested in the welfare of the insane, visited Milledgeville to suggest and advocate the establishment of an asylum for them. He called a meeting of a few gentlemen of broad

views and generous hearts, and laid his plans before them. The warm heart of Dr. Thomas F. Green became much interested in the great question presented, and he gave it close attention. He was connected with the first effort made to secure the grant from the legislature.

In 1846, he succeeded Dr. Cooper as Superintendent of the asylum. He continued in the office for thirty-three years. It was very small when he took hold of it. It became a grand institution; one of the largest in the Southern States, when he was called by death from it.

Dr. Green, in person, was short, stout, of broad, grand, humane countenance; in his youth handsome, and in his old age venerable. He was full of life, cheerful, merry, courteous, considerate. He was a sincere christian; in his home life, a model; one of the most benevolent and unselfish of men. He was devoted to the institution—he literally lived for the asylum. He thought of it—talked of it all the time. His success in the management of it was marvellous, and the blessed results of his work can not be told in time. He was a delightful companion, a true and sympathizing friend, a man whom all loved, and one worthy of all the honor heaped upon him. The moral grandeur of his character was best illustrated by the interest he manifested in the unfortunate.

Dr. Gundry, from the committee to audit the Treasurer's accounts, reported the accounts correct. The receipts, \$287.88; the expenditures, \$172.65, and the amount on hand \$115.24; and they also recommend an assessment of five dollars on each member for this year.

On motion, the Association adjourned.

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#### WEDNESDAY, MAY 26, 1880.

The Association was called to order at the department for males of the Pennsylvania Hospital for the Insane, by the President at 11 A. M. Dr. Curwen introduced to the Association, Dr. Traill Green, Trustee of the Pennsylvania State Lunatic Hospital, and Dr. Wm. Corson, Commissioner of the State Hospital for the Insane, Warren, Penna., who were invited to take seats with the Association.

On the nomination of Dr. Kirkbride, Dr. Daniel Hack Tuke, of London, was unanimously elected as honorary member of the Association.

Dr. C. F. MacDonald then read to the Association the report of a case of Feigned Epilepsy, the discussion of which was, at the hour of adjournment, postponed until the afternoon session.

After passing through the wards of the Department for Males, and partaking of the bountiful collation provided, and then, at 4 P. M. passing through the wards of the Department for Females, the Association was called to order at 5.30 P. M. by the President.

The President read a letter from Dr. Jos. Workman, expressing his continued interest in the Association, and his regret at his inability by reason of advancing years, to attend this meeting; also a letter from Dr. E. Mead, regretting his inability to be present with the Association at this time.

The Association resumed the discussion of the paper read by Dr. C. F. MacDonald.

Dr. Ray read a paper on the increase of "Mental Disorders."

On motion, the Association adjourned to 10 A. M. Thursday. After the adjournment, the members witnessed the calisthenic exercises, and after some time spent in social entertainment, returned to the hotel.

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THURSDAY, MAY 27, 1880.

The Association was called to order at 10.30 A. M. by the President.

Miss Dix was present and was introduced to the members.

The Secretary read invitations from the President of the Board of Trustees of the State Hospital for the Insane, at Norristown, to visit that hospital; from the Librarian of the Library Company, of Philadelphia, to visit the building of that company, and from the Trustees of the Women's Medical College, which were referred to the Committee on Business.

A communication was also received from the Committee of Arrangements of the American Medical Association to attend the meeting of the Association in New York, and also an invitation to attend the reception at the Academy of Music, which were, on motion, accepted.

The first business in order being the discussion of the paper read by Dr. Ray. On motion it was, at the request of Dr Ray, laid on the table.

Dr. John B. Chapin read a paper on "Experts and Expert Testimony."

Dr. Kempster offered the following:

*Resolved*, That a committee be appointed to report by resolution, or otherwise, to the next meeting, a method which shall express the views of this Association as to the best manner of procedure in procuring experts in medico-legal questions of insanity, and what qualifications in our opinion constitute an expert.

On motion, the resolution was divided, and the question being put on the first clause, that clause was, on a division, voted down (14 in favor, 22 against), and the resolution was, therefore, not adopted.

Dr. Gundry then read a paper on "The Insanity of Critical Periods of Life;" the discussion of which was postponed for the present.

On motion, the Association adjourned to 8 P. M.

The members spent the afternoon in visiting and inspecting the admirable arrangements of Girard College, under the conduct of President Allen, and Vice-President Arcy, and returned to the hotel early in the evening.

A few of the members met at 8 P. M., but, on account of the difficulty of obtaining a full meeting, by reason of the unusual heat, a motion was made and adopted to adjourn to 10 A. M. of Friday.

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FRIDAY, MAY 28, 1880.

The Association was called to order at 10 A. M. by the President,

Dr. Everts announced to the Association the death of Dr. W. S. Chipley, and, on motion, a committee was directed to be appointed to

prepare a memorial, to be presented to the next meeting of the Association. The President appointed Dr. Everts the committee.

The President announced the death of Dr. R. F. Baldwin, of Virginia, and, on motion, Dr. Black, of Williamsburg, was appointed to prepare a memorial.

Dr. Gundry reported to the Association, the death of Dr. O. M. Langdon, Dr. Jos. T. Webb and Dr. L. R. Landfear.

On motion, the President was authorized to appoint a committee to prepare a memorial for each of these deceased members. The President appointed Dr. Gundry to prepare the memorials of Dr. Langdon and Dr. Landfear and Dr. Miller to prepare the memorial of Dr. Webb.

The Association resumed the discussion of the paper read by Dr. Gundry, and after the conclusion of the discussion, Dr. Hurd read a paper on "Recent Judicial Decisions on Insanity, in Michigan," which, after discussion, was laid on the table.

On motion of Dr. Kempster it was

*Resolved*, That the Committee on Business be appointed at the close of each annual meeting to prepare the business and ascertain the papers to be read, and notify the Secretary at least two months before the meeting, so that the members may be informed of what will be read at the meeting; and that the Secretary in sending the notices of the meeting, shall state what papers will be read, and that the members who prepare papers shall bring them with them, to be ready to read at the call of the Secretary.

On motion, the Association adjourned to 8 p. m.

The members spent the afternoon in visiting and inspecting the excellent arrangements of the Friends' Asylum for the Insane, under the conduct of Dr. John C. Hall.

The Association was called to order at 8:30 p. m. by the President. Dr. Hall introduced to the Association, John C. Allen and Henry Haines, managers of the Friend's Asylum for the Insane.

The Committee on the Time and Place of the Next Meeting made the following report, which was unanimously adopted:

The Committee to whom was referred the question of determining the place and time of the next meeting of the Association, respectfully suggest the City of Toronto as the place, and the second Tuesday of June 1881, as the time for the next annual meeting of the Association.

DANIEL CLARK,	} Committee.
WALTER KEMPSTER,	
G. A. SHURTLEFF,	

The President appointed on the Committee on Business, Drs. Kempster, Clark, Workman Curwen and Callender.

Dr. Bryce, from the Committee on Resolutions, presented the following report which was unanimously adopted:

The Thirty-Fourth Annual Meeting of the Association of Medical Superintendents of American Institutions for the Insane, and the sixth held in Philadelphia (the original birth-place of the Association), being about to close, its members in attendance this year desire to express both their exalted sense of the abounding presence in this great city of Brotherly love, of those institutions and material conditions which contribute in a

special degree to the general intelligence, social order, health and rational happiness of its favored citizens, and their grateful appreciation of the attentions and hospitalities, which have been bestowed upon them during this meeting, with generous and unsparing hands.

To their very distinguished and beloved associate and friend Dr. Thomas S. Kirkbride, and to his able and faithful assistants, Dr. S. Preston Jones and Wm. P. Moon, and their associates, and to the Managers of the Pennsylvania Hospital for the Insane: we again return our hearty acknowledgments for the pleasure and profit we have derived from an inspection of the admirable provisions, both in material arrangements and administration, which this, the oldest organization for the care of the insane in this western world, continues to present for the comfort and remedial treatment of its afflicted inmates, and for their cordial and abundant attentions to our comfort and refreshment during the day so agreeably spent at that institution. Though this department of the Pennsylvania Hospital is the oldest provision in the country, by about a quarter of a century, for the humane and remedial treatment of the insane, the earnestly progressive and philanthropic spirit with which, under its present head, it has always been administered, keeps it steadily in the ranks of the newest and best of American institutions of this class.

Revering the good Providence under which Dr. Kirkbride has measurably recovered from a severe and protracted sickness, we trust that his life of usefulness and honor may yet be prolonged through many years.

In this connection we wish to express to Mr. Wm Biddle, President of the Board of Managers of the Penn. Hospital for the Insane, and Messrs. Samuel Mason, Benjamin H. Shoemaker, T. Wistar Brown, Joseph C. Turnpenny and Henry Haines, members of the Board, our high appreciation of their devotion of the entire day, of our visit to that institution, to our entertainment.

To Dr. John C. Hall and the Managers of the Friends' Asylum for the Insane, situated at Frankford, in this city, we are much indebted for the pleasant afternoon they afforded us the privilege of spending at that excellent institution. We found it to be steadily advancing in the extent and character of its accommodations, to be in shining cleanliness and order as usual, and to present evidences of the very kind and beneficial care, which we believe its patients have never failed to receive in all its long history.

We return our thanks to Wm. H. Allen, LL. D., President, and Mr. Henry W. Arcey, Vice-President of Girard College, for personally conducting the members of the Association through the buildings and apartments of that unique and admirably managed institution, where nearly a thousand fatherless boys are receiving a liberal business education, and a sound moral training, which are shown by the prominence of its graduates, in many of the useful walks of life. Two of its graduates are now in the Congress of the United States.

We have again had the pleasure of the society and counsel of our illustrious and venerable associate, Dr. Isaac Ray, who, though long retired from the active duties of his profession, does not manifest the slightest abatement of his interest in the specialty of mental medicine, which he has so long and so conspicuously illustrated and adorned.

We are glad again to be able to record the pleasure we have had in the course of this annual meeting, of paying our respectful duty to Miss D. L. Dix, whose labor and name underlie the benevolent work in which many of us are engaged.

For invitations from Hon. John F. Hartranft, President of the Board of Managers to visit the buildings of the hospital at Norristown, which are about to be opened for the care of the insane of the southeastern counties of Penna.; from Dr. I. N. Kerlin, Superintendent, and the Trustees of the Institution for Feeble-Minded Children, at Media, Penna.; from the Faculty and Trustees of the Women's Medical College, of Philadelphia, and

from the Library Company, of Philadelphia, to visit their respective institutions, which we regret that we were not able to accept from lack of time; we wish to express our appreciation and thanks.

We wish to commend the gentlemanly bearing of the reporters for the newspapers of Philadelphia, who have been present during the sessions of the Association this year, and to thank them for the fullness and general accuracy of their reports of our proceedings.

To Messrs. J. E. Kingsley & Co., Proprietors of the Continental Hotel, we return our thanks for the courtesies we have received at the hands of themselves and their clerks and servants, during the week we have spent in their excellent hostelry; and for the use of a quiet, convenient room, in which to hold our sessions.

On motion of Dr. Curwen it was

*Resolved*, That the Association now adjourn to meet in Toronto, Ontario, on the second Tuesday of June, 1881.

JOHN CURWEN,  
Secretary.

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## EDITORIAL DEPARTMENT.

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**THE CURABILITY OF INSANITY.**—Among the questions yet *sub-judice* in psychiatry is that of the precise ratio of permanent cures which takes place among the insane. That insanity, under judicious medical management, if begun in its early stages, is as curable as most of the other grave maladies, has been satisfactorily attested by all experienced alienists.

The records of the hospitals for the insane make quite as good an exhibit in the matter of cures, to the credit of our science and art, as the records of other hospitals, and they have been prepared and presented to the profession at large, and to the public in precisely the same way, namely: whenever the patient has, to the best of the chief physician's diagnostic discernment, appeared to be recovered, he has generally been so pronounced and recorded, that is where the form of the disease has not been known to be recurrent.

There is, however, the exception in favor of the hospitals for the insane, that convalescents are longer retained in them than in general hospitals, after convalescence appears, in order to more securely and permanently establish and be assured of their restoration, if unwisely, the persistent importunities of friends do not procure the patient's premature removal to his home, contrary to the wiser counsel of the physician and to his true interest, as not unfrequently happens, resulting in the patient's relapse on again coming within the influence of the exciting cause or causes at home, which, in the first instance, precipitated the patient's overthrow.

Thus, by re-exposure to the causes which excite them, the insanities, like other diseases, recur.

It has even been found that in some organizations, insanity is as tenacious and as repeatedly recurrent, as the oft-returning manifestations of syphilis, scrofula or intermittent fever, and that it constitutes in this regard, no exception to the rule applicable to all disease, save certain contagious affections, the exanthemata, especially, which, through some permanent, but occult change, caused by one attack in the impressibility of the nervous system, seem to secure immunity against a recurrence.

The general hospitals of the United States and their medical staffs have never been arraigned that we know of, either by medical societies or public outcry for reformation, for misleading professional or public opinion by recording as recovered such cases, as, to all appearances, are well when they go from the hospitals, notwithstanding the majority of the patients that go out of a general hospital certified as cured, are likely to be again similarly afflicted, some of them *again and again* in the course of their lives, that is, *if they are skillfully treated, as they generally are in this country.*

All hospitals—for the sane as well as for the insane—that have been for any considerable length of time in operation, if the methods of treatment pursued are efficient, must show, in the course of time, repeated recoveries of the same person from the same disease, *i. e. more cases must recover than persons*, for it is the nature (with the exception noted above) of disease to recur.

It would be a sorry day for the Profession of Medicine and for afflicted humanity, if the time should ever come when we could not cure repeated recurrences of the same disease in the same person.

Dr. Pliny Earle, the Superintendent and Physician of the Southampton (Mass.) Lunatic Hospital, an accomplished practical alienist of great experience, has undertaken the labor of ascertaining precisely the exact proportion of permanent recoveries that have taken place in the Hospitals for the Insane of the United States, during the latter half of the present century.

These results have appeared in two papers, contributed to the January number of this JOURNAL, and in less completed form, in the Northampton reports. Dr. Earle found that of all the recoveries reported at the Frankford Institution for the Insane, near Philadelphia, 48.39 per cent. remained permanently cured, while the remainder of them had recurrences of their disease once and oftener during the course of their lives.

In looking over this interesting subject, Dr. Earle finds it recorded at the Frankford Asylum that five persons had recovered 52 times; 5 at the Hartford Retreat, 54 times; 10 at the Bloomingdale Asylum, 122 times; and the same number at the Worcester Hospital and Concord Asylum, respectively, 136 and 120 times in the course of their lives.

*These patients lived to quite an advanced age notwithstanding their affliction, and is quite an instructive showing in favor of the skillful, restorative and conservative methods (so far as prolonged vitality is concerned) of these institutions.*

*That a malady so persistent in its tendencies to recur, outside of an hospital as to re-appear 484 times, in only 40 different persons, can be so often*

*cured is an overwhelming and irrefutable argument in favor of the present asylum methods; and shows that these institutions are capable of doing almost everything, except of making over anew an hereditary neuropathic organization surcharged with the insane diathesis.*

When we consider the gravity of insanity, and reflect that under the most rigid and merciless handling of the statistics of its curability ever made (a method to which objection has been made by high authority), it is still shown that about one-half of all the persons who have been treated in our hospitals for the insane, during the last forty years, have recovered, a large part of them never to relapse, while the recurrent cases have recovered again and again; we have just reason to be proud of what the profession of medicine has done for the insane, notwithstanding the sad fact daily confronts us that many of these unfortunates, like the hopeless victims of hereditary cancer or phthisis, because they cannot be born again, and of other and better endowed ancestry, are fated to ultimate destruction, despite our best efforts to rescue them. When medicine shall teach *typhoid* and *phthisis* not to recur and *tubercles* not to persist, or surgery shall train *cancer*, when once cut out, to never come back again, then, possibly, might the profession, overlooking the utility of our hospitals for the insane in vast amelioration and mitigation of evils which they can not yet wholly eradicate, acquiesce in and sustain assaults made on these estimable institutions for the lack of perpetuity in all of their reported recoveries. Till then, what cannot be cured must be endured.

RESULTS AT THE DIXMOUNT HOSPITAL.—Since the opening of the Western Penn. Hospital for the Insane, at Dixmount, in 1856, three thousand, nine hundred and eleven patients have been under treatment, and of this number, one thousand, two hundred and eight have been restored, or rather, more than thirty-three per cent. Nine hundred and thirty-eight have been discharged in an improved condition, some of whom recovered entirely in a short time after their discharge; added to this, says Dr. Reed, the Superintendent, the partial relief afforded to many who were removed before a cure was established, the improved physical health that leads to recovery, the comforts enjoyed by the incurable who remain with us, the protection secured for them from the annoyances and abuse of inconsiderate people, and the relief afforded to the patient's friends by the removal from their midst of an oft-times dangerous and disturbing member of the family circle, must be considered in making an estimate of what may be or has been accomplished by the Institution.

OUR EXCHANGES.—It is not possible, in a single issue to reciprocate the many kind notices bestowed upon us by the medical press, or to point out the special commendable feature of each of our cotemporaries.

We have already tacitly indicated by the copious extracts, which we have made for our pages, the high esteem in which we hold some of them: we shall yet utilize others equally deserving for the pleasure and profit of our readers. Among the former are those well known Foreign journals. *Le Progres Medical*; *Gazette des Hopitaux*; *Gazette Hebdomadaire*; *Der Centralblatt fuer Nervenheilkunde*, *Psychiatria* und *Gerichtliche Psychopathologia*; *Allgemeine Zeitschrift fuer Psychiatrie* und *Gerichtliche*



Medicine; *K. K. Geiselschaft der Artz*, and *Revista Sperimentale di Freniatria e di Medicina Legale*. We have in a similar manner indicated our appreciation of many of our domestic exchanges. In our April number appeared a valuable abbreviated contribution to cerebral pathology from the original department of that excellent weekly journal, the "*Cincinnati Lancet and Clinic*," a journal which deserves hearty commendation for the real appreciation it displays, of the due importance to the general practitioner of psychological and neurological medicine. In the same category we place the *New York Medical Record*, the *Philadelphia Medical and Surgical Reporter*, the *New York Journal*, and the *American Practitioner*. The latter has recently contained Dr. Dan'l H. Kitchens' contributions to the practical study of insanity, and the *Cincinnati Medical News* likewise finds room for the clinical lectures of Dr. E. A. McDonald on the same subject. Both are gentlemen who are entitled to be heard, for they teach by authority of experience. The *North Carolina Medical Journal* gives its readers the benefit of Prof. Balls' lectures on the diagnosis of insanity, and always contains, like the preceeding, much matter of interest and value upon neurological and general medical subjects.

Before us lies that old and reliable, the *American Journal of Insanity*, whose venerable pages have contained and still contain, more wealth of scientific truth on the subject of clinical and forensic psychiatry, than seems to be known to some of our editorial brethren.

The difficulty in regard to a notice of our home exchanges, consists in the multiplicity of their individual merits and the insufficiency of space in which to note them.

If any one of our readers takes but one journal, we commend to him our list of exchanges, and advise him to add at least a half dozen more, for in this rapid age, no man's library of periodical medical literature is complete with less. Aside from our two home journals, the *St. Louis Courier of Medicine* and *St. Louis Medical and Surgical Journal*, which we presume every neighborhood physician takes, there are the special quarterlies and the journals that are issued at the other great medical centers, which likewise can not well be dispensed with.

The annals of the *Anatomical and Surgical Society*, published in Brooklyn, and the *English Journal of Physiology*, we class among the indispensable.

Before us are the three Chicago medical journals—a little too near St. Louis to shine with un eclipsed brilliancy, but nevertheless, very bright journals, all of them; the *Medical Examiner*, with Brower's contributions on psychological subjects; the *Medical Gazette*, a spicy journal of opinions on every subject, not so accurate, however, or well matured when discussing asylum reform; and the *Journal of Nervous and Mental Disease*, whose pages display great industry and ability on neurological subjects, in strange contract with its impractical notions regarding clinical psychiatry and the proper management of the insane. There are psychological as well as neurological truths which lie at the bottom of the well of clinical experience. Nevertheless, because we do not find psychiatric gem

where we might wish to see them, constitutes no reason why we should disparage neurological *Jewels*.

The Medical News and Abstract is before us in a new and handsome dress, its *tout ensemble* much more attractive and valuable than formerly. Its older and larger and better companion, the American Journal of the Medical Sciences, still sustains its well earned reputation as one of the substantial and invaluable American medical quarterlies.

In the Sanitarian we have read the "old doctor's" story with pleasure, and looked over its *menu*. Peace to the author of the former and health to the latter. The intellectual *menu* of former numbers has been more palatable to our mental taste, than the March spread; but bills of fare vary in the best conducted journals as they do in the best regulated families.

Before us lies also the Detroit Lancet, with its rich table of contents, chief among them being Dr. Isaac Ott's valuable contribution, on the decussation of the motor fibres in the medulla oblongata, and the Virginia Medical Monthly which continues to sustain its established reputation as a first class medical periodical.

The Toledo Medical and Surgical Journal, the Indiana Medical and Surgical Reporter, the Medical Annals of Albany, New York; the Louisville Medical Herald, the Louisville Medical News, the Country Practitioner and the Kansas Medical Index come also to our sanctum, though some of them not so often as we would like to see them. The five latter are young medics and will fall into more regular habits, doubtless, as they grow older. These are all journals of fair promise and we wish them hearty success.

The Obstetric Gazette, it gives us pleasure to note, gives due prominence to the meritorious discussions of our own obstetrical society, and we specially commend it to our medical home circle on that account. It could not select good material for its pages from a better source.

On our table still lie the three excellent Canadian Journals, the Medical and Surgical, the Journal of Medical Science, and the Lancet; the former, with an unaccredited extract from Dr. Beard's article on the "Sequences of Neurasthenia," which appeared in our January number; the latter with an excellent editorial on "Cerebral Syphilis;" and the second named containing a good two-page selection from the St. Louis Courier, by Dr. Willis P. King, of Sedalia, Mo.

The Youngstown, Ohio, "Transactions" presents a good appearance, and the Maryland Medical Journal likewise.

One of the numbers of the Journal of Inebriety, before us, contains practical illustrations of Cerebral Trance by Dr. Crothers, and an abstract of an excellent paper on the Medico-legal Relations of Insane Drunkards, by Dr. T. W. Fisher, of Boston. We wish the journal long life and prosperity, and should be pleased to see in its pages more illustrations of the clinical and definite pathological features of inebriety.

Here we close, and doubtless you wish we had concluded sooner. On our table still lie the Quarterly Epitome of Braithwaite's Retrospect, and Ralph Walshe's Retrospect, the Archives of Dermatology, Chronica Medico Quirurgica de la Habana, El Medico y Cirujano Centro-Americano, and Scientific American, and many others, to note which, would too

greatly lengthen this already too lengthy notice. In another number we shall continue the subject.

**THE AMERICAN MEDICAL ASSOCIATION.**—The Thirty-First Annual Meeting of this representative medical body in New York, on the first, second, third and fourth days of June, was the largest, as well as one of the most interesting in the history of its existence. The New York Medical Record, with characteristic enterprise, issued a daily record of the work of the Association, and in its issue of the fifth instant, contains a complete summary of the work of the whole session, filling the whole issue of that date; and since the medical man of one journal like the man of but one book has disappeared, we therefore make but brief mention of this meeting.

The neurological contributions were quite numerous and indicative of the present tendency of medical thought. They tend to show how largely practical medicine is made up of clinical neurology.

Dr. A. D. Rockwell, of New York, read a paper on the "Electrical Treatment of Exophthalmic Goitre;" Dr. V. P. Gibney, one on the "Treatment of Sciatica by the same agent;" Dr. J. J. Caldwell, of Baltimore, one on the "Study of Special Nerve Centers;" Dr. Richard C. Brandeis, of New York, one on the "Probable Cause of Some Forms of Globus Hystericus;" Dr. David Hunt, of Boston, one on the "Variability of the Human Eye;" Dr. Turnbull, of Philadelphia, one on "Hydrobromic Ether;" Dr. Sequin on the "Training of an Idiotic Eye;" Dr. M. A. Pallen, of New York, read a paper on the "True Import of Oophorectomy, or spaying for reflex disease, more particularly in epilepsy, hystero-epilepsy, or cataplexy;" Dr. Geo. M. Beard, of New York, read a paper on "Phimosias as a Cause of Nervous Symptoms, and gave the results of operative treatment in several of his cases," and Dr. S. D. Risley, of Philadelphia, detailed two cases of "Inspissated Cerumen," one of which gave symptoms of meningeal compression, the other, symptoms of locomotor ataxy.

Dr. John T. Hodgen, of St. Louis, read a paper on "Section of the Infra-Orbital and Inferior Dental Nerve," for neuralgia.

The address of Dr. W. T. Briggs, of Nashville, president of the surgical section, was on "Preventive Trephining."

The section on medical jurisprudence, psychology, State medicine and public hygiene was mainly occupied with the discussion of subjects presented by the State Medical Boards.

An abstract of a paper on "Microscopical Sections from Cases of Disease of the Brain and Spinal Cord," was read by Drs. Chas. R. Mills and Carl Seiler, of Philadelphia; and Dr. Chas. W. Page, of Hartford, Conn., read a paper on the "Moral Treatment of the Insane;" Dr. J. V. Quinby, of Jersey City, read a paper on the "Criminal Use of Chloroform;" Dr. J. H. Lathrop, "Some Thoughts Regarding Almshouses;" Dr. Antisell, of Washington, on "Suspicious of Poisoning;" and Dr. W. F. Thony, of New York, on "Humane Societies," when, at the close of the session, Dr. A. N. Bell proposed that the State medicine men capture the section, which seem to have been acquiesced in by the few remaining at the close, as an affirmative report was transmitted to the general session, and, heretofore, the section is to be known by the name of State Medicine.

LOOK AFTER THE ALMSHOUSE INSANE.—We should come short of our duty, says Pliny Earle, if, on the present occasion, we should fail to call attention to an apparently gross inconsistency in the prevailing method of conducting the enterprise of benevolent oversight of the insane. In some of the States where the government of the commonwealth assumes a supervisory authority over all the institutions specially devoted to the insane, whether those institutions be corporate, private, or the property of the State, there is an utter failure even to recognize county, city and township almshouses, in which large numbers of the insane are supported. The Argus-eyed watchfulness over the hospitals is offset by a mole-eyed disregard of a class of establishments which, to say the least, have not heretofore proved themselves especially worthy of confidence. The apparently exalted sympathy of the people, which surrounds the lunatic as with a protective atmosphere so long as he is in an institution fortified with safeguards against evil practices, deserts him the moment he enters the almshouse, in which those safeguards are comparatively few. As before intimated, the fact betrays a most marvellous inconsistency, and would seem to throw a serious shadow of doubt upon the sincerity of that sympathy which, in various ways, blazons itself before the people whenever the public hospitals are in question.

AN OFFICIAL RESIDENCE in a State Lunatic Asylum for the Insane, would materially improve the judgment of some of our cotemporaries—the Journal of Mental and Nervous Diseases, for instance—to such an extent, at least, that the latter journal would not expect to find the Superintendent's reports mirrors of the medical views or scientific work of the medical staffs.

Such a residence would soon reveal the obstacles in the way of getting professional matters before the public, because of the frequent opposition of Boards of Management and Legislatures to incurring the expense of publication and the opposition of friends of patients.

With some Superintendents, too, who are not opposed, it is a question of propriety as to whether asylum reports to the legislature are the proper media for clinical, therapeutic and *post-mortem* details.

The difficulty, in so many instances, of securing consent of friends also to *post-mortems* in State Asylums—their inmates being generally of the middle class, and not friendless paupers—would be apparent to these gentlemen, had they looked at the matter from the *inside* instead of the *outside* of a hospital for the insane. State Asylums for the Insane are different in this respect from metropolitan general hospitals. They are much more closely watched. Go in and look out, gentlemen, and you will change your editorial tone towards these institutions.

DR. PLINY EARLE, the eminent New England Alienist, paid us a brief visit last May. We are pleased to see that he bears the weight of years well, and hope he may long continue to serve the people of the Bay State in his present sphere of labor at Northampton.

We also acknowledge a more recent visit from Dr. J. S. Jewell, one of the accomplished editors of the Chicago Journal of Nervous and Mental Diseases, and regret that we were not at home to receive him.

THE CARE OF THE INSANE AND THEIR LEGAL CONTROL.—By John Charles Bucknill, F. R. S., London—will receive the notice that such a work and such an author deserve, in our next issue. The book is a plea and demand for larger liberty for the insane. The author insists that “in the development of a system of domestic treatment lies the greater promise of the largest possible amelioration of the unhappy lot of those afflicted with mental diseases.”

DR. H. H. KANE’S new book on “Morphia Hypodermically” was handed over to another party for review, and the reviewer of the book has not been heard from. A cursory examination of the volume has given a favorable impression of it. The author has collected a vast fund of information on this subject that cannot be found elsewhere.

DR. CHAS. T. REBER’S interesting little book on “Paresis of the Sympathetic Centres,” or the so-called Malaria, etc., will set the reader to thinking. It has come to hand too late for review in this number; but the hundred pages before us contain five hundred pages of thought.

Those who live in malarious districts and are subject to “chills” should get it and read it. It will serve to warm their ideational centers into increased activity. Geo. S. Rumbold & Co., publishers, St. Louis.

TWO HOMES FOR THE NERVOUS AND INSANE.—There are seasons and circumstances familiar to all practical alienists, when the judicious management of the insane requires their removal, not only from home, but from the vicinity of home. At this hot season, especially, many cases may be profited by being sent to a cooler latitude. On our advertising pages may be found the names, localities and special features of two reputable institutions, for the treatment of a limited number of the insane of the private class. They are both in good hands. We most cheerfully commend them.

HOW THEY APPEAR ABROAD.—A British correspondent says:—

“I receive scores of pamphlets from American physicians on special subjects, which I am almost ashamed to see on my table—so grossly offensive to respectable scholars are they. I imagine this pamphleteering system is but an advertising dodge. I think it ought to be snuffed out. I am always pleased to meet with a brochure containing something new and instructive, but I detest all strutting in stolen clothes.”

This is blunt, but incisive. Just like Johnny Bull, but we can assure the monographists that it comes from a big-hearted and most kindly disposed Englishman.

WHAT A LARGE NUMBER OF LUNATICS there must be in Chicago and New York!

Hear the Chicago Medical Gazette:

“There are physicians in this city and in New York who see every year more fresh cases of insanity than are seen by the average asylum Superintendent in the same period, whose knowledge of the pathology of insanity—which is not largely contributed to from our asylums—is incomparably superior.

We were under the impression that the majority of all cases of insanity, as they are found in those cities and the States in which they are located, generally found their way quite speedily into the State Asylums, and soon fell under the eye of the Medical Superintendents.

It may do in politics to try to convince the people that the "outs" know more than the "ins," but in regard to clinical hospital matters, such opinions are not likely to prove convincing to the medical mind of average logical discernment. The chiefs of our hospitals for the insane are at present in the best position to observe and know more of the insane, in all stages of their malady, than those outside; and we believe, as a rule, that they do—symptomatology, treatment and pathology included.

The Gazette's opinions are not so sound, though equally as pronounced on psychical, as on other subjects.

This may be due to the fact, that when the editorial staff approaches the unfamiliar matters in practical psychiatry, after wrestling with other subjects it handles better, it becomes somewhat cerebrasthenic or neurasthenic as it were, or possibly to its close proximity, to another cotemporary of much sounder notions in neurology than in psychiatry.

We think there is room for "reform in psychiatry" up on the lake shore, and we hope the hot weather may not so depress their nerve-tone as to prevent it. Again, *ibidem*:—

"Indeed, if it were desired to learn about the cases and the treatment in many asylums, our own past experience would lead us to apply to the assistant physician rather than to the official head of the institution."

Do not the assistants generally become, in time, superintendents? Please search the records, and give us another opinion.

CATAPHASIA—Dr. Fienzi, of Genoa, applies this term to an affection of speech characterized by frequent, successive and unavoidable repetitions of the same words or phrases, either spontaneously uttered or in response to a question, as, for instance, *fourteen years, fourteen years, fourteen years*, continuing to repeat five or six times when asked how long he has been ill, or he may answer appropriately and correctly, but repeat in the same manner. In these cases the neuropathic diathesis was usually found to exist either through hereditary descent from nerve degenerate or inebriate ancestry or acquired nervous asthenia.

This is not entirely a new phenomenon. We know a patient who, in answer to almost any question, when in certain states of mental abstraction, would answer, "*Yes, I love God! Yes, I love God! Yes, I love God!*" She was not generally regarded as insane, but we should now so consider her. Cataphasia is not singular among the insane.

THE COLORED INSANE ASYLUM, of North Carolina, is located two miles West of Goldsboro. Dr. W. H. Moore, of Goldsboro, has been elected as Superintendent. This is the third institution of the kind in the United States.

MANY OF OUR SUBSCRIBERS being at the head of hospitals, having need of Chapel and Amusement-Hall decorations, we take pleasure in referring them to Messrs. Noxon & Toomey, Scenic Artists, of this city, who go out of the city in summer to do decoration work.

## REVIEW DEPARTMENT.

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MAN'S MORAL NATURE.\*—This book comes from the north side of the Great Lakes, but it is from the pen of a man who must have been born and raised on our side, or who, at least, has spent some portion of his life on a soil more congenial to the evolution and prosperous growth of adventurous thought and free speculation, than we have been accustomed to regard that "*quelques arpents des neiges*," which our forefathers were wont to speak of as the *no plus ultra* of possible civilization. Dr. Bucke is assuredly a big-hearted and bold-headed fellow, who, like Mark Antony, "speaks right on," telling us, if not "that which we ourselves do know," certainly that which he himself doth feel. He is, too, one of the most *sympathetic* of rational bipeds,—a child of that lovely family from among whom Sterne drew forth his Eugenius, who drew aside the curtain of "Yoric and my uncle Toby," who, in a dismal rainy night, despite his chronic wound in the groin, made his way to the side of the death-bed of the Le Fevre. We really love, not only Dr. Bucke, but all buckish men, especially when they bear their antlers nobly up, and beckon to their timid followers not to falter where they lead the way. We can not for the life of us, (though for the mere sport of the thing we might,) cull out of Dr. Bucke's remarkable book, a few, perhaps a dozen or so, passages, which, to a more cynical pen than ours, might offer tempting target circles for bulls-eye rifle practice. But this would be cruel sport, and we abhor all such, more especially as a now-and-again sober retrospection of our own scriptorial inadvertencies whispers in our ear, to be lenient in our criticism of the effusions of our fellow adventures.

If, however, we could but attain to that wise discrimination which Dr. Bucke has so adventurously established between the domain of the intellectual and the moral faculties of man (but especially of the man and the woman), we might more justly appreciate his theory. Dr. B. regards the moral constitution of woman, as necessarily superior to that of the coarser sex, because of the ample extension in her of the domain of the great sympathetic, and he, as in duty bound, assigns to the uterine and mammary regions, the honors of the local habitation of her virtuous supremacy. This we must confess, puzzles us, almost painfully, for what are we to conclude as to the moral nature of feminine rats, cats, dogs and swine, whose procreative and lactative apparatus, so far surpass in extent that of woman. If woman's moral nature is superior to that of man, because her organization affords to moral excellency a wider and richer field for its development and culture, then must there be latent in her quadrupedal cousins a vast amount of uncredited amiability. Woman, Dr. Bucke assures us, is no match for man in *hating*; this is a new article in the logic of facts,

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\* Richard Maurice Bucke, Medical Superintendent of the Asylum for the Insane, London, Ontario, Canada. Published by Putnam & Sons, New York. Willing & Williamson, Toronto.

which we should be pleased to see illustrated by either living or dead specimens; for if it be true, historians, dramatists, and writers (even female) of fiction, have hugely misunderstood and monstrously misrepresented her. One of them having even said that "Hell hath no fiend like woman (scorned)."

If, however, Dr. Bucke fail to come to the rescue, and elevate the *moral nature* of our mothers, sisters and lovely cousins, from their apparent moral inferiority, to other competitors in the sympathetic nerve kingdom, and shall thus leave us the conclusion that the paternity of his *thought* is to be assigned to his chivalrous *wish*, let no one say that we therefore undervalue the merits of his book. We have ourselves read it with much gratification, and, we trust, not without profit; for notwithstanding a few straggling indiscretions of heterodox deviation from current theology, it presents to the intelligent and unbigoted reader, much that is both interesting and instructive; and we earnestly hope, that at some future day, when a few half score years have given time to the author to ruminate, revise, amplify, or, if so it may appear judicious to his matured wisdom, to curtail the contents, he will favor a more intelligent and appreciative generation with a second edition. Meantime, we unhesitatingly say, that any one who can read his book, and fail to find in it abundant indications of both original and scrupulous thinking, must either have in his *moral nature* little of "the milk of human kindness," or little of the tenderness of generous criticism.

"NERVOUS EXHAUSTION—NEURASTHENIA."\*—This book, the author states, is "the result of the experience of his entire professional life," on the subject. The English speaking portion of the medical profession have been made quite familiar with the most of the book's contents, through the medium of the leading periodicals of this country and England; a part of one of the best chapters, namely: "The Sequences of Neurasthenia," having been printed in our January number. The book is probably the forerunner of many other treatises on this subject, from the same and other sources.

In fact, the author himself announces his intention to continue the subject, promising a book on "American Nervousness."

Neurasthenia has occupied medical minds more, we think, than might be inferred from the reading of the book before us, and is evidently destined to receive, as it yet undoubtedly demands, much more of professional thought. Besides the German writers, Dr. Dowse, on the other side of the ocean, has begun to speak for Great Britain, and Drs. Jewell, Mitchell and others have spoken on this side; but a Scotch physician wrote quite intelligibly on this subject more than a century ago, while *one American physician* has preceded Dr. Beard; nevertheless, no one heretofore has made so much of the subject as the present author. To him is due the credit, by the pertinacity and persistency with which he has clung to his subject, of re-awakening medical thought upon a disease of more significance than has been attributed to it.

\*A practical treatise, by Geo. M. Beard, A.M. M.D., Fellow of the New York Academy of Science, Vice-President of the American Academy of Medicine, etc. Wm. Wood & Company, New York, Publishers.



The Chapter on "Morbid Fears," is either too specific with a multiplication of terms, or too meagre; for to specify the numberless fears which beset the nerve exhausted—if an attempt were made to enumerate them all—would fill a moderate sized volume.

There are the monophobias, the deutophobias, and so on, to the polyphobic, who have all conceivable fears.

The author is demonstrably in error in asserting that the morbid fears of the insane are never recognized as such by the latter, though such recognition is exceptional. The insane not only have delusions of dread, but they sometimes also have morbid fears, in which they do *not* constantly believe, and out of which, for a time at least, they may be reasoned just as neurasthenics can be.

The subject of morbid fears, as one of the psychical evidences of physical disease is an interesting one, and the exact differentiation of the pathological from the physiological is not always easy, the true criterion being (and this Dr. Beard does not mention), as in determining the existence, or non-existence of a more pronounced mental aberration, the comparison of the individual, with his former and natural self, since healthy men, and animals too, often have many of the fears described by Dr. Beard as morbid—the fear of lightning and of storms for example.

These and the other fears described by Dr. Beard, however, when found in persons unaccustomed to them, are certainly of significance. They may indicate only cerebraesthesia, as Dr. Beard says, or they may accompany simple cerebral hyperæmia, or foreshadow or accompany, insanity or organic brain disease. Some of the insane do, at times, discredit their illusions, hallucinations, and sometimes even their delusions, especially in the beginning of their insanity, and as they approach convalescence.

The purport of Dr. Beard's views on this subject seems to be as follows:

Fear is normal, physiological. The difference between fear in health and fear in disease is of *degree* rather than of *kind*; but healthy fears pass into morbid fears by insensible gradations.

Dr. Beard admits that the insane have many morbid fears, but he would associate theirs always with *delusions* and *hallucinations*.

The morbid fears, Dr. Beard discusses, are not accompanied by delusions or hallucinations. The subjects of these morbid fears know that their fears are absurd and groundless, but they cannot control them. The classification of morbid fears, which Dr. Beard proposes, is as follows:

*First.* Autrophobia—fear of lightning. This was first described by him, though long known to exist a number of years ago; among the accompanying symptoms, ascribed by Dr. Beard, are: headache, numbness, pain in the back of the head, nausea, vomiting, diarrhœa, and, in some cases, convulsions.

*Second.* Topophobia—a generic term, proposed by Dr. Beard, for fear of places. Under this general term come two special forms of fear of places.

Agoraphobia—fear of open places on squares, described by Westphal; by Rosenthal, as Platzangst, and by Benedict, Platzschwindle.

Claustrophobia—fear of close, narrow places, described by Prof. Ball of Paris.

There are many very interesting cases of morbid fear that cannot come under either fear of open places or fear of close places; but properly come under the generic term, topophobia, fear of places.

Dr. Beard describes two remarkable cases, illustrative of this.

*Third.* Antropophobia—fear of society; this phase also has its opposite,—Monophobia—fear of being alone.

*Fourth.* Pantophobia—fear of everything; any responsibilities or changes.

*Fifth.* Pathophobia—fear of disease or hypochondriasis, commonly called.

*Sixth.* Mysophobia—fear of contamination or defilement.

The priority of designation of this form of fear he ascribes to Dr. Hammond.

This, too, is a form of fear not rare among the insane, and quite common among healthy persons. It is also undoubtedly present in morbid mental states, short of pronounced insanity. We have seen illustrations of all of these forms among the insane.

The general conclusions in regard to these varieties of morbid fear are:

1st. That they indicate functional, rarely organic disease.

2d. That they rarely exist alone, but in connections with other neurasthenic symptoms, as vertigo, oxaluria, or insomnia and abnormal perspiration.

3d. Morbid fears may come on suddenly, almost instantaneously.

4th. They are frequently, though not necessarily, associated with disorders of the reproductive system in both sexes.

5th. These fears are very apt to take an opposite phase, as is shown in the above analysis.

6th. The treatment is the treatment of neurasthenia in general.

As we have already intimated, it would be an almost endless task to specify all the morbid fears of the neurasthenic, and we think Dr. Beard is too specific. Their name is legion, from the fear of one's own voice or certain sounds, or the screech of a locomotive whistle, to that of a clap of thunder, of being poisoned, or of traveling in certain vehicles. *Timidity not natural to the individual, is the most characteristic sign of neurasthenia*, the number of fears and sensations which one encounters in the victims of neurasthenia, are its morbid accompaniments and sequences, and to this is ultimately added groundless suspicions, where insanity is not far off.

The differential diagnosis of *morbid* from *physiological* fears is not sufficiently dwelt upon by the author. The antecedent history should be inquired into, in these cases. Superstitious temperaments and early education ought also to be considered. Former experience likewise. For instance, if one had ever narrowly escaped or experienced a stroke of lightning, a railroad accident or a ship wreck. I have known a hale old man, who could never be induced to board a railroad train; who never had a sleepless night, and who never missed a meal in sixty years, afraid to travel by rail; while a cerebrastrhenic and neurasthenic lawyer visits me from a neighboring state, who never dares to come unaccompanied by his wife or son.

This patient has *coccydynia* along with other marked symptoms, and illustrates and confirms one of Dr. Beard's rather remarkable but true statements, namely: that many of these patients can work all day with muscle and brain, but in the presence of their special fears they are as infants. (p. 40.)

We never saw one of these patients who felt it to be "an infliction to see a physician" as Dr. B. asserts, p. 36, though we have seen them life-burdened, disappointed and weary of life, because of the little satisfaction they had received from treatment, have gone from physician to physician, and been told by one of them that only their imagination was at fault.

The causes of neurasthenia, the author states, "receive no consideration" for the reason "that the work is designed to be exclusively practical." This we can not regard as a good reason for excluding causes, since their correct ascertainment is so essential to the prescribing of a proper course of treatment.

The author regards neurasthenia as an American disease, and speaks of it as having been first made of special consequence in this country, but he nowhere alludes to a very valuable and quite exhaustive contribution to the subject—one of the pioneer contributions, in fact—by that accomplished physician, Dr. E. H. Van Deusen, whose paper may be found in the American Journal of Insanity, for April, 1869, having previously appeared in the form of a supplement to the annual report of the Michigan Asylum for the Insane for 1867-68. Dr. Van Deusen introduces his article by saying: "Observations have led us to think that there is a disorder of the nervous system, the essential character of which is well expressed by the terms given above—(Nervous Prostration—Neurasthenia)—and so uniform in development and progress, that it may, with propriety, be regarded as a distinct disease.

The authors idea of the extent of neurasthenia may be gleaned from the following: "When neurasthenia lays its hands on a man, it is liable to leave its impress on every organ and function of the body, from the crown to the toe; there is no fibre that is safe from the attack."

This is most true. The neurasthenic, before his malady is done, is liable to be "sick all over."

He distinguishes it from organic or structural nervous disease, by the usually fixed and stable character of the symptoms of the former "while very many of the symptoms of neurasthenia and allied nervous states are fleeting, metastatic and transient."

The author discusses the relation between neurasthenia and the genital organs, and wisely takes the middle ground between those who assert that these organs have *all*, and those who say that they have nothing to do with nervous exhaustion. In this connection, he pays a just compliment to that clear-headed and close-observing gynecologist, Dr. Wm. Gooddell, of Philadelphia.

For differential diagnostic purposes, Dr. Beard utilizes and points out the significant fact, that, while in exceptional instances of organic disease—as, for example, spasmodic spinal paralysis and amiotrophic lateral sclerosis—"reflex activity of a certain kind may be increased, yet, as a law, the reverse appears. The absence of the tendon reflex, in the majority of cases of ataxy, is an extreme illustration of the tendency of organic disease to deminish reflex irritability." [p. 95.]

The chapters on the treatment of hygiene of nervous exhaustion are valuable to the general practitioner.

These two chapters, more than any others, evince the range of Dr. Beard's observation and careful study of an interesting morbid state of the system and its treatment, which cannot be ignored by the general practitioner, who has reasonable aspirations in the direction of an intelligent comprehension of the maladies of many of his patients and their successful management.

The author's remarks on the treatment and dosage of remedies, in general, and on electricity in particular are, in the main, quite judicious, but we have not space to indicate his views.

We should have been pleased to have dwelt upon the really helpful effort, made by the author, at differential diagnosis between neurasthenia and anæmia, and between the former and hysteria, and the distinction he makes between the disease, under consideration and certain manifestations of syphilis and other affections. But lack of space forbids, and the only alternation for the reader is to get the book and read it. It will keep the general practitioner to a hopeful view of his cases, which, without its aid, he would be likely to unfavorably prognosticate. Dr. Beard has, more than any other writer of the day, contributed to establish the fact that grave appearances of local disease may exist without, in fact, having a local organic habitation, or requiring a name dis severed from the general nervous system.

**EMOTIONAL PRODIGALITY.\***—This is an odd subject for an address before a body of dentists, nevertheless it was well received by our odontological brethren, and contains some valuable suggestions, well known to psychologists, respecting the influence of emotional excess over processes of physical development.

Possibly, Dr. Taylor may have overpainted his picture, yet it is an encouraging sign of the progress of the day to see men whose fields of research have hitherto been far from psychology, thus turning their attention to the influence of the mind and nervous system over the physical processes of repair.

The purpose of his paper is especially to show the "deleterious effects of early and excessive mental activity on special organs as well as to the frame as a whole."

**GENERAL PARESIS.**—A paper read before the Worcester North District Medical Society by Ira Russell, M. D., Winchendon, Mass., last year, has the merit or brevity while it teaches sound doctrine. Dr. Russell makes reference to the experience and introduces the testimony of the lamented Dr. Compton, of Mississippi, who had large experience among the insane in the Southern States, and who informed the author that he had never seen or known of a case of general paresis among the negroes.

The author thinks that heredity has but little influence as a producing cause in this form of insanity, and that lewdness has been overestimated as a cause, for the reason that nearly all paretics, during the course of the

\*By Fayette Taylor, M. D.—Read before the New York Odontological Society, March 18, 1879.

disease, manifest erotic desires, which he considers symptoms due to the disease rather than the cause of it.

It is a notable fact, says Dr. W., "that the early writers, Esquirol and Calmeil are in accord with the more modern observers, namely, that the disease is essentially a chronic inflammation of the membranes and cortex of the frontal part of the brain. At the last meeting of the American Medical Association, at Buffalo, Dr. Kempster, of Oshkosh, Wisconsin, read a long and able paper upon "General Paresis," giving the morbid appearances observed in thirty-five autopsies of patients dying from it. Dr. J. Crichton Browne, of the West Riding Asylum, England, has given a great deal of attention to the pathology of this disease, and his observations agree with those of Dr. Kempster. The constant lesion found has been a thickening of the pia-mater, and adhesions of the same in spots to the apices of the convolutions of the anterior lobes of the cerebrum; so that when the brain has been hardened in a solution of nitric acid, one part of the acid to eight parts of water, the pia-mater will show the points of adhesion. The adhesions are on the summits of the convolutions, which are flattened and hardened. They never extend into the sulci.

The cortex shows signs of inflammation, and sometimes there is a fatty degeneration of the deeper portions. Both Drs. Kempster and Browne have been impressed by the evidence afforded by the post-mortem examinations of the truth of the localizations of the functions of the brain, as taught by Ferrier and others. The disease commences in the anterior and parietal portions of the cerebrum, and progresses from before backward, and many of the psychical and motor symptoms seem to correspond with the supposed mental motor centres as these centres become affected by the progress of the disease.

The author regards the disease, in common with almost universal experience thus far recorded, as always fatal, and thinks but little can be said about treatment. Nothing has been discovered that seems to exert any controlling power in arresting this disease. It is not usually recognized until it has existed for a considerable time, and when it has passed the curable stage, if there is such a stage; but much can be done to mitigate the symptoms as they appear. The patient should be allowed all the freedom compatible with safety to himself and others; his surroundings should be as pleasant as it is possible to make them; his diet should be nutritious; and, if necessary to procure sleep, anodynes should be administered, consisting of chloral hydrate, hyoscyamus and meconate of morphia, in combination. The calabar bean, or some of its preparations may be used to control excitement, especially of the erotic kind.

EMOTIONAL INSANITY.\*—This paper is written in the author's usual attractive and happy style. The following paragraph, all we regret to say, that we have room for, is a summing up of the diagnostic evidences, as the authors sees them, of emotional insanity:

*Emotional insanity is therefore known to exist by the history of the case, the existence of hereditary predisposition, the presence of some of the well*

\*By J. K. Baudny, M. D., Professor of Nervous and Mental Diseases in the Missouri Medical College and Physician to St. Vincent's Institution for the Insane.

*known conditions of causation, the change of character, the cessation of social harmony with surroundings, the corroborative circumstances, the impaired judgment of relations, the measuring of the perversion according to an individual standard, and that governed by the common sense or the general consent of mankind, the motiveless assaults upon relatives and intimate friends, the existence of some of the physical symptoms of insanity; in other words, our diagnosis is to be based upon all the above mentioned states, the etiological conditions, the sequence of symptoms, and the general course of the affection. \* \* As in insanity, the feelings are first affected, it is through them that we must study all collateral phenomena."*

The author is not a believer in moral insanity, as defined by Ray and others, "without appreciable intellectual impairment," yet we cannot see how anyone can gainsay the existence of this form of mental derangement, in view of the fact, that almost all insanity usually begins in the derangement of the affective faculties, the emotions, propensities or passions, in short, the *feelings*, as stated above.

"COMMON MIND TROUBLES AND THE SECRETS OF A CLEAR HEAD."—By J. Mortimer Granville, M. D., F.R., S.C., etc, is a short, practical, valuable English book. edited by an American physician, who states that the author "has devoted more attention than most physicians engaged in the specialty of treating deranged intellect, to the earliest and faintest symptoms of this terrible malady."

The author asks the scientific reader "to remember that these essays were not written for those who have professionally investigated the phenomena of which they treat," yet they will bear examination by the expert in the study of the precursory phenomena of possible mental aberration.

The author's "sole purpose has been to seize on a few salient difficulties and grapple with them in the interests of *self-help*," and he has accomplished his purpose well. The key-note of his theme is the presumption that there is often—if not generally—a stage of conscious embarrassment preceding mental derangement or mind weakness, and while this condition exists there is hope in the power of repair and self-recovery, which exists in the mind not less than in the body." This is true, and the book will be of service, not only to the lay reader, but to the physician who has not the time to read *in extenso* the larger and more technical works on the subject. It is a good book to place in the hands of certain neurasthenic patients, after convalescence, or when advising a leave of absence from business, and after starting them on a tour. It is published by D. G. Brinton, 117 S. 7th St., Philadelphia.

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Original Contributions.

Art. I.—Atrophy of the Cerebellum.

By DR. GIUSEPPE SEPPILLI, Reggio Emilia. Translated by  
JOSEPH WORKMAN, M. D., Toronto, Canada.

WE are indebted to the politeness of the author for a reprint of his most interesting article, on the above subject, from that most valuable periodical, "*La Revista Sperimentale di Freniatria e Medicina Legale*," in Reggio Emilia, Italy, 1879, Fasc. IV. We cannot better, perhaps, exhibit our high appreciation of this contribution of Dr. Seppilli to cerebral pathology, than by introducing it to our readers in our own language.

Dr. Seppilli prefaces his article with the following brief explanation:

Though neoplastic productions, inflammatory processes, and foci of softening are found with some frequency in the cerebellum, an atrophic process is, on the other hand, a truly rare anatomical condition. In searching the medical literature relating to the diseases which have their seat in this organ, we have been able to collect only a

very small number of cases, in which atrophy has obtained record. It is superfluous here to remark the greater importance, which, in a functional view, should be accorded to atrophy, in comparison with other morbid alterations to which the cerebellum is ordinarily subject. No small proportion of the controversies which still prevail, respecting the functions of this organ, depend on the fact, that with the view to establish them, there seems to have been a determination to study and bring into association, the results of affections widely different, without taking account of either their nature, or their course, and even less of their actual seat, in consequence of which, cases of alterations proper and limited to the cerebellar mass, have been confounded with others in which the lesions were diffused in the neighboring nervous organs, or were solely confined to these, and acted indirectly on the cerebellum. The functional importance of the cerebellum, however, comes into clearer light in cases of pure atrophy, total or partial, without any complication, as then we are in a better position for recognizing and establishing the physio-pathological nexus of the appreciable clinical phenomena by which they have been accompanied.

It is simply as a contribution to *atrophy of the cerebellum* that we relate the following observations, but without desiring to omit recording similar cases already noted, from comparative examination of which, facts may be deduced which seem to us of great importance:

HISTORY OF THE CASE.—M. A., aged 32, daughter of sane and robust parents, naturally docile, but with intellect slow, and poorly developed; of weak and lymphatic constitution; very subject in infancy to gastro-cuteric disorder, which caused a very notable general anæmia. The menses first appeared at the age of 20, and were preceded and accompanied by intense pains in the abdomen, and were afterwards always irregular and trivial in quantity. Sometimes they were suspended, and leucorrhœa supervened. At the age of 18 she had pleuropneumonia on the left side, but, having recovered, she

enjoyed good health until her 28th year, when she fell ill of a grave typhus, which lasted four weeks, and was followed by a long and difficult convalescence, because of intercurrent intestinal catarrh. Her father, in reply to our enquiries, stated that in her convalescence from the fever, a general tremor with disorder of all her movements was developed, and, in consequence, she became unable to hold anything with security or precision, or of sewing, dressing herself, or putting on her stockings, etc.; she tottered in walking, as a drunken person; sometimes she stammered, and at other times pronounced her words well. It is to be noted that the tremor occurred only when she wished to execute some movements, and it did not appear during sleep. At this time the mental faculties, which, before the fever, were but little developed, but yet orderly, became somewhat disturbed; incoherence of ideas was observed, also a ready tendency to weep or laugh, and visual and acoustic hallucinations occurred, in consequence of which she believed she saw dangerous animals, and heard persons continually calling to her. This state of things did not undergo any marked modifications. The movements continued disordered, though varying in intensity. When she became a little tranquil she often complained of a fixed pain in the neck. She did not become subject to convulsions or paralysis, nor did she ever manifest any erotic tendency. The psychical faculties became much more enfeebled and were never restored. In the past year the mental disturbances underwent a transient exacerbation, and during the present year they have presented as new and strong aggravation. Since the end of May she has lost sleep and appetite, and has manifested delirious and more disordered ideas than before; she has had visual hallucinations, and has attempted to leap out of a window. Co-incidentally with these occurrences, a general absence of nutrition has been noted, caused chiefly by her destitution, which has constrained her to reside in a damp house, with little light or air, and to live on scanty and bad diet. Because of such

disorders of her psychical and vegetative life, she was, at the request of her medical adviser and her parents, received into our asylum on the 30th of May of the current year—1879.

EXAMINATION AND COURSE OF THE DISEASE.—When we saw M—, she presented a notable emaciation; the skin was soft and yellow, there was little adipose tissue, the muscles were soft, her gait was uncertain, and she was very liable to fall. Her physiognomy was contracted, her eyes showed extraordinary mobility, different groups of muscles, more especially those of the upper extremities and the hand, were subject to continuous and inordinate movements. She manifested delirious disconnected ideas, her speech was tremulous, and she was incapable of giving the least attention. As she was troubled with catarrhal enteritis. She was placed in bed on the 2nd of June, and so remained till her death, on the 17th of same month.

In order to avoid useless and annoying repetitions, we shall present in a synthetic mode the phenomena which we had the opportunity of observing during the time she was under our care, distinguishing them into those which belong to relational life, and psychical and vegetative life.

FUNCTIONS OF RELATION. MOBILITY.—All the muscles of the body were disordered in their functions. Clonic contractions were observed on both sides of the face, but most on the right; also rotation of the eye-balls, alternate depression and raising of the lower jaw, retraction of the tongue, which was arched, with the point drawn back and downward. The muscles of the neck were rigid and contracted, as were also those of the thorax, which was but little dilated. The arms were flexed and contracted, the right much more than the left, and she had very great difficulty in extending them; they continually presented ataxic movements, and were carried with great rapidity, now forward, then sidewise, and again backwards; the fingers were especially thus affected, and were contorted in a most varied and strange

manner. This ataxia in the movements of the superior members was most conspicuous when anything was placed in her hands (as a bottle, or a key), that she might raise it to her mouth. An intense tremor and strong jerkings would at such times take place, the arms would be thrown out hither and thither, whilst the hands grasped with stronger force the object held by them. The lower limbs presented semi-flexion, with slight contracture, and from time to time there were some isolated contractions of the muscles of the calf of the leg. The phenomena above described were constant, but they varied much in their intensity. They were exacerbated whenever we approached the patient's bed and practiced the necessary examinations, or when the psychical exaltation became very strong. On the contrary, when she was calm and tranquil, or fell as into a state of semi-stupor, the inco-ordination of the movements became slight, and was limited, for the most part, to the arms alone; during sleep it was completely absent. The grave condition of the patient prevented our examination of the process of deambulation; we can merely state that when the ataxy of the muscles became intense and general, she could not sit up in bed, in consequence of the contractions of the muscles of the vertebral column.

**SENSIBILITY.**—The general sensibility was always found exquisite; the *dolorific* and *reflex* were much exaggerated in the periods of excitement; even a slight puncture of a pin on the face, the limbs or the trunk was then sufficient to provoke a prompt and most vivid reaction; tickling the soles of the feet caused rapid retraction of the limbs; by giving light and dry blows, with a percussion hammer, on the rotular ligament, whilst holding the limb semi-flexed, extension (the reflex of *Westphal*) was instantly produced with great energy. Nothing remarkable was observed in the organs of *sense*. The *pupils* were equal, small and little sensible. *Ophthalmic examination* showed the papillæ rosy-colored, and the retinal vessels distinct.

**PSYCHICAL FUNCTIONS.**—Periods of excitement alternated

with others of calm. During those of excitement it was impossible to get hold of the patient's attention so as to learn her sufferings; she manifested a few ideas without any connection, and it was very difficult to apprehend them, chiefly because the inco-ordinate movements of the lingual and facial muscles rendered the speech tremulous, and the articulation of sounds confused; but the shrunken physiognomy, the anxious state, which increased when anyone approached her, and the vain attempts made by her to get away, were proofs that she was suffering very painful sensorial disorder. The state of calm which followed that of excitement, was sometimes presented, under the form of semi-stupor, during which she remained mute and motionless, or again with a certain degree of ordinate intelligence, through which she gave attention to questions, and, if so requested, she put out her tongue and made movements of her limbs, but as has already been said, uncertainty and inco-ordination were observable. She complained of diffused headache and pain in the belly. In her calm periods she sometimes pronounced words well, but, at other times, she had great difficulty, and stuttered. She seemed to have only a very confused recollection of the period in which she had been in any degree agitated. The affective sentiments were well developed, and, among these, that of religion, predominated. She never showed any tendency towards masturbation; she was quite modest, as was shown by her efforts to prevent personal examination.

FUNCTIONS OF VEGETATIVE LIFE.—As has before been said, M. was, at the time of her admission, ill under catarrhal enteritis. To this was added, in a few days after, a pulmonitic process, acutely developed in the inferior lobe of the right lung, and this much aggravated her condition. It was not accompanied by expectoration, but by great frequency of the respiration (30 to 40), and of the circulation (90 to 120), and by a fever which oscilated between  $38^{\circ}$  and  $39.5^{\circ}$  C.; and rose to  $40.8^{\circ}$



shortly before death, which took place on the morning of the 17th of June. The examination of the urine gave negative results.

**AUTOPSY.**—*Body* much emaciated; skin soft and pale, with very little fat; muscles small and tender; the arms contracted and bent over the breast at right angles; the lower limbs slightly flexed; a bed-sore over the sacrum. *Head.*—Skull light, symmetrical, with the vascular furrows shallow; sutures incompletely ossified; diploe scarce and pale. The *Cranium* has normal thickness; a circumference of 520 mm. (about 20 and 1-2 inches); antero-posterior diameter 168 mm.; biparietal, 145 mm. The several fossæ of the base are symmetrical, and their measures normal; dura-mater slightly adherent along the sides of the longitudinal fissure, with a soft coagulum in the superior longitudinal sinus. Much serum is contained in the sub-arachnoid spaces of the vault and the base, and especially in the posterior fossa. The veins of the *pia-mater* are turgid; the capillaries, on the contrary, are almost quite empty. The circle of *Willis* contains a small quantity of blood. On removal of the brain, the *cerebellum* is found to be entirely concealed by the occipital lobes, so much is it reduced in size. The *cerebral hemispheres* weigh 1,080 grammes; the *pia-mater* is easily separated from the surface, on which small open mouths of vessels remain. The convolutions are well developed, liscid and uniform on the surface; the gray substance is very pale; the white substance presents here and there some red points. Nothing notable in the *ganglia* of the base. The lateral ventricles are of normal size, and contain a few drops of serum. The consistence of the cerebrum is normal. The *cerebellum* is notably diminished in its lateral hemispheres, and it is hardened, but less so in its median lobe; it weighs 56 grammes. The two hemispheres being examined, externally, are seen to be equal in volume, and perfectly symmetrical. The *pia-mater*, which is notably thickened, but easily detached, being removed, each hemisphere of the cerebel-

lum, as well on the under as on the upper surface, is seen to be normally divided in its principal parts. The lateral lobes are constituted of normal convolutions, disposed horizontally equal to each other, divided by shallow sulci, and are thin to such a degree, that many of them have not a thickness of 2 mm. The median lobe, or vermes, is not much diminished, in comparison of the two hemispheres, and the lamellæ of which it is composed have a parallel course and a thickness nearly normal.

In making vertical and horizontal sections of the cerebellum, great resistance was found, and it was seen that the gray substance was reduced in all the convolutions to a very thin stratum, almost uniform and of a pale color. The *nucleus dentatus* was also much thinned. The fasciculi of the white substance, which penetrate each convolution, were very contracted. The two halves of the *pons*, of the *medulla oblongata*, and of the *peduncles of the cerebellum* are of equal volume, and do not seem at all diminished; they weigh together 26 grs.; on section they have a normal aspect. Examination of the spinal cord also gave a negative result.

THE CHEST.—The lungs are adherent to the ribs by old, strong attachments. The left lung and the superior lobe of the right, have a bright rose color, they crepitate, and on section they give issue to an abundance of sero-sanguinolent fluid, mixed with small bubbles. The lower right lobe is in a state of red hepatization. The *heart* is of normal size, the valves sound, the muscular fibres of a pale yellow, small atheromatous patches are on the origin of the *corta*.

THE ABDOMEN.—Nothing remarkable in the liver, spleen or kidneys. The mucous coat of the small intestine hyperæmic, and the follicles a little enlarged.

MICROSCOPIC EXAMINATIONS.—After hardening the brain in a solution of bichromate of potass (2°), we made preparations of it, by laceration and sections in different directions. Every part of the lateral lobes offer to laceration a great resistance, which is, however, greater on

the superficial than in the central parts. The small pieces of cerebellum examined under the microscope, in place of presenting, as in the normal organ, borders slightly dentate and fibrillar, show on the contrary, through a certain extent on their outside, a quantity of thin fibrillæ, long, shining and rigid, which intersect each other in various ways, constituting a sort of net with very small meshes. Many of these fibrillæ are separated by small bodies of oblong or rounded form, with round nuclei, containing many granules, which are easily recognized as connective elements. It is to be noted that these are sufficiently isolated on the external border of the convolutions. By lacerating and coloring with a solution of carmine and borax, it is found that in the gray substance of the greater part of the convolutions, we do not succeed in seeing the cells of *Purkinje*, which in a normal cerebellum are so easily brought into view and isolated. In other convolutions, however, by laceration, a few of the cells of *Purkinje* were isolated; but these, instead of having a thick globose body, with regular borders, were reduced in size below the normal half, wrinkled on their borders, crushed on the sides and granulous; some of them presented a small nucleus and nucleolus, but others none at all. Only in a very few cells, did we meet with a cylinder axis, in a very limited tract; the protoplasmic prolongations were slender—very fragile and granulous. Laceration of the vermes was less difficult than that of the lateral lobes, and in it we succeeded in isolating a distinct quantity of the cells of *Purkinje*, of which the conformation was sufficiently regular, the size a little under normal, and the contents very granular; the nuclei and nucleoli were rather indistinct. Making sections in different parts of the cerebellar convolutions, the first fact that struck us, was the very great diminution of their different strata, and more especially that of the gray and granulous stratum. From numerous comparative measurements taken by the ocular micrometer, it could be established, generally, that the thickness of the different

strata examined stood to that of the normal as 1 to 4 for the lateral lobes, and as 3 to 4 for the median lobe. For the most part the single convolutions had not, as in normal cases, an oval or rounded form, and equality in size, but were, on the contrary, contracted in every sense, as if crushed, unequal, and divided from one another by narrow sulci of little depth. In thin and complete sections of the convolutions, complex alterations of their intimate texture were clearly observed. In fact, in proceeding from the exterior to the interior, we distinguished in the outermost stratum of the cortex, a thick, shining border, constituted of bodies of oval form, granulous, and at a little distance from each other, with numerous robust prolongations. Some of these had a horizontal direction, others described a decided curve, took a vertical direction, and having united in small fasciculi, traversed the gray matter as rays, and were continued into the granulous stratum. These fibrillas fascicles intersected, leaving inter-spaces of various sizes of lozenge form, and filled with a granulous detritus. Here and there, as in ordinary cases, but in smaller quantity and size, there were found round nuclei, surrounded by a thin stratum of protoplasm. As regards the stratum of the cells of *Purkinje*, which divide the gray or nuclear stratum from the granular or rugose one, in the greater part of the lateral convolutions it was altogether wanting, and was substituted by an areolar texture analogous to that before described. In some other convolutions, however, the atrophy of these gangliar cells was not so complete as to determine their total disappearance; but on the other hand, in place of these there were seen, as in preparations by dilaceration, some small bodies, oval or fusiform, of a granulous aspect, with an indistinct nucleus, or without any nucleus, disposed in a single series, distant from each other, and having their greater diameter from 0.003 to 0.005 mm. (Oc. 2, Ob. 6, Werick)—parallel in direction, or perpendicular to the surface of the cerebellum. Neither the peripheral prolongations nor the central one could be

distinguished. The rugose stratum was much diminished, in some parts to such a degree that its thickness was not greater than 0.002 (Oc. 2, Ob. 6, Werick). It was constituted of fasciculi of fibrillæ, which, by intersecting, formed meshes in which were found the so-called granules, which, however, were neither so abundant nor so dense as in normal cases. These granules had a diameter of 0.002 to 0.003, and were constituted of a large nucleus surrounded by a scanty protoplasm; by isolating them, a few thin granulous prolongations might be seen. The medullary stratum also had a finely reticulated aspect; a granulous and shining detritus occupied the interstices. By the method of black coloration of *Golgi*, numerous archniform cells, provided with many robust prolongations were discovered. Only a few thin nervous fibres were observed. The gray stratum constituting the *nucleus dentatus*, was also much diminished, its nervous cells were smaller and scarcer than normal, with rather irregular outlines, granulous contents and indistinct nuclei. Sections made on the median lobe, brought into view the same alterations as were noted in the lateral lobes, but in a much lower degree. In fact, the gray stratum did not present that fibrous aspect so distinctly as it was met with in the gray stratum of the lateral lobes; it had a very regular border, and contained nuclei in moderate quantity. The cells of *Purkinje* were well distinguished, but not numerous, consequently the distance between them was much greater than normal. The most of them had a rather small body, a little wrinkled, contents very granulous, nucleus and nucleolus little visible. The axial and central prolongation was not seen; the peripheral prolongations were followed for a certain distance in the nuclear stratum, and were very slender and granular. The stratum of granules was of moderate thickness; but the granules were not very abundant, nor near to each other, therefore, they left interstices which were occupied by a fibrous texture and a finely granular detritus. The walls of the meningeal

vessels were thickened, and had thick shining borders consisting of a series of fibrillæ, with many large nuclei interspersed, of an oval or round form. This appearance was chiefly conspicuous in the vessels which cross the gray stratum from the meninges. The perivascular lymphatic space was completely wanting. By isolating the vessels of the cerebellum, it was seen, more especially in those of the gray stratum, that numerous slender prolongations proceeded from their outer coat.

CONSIDERATIONS—It is still a question among histologists, whether on the surface of the cerebellum there exists a *limiting or fundamental membrane*, analogous to that of the retina. *Bergmann* was the first to describe it under the form of an annexed membrane, from which many radiate fibres, with large base, come away and proceed in a perpendicular direction across the molecular substance. *Schulze*, *Henle*, *Merkel* and *Obersteiner* also admit the existence of a limiting membrane, excepting that while the first and the last named of these authors, in accord with *Bergmann*, regard it as the most internal stratum of the pia-mater, whilst the others hold it to be independent and finely striated as the basal membrane. For the most part, the limiting membrane is not applied directly to the cerebellum, but between the two there may be found a space of lymphatic character, traversed by fibres, and containing numerous lymphatic corpuscles (*Henle*, *Merkel*, *Obersteiner*). *Golgi*, on the contrary, does not hesitate to maintain that, on the convolutions of the cerebellum, there exists not an investing membrane, but that on the contrary, there is, in immediate contact with the cerebellar parenchyma, a simple stratum of connective cells, from which numerous direct prolongations proceed horizontally and vertically. Our own anatomical research fails to confirm, fully, the assertion of *Golgi*. In fact, from examination of very many of the atrophied convolutions, at no point were we able to discover a space which divided the substance of the cerebellum from a membrane situated on its surface. If this space really existed, it should have been very evident in

our case, because of the accumulation of lymph-corpuscles which were there met with, caused by the great difficulty with which, beyond doubt, the circulation of the cerebellum was accomplished, in presence of the co-arctation of the texture. But, on the other hand, we were able to recognize, on the surface of the convolutions, an undulate shining line, formed of slender, long fibres, in connection with cellular bodies, constituted by a round nucleus, with granulous protoplasm, and, in consequence, these bodies maintained the general type which is wont to be observed in the connective cells of the nervous system. We also saw the greater part of these fibrillæ, reunited in bundles, crossing, vertically, the gray stratum; this was rendered more conspicuous from their great quantity, which was very far above the normal. This radiate disposition of the connective fibres, which proceed from the outermost stratum of the cortex of the cerebellum, has been described more particularly by *Obersteiner* and *Golgi*, according to whom the radiate fibres, intersecting with those which proceed from the connective cells, situated in the deepest part of the gray stratum, form the web sustaining the above named stratum. We may also add, that *Golgi* has described, in the rugose and medullary stratum, an interstitial web, constituted of connective cells furnished with numerous, long, fine and unramified prolongations.

As has been said, the examination of the rugose stratum has enabled us to see some round bodies, with a little protoplasm and a few prolongations. These corresponded exactly to the so-called *granules*, described by histologists, on which there is doubt whether they are, for the most part, of connective or nervous nature. If we consider that, in our case, such elements, different from ordinary, were scarce in quantity to such a degree as to become very distinct from one another, and to form a very thin stratum, and that, concurrently with their deficiency, there existed, also, an atrophy of the gangliar cells of *Purkinje*, and, conjunctly, a hyperplasia of interstitial

connective, recognizable from the fibrous and reticulated aspect of the cerebellum, we may be induced to regard the granules as very probably of nervous nature, since, if they were connective elements, they should have been present, not in smaller, but in larger, or at least, in equal quantity to the normal.

Having premised these brief histological considerations, suggested by the examination of the cerebellum studied by us, we stop now to study the nature of the morbid process which had its seat in the organ.

The profound modifications which the cerebellum of M. presented to us, readily cause us to hold that they were due to a morbid process of atrophy, with sclerosis of the organ limited chiefly to the lateral lobes. This was shown by the small size, the induration, the weight (56 gr.), less than half the normal, the complete want of the nerve cells of *Purkinje* in some convolutions, whilst, in others they were present, but were atrophied, and consequently had a much diminished body, irregular borders, granulous contents, nucleus and nucleolus little or not at all distinct; few and slender protoplasmic prolongations, and, finally, an abundance of connective tissue, which occupied diverse strata of the cerebellum, and was constituted, in great part, of bundles of robust fibres. Well, now, the first requirement presented is to know to what causes the atrophy and the sclerosis of the organs ought to be ascribed.

Pathological anatomy teaches us that defective development of the endo-cranial organs is either congenital or acquired, and in the latter case it may happen in infancy, or even when the brain is already developed. The causes which more especially develop it are disorders of nutrition during intrauterine life; a precocious solidification or ossification of the sutures; an abnormal development of the bones of the cranium; external hydrocephalus during infantile life, or finally inflammatory processes, which, by direct or indirect course, induce the destruction of the nerve elements; neoplasms which com-



press and destroy the parts in which they are developed, as we have had occasion to observe in adult life. According as such agencies act over the whole of the brain, or on only a part of it, they give place to a total, or a partial atrophy of the organ. Coming, then, to our case, we do not believe that the diminution of the cerebellum should be considered as congenital, for in that case the fossæ of the occipital bone, which have the most strict relation with the nutrition of the cerebellum would, without doubt, have presented some appreciable modification. Instead of this, we observed that these fossæ had a capacity and thickness quite equal to the normal, were symmetrical, and did not present neoplastic products. The symmetry of the whole cranium, the normal direction, and the incomplete ossification of the sutures, the regular development of the cerebrum, and more than any other fact, the external conformation of the cerebellum, which did not deviate much from normal, are so many facts, which, taken together, render still more difficult the hypothesis of a congenital atrophy of the cerebellum, in which there would most likely be associated some deviation of form and volume at some point in the skull, or in the hemispheres of the cerebrum.

The same reasons have equal value for excluding the belief that the atrophy of the cerebellum took place in the early period of extra-uterine life, in which the cranium, and the organs contained in it, proceeded in development. We are thus obliged to admit that the change took place when the cerebellum had already attained its complete and definite development. Now, if we bear in mind that in the cerebellum we found a diffused thickening of the pia-mater, and sclerosis of the vessels of the neuroglia, it does not seem illogical to refer the genesis of the whole morbid process to a lesion of irritative nature developing slowly and primitively in the meninges, and afterwards diffused into the vessels and the connective tissue of the cerebellum. The immediate consequence of this fact should be a lesion of the nutrition of the

nerve cells and their degeneration and death. We have in fact seen that where there was larger and more conspicuous lesion of the vessels and the cerebellar connective, there, too, there, was an absence more or less complete of the nervous cells (in the lateral lobes). These were, on the contrary, clearly conserved where the character of the sclerosis was lighter (in the median lobe).

It will now remain to decide in what epoch the disease of the cerebellum in M— was developed. Nothing precise can be established in this relation, since the organ is one of those parts of the nervous system, in which more easily than in others, certain lesions, especially if slow in progress, proceed for some time hidden. Be it as it may, if we consider that the disorders of motility, which, as we shall say presently, are due to lesions of the cerebellum, were presented for the first time after a grave typhus, and that thereafter they continued to manifest themselves, it is probable that during the typhus the morbid process was developed which had as its completion the atrophy of the organ. So far as has come to our knowledge, cases of lesion of the cerebellum coincident with typhus, have not been described; it is merely known that with this disease grave cerebral disorders are often associated, which, without doubt, are due to profound alterations in the encephalic mass.

In medical literature, cases of congenital atrophy of the cerebellum, partial or total, are not wanting. *Lallement* has described a case in which the left lobe was reduced to the size of a nut. The corpus striatum and the corpus olivare were atrophic on the right side, whilst the left hemisphere of the cerebrum, and the right of the cerebellum were increased in volume. *Verdelli* in an imbecile epileptic, besides other remarkable anomalies, in the posterior parts of the cranium, met with an atrophy of the two lateral lobes of the cerebellum, which were comparable in size to that of the tonsils; the median lobe was sufficiently developed. Between the arachnoid, which had become much thickened and resisting, and the pia-

mater of the inferior surface, there was found a kind of sac, larger than a hen's egg, full of limpid serum. The author believes that, in this case, he had a congenital partial hydrocephalus, with atrophy of the cerebellum. *Otto* has described a case of general hyperostosis of the occipital bone, with diminution of the posterior fossæ of the cranium, to which the cerebellum extraordinarily decreased in size in both hemispheres, corresponded; the gyri did not run in a parallel course, but perpendicular to their posterior border. He regards the occipital hyperostosis as depending, not on an inflammatory process, but on the abnormal deviation during fœtal life, in the primitive development of the bone, and hence arose the contraction of the endocranial space corresponding, which had prevented the complete development of the cerebellum.

In the famous case of *Combette*, it is doubtful whether the total atrophy of the cerebellum was congenital, or as *Cruveilhier* holds probable, who reports it in his classic treatise on "Pathological Anatomy," the organ had been previously existing and a gradual successive atrophy had afterwards taken place.

*Obersteiner* has reported a case of partial atrophy of the right hemisphere of the cerebellum, which seems to have been of acquired nature, and to have resulted from an ancient inflammatory process. In addition to a considerable development of the connective, he found degeneration of the cells of *Purkinje*. In the parts nearest to the atrophic region, the cells were diminished in size, and deformed; their prolongations were broken, wrinkled and more slender than in the normal state. In some of them the nucleus appeared under the form of a shining oval body; in others, in which the process was more advanced, it was indistinct or had disappeared. At certain points, in place of gangliar cells, which had been observed, a lacuna existed. Around the diminished cells of *Purkinje*, *Obersteiner* has noted a netting formed of fine connective tissue, which indicated the limits of the form

and size of the intact cells; the smaller were the cells, the wider was their distance from the net; and when the cells completely disappeared, the net merely enclosed the space where they had existed.

In other cases of atrophy of the cerebellum, nothing has been said with precision respecting its genesis, but they are interesting from an anatomical point of view. *Meynert* made microscopic examination in a notable case of atrophy of the pons, and of the right cerebellar hemisphere, and he found atrophy of the nervous elements of the cortex, many connective elements, amyloid corpuscles, and a degeneration of the transverse fibres which go from the mesocephalon to the cerebellum; but those longitudinal fibres, which were carried from the cerebral paduncles into the bulb, traversing the pons, were intact. The atrophy of the cerebellum, which was reduced to one-third its weight, with loss of the nerve elements and an increase of the connective, was met with, by *Clapton*, in a woman of 33 years, who died of pleurisy. The case of *Pierret*, of atrophy of the pons, the bulb and the cerebellum is important. The atrophy affected specially the gray cortical substance, which adhered to the meninges, and was transformed into a species of fibroid web. Under the microscope, there were noted disappearance of the large nervous cells, and sclerosis of the white substance; the nuclei dentati were normal; there was almost complete atrophy of the fibres of the olivary bulbs, and of the transverse of the pons, in consequence of connective neoformation. The atrophy of the nervous elements of the cerebellum, with sclerosis of the connective, had been noted already, first by the distinguished observers, *Fiedler* and *Bergmann*, in a man of 72 years, and by *Duguet* in a woman of 62, an epileptic; also in another woman of 39. In the first two of these cases the cerebellum was less than the normal by almost one-half.

To these cases of atrophy of the cerebellum, we ought to add yet, that described by *Fischer*, in which the maximum length, breadth and thickness were 3 cm. in the left

hemisphere, and respectively 3.8, 4.5. and 4. in the right ; and that of *Huppert*, in which the cerebellum, the pons and the bulb were reduced much in size, and increased in consistence.

From the cases described, it may be established as the general fact, that atrophy of the cerebellum may occupy both hemispheres, or only one, and that it is characterized by sclerosis of the organ, from hyperplasia of the interstitial connective, and diminution of the nervous elements in quantity and volume. We would call attention also to the circumstance that, in many cases, diminution of the pons has been observed, and in some of the bulb also. This fact finds explanation in the anatomical arrangement of the commissural fibres, which are carried on the pons from each hemisphere of the cerebellum, across the median cerebellar peduncles, and in that of the other fibres which, proceeding from the cerebellum, go across the corpora restiformia, to form, in the medulla oblongata, the rich and complex system of arciform fibres (*Meynert*).

In consequence of this, it is easy to admit that, as in atrophy and sclerosis of certain parts of the cerebrum, from a process of secondary descending degeneration, there succeeds a sclerosis of the medullary fascies which proceed from it, so, on the other hand, it should happen in all the nervous fibres which are found related to the cerebellum, when this organ has, for a long time, been the subject of advancing atrophy and sclerosis.

As relates to the opinion upheld by *Meynert*, and rejected by others, that, between the cerebrum and the cerebellum, there exists a system of cross fibres, by means of which a hemisphere of the one is connected with an opposite one of the other, it does not seem to us that, in the cases reported, there have been found facts very sufficient, either for its support, or for its denial. We, however, limit ourselves to the observation, that, in some cases, in which the atrophy was bilateral, but greater in one hemisphere than in the other (*Otto, Fisher*), we

do not find mention made of a difference between the two hemispheres, in volume.

Taking now in review the principal facts resulting from the clinical examination of our case, they are embraced in lesions of *motion*, under the form of inco-ordination of all the movements of the face, the trunk and the limbs; in lesions of *sense* characterized by a hyperæsthesia, general and transitory, of the brain; and finally lesions psychical, which consisted in a very limited development of the intelligence, to which were added at a later period ideational and sensorial disorders, which, becoming exacerbated, rendered necessary the confinement of the patient in our asylum.

As regards the lesions of motion, our case offers much analogy to some of those in which almost the same anatomical alterations were met with. The patient of *Fiedler* was uncertain in his movements; he fell frequently, and always backward, and, in walking, he searched to lay hold of such objects as he found. The patient of *Pierret* walked badly from infancy, and fell readily; afterward she became, from time to time, subject to general tremor, and had an irresistible tendency to bend to the right. *Huppert*, in his case, met with movements of the limbs, of choreiform character; impossibility of holding the trunk in a vertical position, tendency to fall forward or backwards, without ability to rise again. Disorders of co-ordination, and uncertainty in the movements, were met with by *Meynert*, *Duguet*, *Clapton* and *Pierret*.

These clinical observations run in conformity with the doctrine sustained by the majority of physiologists, that, in the cerebellum, the co-ordination of the different muscular adaptments necessary to maintain the equilibrium and harmony of the movements of the whole body, or of any part of it, has its origin. From the beautiful experiments of *Ferrier*, it results that the cerebellum may be considered as an assemblage of centers, of which those of the lateral lobes co-ordinate the lateral and rotary postulations, whilst those of the median lobe serve to co-ordi-

nate the movements forward or backward of the body. Hence, a lesion of these centers, disturbing their functional synergy, ought necessarily to give origin to loss of harmony in the actions of diverse groups of muscles.

As to the further consideration, that the cerebellum must exercise a considerable influence on the normal co-ordination of movements, this fact is demonstrated also by its relation with the multifold fibres, which bring the different parts of the body into relation with the great nervous centers. In fact, by means of the restiform bodies, and more especially of the cuneiform cords, many fibres of the spinal marrow are carried towards the cortical stratum of the cerebellum; the same is observed as concerns the median cerebellar peduncles, which are constituted in part of fibres, proceeding from the cerebral peduncles. By means of the latter, an anatomical connection becomes established also between the cerebrum and the cerebellum; and this is rendered yet greater by another order of fibres, which, departing from the corona radiata, and passing under the posterior portion of the thalamus opticus and the tubercula quadra-gemini, proceed, after crossing, to form the superior cerebellar peduncles (*Meynert*).

The studies of *Golgi* on the "Minute Anatomy of the Human Cerebellum," also merit special mention. This distinguished histologist had observed a direct continuation of the nervous fibres of the medullary substance of the cerebellum, with the axial prolongations of the small and large gangliar cells, situated in the external or molecular stratum.

From such anatomical results, the cerebellum may be considered as a great center, in which the peripheral impression, carried in by means of the restiform tracts and the inferior peduncles, of those movements which have their origin in the cerebrum, are transformed into an impulse regulating or co-ordinating the diverse muscular combinations indispensable to the maintenance of the equilibrium of the body, and are afterwards transmitted

to the spinal nervous apparatus and its ramifications, by means of the median cerebellar peduncles.

But, with this opinion, how are those cases to be reconciled, in which, while an atrophy of the cerebellum was present, yet inco-ordination in the movements was absent? Thus, the little patient of *Combette* presented only a great feebleness of the legs; in the case of *Verdelli* the movements were never observed to be inco-ordinate; in that of *Otto*, considerable muscular power was observed, and the movements were safe and harmonious, but had an impulsive character. No lesion of movement existed in the case of *Lallement*. We hold that, in such cases, which seem contradictory to the doctrine that regards the cerebellum as an organ co-ordinatory of movement, divers facts should be examined, and, before all, the intimate alterations of the texture of the organ. In the case of *Otto*, certainly, the want of lesion of motional co-ordination is easily explained, when it is considered that, although the cerebellum was rudimentary, it was normally organized, and hence capable of functioning. "The diverse cortical strata were distinct and well formed, and their several elements, and more especially the gangliac cells, were perfectly normal. The nervous fibres of the medullary substance had, in every relation, the habitual aspect; there were no alterations of the connective of the vessels." But further account is to be taken of the degree of disorganizing lesion, for if this is limited to one portion of the cerebellum, nothing is opposed to the admission that the part remaining free may augment the proper activity, invigorating thus the function of the organ which might be debilitated elsewhere. The case of *Lallement* affords proof of this. There was, in truth, an atrophy of the left hemisphere of the cerebellum, but, at the same time, there existed a hypertrophy of the other. It should be remembered that *Nothnagel*, resting his decision on a great number of cases of disease of the cerebellum, had established the fact, that only to direct or indirect lesions of the *vermes* do disturbances of co-ordi-



nation stand related; therefore, the vermes having, in the case of *Lallement*, remained intact, and in that of *Otto* almost normal, the manifestation of alterations in motion must have been impeded. Lastly, we may consider that the cerebral hemispheres themselves, may, in certain cases, compensate the diminished or abolished faculty of co-ordination of the cerebellum by a species of voluntary and conscient force, by which it becomes capable of reproducing by degrees, and in harmonious method, all the combinations of muscular groups, on which the equilibrium of the body depends (*Ferrier*). Thus, it may be held, that to favor the perfect equilibrium of the movements in a few cases of cerebellar atrophy, the action of certain centers has concurred, which together constitute the so-called excitable zone of the cortex. These centers which, as has been demonstrated by physiology and clinical observance, give place to well determined movements of various groups of muscles, by augmenting the proper functional energy, may become capable of co-ordinating movements, even without the combined action of the cerebellum. It is probable then that this compensation, on the part of the cerebrum, occurs more readily the earlier the age in which the atrophy of the cerebellum takes place, because, perhaps, at such time, the intact parts have a larger field for nutrition, growth and development, and for becoming substitutive of those with which they are in close relation, and which have lost, more or less, their functional activity. This may find a certain support in the fact, that those cases of atrophy of the cerebellum, in which no mention is made of disordered co-ordination, were congenital. But, in our case, in which the atrophy of the cerebellum happened long after birth, the conditions favorable to the supply to the deficient functionality of the cerebellum, would be wanting, in consequence of which the inco-ordination of the movements could neither cease nor diminish in intensity.

In some of the cases cited by us, of atrophy of the

cerebellum, *epileptiform convulsions* were noted (*Combette, Duguet, Verdelli, Pierret*). It is, however, difficult to decide whether they were due to lesions of the cerebellum, or, as appears to us more probable, to the diffusion of the morbid process to the pons and the medulla oblongata, which, according to some physiologists, have so great a part in the pathogenesis of the epileptic access.

As has been seen in the history of our case, there were observed *disorders of speech*, under the form of stammering and the impossibility of good articulation of sounds. These were, however, transitory, they appeared only in some periods of excitement; at other times, in which she was calm, she was sufficiently intelligent, and informed us she had been unable to speak because of the impossibility of moving the tongue as she wished. At other times, on the contrary, whether she continued calm, or fell into excitement, the speech was quite articulate. The disturbances of the speech, mentioned by us, seemed rather to proceed from defect of co-ordination of the nervous apparatus, destined to verbal transmission, than to disorder of ideation, since the patient, during her calm periods, manifested discreetly ordinate ideas, however limited they were, but, at the same time, spoke stammeringly, and with such irregularity as frequently to render it difficult to understand her. As then the movements of the tongue and lips were not at all paralyzed (?) but only very inco-ordinate, it is legitimate to suppose that this disorder, like that in the limbs, depended on defective functional co-ordination of the various parts of the nervous center, destined to associate properly the complex muscular apparatus, which serves for the extrinsication of thought and the formation of speech. Applying, however, the classification proposed by Prof. *Tamburini*, for the diverse forms of aphasia, we should say that in our case we had an *aphasia* from *disordinate transmission*, and more exactly of that variety which he denominates *phono-ataxia* (glosso-ataxia of *Jaccoud*). But more than the clinical analysis does the pathological alteration, found by

us, in the cerebellum authorize admission of the above named form of aphasia, as this corresponds, by its seat, to that which constitutes the ordinary record of phonotaxia. In fact, from the case-histories collected by Prof. *Tamburini*, with the view of bringing into prominence the different lesions which correspond to the various forms of aphasia, it results that, in cases of phonotaxia, the lesion occupies, prevalently, the pons and the medulla oblongata (and more especially, the olivary prominences of the latter), and the cerebellum; from which it may be inferred that all these parts are engaged in the transmission of words and the articulation of sounds, and thus constitute a connecting path between the organ of ideation and that of sensation.

It is true that, in wishing to bring into relation, the disorders of speech with cerebellar alterations, it is difficult to reconcile the permanence of the one with the transience of the other, unless, at least, we should have recourse to the hypothesis of a functional instability of the co-ordinating centers of language, through which these, in certain periods, shall respond in a synchronous manner to the voluntary impulse, producing thus the associate movements of the muscles of the vocal organs; and in others, in which this synchronism fails, the muscles may enter into action at different moments, and the articulation of sounds may then become irregular and indistinct. It is interesting to bear in mind that, in almost all the cases of atrophy of the cerebellum and the bulb, disturbances of the speech have been noted, under the form of difficulty in the pronounciation of words and the articulation of sounds, a fact which tends to confirm what has been pointed out and admitted by all pathologists, to-wit: that in the cerebello-bulbar regions the centers destined to verbal transmission are placed.

The integrity of the cutaneous and reflex sensibility noted in M—, corresponds to what has been observed by *Lufs* in cases of cerebellar disease, and to the experiments

made on animals by *Brown-Sequard*, *Vulpian* and *Ferrier*, who have found the sensibility of the skin intact, even after considerable lesions of the cerebellum. This accordance of clinical with experimental facts may stand as proof that the nervous fibres which proceed from the entire cutaneous envelope, do not go to the cerebellum, since, if they did, we could not understand how atrophy, or destruction of the organ, could occur without alteration of the cutaneous sensibility. *Lusanna*, on the contrary, holds that, in such cases, there exists only a lesion of the *muscular sense*, that through which we have the idea of the intensity of the muscular contraction necessary to overcome resistences, and by which the position of our body is recognized, and, it is understood, that we thus have the power of maintaining it in equilibrium, both in standing and locomotion. Whether such a theory may find place in our case or not, we cannot say, since the state of the patient prevented us from practicing all those minute inquiries that are requisite for determining, with exactitude, the existence and the degree of the muscular sense. We may not, however, be indisposed to admit that, as in degeneration of the posterior cords, from which ataxia of movements arises, the muscular sense may be found abolished, and yet the cutaneous remain intact; the like condition may be found in lesions of the cerebellum, into which many fibres of these cords are continued by means of the corpora restiformia. In this relation, the case already mentioned by *Huppert*, seems to us to be very instructive; it was that of a man of 24 years, a victim to choreiform ataxic movements. There were no disturbances of sensibility, nor any of the reflex action; muscular force was not diminished, but the patient could not appreciate the exact position of the limbs, and of the vertebral columns, in the act of executing any movement. In consequence of this, *Huppert* holds that the cerebellum regulates and co-ordinates the voluntary movements by means of impressions resulting from muscular contractions. As remains, this

opinion does not at all weaken that advanced by us, which is, that, through a conscient voluntary force co-operating with education, it may be possible to regulate all the muscular adaptments, which, primarily organized in the cerebellum, become automatically accomplished in associate method, after having been disordered by lesion of the organ, and so much the more probable is this, when we recollect that, in order to maintain well the equilibrium of the body, there concur, as co-ordinatory means, not only the impressions proceeding from the muscular apparatus, but also the cutaneous sensations, and those of sight and hearing.

As regards those transient phenomena of hyperæsthesia which appeared in our case, we do not believe that we should take them into consideration since they were noticed only in those periods of high psychical excitement, in which, as has been stated, the function of the sensorial apparatus was so exaggerated, as, upon the slightest stimulation, to give back the most vivid and prompt reaction. Much rather would we claim attention to the fact of occipital pain, of which, as has been stated in the history of the case, the patient often complained in the period which followed the typhus. This symptom, which, in hardly any of the cases of atrophy of the cerebellum has been mentioned, has, in our case, a certain value, both as regards its seat, and the time at which it was presented, since it may support the hypothesis emitted by us, that in M—— there was initiated, during the typhus, a morbid process in the cerebellum, which terminated in final atrophy.

*The tardy and limited development of the intelligence* has been noted in several cases of atrophy of the cerebellum (*Combette, Fiedler, Verdelli, Otto*). We do not, however, believe that between the two facts there was the relation of cause and effect, for any such supposition would stand in open contradiction to whatever has been demonstrated by comparative anatomy, physiology and pathology; and this is, that the psychical faculties have

their exclusive seat in the cerebral hemispheres. To the modifications of these alone, ought we to have recourse, for explanation of the trivial mental development in the cases mentioned; nor does the fact that they have not been observed on the table of the anatomist, constitute a valid reason for denying them, for frequently so delicate are the morbid processes which have their seat in the nervous system, that they escape our means of detection. In the case described by us, of atrophy of the cerebellum, better than in any other, every relation of causality between it and the defective intelligence may be excluded.

In fact, this condition was manifest from the infancy of M—; that is, at a time in which the cerebellum had very probably attained its normal development. If, on the other hand, we take into account the poor nourishment she received from her birth onward, her feeble constitution, and her very limited education, we need not marvel that the brain felt the injurious influence, and being poorly nourished, it did not present in its elements all those conditions of structure, chemical composition and organization which constitute the fundamental bases of normal intellectual development. In M—, therefore, there was verified from her childhood a limitation of the sphere of the psychical phenomena, though these were not discovered from the first. But, with the occurrence of typhus, at the age of 28, real mental disorders began to manifest themselves, dependent, perhaps, on infection of the blood, which must have very profoundly altered the nutrition of the brain, which was already predisposed to disease. Neither did the mental disorders ever pass away; to which misfortune, without doubt, the absolute impossibility in which she found herself of procuring those means which might have improved and restored her feeble and ill-fed organism, must have not a little contributed. Instead of this improvement, the psychical disturbances went on, subject to periods of exacerbation, associated with sensorial disorders, and its condition reached such a

point in May of this year, as to render necessary the confinement of the patient in our insane asylum.

After the observations offered on the principal morbid phenomena of our clinical case, we may be permitted to add a few words on the theory of *Gall*, according to whom the cerebellum is the seat of the erotic sense and the sexual appetite. Many illustrious scientists have already demonstrated the erroneousness of this doctrine, on experimental and pathological data, and have entirely denied it. To us it suffices to remember how contrary to this assigned localization was the case of *Combette*, in which nymphomania was noted, and that of *Otto*, in which there was an immoderate venereal appetite, that rendered the patient onanistic and pederastic. On the other hand, recent psychological studies, founded not upon vain metaphysical doctrines, but on objective method, contradict, in an absolute manner, the doctrine of *Gall*; by these we have been led to admit that the sexual appetite, like all the other instincts, has its seat in the cerebrum, and that it represents merely a demand produced in the cerebral centers for satisfying a sensation, in sequence to impressions, which, having traversed the centripetal nervous fibres, proceed to the genital organs. Onanism, which is but one of the forms in which exaggerated sexual instinct manifests itself, may be of either peripheral or central origin, according as the morbid irritation has its seat in the nervous fibres which ramify on the genitals, or in those regions of the brain which correspond to them. Now, it appears according to the late researches of *Ferrier*, that the visual sensations have their seat in the occipital lobes (of the cerebrum); and those which proceed from the genital organs, and are at the basis of the sexual appetite, being of a tactile nature, will be found located in a center, probably situated in the occipito temporal, or the temporo-sphenoidal convolutions, which have a close relation with the region of the hippocampus, which has been considered by that eminent physiologist as the center of the tactile sensations. This

localization of the sexual appetite, admitted by *Ferrier* as an hypothesis, waits for further research for its confirmation. The opinion of *Hitzig* seems to us sufficiently just, that friction of the genitals does not always indicate an excessive development of the sexual appetite, since it is practiced more especially by individuals in a state of pronounced dementia, who, in all probability, do not know what they are doing, nor experience any erotic feeling.

Desiring now to resume the principal considerations which proceed from the study of our case, and of other cases analagous, it may be established that :

1st. The microscopic alterations, which, in general, characterize atrophy of the cerebellum are: enormous development of the interstitial connective and atrophy of the cells of *Purkinje*. These either disappear totally, or are presented small in volume, irregular in outline, with granulous contents; nuclei and nucleoli little or not at all distinguishable, and scarce and slender prolongations. The nervous fibres are also diminished in quantity and size.

2d. The principal morbid phenomena, that accompanies atrophy of the cerebellum, is *inco-ordination of the movements*; but this is not a constant phenomenon, since, in some cases, it is wanting.

3d. The latency of ataxia in atrophy of the cerebellum, may be explained either by the normal structure of the organ, notwithstanding its diminution, or by the augmented functional activity of those parts of the cerebellum free from the atrophic process, or by the integrity of the vermes, or, lastly, by a conscient, voluntary and newly aroused force, by which the cerebrum supplements the co-ordinating activity of the cerebellum.

4th. Disorders of the cutaneous sensibility are not presented in atrophy of the cerebellum.

5th. The localization of venereal appetite in the cerebellum is erroneous.

In addition to the considerations which the explanation of our case has suggested, it may not be superfluous, basing



our views upon it, and on so much as has been observed by others in atrophy of the cerebellum that we add a brief observation on the principal facts, which may sometimes prove useful in the differentiation of this affection from other diseases which have their seat in the cerebellum or elsewhere. Among these, a chief position is occupied by *neoplastic processes*, which, with a certain frequency, are developed in the cerebellum. Indicative of these, two phenomena of no small value are presented, which are wanted in atrophy; these are pain, located most commonly in the occiput, and continuous or intermitting vomiting. There are other secondary phenomena, as disturbances in the circulation, and respiration, lesions of some of the nerves of the cranium, due to relations more or less extensive, assumed by the neoplasm of the cerebellum with adjacent parts. In some of these cases, however, it is found that the symptomatology of the cerebellar tumor corresponds so exactly to that of simple atrophy, that differentiation becomes impossible. We should, in such circumstances, always bear in mind that atrophy of the cerebellum is an extreme rarity (*Hitzig*).

It may be less difficult to avoid confounding atrophy of the cerebellum with *locomotor ataxy*, though sometimes identical disturbances of movements are presented, as loss of the faculty of association and co-ordination. In atrophy, however, the terrible neuralgic pains, the hyperæsthesia of the neck of the bladder, the stomach pains which are observed in the first stage, besides the diminution of the various sorts of sensibility, and especially the loss of the *tendon reflex* (*Westphal, Erb, Rosenthal*), which is observed in the more advanced periods of *tabes dorsalis*, are absent. In the latter disease, the optic nerve is generally affected with gray degeneration, causing ambliopia and amaurosis, and paralyses are presented in the districts of some of the cerebral nerves, among which those of the eye are included. Finally, in ataxy, embarrassment of the speech is very rare (*Charcot, Rosenthal* [?]). We may here recollect that, in our case, the examination of the

ocular fundus gave a negative result; vision was distinct, and the tendon reflex persisted, since the slightest blow on the patellar tendon, whilst the limb was semi flexed and relaxed, caused prompt and energetic extension.

*Bulbar paralysis* presents, in its symptoms and rapid course, a picture altogether different from that of atrophy of the cerebellum. The characteristics are distinct,—as the paralytic disturbances in the field of the hypoglossus, the facial, the vagus, the glosso-pharyngeal, by which deglutition, speech and the functions of the heart and lungs are profoundly altered. In general, disorders of co-ordination in the movements of the body are not observed, but rather paralytic phenomena.

Lastly, we may observe that the tremor, which accompanies all the voluntary movements, the intense head pain, the vertigo, the muscular spasms, the visual and mental disturbances, are readily met with in *diffuse cerebro-spinal sclerosis*, which, in certain cases, presents in common with atrophy of the cerebellum, defectively co-ordinate movements and disorders of the speech.

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We have deemed it more just to the author, and more gratifying to our readers, to reproduce the whole of Dr. Seppilli's article, than to present selected abstracts, which, detached from their context, might but imperfectly represent the interesting case described by him, and the very important conclusions educed by him from it. We cannot, perhaps, better manifest our appreciation of this contribution of our Italian confrere to the histology and pathology of cerebellar disease, than by expressing the hope that it will be read by the subscribers to the "ALIENIST AND NEUROLOGIST" with the same instruction and pleasure as we have found in its translation from the grand and lovely language of the Roman peninsula into our own less glowing, though not less powerful Anglo-American dialect.

We have no pretensions to that critical competence which should be possessed by one qualified to pass a

just judgment on any article coming from the pen of so erudite and careful a writer as Dr. Seppilli has, in this valuable brochure, shown himself to be.

We, therefore, with full confidence in the generosity and the scientific acumen of his trans-atlantic brethren, leave his little work to be judged of on its own merits, but with the hope that it will be read and pondered over with that sedulous attention to which, as we believe, it is amply entitled.

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## Art. II.—Notes on Neurasthenia.\*

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*From an Alienist's Standpoint, intended, mainly, to introduce the views of a Pioneer American Writer.*

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TO the neurologist neurasthenia is not novel, and alienist physicians have long been familiar with it. Its frequent sequence is insanity; its principal and most characteristic symptoms are psychical, for its presence is often first revealed in cerebrasthenia and it often likewise ends, if unarrested by favoring circumstances or timely treatment, in brain exhaustion.

The general practitioner, as well as the neurologist and alienist, have often encountered it and treated it under the form of general debility, hysteria or chronic malarial poisoning. From time immemorial it has been more or less clearly discerned; even Hippocrates treated it, and the other old English writers saw it, though darkly, as through a glass.

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\* Having asked the President of a Medical Society that had solicited an address from us, what subject would please the Society best, he said "Neurasthenia," but the Committee had already announced for us another subject. This is the beginning of an effort to please that friend and Society.

The term is an older one than the science of neurology. More than a quarter of a century ago Dunglison's dictionary gave its derivation from *νευρον*, a nerve, and *ασθενια*, debility, with a Latin synonym of *debilitas nervosa*. This is the true signification,—debility of the nervous system, nervous exhaustion, with this qualification that the *disease*, neurasthenia, as contra-distinguished from *physiological nerve exhaustion*, or the coincident nervous debility of other diseases, is, essentially, a chronic and slowly culminating exhaustion of the nervous system not necessarily or demonstrably, due to recognizable precedent changes in the blood, but inherent in the cerebro-spinal or sympathetic nervous systems, or in both, but more especially, and I believe generally primarily, appearing in the latter. Neurasthenia is then a chronic disease of the nervous system, caused by long continued overaction and strain of this system in one or all of its parts, unaccompanied with adequate nerve nutrition and nerve rest. It is the stammering outcry of the brain and nerves for needed repair—the unstable expression of the dis-equilibrium of repair and waste in the nervous organism.

While it is essentially slow in its formative stages, it often displays itself in an apparently sudden break-down; breaking out like a long smothered flame, or like a river, long retained by a dam, until a sudden flood breaks through the restraining embankment and reveals its inherent weakness.

Neurasthenia is mainly a disease of adult life, and is mostly seen in the male at that period when prose supplants the poetry of existence, and the real labor of life and its trials supplement the recreations and exuberent enjoyments of youth; when the fancies of dawning manhood are dissipated by the stern realities of existence. The period when work is hardest, cares and sorrows are most numerous, and the tests of our inherent strength of organism are greatest. Real neurasthenia seldom, if ever, appears to man or woman before puberty; but to women, after repeated child bearings, and lengthened lactations,

domestic inflicities and bereavements, it is no stranger. This *neurasthenia matronis* is even more familiar to the neurologist and general practitioner than *manustupral nerve exhaustion*, or the exhaustion of conjugal onanism of Goodell—the sexual neurasthenia of Beard.

When the strain of the passions and vices, superadded to the struggle for existence, or ambition for success, in the race of life are greatest, is when the nervous system of man breaks down, and neurasthenia and its attendant train of neuropathic and other (and organic) lesions appear.

Dr. Geo. M. Beard, of New York, has recently given new emphasis to the study of this interesting subject, though his enthusiasm has led him into too indiscriminate a symptomatology, and into a too voluminous and needless symptomatic nosology.

To an American superintendent and physician of a hospital for the insane, is due the credit of having first, in this country, clearly pointed out and differentiated neurasthenia from other diseases. The name of that physician is Dr. E. H. Van Deusen, of Kalamazoo, Michigan. In a supplement to the biennial report, of the Michigan Asylum for the Insane, for 1867-8, under the caption of "*Observations on a Form of Nervous exhaustion (Neurasthenia) Culminating in Insanity*," he wrote as follows: *Our observations have led us to think that there is a disorder of the nervous system, the essential character of which is well expressed by the term given above, and so uniform in development and progress that it may, with propriety, be regarded as a distinct form of disease.*" In this instance, as in many others, the medical superintendents of the hospitals for the insane, in this country, have anticipated the profession outside of them in important contributions to clinical medicine.

This excellent paper of Dr. Van Deusen reappeared also, at a later date in the *American Journal of Insanity*, in April, 1869, a little in advance of Dr. Beard's first published paper on the subject, so that Dr. Beard will, at least, have to share the honors of pioneer work in this field on this side of the Atlantic, with the asylum superintendent, if

he does not accord to him absolute priority. While American alienists will discover nothing to them especially novel in Dr. Van Deusen's contribution, the paper will prove to the general practitioner, an excellent companion to Dr. Beard's new book, as it will enable the latter to discern the approach of insanity in some of their patients and to put a timely stop to its progress. Dr. Van Deusen says:

"AMONG THE CAUSES (of Neurasthenia), excessive mental labor, especially when conjoined with anxiety and deficient nourishment, ranks first. It is also traceable to depressing emotions, grief, domestic trouble, prolonged anxiety and pecuniary embarrassment; hemorrhage and debilitating diseases, following or coincident with depressing mental influences and sleeplessness. Prolonged exposure in a malarial region under certain circumstances may also induce it.

ITS LEADING SYMPTOMS are general *malaise*, impaired nutrition and assimilation; muscular atonicity, changing the expression of the countenance; uterine displacements, with consequent results, and neuralgias of debility, cerebral anæmia, with accompanying tendency to hyperæsthesia, irritability, mental depression, impaired intellection, melancholia and mania. In cases terminating fatally, death ensues from exhaustion, or from coma, with extensive sub-arachnoid effusion.

MALARIA.—If an individual exposed to malaria is in robust or usual good health, and the exposure be recent, we may have the ordinary phenomena of intermittent fever, as generally met with in all malarial districts. If the reverse be the case, and the resistive power of the individual be less, the result is often a series of neuralgic affections and disabilities, of frequent occurrence in the experience of every practitioner of medicine; but occasionally, when the struggle is prolonged and under circumstances of a peculiarly depressing character, the nervous system is weakened and its functions become disordered, the secretions are more or less deranged, digestion is enfeebled, the patient becomes irritable and depressed, and serious intellectual disturbance ensues. Thus may malaria develop the morbid condition now under consideration.

Physicians practising in malarial districts are familiar with the multifarious nervous phenomena, occurring as a consequence of exposure to the malarial poison, so frequently met with in certain localities. They are constantly meeting with neuralgic and morbid mental manifestations, sometimes carried even to the point of maniacal excitement, all solely attributable to the effects of this strange poison. They find no difficulty in detecting their nature and cause, and applying suitable remedies. Many of our physicians, also, are perfectly familiar with the particular ailment now under consideration, and have readily recognized the points of differential diagnosis.

OTHER CAUSES.—In by far the larger proportion of cases, however, which have been presented for treatment in this institution, malaria can have had

no influence, either recent or remote, in the causation of the disease. In most of them there had been a coincidence of depressing influences, under which even the most robust and healthy organizations have finally yielded.

The exhaustion consequent upon protracted attendance at a sick bed, with loss of sleep and irregular meals, solicitude as to the final issue, and, in case of a fatal termination, the shock of the bereavement, is a cause. It has occurred, too, in the persons of those occupying positions of great responsibility, the duties of which were of a nature to make heavy demands upon the nervous energies of the individual, and at the same time deprive him of the large amount of sleep rendered requisite by the exhausting labors of the position.

The early married life of the wives of some of our smaller farmers seems especially calculated to predispose to this condition. Transferred to an isolated farm-house, very frequently from a home in which she had enjoyed a requisite measure of social and intellectual recreation, she is subjected to a daily routine of very monotonous household labor. Her new *home*, if it deserves the name, is, by a strict utilitarianism, deprived of everything which can suggest a pleasant thought: not a flower blooms in the garden; books she has, perhaps, but no time to read them. Remote from neighbors, as in sparsely settled districts, for weeks together, she fees only her husband and the generally uneducated man who shares his toil.

The urgency of farm work necessitates hurried, unsocial meals, and as night closes in, wearied with his exertions, the farmer is often accustomed to seek his bed at an early hour, leaving his wife to pass the long and lonely evening with her needle. Whilst the disposal of his crops, and the constant changes in the character of farm labor afford her husband sufficient variety and recreation, her daily life, and especially if she have also the unaided care of one or two ailing little children, is exhausting and depressing to a degree of which but few are likely to form any correct conception. From this class come many applications for the admission of female patients.

THE HOT-HOUSE EDUCATIONAL SYSTEM of the present day, and the rash, restless, speculative character of many of our business enterprises, as well as professional engagements, are also strongly predisposing in their influence to debilitating forms of nervous disorder.

Among the earlier symptoms is an impaired appetite, and perhaps slight loss of flesh, but with a degree of mental and physical languor singularly disproportionate to the other symptoms and circumstances of the case.

THE KIDNEYS, UREA AND URINE.—The careful observer, having his attention directed to the imperfect assimilation due to the loss of nerve tone, will often detect a marked excess of urea. To the same deranged functional action of the kidneys may be traced the strange drowsiness occasionally observed. In a patient treated here in 1860, in whom this somewhat unusual drowsiness was well marked, it was found that the urine nearly semi-solidified on the addition of nitric acid. As a general rule, however, the urine in these cases is paler than in health, and is secreted in larger quantities.

MUSCULAR ATONICITY.—A succeeding symptom is marked muscular

tonicity, manifest in the position and gait, and which often singularly changes the expression of the patient, more particularly of the mouth and the lower portions of the face, and especially so in females. Thus the approximation to a more natural expression marks the progress towards restoration. To the same muscular atonicity is attributable the frequent occurring uterine displacements, and the distressing train of accompanying symptoms.

**HYPERÆSTHESIA.**—Irritability and hyperæsthesia, increasing proportionally with the increasing nervous prostration, we have next a new series of morbid manifestations—the neuralgias on the one hand, or disordered intellection on the other—developed in accordance with the direction of the morbid action. With these neuralgias we have, in this connection, very little to do, and will dismiss them for the present, with a few remarks relative to the difference existing between them and similar neuralgic developments in certain forms of malarial disease.

**DIFFERENCE BETWEEN MALARIAL AND NEURASTHENIC NEURALGIA.**—As a general rule in the malarial neuralgias, when once located, there need be little apprehension of further complication or transfer to any other portion of the nervous system, but not so in the neurasthenic. In these we have the premonitory symptoms before alluded to, and even, as previously remarked, *if the direction of the morbid action for the time being develop a simple neuralgia, judicious treatment alone can arrest the tendency to mental complication.* The recognition, therefore, of this form of nervous disorder, the presentation of a few hints as to the agency most likely to arrest this tendency, and the course of treatment we have found most efficacious in the mental alienation accompanying it, is the object of this paper.

*As to the term neurasthenia, it is an old term, taken from the medical vocabulary, and used simply because it seemed more nearly than any other to express the character of the disorder, and more definite, perhaps, than the usual term "nervous prostration."*

**SECONDARY HYPERÆMIAS.**—Secondary to the earlier symptoms of irritability and the depression of the vital power already mentioned, is a marked tendency to hyperæmia. The earlier morbid conditions having failed to attract attention, it is not strange that observers have occasionally regarded one of these located hyperæmias or congestions as the *fons malorum* itself.

**CEREBRAL ANÆMIA AND HYPERÆMIA.**—In the case of all patients who have suffered from nervous prostration for any length of time, cerebral anæmia may be anticipated, and when, coincident with irritability, it exists as a secondary result, or, in consequence of impaired digestion and assimilation, cerebral hyperæmia, with its distressing train of symptoms, is very readily induced, by any cause calculated to quicken the circulation. Hence the importance of great caution in protecting the patient from influences likely to produce this.

To this circumstance is due the fact that neurasthenic patients seldom tolerate the use of alcoholic stimulants. A single teaspoonful will often produce flushing of the face, burning heat of the eyelids and distress in the head. Mental emotions, ill-timed interviews with friends, and the injudicious acts and remarks of an attendant may also speedily induce an unpleasant hyperæmia.



PSYCHICAL SYMPTOMS.—It is a well recognized fact in mental pathology, that in the asthenic the earliest marked morbid psychical symptom is *distrust*. It is true that this is usually preceded by irritability and other modifications of temper and disposition—grave symptoms always—which should promptly receive the attention both of physicians and friends, but, as before remarked, the first clearly marked morbid sentiment is *distrust*. If the sufferer be an individual of deep religious feelings, to whom there is but the one only, great and vital interest, there is distrust of God's promises, morbid views of personal relations to the church, and to society—in fine, what is improperly termed "religious melancholy." If the acquisition of gain and the possession of broad acres have been the great object of life, there are torturing apprehensions of poverty; the poor-house stares the patient in the face, and pauperism is his inevitable fate. Title deeds are filled with flaws, his notes are forgeries, and even gold and silver to him are worthless. If the conjugal relations have been peculiarly close and tender, there are the tortures of jealousy. In a few exceptional cases the morbid feeling has been general.

If, at any time during this stage, there occurs a *sudden and entire* change in sentiment; if hope takes the place of despair, and the jealousy and suspicion be suddenly supplanted by the opposite sentiments, it almost invariably betokens still greater prostration, and but a trifle more will then be required to develop mania.

As before observed, in the earlier stages, through deficient innervation there is derangement and suppression of secretion, and, as would naturally be expected, very uniformly in female patients, menstrual suppression. If, through a misapprehension of the character of this suppression, active emmenagogues and uterine excitants be resorted to, with a view of forcing the organ to a resumption of its function, the attempts will not only fail, but will induce uterine and vaginal hyperaesthesia, create delusions of a most unpleasant character, and sometimes develop an almost uncontrollable *furor uterinus*. So, also, when dyspepsia is the prominent symptom, an analagous course of treatment will frequently cause great local distress, and often develops delusions of *apprehensions of personal danger* from poison, with a disposition to refuse food under the influence thereof. Uterine displacement, with leucorrhœal discharge, is very commonly present, and, at some stage, is apt to be the most prominent difficulty under which the patient labors. Through muscular atonicity the organ sinks and finally rests upon the vaginal walls, the pressure producing congestion, ulceration and discharge. In several cases admitted here, the condition of the patient from this cause had become one of great misery; *still in no single instance has it become necessary to resort to any local treatment whatever, and in no case has there been a failure to give the patient entire and permanent relief by remedies addressed to the constitutional condition solely.*

HEADACHES are not a prominent or frequent symptom, except as an accompaniment of cerebral hyperæmia, and sometimes, perhaps, when it occurs in association with uterine irritability.

SLEEPLESSNESS is a common and, at certain stages, a most distressing symptom. As previously observed, drowsiness sometimes occurs as a consequence of disordered renal function; it may likewise depend upon

venous cerebral hyperæmia. Healthy, refreshing sleep is, of course, not to be expected under such circumstances. As the debility increases, the morbid irritability and activity increase therewith, and maniacal excitement soon follows.

A few patients, especially in the earlier history of the attack, suffer from wakefulness only during the earlier hours of the night. When, through the composure induced by quiet and the recumbent position, the circulation is equalized and the cerebral hyperæmia relieved, a few hours of healthful and natural rest is enjoyed. To this is due the frequent statements of these patients that they sleep much better towards morning than at any other time.

PROFUSE, SATURATING PERSPIRATION is another frequent, and to the patient, very annoying and distressing symptom. Its occurrence usually accompanies extreme nervous prostration, and very clearly indicates the character of the remedial agency to be employed. It may occur at any hour of the day, and it may, or may not, be preceded by shiverings; more commonly, however, the patient falls into a profound sleep after a few hours of restless tossing, and, on awakening from his brief rest, finds himself bathed in perspiration, his clothing, and sometimes a portion of the mattress and pillow, saturated.

At a still later stage, when the exhaustion is very profound, copious, oft-recurring mucous stools frequently occur. They are sometimes of a very offensive and nearly putrid odor, a circumstance supposed to be due to the acknowledged tendency to spontaneous decomposition, which accompanies low vital power. So, also, the urine is often found of very disagreeable odor, and probably from a similar cause. The breath is sometimes so fetid as to suggest mercurial sore mouth; indeed, the room occupied by a patient in this stage of the disease, unless it be thoroughly ventilated, is pervaded by a peculiarly characteristic and unpleasant odor.

MODIFIED HEART SOUNDS.—In two cases ascites existed, and was at first a puzzling symptom. The sounds of the heart being modified, in a measure, by the impaired character of the blood driven through it, a cardiac complication might be suspected by an experienced auscultator. The condition disappeared as the patient improved; and where it thus exists, it is probably to be relieved only by restoring the tone of the system, and thus constricting and rendering firmer and closer the coats of the weakened and relaxed vessels.

ELASTICITY OF THE SKIN.—When a portion of the skin is taken up and pinched into a fold, it very slowly returns to its position. By comparing this want of natural elasticity from time to time, a tolerably correct opinion can be formed of the progress towards restoration.

MORBID SENSATIONS.—Through deranged innervation, and cutaneous hyperæsthesia dependent thereon, patients sometimes experience very strange sensations. In the case of a lady under our care, no amount of atmospheric heat, and no application of clothing, could change in the least these morbid sensations. Warm as the room could be made, and wrapped up in blankets and shawls, she still complained of cold.

In our experience, after convalescence commenced there has been no tendency to relapse. The improvement, both mental and physical, has been *pari passu*, and in no case has there been a return of the disease.

Here Dr. Van Deusen asserts that excessive venery and masturbation do not cause this disorder; and here follows reference to some cases caused by over exertion and underfeeding. Dr. Van Deusen then proceeds:

**IMPORTANCE OF ITS EARLY RECOGNITION.**—We cannot but regard the *early recognition* of this condition as of special importance, convinced that properly directed treatment will, in the larger proportion of cases, stay its progress. In the analogous affections of malarial origin, a few months delay is not of vital moment, and a change of residence, to a mountainous region or a seaside district, is often sufficient in itself to effect restoration. In the neurasthenic, the morbid tendency is strongly *progressive*. If, in the early neuralgic stages, a course of medical treatment, analagous with that employed in malarial neuralgias, be instituted, with proper general hygienic measures, a cure may be anticipated. Sciatica is by far the most frequent form of neuralgia accompanying neurasthenia. The blisters, counter-irritants and purgatives, so efficacious in the sthenic form of the disease, are of no service—on the contrary, usually aggravate the symptoms. Relief from intense pain, to secure sleep and preserve the strength of the patient, may be procured by the hypodermic use of the acetate of morphia, which will generally be found successful. This, with a carefully conducted course of nerve tonics, has, in the cases coming under our observation, uniformly restored the patient to his previous health.

**MENTAL DEPRESSION AND INSOMNIA.**—Where, however, there is present instead of the neuralgic pains, depression of spirits, irritability and disturbed sleep, there is evidenced a location or direction of the morbid action, which should create the liveliest apprehension and induce prompt treatment. Proper hygienic and medical agencies, with relief from previous cares and anxieties, and change of scene and occupation, will, we think, in the larger proportion of cases, preserve the patient from confirmed melancholia or mania. These are the only forms of mental alienation, in our experience, associated with neurasthenia.

When this paper was written, the author had not seen a single case of hypochondriasis, or, as Dr. Beard terms it, pathophobia. Yet pathophobia is not uncommon, while it is not the most common form of dread or fear that torments these persons. Dr. Van Deusen proceeds:

In the organization of those portions of the nervous system designed more especially for the performance of the mental functions, or intellection, there is found a far more liberal supply of blood vessels than elsewhere. This shows an anticipation of more rapid tissual destruction here, and at the same time provides a medium of nutritional repair and renewal, properly proportioned to the extreme requirements of this portion of the organization. Through this medium, the remedial and preventive efforts must mainly act. Whatsoever agency therefore, or hygienic influence can be made to improve nutrition and enrich the blood, will be curative, and will act in the right direction.

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The several organs again receiving a healthy nerve influence, resume the proper discharge of their respective functions. Assimilation is rendered perfect, digestion becomes vigorous, the muscles are toned, the liver kidneys and skin perform aright their important duties, the brain function also is healthfully and naturally performed, and the work of restoration is complete.

The Doctor recognized neurasthenia, then, as we see it now, on the increase, and fixed for it no specific structural change.

It must be borne in mind that we have not failed to recognize the facts that loss of nervous power, does much more largely than heretofore, characterize many of the disorders now presented for treatment. Cases of well-marked asthenic mania and melancholia are also frequently received and easily enough recognized. The intellectual disturbance, in the cases under consideration, is not sympathetic with physical derangement, nor due, either to the sluggish action of eliminating organs, or to the circulation of impoverished blood, but seems to be purely a functional derangement, strictly identical in character with the neuralgia, the muscular atonicity and the other evidences of deficient innervation preceding it; the brain as under other morbid agencies, being slow to yield to disturbing influences.

THE MORAL TREATMENT is the same as that adopted in corresponding forms of mental alienation from any other cause, and is conducted on the same general principles.

EXERCISE AND RECREATION.—Frequent and long-continued gentle exercise in the open air is of great service in relieving the morbid irritability. It should never be carried to the point of fatigue. Its quieting influence is well shown in the effect of a slow, lounging walk about the grounds by this class of patients. An individual laboring under a considerable measure of maniacal excitement becomes calm and composed, while the same exercise in a corresponding state of sthenic maniacal excitement would still more disturb.

In the earlier stages, *recreative occupation* is a term expressing the exact requirements of the patient in this direction. Physical exercise and occupation, to be of any special service must be recreative and of a character to engage the thoughts of the individual healthfully. It should secure the satisfaction of some useful object or purpose fully attained. If it does not fully occupy and engage the attention, it must constantly remind the patient of his invalidism, and thus fail entirely in securing the object suggesting it.

TRAVEL NOT LIKELY TO BENEFIT.—As a relief for the depression, traveling is very likely to be suggested, but is very seldom beneficial. The different stages of a journey cannot be so arranged as to secure regularity in sleep and in taking meals. The mode of preparing the food and its character cannot be made to meet the requirements of the case. Ideas and thoughts are presented and suggested so rapidly as to cause great weariness, and it is not at all unfrequent to meet with instances, in which a patient leaving home suffering from depression simply, returns more deeply melancholic, or even maniacal.

The form of mania in its more general features, does not differ decidedly from asthenic mania, at the same time it is of the utmost importance to distinguish between the two. The usual treatment of acute mania with great prostration, by hyosecyamus, or by hyosecyamus, morphia and camphor, brandy and the prolonged hot bath, is inadmissible in cases of neurasthenic mania, death usually ensuing from coma, and sometimes, with great rapidity. The use of tart. ant. et pot., which so pleasantly arouses secretion in sthenic mania, and thus renders efficient the anodynes indicated, is here of no service and does positive harm.

Sponge-baths, while the patient is lying in well-warmed blankets, with brisk and prolonged spirit frictions, is very soothing in its effects, insomuch that patients have fallen asleep during the process, as in the hot bath in sthenic mania. While this is being administered, a few spoonfuls of beef-tea at occasional intervals, or a little wine in extreme cases, may be necessary. When an equality of temperature between the head and the extremities is established, and the skin has become warm, moist and natural, small quantities of wine, or a teaspoonful of brandy, prepared with milk and egg, should be cautiously administered in small quantities, at stated intervals.

When there is great irritability of the stomach—a very common symptom—a teaspoonful or two of champagne, or of water charged with carbonic acid, may be given with advantage through a syphon, with sinapisms to the epigastrium. When there is reason to suspect hyperæmia of the stomach, the tendency to vomiting continuing with pain on pressure, ice cream and nutritious gelatines should be the principal diet.

In treating the melancholia of this class of patients, *morphia*, of such marked service in other forms of mental depression, is inadmissible.

QUININE, in the experience of this Institution, ranks first as a nerve tonic. The cases in which it is not tolerated are very rare. Though accustomed, except in extreme cases, to defer its administration until attention has been given to the secretions, it is not necessary or advisable to await the cleaning of the tongue. Indeed, in many cases alteratives have but little influence in this direction until the use of the quinine has sufficiently toned the nervous system to secure their proper application and effect. It appears to be contra-indicated only where there exists a very marked tendency to cerebral hyperæmia, and then only at particular stages of treatment. It is usually given in single grain doses, rendered soluble by five or ten drops of dilute phosphoric acid, repeated four times daily.

ARSENIC has, in very many instances, proved itself a most efficient remedy. It has been especially beneficial in cases marked by considerable irritability, with emaciation, and the ill-conditioned skin occasionally met with. Under its use in this class of patients, the skin soon becomes smooth and fair, flesh is gained rapidly, and the irritability proportionally decreases. The instances, however, in which it disturbs the stomach, and is intolerable, are not few: and when this intolerance really exists, it is manifested towards even the smallest doses. It is generally well adapted to cases in which quinine is, for any reason, contra-indicated. At the same time, as an antiseptic, it probably arrests the rapid tendency to fissural disorganization characterizing this form of disorder, and it is our opinion,

that in the earlier stages it will be found of great service. It may be ranked as a *nerve nutrient*.

STRYCHNINE is most serviceable in cases accompanied by intestinal torpidity and muscular atonicity. It has been prescribed, also the ext. nuc. vom. in combination with the vegetable bitter extracts and taraxacum. As an efficient laxative in these cases—and often unaided—its action is decided. \* \* \* In the dyspepsia of the neurasthenic it has always acted well. \* \* \*

Iron and its various preparations, we have come to regard, as of but little positive service in the earlier treatment of the severer cases presented; it seems to be of much service, only after there has been secured some measure of nerve force; and that form should be used, which, by actual trial is found best suited to the particular case under treatment. When the *malaise*, restlessness and irritability is persistent, a very efficient formula is the one introduced many years ago, and known as the *Mist. Conii et Ferri*. We can easily understand the strong preference expressed for it by the older practitioners. It is not at all unpleasant to the taste, and is almost invariably tolerable. \* \* \*

From *phosphorus*, though considered an efficient renovator of nerve tissue and nerve power, the author states that he had not obtained such satisfactory results as to lead to its very frequent administration, though he concedes its possible value in the earlier stages of this disorder and in combination with iron, in cases of female chlorosis, when blood impoverishment is due to impaired assimilation from defective innervation.

While skillful pharmacutists have recently placed in the hands of the profession many attractive preparations, the constituents of which would seem to adapt them almost perfectly to the precise requirements of this class of patients; in treatment at this Institution, Dr. V. found more satisfactory results from extempore prescriptions. "Careful daily observation at the bedside" he says, "will detect many slight variations in symptoms, indicating corresponding modifications of prescription. The combination of remedies used, are presented in the histories of the cases prepared to illustrate this subject." These cases, with the statistical tables covering the Doctors' experience in this form of disorder, were given in in full a subsequent report.

Such was neurasthenia as it appeared to an American Superintendent of a Hospital for the Insane thirteen years ago, and it appeared then to him not materially different, in many respects, from what it appears to those who write upon it now. Some of its features, however, are different in its earliest incipency in some persons. Some of them have since been painted by other American writers, others still remain to be described. The further delineation shall, at another time, engage our attention. The timidity and consequent states of indecision

and fear, which precede the more advanced distinct suspicion and delusions of dread of the neurasthenic insane are yet to be noted as well as some forms of undoubted nerve exhaustion, in which special morbid fears of any kind are not symptoms.

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### Art. III—The Isolation of Persons in Hospitals for the Insane.\*

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By DR. ISAAC RAY.

WHEN a man loses his reason, it becomes necessary that the reason of others, in a greater or less degree, shall supply its place. To that extent, the movements of the person thus afflicted are subject to the control of others, and his property is taken from his management and disposal. Humanity demands this; the peace and safety of society demand it, and the ultimate good of all parties is promoted by it. Thus, of necessity, one of the hardest penalties of the criminal law is visited upon men who have not only committed no crime, but are themselves the victims of as sad a calamity as any in the long catalogue of human ills. The manner in which this consequence is determined, however, differs very much in the two cases. In the one, it follows a judicial investigation, conducted according to the strictest forms of legal procedure, with all the safeguards and indulgences which, in the progress of humanity, have come to be regarded as unquestionable rights; while in the other, in most instances, it is determined by the

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[This paper not having appeared before, that we know of, in the pages of any medical periodical, we deem it especially entitled to a place in our columns, as the matured views of America's most distinguished alienist upon a subject now attracting much attention, and especially since the recent publication in London, of the eminent Dr. Bucknill's book on "The Care of the Insane," a subject destined to engage still more of medical and public thought.—Ed.]

\*Read before the Philadelphia Social Science Association, October 23d, 1879.

arbitrary will of individuals proceeding under none of the ordinary formalities of law, and guided by none of its principles.

The inquiries which this first view of this subject suggests are deeply interesting, because the idea now prevails that the legislature should prescribe under what circumstances this interference with the inalienable rights of men, on the ground of insanity, is to be allowed; to whom this privilege of interference is to be entrusted; by what safeguards, against abuse, this trust is to be protected; by what solemnities this deprivation of liberty and property is to be accompanied and recorded. Precisely what legislation the exigencies of the case require, is one of the much vexed problems in social science. To solve it satisfactorily to all is simply impossible, because much of its difficulty proceeds from the circumstance that well established facts and incontrovertible reasoning are deprived of their legitimate force by the influence of passion, prejudice and temperament.

In the first place, let us understand the requirements made necessary by the nature of the disease, the social and domestic relations of the patient, and those attentions that are instinctively prompted by the ties of blood and friendship. In the next place, we are to see how these requirements are provided for by law.

Beginning, then, with first principles, let it be observed that, in the more sudden and violent forms of insanity, the patient is necessarily placed under unceasing surveillance, his wishes are disregarded, medicine and food may be forced upon him, and his limbs subjected to restraint. And yet all this—because necessary to the patient's welfare—is justified by the common sense and the common feelings of mankind. No outrage is supposed to be committed, no right is trampled on, no apprehension of abuse is excited. On the contrary, the friends are regarded as under a moral obligation to interfere, as far as the circumstances require, and substitute their will for the will of the patient. So, too, nobody would question



the right of a man to confine his wife in his own house, were she bent on self-destruction, or disposed to injure her children. The same position would be rightfully held by the wife towards the husband, by the parent towards the child, by the child towards the parent. No one would question the propriety of such a measure. To abstain from it, in fact, would be justly regarded as a most reprehensible neglect of duty. Now, it is not very obvious how, in the subsequent stages of the disease, this obligation can be lessened, or any different one created. Does there necessarily occur a period when society is bound to assume, in any degree, a charge for which the friends are no longer fitted? Neither does it appear how this right can become a wrong, by making the place of confinement some other than one's own home. If, in the progress of knowledge and philanthropy, institutions have become established expressly for the care of the insane, in which they are supposed to be more successfully treated than they can be at home, it would seem as if the natural right in question would be all the more heartily recognized by making choice of them for this purpose. This right has been distinctly recognized and established in this commonwealth by an act of General Assembly, passed in 1869. The act declares that insane persons may be placed in a hospital for the insane by their legal guardians, or by their relatives or friends, if they have no guardians; but it also provides that the measure must be sanctioned by two physicians who shall certify, under oath, that the person is insane, and a fit subject for hospital treatment. The act does not require, but the hospitals do, for their own protection, that the application shall be made in writing by some person, either a member of the family, or some responsible friend.

The question now before us is, whether upon a broad consideration of the various forms of insanity, of our social habits, of the liability to mistake, of the sacredness of private grief, and the requirements of justice, anything more than this is necessary. The inquiry will take a

two-fold direction, because we must consider not only the amount of abuse which any proposed restriction is intended to prevent, but also the amount of mischief which it may itself occasion, when not really required. If we dismiss all thought of the latter result, we shall have little hesitation in adopting any restriction for which some plausible reason may be given.

It is not denied that, for the most part, the medical certificate fulfills every requisite purpose. It is not denied that exceptional cases are, at the most, exceedingly few, and there seems, at first sight, a peculiar fitness in a measure which secures the performance of a painful duty without adding to the motives for delay, and shields the friends from all unnecessary exposure of domestic affliction. It is in accordance with our national habits and customs, and especially with the right of persons—nowhere so extensively recognized as among us—to manage their own private affairs in their own way. But, it is alleged, the physician may be biased by his relations to the party or his family; he may be deceived by false representations, or be honestly mistaken in his opinion. The friends, too, who make the application may, for fear or a worse motive, be too ready to confound caprice, or oddity, or passion, with insanity, and thus favor isolation when not strictly necessary. The liberty of any person in the community, it is said, is at the mercy of one or two doctors who may be induced by one motive or another, to sign a certificate of insanity. Such is not an uncommon style of argument, and it sometimes makes an impression even on men whose culture might be supposed to place them beyond its reach. Hence, a prevalent idea that here is a frequent opportunity for flagrant abuses which should be met by stringent legislation. By some, it is proposed to make the isolation of the insane, in every case, the result of a legal procedure in the nature of an inquisition, to be conducted either by the municipal authorities, or some magistrate, or a board of commissioners appointed for this purpose. Now, in regard to

these two courses, it is not very obvious, at first blush that either the possible abuses charged upon the former, or the advantages claimed for the latter, are so great as to set the question at rest. If there is to be an inquisition who is so competent to make it as a physician? If he, has been acquainted with the person, as is very likely, he has materials for forming his opinion, which no one else, may have. If, on the contrary, he is a stranger, he is of course, as far beyond the influence of prepossessions and biases as any functionary whom the law might designate for the purpose, while his decision would be attended with this advantage, that no unnecessary trouble or publicity is given to a domestic affliction, in the case of those of whose mental disease there can be no doubt whatever. To argue against the use of a thing from its possible abuse has always been regarded as very poor logic. It may be that the liberty of any person in the community is at the physician's mercy, and so is the life of every person who calls in a physician when he is ill; but who hesitates to employ a physician from the fear that he may be bribed by wicked relatives to poison him? In signing a certificate of insanity, a physician performs a professional service in which he is amenable to his own sense of right and wrong and responsible to the laws of his country. Under what stronger obligations and sanctions can any one act?

Under stress of these objections to the medical certificate, it has been proposed to have the measure supervised and sanctioned by some executive or judicial officer of the state or county. In Scotland, the sheriff is entrusted with this duty; and the Legislature of Massachusetts, last winter, provided that no one should be placed in a hospital for the insane without the knowledge and consent of a judge of a law court. It is not supposed that these functionaries are going into an exhaustive investigation of every case, because other duties would not permit it, so that it becomes a mere matter of form.

Whatever course be adopted, no one thinks of dis-

pensing with the medical certificate. But its value cannot long remain, unless physicians, in the performance of this professional duty are better protected than they now are. Indeed, leading physicians in this community, to avoid the peril of a suit at law, have concluded to sign no more certificates of insanity.

Nothing evinces this distrust of any and all the known means resorted to for the purpose of preventing abuses, than the fact that in one State—Illinois—a trial by jury is provided for deciding the fact of insanity, in every case that offers for admission into a hospital for the insane.

To remove a person from his own home at the very moment when he seems most in need of the care and attentions of his friends, and place him in the hands of strangers, is always a painful duty, to be reluctantly and hesitatingly performed. The advice of physicians, the remonstrances of friends, the failing strength of nurses and attendants, the increasing illness of the patient, are often disregarded, while the voice of affection pleads for a longer trial. To be obliged, under such circumstances, to call in a stranger to witness the private grief, or, worse still, a band of strangers, as jurors, with a following of newspaper reporters, and hear those revelations of trouble and trial and sore calamity, which the coarsest sense of delicacy would keep within the bosom of the family, would serve as an additional excuse for delaying so disagreeable a measure. The sensitiveness on this point is so strong and so natural, that it is entitled to respect. The effect on the patient himself, provided he is conscious of what is going on, and especially if, as is frequently the case, his mind is full of apprehensions and suspicion, is highly objectionable. Fresh excitement is furnished to that dread of impending evil, or bitter hostility, or some other morbid emotion, which may have possession of the mind, and thus bad impressions are made, not to be soon effaced.

But, admitting these objections to the use of any other restriction than the medical certificate to be conclusive, still, it is contended, it is not improbable that persons

may be held in confinement, who either never were insane, or are detained unnecessarily long after their recovery. Many firmly believe that in every hospital for the insane may be found persons, who are simply victims of outrageous wrong, torn from their customary sources of enjoyment, and subjected to associations well calculated to craze the strongest intellect. To those who are practically acquainted with insanity, it is easy to see how an impression, so utterly destitute of foundation, has gained such currency in the world. With a large part of mankind, insanity implies noise, turbulence, confusion and incoherence of thought, folly and delusion. The more quiet and undemonstrative forms of the disease are utterly ignored, because not discernable to a superficial or unpracticed observation. The coolness, coherency and good sense which often mark the conversation of the insane, and the correctness of their conduct, are supposed to preclude the existence of any mental disorder whatever. And even when some questionable traits are too prominent to be ignored, they are attributed to the common infirmities of our nature rather than to mental disease. The insane are not conscious of their insanity, and by ignoring altogether some facts, explaining some in a manner to suit themselves, and charging others with wrong-doing, they easily convince the incautious inquirer of their own mental soundness, as well as the dishonesty and malice of their friends. A story plausibly told is presumptively true; and in the case before us, nobody troubles himself to hear the other side, unless it may be, probably, with a mind already made up. Considering the number of the insane who have been discharged from hospitals uncured, and, of course, with all their feelings of hostility towards those who have been instrumental in promoting their isolation unchanged, it is not strange that the impression in question should prevail extensively. Indeed, it would be more strange if it did not prevail.

Again, it is alleged that, in every hospital for the insane, there are many who, though technically insane,

are not proper subjects for confinement, neither their own welfare nor the good of society requiring it, and that some outside party should pass upon the propriety of their detention. Here, too, we see the influence of those false notions respecting the nature of insanity just mentioned. A complete and correct account of such cases would show, with scarcely an exception, that, instead of being unjustly dealt with, they have been humanely placed where they enjoy as much of comfort, and suffer as little of discomfort, as their own mental condition will permit. Some of them, for instance, may pass for patterns of propriety and injured innocence, suffering bitterly from the abuse of those to whom they had a right to look for kindness and protection, while, in fact, they were completely destroying the peace and comfort of home by their jealousies and suspicions, their bursts of passion, their irregular ways, their disregard of domestic proprieties, their unhesitating mendacity, and even by scenes of violence. There is another class whose manifestations of disease are not very demonstrative, or are such as might pass for eccentricity or strong peculiarity. They talk sensibly, behave correctly, and may make themselves somewhat useful. The stranger sees nothing of an abnormal character, unless it may be a proclivity to exaggeration, and excessive self confidence, and an indescribable hurry and restlessness of movement. At home, they were careless of the little, perhaps of the greater, proprieties of life, were up late at night, went out regardless of weather, and, though never violent or mischievous, were prone to get into trouble, and were a source of much anxiety to their friends.

Persons belonging to one or another of these various classes easily enlist the sympathies of those whose acquaintance they happen to make. They come to be regarded as victims of domestic cruelty, and the popular wrath is kindled by charges against faithless husbands, or unfeeling wives, or heartless children. The utmost rigors of legislation are invoked to deliver them from duress, and to punish those who, under the guise of humanity,

thus perpetrate a great wrong. Now, all these persons, probably, have proved by actual trial, prolonged, perhaps, for years, and repeated again and again under different forms, to be very unfit inmates of a private family, especially when made up, in part, of children and women of a nervous temperament. To turn them 'adrift upon the world, where they find no welcome in those domestic circles, whose peace and comfort they have persistently marred, and roam about from one boarding house to another, in a round of perpetual worryment, would be no kindness to them, but rather the severest kind of cruelty. If they have no home of their own, and no claim for one upon relations or acquaintances, where can they better find the protection and care which they need than in a hospital for the insane?

In the firm belief, however, that, after all, much wrong is actually committed by depriving of their liberty persons who are but little if at all insane, many discreet and intelligent men are of the opinion that a supervising power should be lodged somewhere for the purpose of correcting mistakes, preventing abuses and doing justice generally in this matter of confinement. They would have a special permanent commission, whose duty it should be to investigate every case of doubtful insanity in the hospitals, or of alleged unfitness for hospital treatment, and to discharge or advise the discharge of, the patient, if they think proper. And, in other respects, the interest of the insane might be confided to their oversight. The favorite remedy just now for all the ills of hospital confinement seems to be a roving commission, with plenary powers to visit all persons wherever confined on the ground of insanity, and to discharge, or cause to be discharged, all such as they may deem not insane.

The arrangement looks well and it is not strange that it should have found favor with some intelligent men. Considered, however, under the light of practical experience, and our knowledge of the ways and habits of men, it appears to be calculated to do immense harm, in the

attempt to prevent an evil confessedly small. Such a commission would be led to its decisions by no fixed principles of law or science. Indeed, it is regarded, probably, as the principal merit of this provision, that it would be governed solely by an enlightened sense of honesty, justice and fair dealing. This might be a merit were the questions to be decided such as could be readily understood and appreciated by ordinary men. But here are professional points to be considered, which, even with the best intentions, cannot be decided correctly without the knowledge of an expert. A disposition to do what is right is but a poor qualification for a scientific inquiry. It may even be a dangerous one. What cares a man for the scientific bearings of a question, who looks only at its moral aspects, and is sure that he cannot be misled by his own honest intentions? In the class of cases where the interference of the commission would be most expected, there are always facts on the true significance of which the question of sanity or insanity must turn. If, in any given case the conclusions of the commission coincide with those of the officers of the hospital, the fact may inspire fresh confidence in the latter, and, to that extent, be of some service. But if, on the contrary, they differ, it is not easy to see why the decision of the commission, not one of whom may have had any practical acquaintance with insanity, can be more reliable than that of the officers whose field of observation may have embraced thousands of cases. How they are to proceed, by what course of inquiry they are to reach their object, is not very apparent. They visit a hospital containing three hundred patients, and make known to them their official character and the purpose of their visit. The patients are invited to tell them their grievances, with the assurance that if any among them are not insane, they shall be discharged forthwith. It is not overstating the matter to say that from fifty to a hundred would declare that they are wrongfully detained, and nothing in their conduct or conversation might belie the truth of their



declarations. If they entertain delusions, no clue is furnished whereby they can be reached; if they are disposed to mischief, no opportunity is afforded by the occasion to display the propensity; no provocation leads them to relax the self-control which many of the insane possess in a remarkable degree. In this dilemma what is to be done? The testimony of the officers and directors is excluded by the conditions of the case, they being, it is supposed, interested parties. The minutest inquiries of the patients themselves fail to bring out anything but the same uniform tale of wrong and outrage on the part of fathers or children, husbands or wives, guardians and relations, who, to conceal their own iniquities, take this means of consigning their victims to a sort of living death. There is obviously but one course left, if they would discharge their official duty so as to procure any satisfactory results. They must summon the friends and all who have been anyways connected with the patient, to appear and show cause why he should be confined; and, in order to secure an impartial hearing on both sides, public notice should be given, inviting all who have any knowledge of the case, to attend the inquisition and give their testimony. The hearing of each particular case would occupy not less than two days. Supposing twenty-five per cent. of the three hundred cases in the hospital to claim an inquisition, which would be a low estimate, the commission would be employed in one hospital alone, one hundred and fifty days. At this rate, the hospitals in Pennsylvania, containing about twenty-six hundred patients, would require thirteen-hundred days. True, the commission might be large enough to work by sub-committees, which would shorten the time, and, perhaps, diminish the expense; for, of course, they must be paid, as well as the people who are summoned. And by the time they have gone the rounds of the hospital, the new comers, who have been steadily accumulating, will equally require their attention. If this simple statement of the proceedings carries with it an air of the ludicrous, the fact does not proceed from

any false coloring of the incidents themselves. They are given precisely as they must occur, if the commissioners are determined to satisfy themselves by reliable evidence, whether any person is detained in the hospitals of this commonwealth, who is not really insane. To hurry through a hospital once or twice a year, listen half an hour to a few of the large number who claim their attention, and, on the strength of that conversation, decide to recommend the discharge or farther detention of the patient,—this would not be to meet the requirements of their office. A thorough judicial investigation, be it long or short, cheap or costly, in every doubtful or disputed case, is what the popular sentiment concerned in the matter, if it means anything beyond a windy sensation, implicitly demands. If this involves a practical absurdity, it ought to convince us that the present method is, with such a provision of law as I shall presently mention, under all circumstances best calculated to prevent abuses. The officers and trustees of our hospitals have no interest in retaining patients not insane. Whether kept or discharged, their compensation remains the same. In fact, however, in doubtful cases, their natural tendency is to discharge the patient, in order to avoid the odium and annoyance which they occasion. Nothing but a strong sense of duty, supported by the most satisfactory reasons, will induce them to retain a charge which brings them into the most unpleasant relations to others.

Thus far I have gone on the supposition that there are actual abuses, however people may differ as to their extent. But the evidence in favor of the fact is far from reliable. The diseased impressions of the patients themselves, and the clamors of their self-constituted friends are not evidence; and yet upon these, chiefly, the current belief is founded. The observations of those who have had the most abundant opportunities to learn the real facts in the case, tell a very different story. I have never met with a patient in any hospital for the insane, who, I had good reason to suppose, finally, had

never been insane, but had been committed under the pretence of insanity, in order to accomplish some iniquitous purpose; and my observation embraces about three thousand persons, mostly under my own charge. I have been told by other gentlemen, who have had charge of hospitals for the insane, that their experience has been much like mine. In two instances that came under my care, I had strong suspicions that there was no real insanity in the case. I thought that an irritability of temper, caused by bodily disease might have been provoked into violence by relatives who had some selfish purpose to serve by keeping the patient away from his home and customary pursuits. The sequel shows that my suspicions were groundless, and that the removal from home, and the scenes and persons that were connected with unpleasant associations, only kept in abeyance for a time the manifestation of a disease which had been obvious enough at home and serious enough to require the restraint of a hospital. In England there has existed for more than forty years, a Board of Commissioners of Lunacy, as they are called, appointed by the Crown for the purpose of visiting all the hospitals for the insane, public and private, with this very object in view among others—of detecting the much alleged abuse of confining people who were never insane. I have been a diligent reader of their annual reports, in which their transactions are minutely described, and I have not found that they have advised the discharge of a single individual on this ground; and, certainly, the manner in which their official duties have been discharged, has indicated no undue leniency towards the officers and directors of these institutions. The Earl of Shaftesbury, who was for many years a member of this commission, and who has been deeply interested in insanity and institutions for the insane, once declared in Parliament, that he had never known an instance of a sane person being held in confinement on the pretence of insanity, and this is in England, where, of all countries in the world, the abuse in question is supposed to be most frequent. This testimony would seem to be conclusive that it has no real existence, and that the safeguards already provided have been sufficient for the purpose.

But, admitting all this, it is contended that, considering the public sensitiveness on this subject, it is necessary, in order to secure the popular confidence in the management of our hospitals, that there should be a supervisory power appointed by, and responsible directly to, the government. If, as has already been shown, such a power is entirely inefficient for any practical purpose, then it must be

desired only as a sort of tub thrown out to amuse the whale. The tone of feeling in England, after a trial of more than forty years, shows conclusively that it would not even have this effect. There, although the commission has been watchful and suspicious to the last degree, the whale refuses to be amused. This must be apparent to any one much conversant with newspapers, magazines and books of the day. It is notorious that any body can obtain the ear of the public, who can tell a tale of false imprisonment, however improbable; and, on evidence that would not be listened to in a court of justice, the newspaper press is swift to pour out the vials of its wrath on the supposed offender. The horrors of the madhouse have become a favorite element in the plot of sensational novels. There is no reason to suppose that the result would be otherwise in this country. A sentiment like that in question cannot be effected by facts or arguments. The testimony of the wisest commission would avail nothing against the statements of a disordered mind, still manifesting some degree of coherence and plausibility. We may as well, therefore, take things as they are—satisfied that the present safeguards are all that could be reasonably expected, and also that some popular distrust is one of the unavoidable results of all correct hospital management.

There is another view of the subject that ought not to be overlooked in considering the expedience of restrictive measures. All persons engaged in that specialty of the medical profession which is concerned with the treatment of insanity, tell us that the greatest difficulty they have to contend with is the reluctance of friends to bring the patient in the earliest stage, and the impatience which leads to a premature removal. Under the operation of these feelings, the number of recoveries are unquestionably lessened, and it cannot be doubted that they will be still farther lessened by the proposed restrictions. Their effect on the first mentioned feeling has been already alluded to, while their operation in England furnishes abundant testimony as to their effect in causing premature removals. During that period of the disease, when the patient is coming to himself and, outwardly, seems free from all irrational thoughts and ways, great care is necessary, in order to conduct the process of restoration to a complete recovery, that he does use his renewed powers too much or too soon—that he does not resume too soon the control of his own movements, nor mingle too soon in the scenes and associations of ordinary life. The patient himself, however, may see no necessity for much caution.

He never felt better in his life, to use his own expression, and he sees no propriety in being detained any longer. In this impatient, fretful frame of mind, he pours his complaints into the ears of the commissioners, who, observing no manifestations of insanity, and unable to understand the reasons which influence the physician (because they are purely a matter of professional experience) and readily induced to advise his removal.

The mischievous effects of the restrictive measures now used in England, are strikingly manifested in another class of cases, by no means a small one. The more active and obvious signs of disease have disappeared, the patient is quiet, orderly, and behaves like other people, and his remarks are shrewd and sensible, indicating neither delusion nor extravagance. But there is something in the air, manner, tone and way of the patient, imperceptible to the ordinary observer, but real enough to the expert, signifying that disease has not entirely vanished, but is only kept in abeyance,—that freedom from restraint and the necessity of self-control, with opportunity to gratify a morbid impulse, would soon be followed by acts of mischief or violence. He knows, however, that his apprehensions will not be appreciated by the Commissioners, and that a delay of the patient's discharge might, probably, be followed by an action for false imprisonment, ending in a verdict of heavy damages. To obviate such a result he discharges his patient, with fearful forebodings that are too often realized. In England, some fifteen years since, a man was admitted into a private asylum, who had made, at least, two homicidal attempts. After a few months' stay, he was so far improved that no trace of disease was obvious on a casual inspection. His physician strongly suspected that the disease was only masked, not removed, but he feared to detain him longer, on the ground that could not be appreciated by ordinary observers. So he discharged him, but his apprehensions were so keen, that he sent him home in charge of an attendant, with injunctions to the family to exercise unceasing vigilance over his movements, but it was not long before he committed an atrocious homicide, without the slightest provocation. The case is a fair specimen of what may be expected where a physician in charge of an establishment for the insane is hampered in the exercise of his duty by considerations that ought to have no influence whatever on his professional conduct. To meet this contingency of persons being kept in hospitals when no longer insane, the act of 1869 contained the following provision:

"On a written statement, properly sworn to or affirmed, being addressed by some respectable person to any law judge, that a certain person then confined in a hospital for the insane is not insane, and is thus unjustly deprived of his liberty, the judge shall issue a writ of habeas corpus, commanding that the said alleged lunatic be brought before him for a public hearing, where the question of his or her alleged lunacy may be determined, and where the onus of proving the alleged lunatic to be insane shall rest upon such persons as are restraining him or her of his or her liberty."

The bill passed through its first stages with the same provision in this case as in that of persons committed to a hospital, viz.: a commission composed of three members, and this was chosen in order to avoid the publicity, exposure, trouble and excitement incident to a public trial in court, and the cause of incalculable mischief to the patient. It was thought, however, by some persons who had the power of giving their opinions the force of law, that the offence of keeping a person in confinement after his recovery, should be dealt with in the swiftest, sharpest manner known to the law. And so, at the request of any one calling himself a respectable person, any judge in this city is obliged to transfer any victim of suffering from the rest and seclusion of an asylum to the repulsive scenes of the old Quarter Sessions court room, and deal with him as if he were a criminal on trial for this offence. To obtain anything like an adequate idea of this gross impropriety, we must put the case to ourselves, and conceive the subject of it to be a wife, or mother, or daughter or sister.

The fallacy so prevalent in most communities, that insanity is always something superficial, and obvious to the casual observer, and never obscure and revealed by traits that are significant only to the expert, is singularly foolish, and as mischievous as it is foolish. Some idea of its prevalence may be obtained from the frequency with which it is intimated, in every grade of society, that the man who for many years has spent his days and nights surrounded by the insane, is less qualified to give an opinion as to the existence of insanity in a given case, than those whose knowledge of the disease is confined to a few general impressions respecting it. The abundance of his experience and the thoroughness of his studies are regarded as the very things that render his opinions unreliable, although, in accordance with all analogy, it might be supposed that they would enable him to see insanity where others, without such opportunities, cannot see it. A surgeon's large experience is not supposed to render all the more incapable of detecting a fracture or a dislocation which is unsuspected by other men. And he is no more able to give a reason for his belief, that would be any reason at all to others, than an expert in insanity sometimes is, for his belief that a certain person is insane.

In fact, it is just the most dangerous cases in which the insanity is oftentimes the most obscure, Bellingham who killed Mr. Percival, McNaughton, who killed the Secretary of Sir Robert Peel, and many others, manifested no insanity before the commission of their bloody deeds. They talked and acted and seemed very much like other men, and so, no doubt, they have seemed to a board of commissioners in lunacy. And yet, I apprehend that an expert would have been satisfied, after a little observation, that the two just mentioned were unquestionably insane. To this notion, respecting the competence of experts in insanity, the legislature of Massachusetts, at its last sessions, gave a remarkable expression, by enacting that no superintendent of a hospital for the insane should give a certificate of insanity.

There is a class of insane for whose isolation a certificate of insanity alone is not sufficient. Persons become insane who have no family or friends, or, having family and friends, they are unwilling to authorize their confinement. The patient may still be at large, engaged, apparently, in his usual pursuits, etc., and with large social and business relations. For various reasons no one is willing to assume the responsibility of ordering his arrest and depriving him of his liberty. His wife or child fears to encounter his displeasure, his partner in business is deterred from interfering one way or the other, lest he may be suspected of sinister designs, and others, perhaps, are not aware of the urgency of the case. And even if one should feel willing to interfere, the patient's social or business relations would seem to require some formal adjudication, in order to satisfy other parties of the necessity of a measure followed by such important consequences. It may lead to the dissolution of a business connection, or the avoidance of a contract, it may enable him to escape a suit at law, or suspend execution of a judgment. The propriety of the measure is still more apparent when the presence of the disease is not perfectly obvious and the patient is likely, when the opportunity offers, to make use of every legal means in his power to annoy and injure all who took any part in procuring his isolation. Under such circumstances it is peculiarly fit that the person should be committed by some process of law, whereby the family is spared the performance of a painful duty, and the public sentiment is satisfied. Accordingly, in act of 1869 we have the following provision :

"Insane persons may be placed in a hospital by the order of any court or law judge, after the following course of proceedings, viz.: On statement in writing of any respectable person, that a certain person is insane, and that the welfare of himself or of others requires his restraint, it shall be the duty of the judge to appoint immediately a commission who shall inquire into and report upon the facts of the case. This commission shall be composed of three persons, one of whom at least shall be a physician, and another a lawyer; in their inquisition they shall hear such evidence as may be offered touching the merits of the case, as well as the statements of the party complained of, or of his counsel; if in their opinion, it is a suitable case for confinement, the judge shall issue his warrant for such disposition of the insane person as will secure the object of the measure."

These, then, are the only requirements necessary to provide for the proper isolation of the insane, and if the law is honestly and dispassionately administered, we believe that the right of all parties will be secured.

## Art. IV.—The Insane Diathesis.\*

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THE *ideal* human system would be one in perfection; that is, it would be one so constituted as to discharge all of its natural functions perfectly. Its capacities would, however, be limited as they now are, though not to the same extent. Digestion of such articles of food as the system requires would be perfect, though this might not be true as to many other articles which are appropriate for food for other animals. Sight and hearing would be perfect, but only within certain ranges and distances; memory would be perfect in reference to everything comprehended and understood. The limitations would be dependent upon the inherent nature of the organism, in its relation to its environment. What is stated above would be true of the functions of all inherent faculties of the human system, both physical and psychical.

The *actual* human system tends, in a greater or less degree, towards this ideal one. It possesses all the faculties, both physical and psychical, but they are tainted with imperfections which vary from the highest state of health attainable down to some assumed standard, below which we say diseased or pathological conditions exist. It will, however, be observed, and hereafter more definitely appear, that this border-land is merely one of assumption. Imperfection, which means disease, exists in every one. It matters not whether we put it in the form used in the old catechism: "In Adam's fall, we sinned all," or whether we commence on the Darwinian theory and work up.

\*Read before the Connecticut State Medical Society, 1880.



The point reached is the same on either road. In the latter case we are actually far from the ideal standard, while in the former we are not yet wholly diseased.

But the *actual* condition is one of changing stability, even with the most robust. It is not, however, my purpose to discuss this point, except so far as pertains to the psychical element, and I therefore do not refer to illustrations of its truth among the purely physical functions.

We do not know certainly upon what conditions of the brain sound, healthy mentality depends; we cannot lift the veil and look in upon cerebration; we cannot hear its vibratory movements; but there can be no doubt that certain prerequisite conditions are necessary. For instance, there must be a requisite amount of blood passing through the blood-vessels of the brain; there must be such a condition of these blood-vessels in arrangement of distribution, and character of their coats, as to favor free exosmosis and endosmosis in all portions of the cerebral hemispheres. The nerve cells of the brain must possess at least a certain standard of both delicacy and strength in their constitution, and the same is true of both the connective tissue and the whole of the sensory portion of the nervous system. These conditions given, with possibly others the nature of which we do not fully understand, and we may, with reason, expect that those manifestations of mind which we term normal will be present.

But I desire especially to call attention to the fact, that even in what are termed normal mental manifestations there exists a very broad diversity of character. While some apprehend anything a little abstruse with great difficulty, or fail to do so at all, others understand it with a readiness which we are accustomed to call intuition. While many occurrences seem merely to impinge upon and glance off the minds of some persons never to be remembered again, they pass from the minds of others only after long years, or remain through life.

Some persons always look upon and judge of occurrences and events in an unusual way. They are odd or singular in their mental constitution, and are accustomed to do odd and out-of-the-way things, just as naturally as others would do the same things in such a manner as to attract no attention. Some persons hear, see, taste, touch and smell so much more quickly and delicately than others, that we must conclude there exists a radical difference in the perfection of the organization of the nerve cells of these various organs of special sense.

Again, there are periods during which *all* persons see, hear, touch, taste and smell with much greater readiness and delicacy than at other times, even in a state of so-called health. Musical sounds are much more delicate and pleasing; harsh and rough sounds are more harsh and rough; certain articles of food produce a keener sense of relish, and colors a greater sense of pleasure; all of which would indicate temporary changes in the condition or function of the nerve element composing these special organs of sense.

The same is true to even a larger extent of the emotional nature. Persons are placed in certain states of the nervous system with sensations, objects, and persons, which afford them no pleasure at other times; they are displeased and pained, while in other conditions, with sentiments which would at other times produce no such effects. They sometimes feel that the world and its possessions and pleasures are so great and grand that they can never leave them, and the thought of doing so causes the keenest anguish, while in another state all these pleasures and possessions appear as empty and valueless as a bubble of air, while the thought of leaving them, and throwing off the burdens and cares of life, which are usually so much annoyed, seems almost pleasurable.

Again, persons have periods of being irritable, restless, nervous; they cannot bear much; little incidents which, in other conditions of the nervous system they would think little or nothing of, turn them into a passion of excite-

ment, which can hardly be controlled for the time being. In other states they may long to weep, or to be in solitude where they can neither see nor hear anything; or they may shout, and laugh, and talk, while thoughts come coursing through the brain so fast that words fail to express them. The same changes occur among the impulses; these are at times almost irresistible. Nearly every one, while standing on a high cliff or house-top, has had an impulse to jump off or push his friend off, reckless of all consequences, or while on a bridge or in a boat, to jump into the water.

In the usual conditions of the nervous system persons love their children and relatives, and are ready to do and suffer and, at times even to die for them, if need be, while, at other times, all these sentiments fade away, so that they are unconscious of them, and even the opposite sentiment of dislike or hatred takes their places.

Periods of mental lethargy come over most persons at times, so that they care neither to talk nor engage in any of their usual intellectual or physical pursuits; and such stimuli as are usually sufficient to rouse to action the brain, appear to have very little effect. Persons say and feel that there is a state of only partial brain activity. At other times the brain acts with the greatest freedom; occurrences which took place long years before, and which, perhaps have not been thought of since, come back with all the freshness of yesterday. Thoughts come rapidly—more so than words to express them. Keen flashes of wit, bright scintillations of thought, forms of expression of unusual felicity pour forth spontaneously, while the mind apprehends and retains many kinds of knowledge with the greatest readiness. Similar variations take place in reference to courage and its opposite, timidity, truthfulness and suspicion, and, in fact, the whole range of mental endowments.

Now all this grand play of diverse emotions and conditions in the psychological functions takes place in a state of health; still there can be no doubt that it comes

from changes produced in some manner in the varied and delicate structure of the brain. It may come from the changes which are constantly taking place in the blood, in the processes of reception and elimination, or from those delicate chemical operations which must be forever going on in the nerve elements of the brain hemispheres, affecting their recipient and sensitive capacities, or it may be from other unknown causes.

Now we have only to suppose a person with a nervous system, so constituted that these conditions, which I have described as temporarily occurring with most persons, are permanent, though in a latent state, and we have that peculiar organization which is termed the Insane Diathesis. That is, we have a nervous system, so illy adjusted with its environment that, when brought in contact with its exciting influences, there occur abnormal instead of normal results, and these become more or less continuous instead of evanescent. The husband hates his wife, and the wife her husband; the parent his child, and the child his parent. We have the person whose daily condition is such that he feels no pleasure and experiences no satisfaction in life, but hates it, and longs to throw off its burdens and care, and leaves no effort untried to accomplish it; while another is so filled with joyous emotions, his brain is so excited in functional activity that he can neither eat nor sleep, but ideas flow forth in one constant stream of words—words; bright visions appear on every side, and his life is worth a thousand worlds. Or we may have any other of the ten thousand perverted mental activities which attend the “mind diseased.”

“And he, . . . (a short tale to make)  
Fell into a sadness; then into a fast;  
Thence into a watch; thence into a weakness;  
Thence into a lightness; and by this declination  
Into the madness whereon now he raves,  
And all we mourn for.”

I have thus endeavored to trace out in a hurried manner and explain what is meant by the insane diathesis,

and how it borders upon healthy conditions. In the above view there does not appear to be any well-defined, sharply-bounded line between what is termed normal and abnormal mental activity. The one insensibly merges into the other, while both depend upon the condition of the brain for the time being. When the brain is in what is determined a healthy, normal condition, then we have healthy mind, and *vice versa*. When it may vary ever so little from this state, either by inheritance or acquirement, then we have, for the time being abnormal mind. Thousands are born into the world with brains so constructed, and thousands more attain to such conditions by the friction of life and abuse of its conditions and enjoyment.

I wish now to trace out briefly some of the influences in operation in modern life, more especially in the education of the young, and their habits of life, which tend to render the functional activity of the brain unstable and liable to abnormal manifestations.

The higher conception of an education would embrace the idea of its being *symmetrical*, that is, that the psychical and the physical should be in harmony. The system should be considered and treated as a whole. The brain should not be stimulated or cultivated at the expense of the body, nor should it be neglected while the latter is developed. If both are in harmony, then both, and especially the brain, will be in the best condition to withstand the strain and wear and tear of after life. But who thinks now of educating or developing the body of a child as a part of education? This, in the vast majority of cases, is left to take care of itself, while all thought of education centers upon mind. At five or six years of age, and while, for some years, the system must be in the formative, growing period of its existence, the child is confined five hours a day on a hard seat or chair in a room often illy ventilated and irregularly heated. During the larger portion of this time, he or she is expected to have the mind occupied in study or recitation, which is quite

equivalent to study. In addition to this, after the child arrives at the age of twelve or fourteen years, tasks of such extent are imposed that it becomes necessary to study from one to two hours during the evening. I think that most persons with much experience in intellectual occupations will agree with me in saying that six hours a day is quite enough for an adult mind to be occupied, with advantage, in study. I think it will be found that our most successful clergymen and lawyers and litterateurs, though at times a more protracted period of effort may be necessary, yet, as a rule, do not spend a longer time in intellectual effort. Yet, in the education of our little ones, we find that both teachers and parents, in their blind ambition to hurry them forward, conspire together in imposing tasks of such a character as to require longer hours than we know to be wise for the adult brain.

I believe, however, that the largest mischief does not come from the length of time occupied in confinement and study, great as this may be. A still larger defect in the system lies in the multiplicity of the subjects studied, and the lack of sufficient individuality in its administration. In our graded schools, pupils are parceled out in numbers ranging from forty to sixty in number in one room, and put under the charge of one teacher. I venture to say that no one teacher can do even half justice to any such number of children. The whole system is purely a mechanical one; all must come in, go out, rise up and sit down, study and recite, together. There is no room or time for individuality in any department of study. Each one goes on with the whole or he drops out and back, while the half exhausted teacher has no time or opportunity to bestow the little aid which would often be of much value. His task is to know that in some way or other the pupil seems to know the lesson, and if he does not he must work until he does, or drop back. Now doubtless one or two out of every five of these fifty or sixty can press

on with ease and health through all the studies which all are expected to master, but for the other three or four out of the five there exists a large tendency toward confusion and imperfect knowledge, rather than vigor and strength of brain.

In this respect I believe the education of fifty years ago was better than that of to-day. The teacher had a less number of scholars, while a few subjects were thoroughly mastered. A few books only were read, but what was studied and read was generally more thoroughly studied and understood. There were fewer confused and half-understood lessons and theories, and as the mind became older it went out for larger fields and broader pastures of knowledge. They doubtless did not have much information as to the movements of the heavenly bodies, or of the names of insignificant towns, hamlets, or rivers on the eastern or western coast of Africa. They might not be able to define the boundaries of Kamtschatka, nor give the pluperfect of a large number of irregular verbs; but, on the other hand, their brains were clear and vigorous, and possessed a recipient capacity. They were not crammed and confused by dim memories of a vast multitude of names or facts, which could by no possibility have any important bearing on their future lives or fortunes. Knowledge to be of much practical value in life must be clear and definite in the mind of its possessor. When half mastered, it tends rather to weaken and confuse than strengthen and invigorate; and therefore, during the earlier periods of life, study in our schools should be confined to a comparatively few subjects. Please bear in mind that the grand object in education, physiologically considered, is to render the brain strong, vigorous, and stable, and as little liable to instability and uncertain and irregular action as possible. Any course of training, therefore, during this early formative period of life, which tends to crowd the mind or stimulate it to over-activity, must tend to after weakness and instability.

This leads me to protest against the modern tendency

to continually increase the requirements for entering and continuing in our graded schools and colleges ; while the number of studies is increased the time for their acquisition must remain unchanged, and each scholar is hurried on through or dropped by the way. To avoid the latter result too great and too protracted effort is necessary on the part of many children, while in some cases the results are manifested in a state of mental confusion and uncertainty, and a nervous, hysterical condition.

I have in mind, at this writing, a case which will illustrate my point. It was that of a young lady of ordinary mental endowments, whose parents usually brought her to me for advice as often as every two or three weeks, because she was nervous and suffered with frequent and protracted headaches, especially near her monthly periods. Inquiry elicited the fact that she was obliged to study during the evening until ten or eleven o'clock to accomplish the tasks which were assigned to her class, and it was thought by the parents that this practice was all right ; that it evinced faithfulness and ambition on the part of the young lady, which was undoubtedly true ; and it was with great difficulty that I could convince her or her parents that her condition was due to the constant violation of the laws of health ; that her brain and whole nervous system required longer periods of repose and quiet at her age than it would be likely to need later ; that the future of her whole life, as a member of society, might, and must, in a large degree depend, not on the grade of the marks she might receive in her daily recitations, but largely on the nervous and physical strength she might be able to build up before she should become twenty-one years of age. This young lady was of a healthy parentage and inherited a good physique, and with proper habits of life and study would have had excellent health. As it was, her system will not for years, if ever, recover from the effects of her habits of excessive hours of study.

The name of another patient occurs to me, a young



man of good parentage and apparently inheriting a good constitution. He was ambitious in study, and his parents allowed him to do all he might choose to. He entered college, standing among the best scholars of his class, but, before the end of his first year, began to be troubled with noises in his head and confusion of mind. He was removed from college, and remained out till the end of the year, but partially kept up his studies at home. He entered the sophomore year, but was obliged to leave earlier in the year than before. He tried the junior year with a like result, and from this time began to show more decided indications of mental impairment. He traveled both in this country and in Europe; he consulted the most eminent physicians, but all to no purpose; the mischief had been too effectually accomplished. The delicate tissue of the brain had been over-strained, and so impaired that when his parents awoke to its importance it was too late to repair the mischief.

Multitudes of similar cases could be cited if it was necessary. Another young man, barely graduated, standing in the front rank in his class, and then for years was able to do but little study, and spent his time in vain search for that health which by judicious habits in study he would never have lost.

I desire, however, not only to emphasize the effects of study so far as they may manifest themselves on the individuals themselves, but the effects which they are certain to transmit to their posterity. The brain may, and does in many cases, so far recover that it may fairly do the work, or *a* work in life, but it has attained a bias—a twist, which will be sure to manifest itself in the next generation in something more than a twist; it will be an insane diathesis—a brain constituted in so unstable a manner that the friction of ordinary life will upset it, ending in insanity.

I have often thought that teachers are only partially to blame as they are countenanced and encouraged by

the parents in this injudicious course of mental stimulation in early life. Perhaps the very freedom of our educational and governmental institutions also helps it on; every child is taught that all the prizes of life are within his grasp, if he will only make the requisite effort while every parent longs to see his child higher up in the social scale than he himself is. These conditions not unfrequently serve to stimulate those especially ambitious to over-exertion, while again, there is less of the controlling element, both in home and social life, than exists under most other forms of government. Education should embrace the learning of self-control, and self-denial even, for individual or the general good, and when this element is lost sight of, and the child is permitted to grow up having his own way in most things, and his every wish gratified, he has a large disadvantage when brought into contact with the friction of adult life. It has happened in my professional experience that I have seen not a few young men and women hopelessly stranded in life, whose early education had been one of extreme indulgence. They had never been controlled in home life, and when projected against the rough experiences of actual life were brought up with a round turn, or with no turn at all. The shocks were too much for them; they could not bend, and therefore broke. Obedience to law, whether it be parental, social, or civil, is one of the corner-stones, in fact the fundamental element, in any efficient and worthy system of education. While I would not go back to the strict system of a hundred years ago, wherein all individuality was lost, and everything was made to yield to the law element in society, yet I fear that, in the recoil from that system, we have been and still are in great danger of going too far in the other direction. Freedom of individual action and thought is in danger of degenerating into mere license, so that in too many quarters respect for parental, school, and civil authority is among the young considered as an indication of weakness and indecision.

Still, it is but just to say that we in America are not the only ones who need to plead guilty in reference to over stimulation and faulty education. An English physician, in referring to this subject, lays similar accusations against teachers and parents in that country. He says, "The master of a private school informs me that he has proof of the ill effects of over-work, in the fact of boys being withdrawn from the keen competition of a public school career, which was proving injurious to their health and sent to him, that they might, in the less ambitious atmosphere of a private school, pick up health and strength again. He refers to instances of boys who had been crammed and much pressed in order that they might enter a certain form, or gain a desired exhibition, having reached the goal successfully and then stagnated." He further says, "Too many hours daily study and the knowledge of an approaching examination, when the system is developing and requiring an abundance of good air and exercise, easily accounts for pale and worn looks, frequent headache, disturbed sleep, nightmare, and nervous fears. When the career of such students does not end in graduating in a lunatic asylum, they lose for years, possibly always, the elasticity and buoyancy of spirits essential to robust mental health. A strong constitution may be sacrificed to supposed educational necessities."

The above statements were made as showing a tendency, on the part of prevalent modes of education in England, to produce in its subjects either insanity or a tendency toward it. I here introduce them as showing how strongly such an influence is developed, which may, and in most cases does, fall short of actual disease, but which is of such a nature that it will tend to develop the insane diathesis in the next generation. Parents transmit required tendencies towards disease as well as, and indeed I think much more frequently than disease itself.

I must beg, however, not to be misunderstood. I think I value the importance of an education for the development and discipline of the brain as profoundly as any one.

Indeed, I believe the lack of brain discipline, for those who are to compete in the struggle of life in the midst of such a civilization as that of to-day, is one of the greatest misfortunes; but I do desire to protest with all emphasis against this indiscriminate system of cramming, towards which the English-speaking people appear to be so rapidly tending. It tends to defeat one of the most important ends to be gained. Instead of rendering the brain stronger and more capable of vigorous work in life, and transmitting to another generation a sound, healthy mentality, there exists a probability that there will be transmitted, in too many cases, a tendency to unstable and irregular action which will have a final ending in insanity. I wish to plead earnestly for a larger degree of *individuality* in our system of education, even if it be at the expense of some diminution in other respects. Let there be fewer subjects studied, and let what is studied be more thoroughly mastered. Have fewer half-understood problems and half-remembered lessons, and I believe we shall have stronger intellects and more stable brains in after life.

There are certain other conditions which I think have an important influence toward increasing instability of brain action, to which I wish briefly to refer.

And first, the great change which has occurred during the period of the last generation (the much-glorified period of the telegraph and railroads), in the habits and customs of living among the older civilizations. Immensely fewer people till the soil and follow out-door occupations for a livelihood than thirty-five years ago, and the improved agricultural machinery is tending constantly to make this number still smaller. Larger numbers are congregated in factories and mills, and are engaged in mechanical occupations, counting-houses, mercantile, and in-door lives. Instead of being in the open air, every moment breathing in its purity and freshness, they are, for twenty or more hours out of the twenty-four, either in the close or vitiated atmosphere of the factory or counting-house, or,

what is not unfrequently worse, the illy-ventilated sleeping-room or parlor. In the one case the blood is purified and nourished by the influence of a large supply of pure oxygen which it bears to every portion of the system and especially the brain, while in the other it is only partially decarbonated and bears a taint during its whole round of circulation. Thousands and tens of thousands who, thirty-five years ago, in England, France, Switzerland, and this country, lived largely out of doors, whose cheeks were fanned with the fresh breeze from "early morn till dewy eve," to-day are immured in the dense atmosphere of cities and factories.

Again, there has, within the same period of time, come a large change over the human system itself, attributable in a measure, probably, to the above causes. There has been a change in the relative prominence of the circulatory and nervous system in reference to disease, so that those which affect the former system to-day demand and receive a largely different mode of treatment from that used forty years ago; the heroic system of those days so freely resorted to would not be so well borne to-day. The force or tendency of disease seems to be carried over (if I may so speak) into the nervous system, so that there is a much larger tendency toward disease of this system than before, while the keen competitions, the intense mental activities which pervade all the avocations of modern life, tend to still further increase it. These results—there can but result, on the whole, a much less robust and vigorous system, and also much less robust and vigorous families of children. While the number is largely diminished, those who are so fortunate, or unfortunate, as to complete the journey, arrive in the world to meet, it is to be feared, in many cases, with a cold reception, and bear in their nervous systems a weakness which clings to them through the journey of life.

Further, with such changed conditions, more especially among the English-speaking people of to-day, I can but believe that the effects of alcohol and tobacco, especially

the former, are much more injurious upon the nervous system than they would be under the former modes and avocations of former life. I have not time, or inclination if I had time, to descant upon the effects of alcohol upon the general system, but I desire to call attention to the fact that its primary effect is that of one of the active stimulents, both to the circulatory and nervous systems, and as such, when long and continuously used, must have a demoralizing effect upon these systems. While probably there is much less alcohol used among the more intelligent classes to-day than there was fifty years ago, we must bear in mind, first, that society to-day is reaping the harvest of its use fifty years ago in the form of a nervous system inclined to disease; and, second, that there is an increased use of it among the young, especially in all our large towns and cities. Let anyone pass through the principal streets and drinking saloons of any of our large towns or cities during an evening, from eight to eleven o'clock, and I think he will be astonished, unless already familiar with the state of the case, at the number of young men and boys from the age of sixteen years up to that of twenty-four he will find engaged in drinking beer or wines, and enveloped in the fumes of tobacco. Perhaps it is not wise to be extreme in our views in reference to the use of these articles. They may doubtless be used with moderation by adult persons, for long periods without serious results in the way of actual disease, but, when used from the age of twelve to twenty-two, and when the whole energy of its system should be occupied in its growth, I believe, from a somewhat extended observation, that their effect is immensely disastrous, and largely attends to create nervous diathesis in after life. An alternate stimulation and depression, while it must be unfavorable in its effects at any time of life, yet upon the young is vastly greater. We observe its effects upon the young of our domestic animals, and exercise the greatest care that they be not over-fed, over-driven or over-worked,

while their systems are undeveloped and in the growing period. Where one is looking for the best growth or the highest speed or strength attainable, if judicious, he will exercise the largest care and vigilance lest his animal should be over-stimulated by food or work, and never permit its full strength to be tested until the system is developed and firmly knit together. How can an opposite course in reference to either education or habits of life, food or drink, have any less serious effect upon the vastly more delicate tissues of the brains of young men and women? Besides, I believe the effects of alcohol upon the system are less injurious when the subject spends the larger portion of every day in the open air, and is engaged in the exercises of out-door occupations. It becomes sooner eliminated from the system, and acts as a less efficient stimulus.

If the above views in reference to education, the changes which have come over the habits and modes of modern living, and the effects of stimulents upon the young especially, be true, then it appears that there is a *mental*, as well as a physical hygiene, and that similar laws may hold good in reference to both. Within a few years we have made wonderful advances in our knowledge of the latter, and, by an investigation of the former, it will appear that no more surely does typhoid or diphtheria, and kindred disease, follow in the track of neglect in reference to their causation, than does the insane diathesis follow from neglect to observe and avoid its causes. There is, however, this cause: In the one case, effects are soon seen and in many cases easily traced to their cause, while, in the other, they only appear after a long time, and not unfrequently pass over into the next generation before appearance. Persons rarely become insane at once. The operative causes are long in incubating; they are generally insidious in their operation, so that months, if not years, may pass before the nervous system actually gives way in insanity. Hence, the uncertainty and, oftentimes, mystery connected with the etiology of

individual cases; we mark down long lists of *exciting* causes of insanity, and are too prone to forget that the *real* causes lie far back of these. These exciting causes may be equally operative in a dozen cases, and yet produce insanity in one only; and in that one because that sometime in the past the treatment of his nervous system, or that of his parents, has violated the laws of its health.

I trust I may be pardoned if I venture to suggest that we have given undue importance to the former class of causes, and too little to the latter. Thousands may suffer from these exciting causes, and never become insane, because the potentiality for the disease does not exist in the form of a nervous system rendered unstable in its constitution either by inheritance or acquirement.

Finally, I venture to suggest the importance of our responsibility in reference to the public health, *mental* as well as *physical*. While we have been active and vigilant in reference to the latter, and have won large victories, I greatly fear we have too much neglected the former. It is the general practitioner, rather than the specialist, who comes more often into contact with these insidious and generally unsuspected causes, so silently, and yet surely, operating to ruin the nervous system. He it is who must plead for wise and judicious courses of education and development of the young. He, more authoritatively than any one else, can point to the outcome of stimulation and excess of all kinds upon the nervous system in its formative period. He, more than others, must realize the unwisdom of delay until the mischief is done and disease has manifested itself. Insanity is rightly regarded as one of the greatest of calamities, in whatever light it may be viewed, so that no field of medicine offers a larger reward for every success which may be attained in it than the one under consideration. To the general practitioner this field lies open for occupancy, and on him rests the responsibility of its development.



## Art. V.—Contribution to Cerebral Localizations.

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By Prof. A. TAMBURINI.

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*Hemiplegic epilepsy, with left hemi-atrophy and aphasia. Atrophy of the right hemisphere; atrophy and sclerosis of the ascending frontal and parietal convolutions, and of the third frontal, the optic thalamus, the cornu ammonis, &c.*

HISTORY OF THE CASE.—Paola Veronesi, aged 45, a pauper, entered the insane asylum of Reggio, on 13th of May, 1874, being affected with imbecility and epileptic fits, frequently followed by furious delirium, in one of which accesses he had killed a poor idiot with a knife. Very little information was given in the medical history sent in with him. The epilepsy dated from infancy; atrophy and paralysis of the upper and the lower limbs resulted, which we shall presently describe. The paroxysms of post-epileptic furious delirium had been of only two years duration. As to hereditary conditions, it was merely ascertained that his mother and her brother had been of rather impetuous character. Veronesi himself had always led a miserable and depraved life.

During all the time he had lived in the asylum, he showed ordinary docility, he was tranquil, and strict in attending to some occupations, so far as his limited intelligence and his hemiplegia permitted; but in proximity to his fits, and sometimes also unconnected with them, he became irritable, strange, intolerant and violent, especially towards children. The fits appeared with variable frequency, as will be indicated by the following tabular statement, which shows the number of epileptic *accesses*

and *vertiges*, to which Veronesi was subjected from October, 1874, the time of his entrance, to that of his death, April 18, 1879:

MONTHS.	1874		1875		1876		1877		1878		1879	
	A.	V.	A.	V.	A.	V.	A.	V.	A.	V.	A.	V.
January ..	..	..	1	..	..	..	1	..	8	3	4	1
February ..	..	..	..	..	..	..	..	..	5	4	1	1
March....	..	..	..	..	..	..	2	..	5	2	8	..
April.....	..	..	..	..	..	..	..	..	4	4	..	..
May.....	..	..	..	..	..	..	2	..	5	..	..	..
June....	..	..	1	..	1	..	4	1	6	1	..	..
July.....	..	..	2	..	1	..	6	1	2	4	..	..
August...	..	..	5	..	..	..	6	..	7	5	..	..
September	..	..	..	..	1	..	9	3	4	7	..	..
October...	2	..	..	..	1	..	10	2	5	1	..	..
November.	1	..	1	..	1	..	4	4	3	..	..	..
December.	1	..	1	..	4	..	3	2	14	..	..	..
	4	..	11	..	9	..	47	13	68	31	13	2

From the above figures it is seen that the complete or incomplete accesses of epilepsy proceeded gradually augmenting, especially in the years 1877 and 1878. In the first months of 1879, they were in notable numbers. The points in April, 1879, indicate accesses so frequent in the days preceding his death, as to be uncountable.

The accesses were always preceded by a sense of aura, and by *clonic movements, which began in the fingers of the paralyzed and atrophied arms*; most generally the *convulsive access was limited to the left arm*, or was extended to the face and to the lower limb of the same side; sometimes they became general over the entire body. After the access he remained most usually in a state of mental stupor and depression; but sometimes he was seized with a maniacal delirium, during which he became dangerous, but this state was generally of short duration.

OBJECTIVE EXAMINATION.—This was practiced very often, the patient having served as a subject of conference for the psychiatric clinique, and anthropologic studies on the imbecile; the *data* which I now produce were taken from repeated observations made by *Doctors Maragliano and Bouvecchiato*.

ANTHROPOMETRY.—Cranium rather narrow; the occipital

region very flat, especially on the right side; the right parietal eminence less than the left. The following are the measures given by the cranium:

Anterio-posterior diameter, mm.	172=6	3-4 in.
Biparietal " maxim. "	150=6	"
Biparietal " minim. "	110=4	2-5 "
Anterior-posterior curve, "	308=12	"
Bi-auricular " "	282=11	"
Circumference, "	525=21	"
Cephalic index, "	87=3	1-2 "
Sum of curves, "	1115=44	"
Distance from chin to occiput, "	215=8	"
Distance from chin to meatus- auditorii, mm.	135=5	1-3 in.
Bi-zigomatic diameter, "	134=5	1-3 "

These measurements show a brachicephalic head and a small skull, if not in relation to the patient's height, which was 1.60 m, certainly to the skeleton development, which was notable.

FACE.—The physiognomy was remarkable; the distance between the zygomatic bones, the narrowness of the forehead, and the cocked-out ears, gave the creature something of a bestial aspect. The left side of the face was flatter than the right; the left nostril was contracted. The naso-labial sulcus, and the frontal wrinkles were less pronounced on the left; the angle of the mouth was somewhat drawn up on the right, especially in speaking.

THE TRUNK.—The left shoulder less developed than the right; the acromion nearer to the median line; the clavicle smaller and shorter than the right. The left half of thorax much narrower than the right, consequently the curvature of the ribs more abrupt, and the scapula was drawn towards the sternum. The lower part of the sternum bends inward. The whole of the muscles on the left less in volume than on the right. Adipose tissue equal on both sides.

THE UPPER LIMBS.—The left compared with the right, is much atrophied, and is held in permanent forced flexion;

the upper arm closely pressing the thorax; the fore-arm flexed almost at a right angle on the upper; the hand flexed at an acute angle on the fore-arm, and bent on the ulnar margin; the fingers are, on the contrary, forcibly extended, and the index and middle ones so much so as to appear luxated.

The comparative measures of the two arms are as follows:

	RIGHT. mm.	LEFT, mm	ABOUT. INCHES.	
Greatest circumf. of upper arm,	295	210	12.	8.5
“ “ fore-arm, ..	260	160	10.25	6.40
“ “ carpal region,	170	130	6.75	5.20
Length of humerus .....	335	295	13.	12.
“ fore-arm .....	225	220	9.	8.75
“ hand .....	190	170	7.90	6.80
“ palm .....	170	68	4.40	2.75

THE LOWER LIMBS.—The muscular masses on the left are somewhat atrophied, but much less so than in the upper limb.

	RIGHT. mm.	LEFT. mm.
Greatest circumf. of femoral region.....	480	430
“ “ crural .....	350	280
“ “ lower extre. of leg.....	210	200
Length of femur.....	360	350
“ leg.....	375	370
“ foot.....	250	245

From these measures it is seen that the femoral region is singularly short, in comparison with the leg, on both sides.

PSYCHICAL FUNCTIONS.—Ideation very limited; memory fragmentary; sentiments little developed, but instincts strong. He is usually taciturn, readily irritated, especially by boys, whom he is prompt to strike. He attends to the rough work of cleaning his section. Language is very defective; he strives to utter words, and precedes them with inarticulate sounds, and contractions and oscillatory movements of the muscles of the face, and especially of the lips, with a drawing of the angle of the mouth to the right. Having commenced the pronouncing of a

word, he often halts at the first syllable, or repeats it, or stops in the middle of the word, stammering on the last syllable. No sound is neatly uttered, but always in a uniform and incomplete manner, and the timbre of the voice is hoarse and guttural.

FUNCTIONS OF RELATION.—Sensibility is sufficiently normal; the tactile, the dolorific and the thermal do not differ on the two sides; the electric was slightly less on the left. The other senses, normal; but taste rather obtuse. Motility normal in the pupils and the right half of the body; *paresis* on the left of the face, and almost complete *paralysis* of the left upper limb, which is only capable of slight brachial adduction. The lower left limb is only *paretic*; in walking it straggles, and the foot is but little raised from the floor. The *electric muscular contractility* is greater on the right in the upper limbs, but equal in both the lower.

THE VEGETATIVE FUNCTIONS are normally performed. On the 16th of April, 1879, he had many epileptic fits, which were repeated with great frequency on the 17th, and became general. In the intervals between fits he was comatose. For some days before he complained of severe head-pain on the right, and of intense pain in the inner ear of same side; he also complained of malaise and want of appetite; he was listless and duller than usual. In an epileptic seizure, which lasted about an hour, he ceased to live on the 18th of April.

AUTOPSY.—The illustrious professor *Taruffi*, of Bologna, was present, and took full notes, of which we give a resume:

THE CRANIUM.—The bony case, very heavy and thick; the diploë, ossified; the longitudinal suture turned towards the right, so that the right half of the cranium was smaller than the left.

CEREBRUM.—The skull being removed, we soon discovered that the right hemisphere was much less than the left; in fact, when taken at the external auditory openings, the transverse arc of the hemispheres showed a curve of

170 mm., of which 95 belonged to the left and 75 to the right hemisphere; the total circumference of the two hemispheres, with the dura-mater left on, was mm. 410, of which there belonged to the left, mm. 225, and to the right, mm. 185.

The dura-mater was strongly adherent to the hemispheres; more on the right than on the left; when removed, the smallness of the right hemisphere became more evident, and the surface of the right, over large portions, was seen covered with tracts of patches of sub-arachnoid exudate of greenish yellow color, which, to the naked eye, and under the microscope, were evidently purulent. These patches were large and numerous on the frontal lobe, especially in correspondence with the fissure of *Sylvius*, which was completely covered and infiltrated with them.

On the *left hemisphere* there were some exudative cells, but of less number and smaller size. All the vessels of the pia-mater, both arterial and venous, were much injected; this membrane was readily detached from the cortex, but, in consequence of its decreased consistence, it came off in shreds. The consistence of the hemispheres was, on the whole, greater than normal, especially on the right.

THE LEFT HEMISPHERE.—The conformation and development was normal in all parts.

THE RIGHT HEMISPHERE.—The convolutions of the right frontal lobe, on the convexity, were sufficiently developed, though rather less than on the left. On the contrary the *ascending parietal* convolution was notably atrophied, especially on its exterior. In fact in its most internal part, where it was yet visible, it was much diminished, and somewhat indurated; at 6 cm. from the median line it was very thin, ribbon formed, so that it was necessary to turn aside the *ascending frontal* from the *parietal* in order to observe it, and it was hardened to cartilaginous consistence, as far as its embouchure in the fissure of *Sylvius*.

Here are the measures of breadths of ascending parietals in the two hemispheres:

	LEFT. mm.	RIGHT. mm.
Internal extremity,.....	16	9
Median part,.....	12	4
External extremity,.....	12	2

From these figures the notable degree of atrophy of the ascending parietal on the right side is brought into bold relief, as well as the progressive thinning from within outwards.

The *ascending frontal* was sufficiently well developed in correspondence with 1st F. and 2d F., but in its external extremity, or its correspondence with the origin of the 3d F., it disappeared from the surface of the hemisphere, and we had to turn aside the foot of the 3d F. in order to recognize it beneath (atrophied and hardened), as the external part of the convolution (asc. F.); it was then also seen that a portion of the foot of the 3d F. was equally atrophied and hardened. We also found that the foot of the 2d parietal participated, though in but a small part, in the atrophy and sclerosis.

All these atrophied and sclerosed parts—the foot of the 3d F., the external extreme of asc. F., of the asc. P. and the foot of the second F., constituted the margin, respectively, anterior, superior and posterior, or more exactly to speak, a sort of cartilaginous enfolder, of a cavity which represented what remained of the fissure of *Sylvius*. Drawing aside the margins sitting on this enfolder, we discovered a cavity of the size of a pigeon's egg, out of which, together with the arachnoid and pia-mater, a large quantity of purulent exudate, which filled it, was removed; in the bottom of this cavity, which was no other than the fossa of *Sylvius*, we did not discover any trace of the *convolutions of the insula* (of Reil). The walls were constituted of a uniform tissue, of reddish gray color, arborated here and there with arterial branchlets, and covered at parts with patches of purulent

exudate. The *first temporal convolution*, which formed the inferior margin of the cavity was, in its most posterior part, thinned and of increased consistence. On widening the great longitudinal fissure, we discovered, on the anterior internal parts of the hemispheres that the *convolution of the corpus callosum* of the right presented, in its anterior part, a projection which pressed on the corresponding part of the left, where there was an excavation in which it had been embedded.

On the base of the cerebrum we noted that the purulent exudation extended over the whole of the right temporal lobe and the chiasm of the optic nerves, also between the margins of the longitudinal fissure, which adhered by exudate bridles, and even back to the covering of the cerebellum. The consistence of the right hemisphere was increased on the base, but especially in correspondence with the point of the *spheno-temporal lobe*, and precisely at the point of the *internal temporal convolution*, or *convolution of the hippocampus*, where it was as of woody hardness. On vertical section of this region the sclerosis was most manifest, so that, in cutting, the texture creaked; it was traversed by thin strata, hard and alternating, of white reddish gray substance, as far as the *cornu ammonis*, the walls of which were strongly atrophied.

THE THALAMI OPTICI AND CORPORA STRIATA.—On opening the lateral ventricles, the *right optic thalamus* was found much diminished and hardened, as the following comparative measures show :

	LEFT. mm.	RIGHT. mm.
Greatest longitudinal diameter.....	40	21
Greatest transverse diameter.....	28	15

The *corpora striata* were, however, of nearly equal dimensions on both sides, there being a difference of only 4 mm. less in the transverse maximum diameter of the right.



exudate. The *first temporal convolution*, which formed the inferior margin of the cavity was, in its most posterior part, thinned and of increased consistence. On widening the great longitudinal fissure, we discovered on the anterior internal parts of the hemispheres that the *convolution of the corpus callosum* of the right presented, in its anterior part, a projection which pressed on the corresponding part of the left, where there was an excavation in which it had been embedded.

On the base of the cerebrum we noted that the purulent exudation extended over the whole of the right temporal lobe and the chiasm of the optic nerves, also between the margins of the longitudinal fissure, which adhered by exudate bridles, and even back to the covering of the cerebellum. The consistence of the right hemisphere was increased on the base, but especially in correspondence with the point of the *spheno-temporal lobe*, and precisely at the point of the *internal temporal convolution*, or *convolution of the hippocampus*, where it was as of woody hardness. On vertical section of this region the sclerosis was most manifest, so that, in cutting, the texture creaked; it was traversed by thin strata, hard and alternating, of white reddish gray substance as far as the *cornu ammonis*, the walls of which were strongly atrophied.

THE THALAMI OPTICI AND CORPORA STRIATA.—On opening the lateral ventricles, the *right optic thalamus* was found much diminished and hardened, as the following comparative measures show:

	LEFT mm.	RIGHT. mm.
Greatest longitudinal diameter.....	40	21
Greatest transverse diameter.....	28	15

The *corpora striata* were, however, of nearly equal dimensions on both sides, there being a difference of only four mm. less in the transverse maximum diameter of the right.

The following are the dimensions and the weights of the two hemispheres:

	RIGHT. mm.	LEFT. mm.
Greatest longitudinal diameter.....	146	163
Greatest transverse diameter.....	80	102
Weight of hemispheres.....	grms. 200	grms. 510
		GRMS.
Weight of mesocephalon.....		100
Weight of cerebrum.....		930

The last figure is noteworthy, as it shows us the small development of the cerebrum in an individual who was imbecile from birth.

MESOCEPHALON.—The *right cerebral peduncle* was very much smaller than the left, and much firmer in consistence; its transverse section gave a surface only half of that of the left. The right half of the *pons* was much less than the left, and the same may be said of the right bigeminal eminences. On the other hand, in the medulla oblongata, below the pyramids, the *left* half appears very small and of diminished consistence, as became very evident in cutting the bulb across. The hemispheres of the cerebellum presented no difference in size.

THE MEDULLA SPINALIS—The vertebral canal being opened, the vessels of the dura-mater were found much injected in all its extent, and in the dorsal region it was covered with a purulent exudate. This membrane being cut into, there was found in the cervical region a strong vascular injection, and, in all the rest of the medulla, an abundant fibrinous exudate, which masked all the vessels of the pia-mater. The consistence of the medulla was notably diminished from the cervical region to the eighth dorsal vertebra, but, on the contrary, it was augmented in the lumbar region. On the arachnoid, plates of ossification were observed, one of which was of distinct volume, in the superior lumbar region. Beneath the arachnoid

there was an abundant purulent exudate along the cervico-dorsal region, and there was some rare, scaly exudate in the lumbar region. By careful transverse section we ascertained that softening of the two upper thirds of the medulla existed; *atrophy of the left half* was very conspicuous, especially in the cervico-dorsal region.

THE THORAX.—Lungs, slightly hypostatic. The bronchi, hyperæmic. Heart, hypertrophied; atheromic patches on the aortic wall, and on bits of the tricuspid valves.

ABDOMEN.—Liver, congested; its size and consistence, normal. *Spleen*, rather voluminous and firm. *Kidneys*, of normal size; their glomerule and pyrimidal substance, injected. Nothing abnormal in the *gastro-intestinal tract*.

MICROSCOPIC EXAMINATION.—The histologic examination of the sclerosed parts (the atrophied convolutions, the cornu ammonis, the optic thalamus), made by Prof. Foa, showed in all these parts a notable augmentation of interstitial connective tissue; in parts of the sclerosed convolutions surrounding the fissure of *Sylvius*, numerous amyloid corpuscles were observed, and a great accumulation of white globules, especially around the blood vessels and the gangliar cells, which showed only much pigmentation. In the medulla spinalis connective sclerosis of the anterior horn, and very evident hemi-atrophy of the left half of the medulla, were observed, especially in the cervico-dorsal region.

#### REFLECTIONS.

The case we now have described, presents itself so clearly eloquent from the point of view of cerebral localization, as to require but few words to give prominence to its high importance. We shall therefore make only a brief survey of the several points of chief interest, and of the questions on which some light may be thrown.

FIRST. ATROPHY OF ONE HEMISPHERE.—The fact most conspicuous was the *atrophy of the whole right cerebral hemisphere*, which was continued into the cerebral peduncle, the pons, and the anterior pyramid of the same side, and passed thence, after crossing, into the *opposite half of the medulla spinalis*. This fact brought into rapport with the atrophy and the paralysis from infancy of all the left side of the body, proves once more the dependence of the *trophic and the motor* functions, not only on the medulla spinalis and the mesocephalon, but also on the *cerebral hemispheres* them-

selves; and it proves the crossing, lately brought into doubt by *Brown-Sequard*, of these functions, and hence, of the conducting fibres from the cerebrum to the parts innervated; finally, it shows the importance of the study of peripheral lesions, for recognition of the pathological state of the brain in persons of infirm mind. As we have already noted, the low weight of the encephalon in this case (g. 930) was very significant when dealing with an individual who had been imbecile from birth, and whose cranium, though not voluminous, yet did not indicate from its exterior, a weight and volume of contents so small; the circumference of the hemispheres was only 410 mm., whilst that of the cranium was 525—the difference being ascribable to the remarkable thickness of the skull.

SECOND. LESIONS OF THE MOTOR ZONE.—The importance of the case was furnished by the special localization of the lesion in the cerebrum placed in rapport with the special localization of the paralysis and the atrophy, and with the other prominent functional lesions. These were the convolutions which in the diseased hemisphere, were found atrophied and sclerosed in a remarkable manner, the *ascending parietal*, especially in its outer two-thirds, the *ascending frontal*, in its external third, and the foot of the *third frontal*. Confronting, then, a notable lesion of movements—paralysis and epilepsy in the limbs, especially the *upper*—we find an extensive lesion corresponding to the *cortical motor zone*. Assuming from the numerous experimental and clinical labors relating to the subject, within the last few years, especially by *Ferrier*, *Charcot* and *Pitres*, by *Maragliano*, *De Boyer* and by myself, in collaboration with *Prof. Luciani*, the special motor-function of the several parts which were especially lesed in this case, it may now be given as facts established, that:

(a) The *ascending parietal* is found in rapport, in its innermost and superior part with the motility of both the (upper and lower) limbs; in its *middle*, with that of the fore arm and hand, and in its *external* or inferior part with the facial muscles.

(b) The *ascending frontal* in its most *external* or inferior part, where the *third frontal* has its origin, is found in rapport with those movements of the lips and the tongue, which are destined to the pronunciation of words, a function which is also shared in by the most proximate portion of the *third frontal* itself.

Now, we may see in this case a perfect parallelism between the intensity of the lesion of movements and the gravity of the lesion in the motor zone; as, whilst the most grave anatomical lesion occupied the external two-thirds of the *ascending parietal*, where is found the center for the movements of the fore-arm and hand, exactly in the upper limb was seen the most grave lesion of movements, in the form of paralysis and contracture. It must also be noted that in this limb, whose cortical center was most profoundly lesed, the *epileptic accesses* usually commenced, in the form of aura and oscillatory movements of the fingers, and the convulsive movements were most usually limited to the left superior limb and the left side of the face; though sometimes they extended to the lower limb and pervaded the trunk. The paralysis of the face, whose center for movement is found in the inferior extremity of the *ascending parietal*, was also an important fact. This case splendidly confirms the diagnostic criterion

brought into light by *Hughlings Jackson*, and experimentally verified by ourself, to-wit, that from the region of the body where the convulsive movements commence, which open the epileptic access, we may, with security, *diagnosicate the cortical center primitively and principally lesed*, which is that corresponding to the group of muscles earliest, and sometimes uniquely brought into action.

We could cite a numerous series of clinical cases analogous to ours, in which the accord between the cortical lesion and the peripheral and functional, proves the exactness of the localization; but we shall limit ourselves to comparison of our case with one very similar, of spasmodic, infantile, cerebral hemiplegia, published by *Bourneville*, in which the paralysis, atrophy and convulsions prevailed in the left lower limb, and the first manifestation of convulsive movements was initiated in the left foot; here the focus of destruction specially occupied the *upper part of the ascending parietal and frontal*, where the existence of the psycho-motor centers for the lower limbs has been demonstrated; whilst in our case, in which the lesion was more grave, and the epilepsy commenced in the upper limb, the atrophy had seized the two inferior thirds of the parietal, where the center for that limb is found. It is difficult to find a more exact proof of the similarity of these two cases, through the exactitude of the topographic limitation in the human brain of the psycho-motor centers of the limbs.

**THIRD. LESION OF THE CENTER OF SPEECH.**—We do not believe that we need to spend many words in demonstrating the connection of the lesion of the most inferior part of the *ascending frontal convolution*, and of the foot of the *third frontal*, with the lesion of *language*, which was very conspicuous in *Veronesi*. The theory of *Broca*, so famous and so much discussed, which, since 1862, has located the seat of language in the third frontal convolution, could not find a more splendid confirmation than the recent experimental researches, which have shown that actually in this part the motor centers for the muscles of the lips and the tongue have their seat, that is to say, for the muscles principally destined for the pronunciation of words; so that on such researches and a numerous collection of clinical cases, I have been able in another work (*Physiology and Pathology of Language, Rivista, 1876*) to establish the fact, that in the cortical centers named, the *transformation of ideas and verbal images into motor impulse towards the muscles destined for their extrinsicication*, takes place. And now at length, after so many collected clinical cases and repeated experimental researches, this may be asserted to be one of the points of cerebral localizations on which no further question can arise. In the case of *Veronesi*, the alteration of speech was very palpable; arrest in the beginning and in the middle of words; in every tract of discourse, deficiency of impulse, or difficulty in its conduction, became evident. It was, therefore, a case of *verbal paralysis*, in which the relative cortical localization of the lesion found clear confirmation. Two circumstances, however, merit in this case some consideration: *q. s., the seat of the lesion on the right; and the destruction of the island.*

The monolaterality of the center of language, which has, by *Broca*, and many others, been located in the left hemisphere alone, whilst it

conflicts, as I have elsewhere shown, with the law of bilateral symmetry which governs the development of innervation in the series of the vertebrata, is then essentially contradicted by the facts which show that cases of lesion of the right hemisphere productive of aphasia are met with only in the proportion of one to four, in comparison with the left; so that the difference is reduced to a simple monolateral prevalence, which is explained as has been elsewhere (*Rivista*, 1872) amply shown by the law of the functional pre-eminence of the left hemisphere. The case of Veronesi is, therefore, a fresh confirmation of the fact, that lesions of the center of language, in the right side, also are capable of producing aphasia.

Must the absence of the convolutions of the island on the *right*, met with in Veronesi, be also put into connection with the alteration of language?

The idea sustained by *Meynert*, and next supported by *Wernicke*, that the island of *Reil* is the center of language, has, by us, under the authority of anatomical, clinical and anthropologic facts, been placed in a position which, in conformity to the facts, befits it; that is to say, demonstrating that the convolutions of the island are the path of transmission of motor impulse awakened in the cortical centers of language, in the lenticulo striate region, from which they are transmitted to the apparatus of execution. Hence, a destruction, so striking, of the island, in continuation of the lesions which occupied the motor convolutions of the phonetic muscles, cannot be regarded as a matter of indifference, in relation to the alteration of speech, which was observed in our patient. But here the question arises: "Was the absence of the island on the right a congenital or an acquired fact?" If acquired, did it date back to the remote epoch of the other lesions already studied, or was it the effect of a suppurative lepto-meningitis of certainly recent occurrence, which was shown in the cerebrum and the medulla spinalis, and which appeared to have been very intense in the right fissure of Sylvius? In truth, considering that all the other lesions, which undoubtedly were of ancient date, consisted in atrophy from sclerosis of the connective, whilst in the cavity of Sylvius there were evident signs of softening and destruction; and that in the interior of the cavity there was deposited, in great abundance, a sub-arachnoid purulent exudate, and that some patches of suppuration were seen adhering to the walls of the cavity, even after removal of the meninges, we might be induced to believe that there had existed a recent destructive process, in rapport with the suppurative process. But, on the other hand, if we reflect on the morbid phenomena presented by Veronesi in the last days of his life, and suppose that these may be placed in relation with the above process—for example: the right cephalalgia, the right auriculo-temporal pain, the malaise, the stupor, etc.—we should admit as of too short duration such a process, to be adequate to produce a destructive work of such a sort; and, furthermore, so rapid a destruction of parts destined to the function of language ought to have given a prompt and palpable alteration of that function, which, on the contrary, was not the case. It is then more logical to admit that the convolutions of the island had been affected by the same process of atrophy, to which the convolutions of the fissure of Sylvius had fallen a prey, a process whose morbid

results would be represented by the elevated sclerotic modules in the Sylvian cavity, where the convolutions of the island ought to have been found; but, as the recent suppurative process was found to have been very copious and intense in the interior of this cavity, the destruction may thus have been produced of those parts whose texture and function were so profoundly altered.

FOURTH. LESION OF THE OPTIC THALAMUS.—Another important fact was the atrophy and sclerosis of the *right optic thalamus*. It is well known how great a difference of opinion still continues with regard to the function of this great basilar ganglion. *Luys*, on the basis of anatomical research, makes it a center of pure *sensibility*, sub-divided into four special centers; the anterior, *olfactive*; the middle, *optic*; the posterior, *acoustic*; and the central deputed to *general sensibility*. Ferrier, who had, in sequence to its destruction, experimentally produced anæsthesia of the opposite side, held it as a center of conveyance, or an interrupting ganglion of the sensitive fibres, through which might pass all the fibres of the sensory nerves which have their origin beneath the cerebral peduncles. Fournier also admits, as the result of experimental researches, that all the sensory fibres go to terminate in the optic thalamus, where he would locate animal perception—an opinion which Duret and Carville approach, as well as Crichton Brown, who, resting on clinical facts, regards it as the center of general sensibility. Nothnagel, in a series of experiments, executed in the method of interstitial injections, has not found, in sequence to destruction of the optic thalamus, lesion of sensibility, nor of voluntary motility. Lafforgue, basing on clinical observation, excludes the relation of hemi-anæsthesia of cerebral origin with lesions of the optic thalamus, attributing them, instead, always to lesion of the posterior part of the internal capsule. Meynert, resting on anatomical researches, admits that in the optic thalami, the sensory impressions coming from the periphery are transformed into movements, so that the thalami would be automatic centers of reflex-unconscious movements, and would also stand in some relation with voluntary movements. Flourens, Longet, and more recently Schiff, basing on experimental researches, have attributed functions decidedly motor, to the thalami, and Lusanna and Lemoigne in their more recent experimental labors on the physiology of the nervous centers, have concluded that the optic thalamus, with its median fasciculus, is the center for movements of the arm and hand of the opposite side, an idea which might be supported by some clinical observations, and especially by one very conclusive of Rusconi.

Now, far from pretending to give to the case illustrated by us a decisive value, in a question so controverted, it is yet certain that it would come in support of the last opinion. In our case there was a very manifest lesion of motion, which resided specially in the superior limb; but there was not any lesion of sensibility (however accurately examined), either in that limb, or in all the left side, nor was there any appreciable lesion of the other senses; and yet the right optic thalamus was in a state of marked atrophy and sclerosis, which was in extension of the atrophy and sclerosis of the motor-convolutions. This process of atrophy, which commenced in the cortex of the hemisphere, was continued lower and

lower, down to the peduncle, then to the protuberance, and passing from the other side of the medulla spinalis, it gave source to the atrophy of the limbs of the left side, especially to that of the upper one, which was much atrophied and paralyzed, thus serving to represent a species of anatomical pathway of motor conduction nicely delineated by the morbid work; this process, in traversing the great cerebral ganglia, left the corpus striatum untouched, and it presented a very slight difference of volume, but it seized and gravely attacked the thalamus opticus. The conclusion might naturally follow that the motor-fibres which reach the limbs of the opposite side, especially the upper, pass through the thalamus, whether it be that it presents the sole pathway for them, or may be a true secondary motor center subordinate to the psycho-motor centers of the cortex.

FIFTH. SCLEROSIS OF THE CORNU AMMONIS.—Another important point for consideration in our case is the sclerosis of the cornu ammonis. The existence of this lesion in epilepsy was first demonstrated by French neurologists. Cazauvielh and Bouchet were the first who, in 1825, reported having, in eighteen autopsies of epileptics, found hardening of one or both of the cornua ammonis nine times. Foville mentioned this alteration as one of the most frequent in epilepsy. Bouchet reports having found it anew twelve times in forty-three autopsies. Lelut and Delasiauve record analogous facts. Meynert afterwards called attention to it, in describing twenty cases of atrophy and sclerosis of the cornu ammonis in epileptics. Holler found it in four cases, and Snell, in three cases, in one hundred autopsies of epileptics. Hemkes, in thirty-four epileptics, met with six cases of hardening and atrophy of one or both of the cornua. Finally Pflieger, within the last few months has reported having in forty-three autopsies of epileptics, met with twenty-five cases of sclerosis and atrophy of the part. Charcot, also, in his lectures on diseases of the nervous system, records a case of hystero-epilepsy, in which (besides softening of the convolutions about the fissure of Sylvius) bilateral sclerosis of the cornu was presented. Bourneville, in thirty-four autopsies of epileptics, made from 1866 to 1874 in the service of Charcot and Delasiauve, found the cornu ammonis hardened five times.

Calculating from the figures above cited the proportion of cases in which the lesion was met with, in comparison with those in which the record in this relation was negative, and excluding the cases of Meynert and Holler, who did not give the comparative data, we have:

	POSITIVE.	NEGATIVE.	TOTAL
Cazauvielh and Bouchet.....	9	9	18
Bouchet.....	12	31	43
Snell.....	3	97	100
Hemkes.....	6	28	34
Pflieger.....	25	18	43
Bourneville.....	5	29	34
	60	212	272

That is to say, we have the proportion of 22 per cent of positive cases.

But now, what relation exists between this lesion and epilepsy? And in the cases in which it was present, should the genesis of the epilepsy be



attributed to it? What relation has the cornu ammonis to the motor-functions?

If we examine the histology of this region, facts are found which may bespeak some relation between it and the motor functions. The researches of Meynert have shown that the unique cellular elements existing in the cornu ammonis are the grand pyramidal cells which he, because of this exclusivity, proposes to call the ammonic cells, and hence he holds the formation of the cornu ammonis to be a cortical stratum, generally of grand pyramidal cells,—a structure which is therefore analagous to that of all the central nervous regions, which are undoubtedly motor (the anterior horns of the medulla spinalis; the convolutions of the motor zone.—*Huguenin*). But physiological results do not as yet support the induction. In fact, the researches of Nothnagel, repeated more recently by Hemkes, have demonstrated that destructive and irritative lesions (by injections of chromic acid, or by puncture) of the cornu ammonis, do not produce any lesion of motion. Furthermore, the classic experiments of Kussmaul and Tenner, on "Epilepsy," have shown that, in animals in which epileptic convulsions have been experimentally induced, the ablation of the cornu ammonis caused no modification, either in the production or in the intensity of the general convulsions. It is well known, on the other hand, that the researches of Ferrier, on the sensory centers, have led him to admit in the subiculum of the cornu ammonis, the seat of taste and smell, because excitement of it produces movements of the nostril and the head, and its destruction, merely produces loss of smell on the same side, and of taste on the opposite side, whilst bilateral lesion causes the total loss of both senses.

Physiological researches do not then support a causal relation between lesion of the cornu ammonis and epilepsy. And yet Benedickt, holding the epileptic access to be essentially produced by circulatory disorders of the brain, regards (but only by way of induction, and without the support of experimental researches) the cornu ammonis as a vaso-motor center, from which the disorders of the circulation of the brain, productive of the epileptic access, take their start.

Meynert, however, although he held that lesion of the cornu ammonis was much more frequent in epilepsy than ulterior researches have demonstrated, did not attribute to it any signification other than that of a lesion consecutive to epilepsy, which might, instead, have its cause in some part far from the brain; and in this idea he has been followed by Hemkes, Rosenthal, Pflieger, and the majority of those who have engaged in the discussion.

Verily, if, outside of the experimental facts, above related, we reflect on the comparative inconsistency of this lesion in epilepsy (among the many autopsies of epileptics made by us, this, which we have described, is the first case in which we have met this lesion), and on the fact that it pertains not exclusively, to epilepsy since Pflieger found it evident in a paralytic dement, and in a hysteric case, whilst he met with adhesion of the anterior wall of the cornu ammonis, with the opposed ventricular wall in two cases of paralysis, and seven of senile marasmus, one might be led to regard, as probable, the opinion of Meynert.

But what as to sclerosis of the cornu ammonis in consequence of epilepsy? Hemkes and Pileger have realized, and our case is a confirmation of the fact, that this lesion is found only in cases in which the epilepsy has been of long standing, and in which the accesses have been complete, intense and frequent. Besides, cases not appertaining to epilepsy, in which Pileger has met with lesion of the cornu ammonis, offered in their symptomatology, central circulatory disturbances calculated to recall those observed in epileptic accesses; as, in the brains of epileptics, in which he had found hardening of the cornu ammonis, he had in this region frequently seen changes of color and consistence, extending also to surrounding parts. From all these facts, Hemkes and Pileger have been led to admit that sclerosis and atrophy of the cornu ammonis represent one of the local effects of a partial process of encephalitis, which may find their explanation in circulatory disturbances that are verified in the brain during and after the epileptic access; whose location in the cornu ammonis would be through a special disposition in it of the blood vessels.

In our case, the process of encephalitis, with atrophic sclerosis, was very distinct in all the hemisphere, and more especially intense in certain points, and it was evident that the lesion of the cornu ammonis represented only one of the diverse foci of localization of the morbid process.

SIXTH. PATHOGENESIS.—The causal dependence of epilepsy on sclerosis of the cornu ammonis, not then being in an actual state of sustainable science, the question now remains: To which of so many lesed motor paths should the epilepsy in our case be ascribed? The fact that the most grave lesion was found in the cortical motor zone, and the other parts noted, that the epileptic accesses in the fingers and in the arm, whose center was most profoundly lesed in the ascending parietal, might give to this case the value of a reconfirmation of the theory proposed by Luciani, to wit: that lesion, direct or indirect of the cortical motor zone, is always the essential moving agency of the epileptic process.

Among the many questions to which the study of this case might yet give place, the following is an important one: In the process of atrophy of the motor-paths, which began in the cortical motor-zone and passed to the muscles of the opposite side, what line of progression did the morbid process pursue? For the elucidation of this point we are totally in want of all historical data, as to the mode in which, in infancy, the diverse morbid phenomena of epilepsy and paralysis were presented. Nevertheless, considering that the highest degree of lesion was met with in the cortical zone, and precisely in the regions corresponding to the cortical territory of the Sylvian artery; also, that from the muscles innervated by the part most lesed in this zone, the access commenced; that permanent contracture of the limbs is always connected with consecutive sclerosis of the lateral cords (Chareot) and reflecting, finally, on the general advancement of spasmodic infantile cerebral paralysis, we may hold it as very probable that the central primitive lesion had produced the epilepsy and paralysis, and that the entire continued process of atrophy advancing along the motor paths, represented only the effect of the process of degeneration of all the lines of conduction of motor-impulse, which could not be sent forward by the

the lesed center. And pertinent to this view, Charcot and Issarties have demonstrated that the development of secondary degeneration in hemiplegia and hemi-epilepsia, is always connected with primitive alteration of the motor zone, and especially of the ascending frontal and parietal convolutions, whilst lesions of the occipital convolutions and of the anterior part of the frontal lobe, are never followed by secondary degenerations.

Finally, a recorded fact of some importance has been presented in the microscopic observance of the amount of white globules around the vessels and the gangliar cells in the parts of the sclerosed convolutions most proximate to the fissure of Sylvius. This accumulation was evidently in rapport with the greater intensity, in that region, of the inflammatory process and the suppurative exit which caused death.

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## Art. VI.--A Case of General Paresis.

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By IRA RUSSELL, M. D., Wichendon Highlands, Mass.

**A.** B., aged 59, a man of sanguine, nervous temperament, active business habits, who, from small beginnings, had accumulated an immense fortune, estimated at ten or twelve millions dollars, came under my care in July, 1877. He had been under treatment in a private asylum the previous fourteen months. From physicians whose care he had been under, and from Drs. Tyler and Walker, of Boston, and Choate, of New York, and from his family, I learned the following particulars in regard to his personal habits before the access of the disease and after he was taken sick: For years he had devoted himself unsparingly to his business, early and late—was very irregular about eating and sleeping. He engaged actively in politics—run for office—sometimes successful, sometimes defeated. Some two or three years previous to his coming under my care, his friends noticed that he had attacks of unconsciousness, lasting only for

a few seconds, or long enough to interrupt his conversation, but would immediately continue what he was saying as though nothing had happened. He became irritable in his temper imperious in his manner, and fault-finding with his associates. His appetite was poor, and he slept but little. In the spring of 1876, after engaging in an important and long continued business transaction, going without sleep and eating but little, he had an attack of acute mania and became so violent as to necessitate his removal to a private asylum, where he remained fourteen months. The acute symptoms soon passed off, leaving him with feelings of discontent and great dislike to all restraint.

Previous to the acute attacks, Dr. Walker had diagnosed his disease as general paresis. Having been placed under guardianship, he was removed to Wichendon, and placed under my care. I employed three intelligent gentlemen as attendants, two of whom were with him constantly. He was allowed all possible freedom, and, as far as possible, all signs of confinement and restraint were removed. He played billiards, croquet, bowled, went riding, boating, to concerts, fishing and parties, and everything was done to make his time pass pleasantly. When he first came under my care, although very active, walking and running with great agility, he had the hitch and shuffle in his gait peculiar to general paresis. His appetite was good, his sleep irregular and disturbed. He had illusions of sight, saw vermin on his clothes. He was easily excited, irritable and passionate, crafty and cunning. His memory was defective. He had notions of self-importance and his great ability, but not in relation to wealth, so common in this disease, and of which he possessed so much. He had slight epileptiform attacks, after which his speech would be affected and his gait less secure. During this time, when his friends called upon him, he would appear quite sane and talk quite rationally upon matters that happened years before. His letters were a medley of sanity, insanity and vulgarity; his hand writing was bad. During the first six months

he was with me, the change in his symptoms was slight.

In February his epileptiform attacks were more frequent and severe; his gait was more unsteady, frequently falling down; his mind was less active, his memory very much impaired. In May he was unable to walk or feed himself; lost all control of the sphincters and died July 3d, completely demented. July 5th, an autopsy was made by Dr. Moses G. Parker, and the morbid appearances were carefully noted by myself and Dr. Theo. W. Fisher, of Boston. The scalp was rather thick and anæmic. On removing the calvarium, the bones were quite thin and the marks of vessels were deeply impressed upon the inner tables. The diploë congested. Dura-mater not very adherent. There was a general and marked cloudiness of arachnoid over frontal parietal and temporo-sphenoidal lobes. The brain weighed 53 ounces; the cerebrum, 46 1-2, the cerebellum and oblongata, 6 1-2. Five ounces of bloody serum flowed from the cranial cavities. Sub-arachnoid effusion, moderate; small vessels distinctly traced. There was shrinking and flattening of the convolutions of the anterior lobes. The effusion and opacity were limited to the frontal and parietal lobes. The other organs of the body were examined and found healthy, except the heart, which was enlarged and fatty.

The brain was put in alcohol and taken to Boston by Dr. Fisher, for further examination, who makes the following report, together with a report by Dr. S. G. Webber:

\* \* \* In the afternoon of July 5th, it was examined superficially with the assistance of Dr. Webber. The alcohol had somewhat obscured the appearances above described; we found, however, a moderate amount of wasting over both frontal and parietal lobes. On the *right* opacity extended backwards to the perpendicular fissure, following it downwards and forwards to fissure of Sylvius, which it followed to the base of the brain. Opacity, greatest over fissure of Sylvius, lower part of fissure of

Rolando and vertical frontal fissure, over anterior portions of first and second frontal convolutions and along the medial border of hemisphere. We found on the *left*, opacity a little posterior to that on the right, but rather less marked in degree. It was greatest in the before mentioned localities, which correspond for the most part to the course of the larger vessels as well as sulci. The veins were full, but not excessively injected. At the *base* we found opacity marked along the fissure of Sylvius, *processus uncinatus* and *gyrus hippocampus* at anterior extremity; also, along olfactory bulbs and over the first and second frontal convolutions. Occipital lobe and external portion of temporal lobe free from opacity. No marked atrophy at the base. This applies to both sides alike.

We found and located seventeen small extravasations (see diagrams): (1) On the *right*, at the *base* for one-eighth of an inch on each side of third temporal fissure, and extending two inches in length, was a spot of blood under the pia-mater. (2) About the middle of the second temporal convolution, a spot three-quarters inch in diameter. (3) In same convolution, a little anterior to last, a spot three-quarters by one-quarter inch bordering on first temporal fissure. (4) At lower portion of ascending frontal, a small spot one-quarter inch in diameter. (5) About the center of the second frontal convolutions a small stain. (6, 7, 8, 9) At extreme anterior portion of the first frontal, four small spots. (10) Posterior to ascending parietal at median fissure, a spot three-quarters by one-half inch. No spots on *left* side at *base*. (11, 12, 13, 14.) At anterior extremity of frontal lobe, involving first, second and third frontal convolutions, a row of four small spots. (15) A large spot three-quarters by one inch, on both sides the fissure of Rolando at its lower part. (16) At anterior part of temporal lobe, bordering on the fissure of Sylvius opposite its bifurcation, a small spot. (17) On *gyrus fornicatus* an inch behind the corpus callosum, a small spot.

Dr. Webber removed some portions for microscopical examination, his report of which is enclosed. The brain was then immersed in nitric acid, one part; water, nine parts, and allowed to remain four weeks. August 3d, it was removed and carefully stripped of its toughened membrane, which separated easily, coming out from the sulci and leaving a clear yellow surface of the hardness of new cheese. At various points could be seen, by careful inspection, shallow erosions with ragged edges, where a very thin film of the cortex had been removed with the membranes. They were all on or near the summit of a convolution. Some were so faint as to be doubtful, but we made out and located twenty-five or twenty-six as shown on a sketch of the convolutions, as observed in this case. These are quite irregular, and differ much from a typical diagram; most of the convolutions can be made out however. There were no adhesions at the base, nor so low down at the sides as not to be included in a single view from above. On the *right* they follow the median fissure along its anterior two-thirds. The largest are at the upper part of the ascending parietal and frontal convolutions, and along the first frontal to its anterior extremity. On the *left* they follow the fissure of Rolando on both sides, a large one being seen at the head of the ascending frontal; another at middle of ascending parietal; then in lower parietal lobule; five or six lower down in ascending frontal, and one each in first and second frontal.

At the second examination the extravasations had disappeared; but it will be seen that they do not correspond to the adhesions, and with the exception of 4, 5 and 15, are outside the motor region of Ferrier. These correspond to Ferrier's numbers, No. 9 and 10, lips and tongue; No. 12, lateral motions of head and eyes, elevation of eyelids, and dilatation of pupils, and No. 7 and 8 and A, elevation and depression of angle of mouth and motions of hand and wrist, respectively.

The erosions on the *left* correspond: 1, to Ferrier's No. 2, 3 and 4, complex motions of arms and legs; 2, to No. 6, biceps, *i. e.*, supination and flexion of forearm; 3, to No. 7 and 8, el. and dep. ang. of mouth; 4, to a, b, c, hand and wrist; 5, to No. 13, the center of vision; 6, to No. 12, lat. motion of head and eyes, elev. of lids and dil. of pupils. On the *right* they correspond, 7 and 8, to No. 2, 3 and 4, arms and legs; 9, to No. 5, arm and hand; 10, to No. 12, see above; 11, to a, b, c, hand and wrist. Ferrier's centers are all accounted for except No. 1, leg and foot; No. 9, 10 and 11, where there was an extravasation; and No. 14, hearing.

Having thus placed the facts before you, I leave you to draw your own inferences. I am in some doubt whether the extravasations were not post-mortem, due to accidents in removal of brain. There was no gross lesion in the interior of brain, to account for death, and if, as I hear, there was a fatty heart, death after convulsions would not be remarkable.

Very respectfully,

TO DR. IRA RUSSELL,  
Winchendon.

THOS. W. FISHER.

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BOSTON, August 7th, 1878.

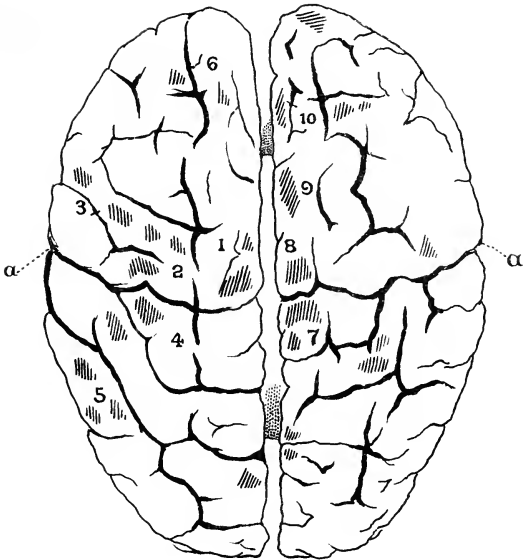
Dear Dr:

Dr. Fisher asked me to examine the brain microscopically. I found around many of the blood vessels, granular blood pigment. I found that many of the nerve cells were strongly pigmented, and that many contained fat granules without pigment. These changes were rather more marked in the anterior portion of the frontal lobes than in the motor region. The convolutions about the central extremity of the fissure of Rolando contained amyloid corpuscles; the large cells in these convolutions were strongly pigmented.

Under the pia-mater, in several spots, especially where there was most opacity, were collections of leucocytes.



EROSIONS.



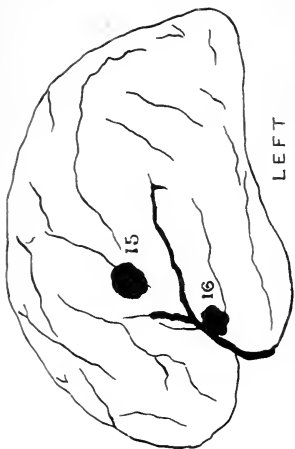
LEFT

RIGHT

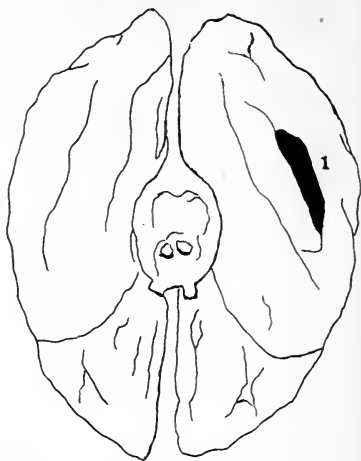
POSTERIOR

α FISSURE OF ROLANDO

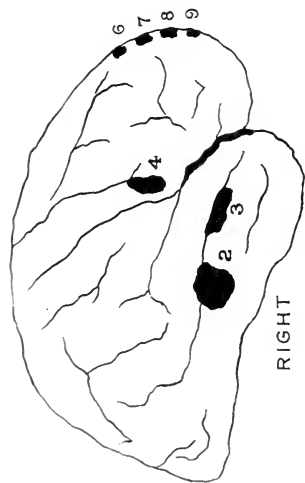
# EXTRAVASATIONS.



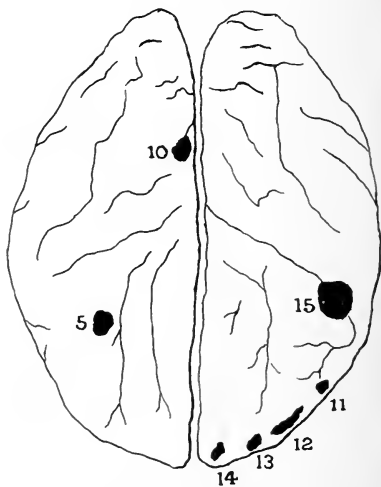
LEFT



LEFT



RIGHT



RIGHT

LEFT

ANTERIOR.

My method was to take small pieces out of various regions, or to make slight incisions and take small sections out of the cortex; these were teased apart and the cells thus examined. As it was desired to examine the adhesions, I could not take any portion to harden.

Yours Truly,

S. G. WEBBER.

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REMARKS:—I am under great obligations to Dr. Fisher for his careful and thorough examination and report of the morbid condition of the brain. The lesions observed correspond very nearly with those observed by J. Crichton Browne in the cases of general paresis, reported by him in vol. VI. of "West Riding Lunatic Asylum Medical Reports;" viz.: "The uniformity of inflammation of the membranes of the anterior lobes of the brain, and adhesions of the same in spots to the apices of the convolutions, the cortex beneath being more or less affected. Dr. Browne and others express the opinion that the lesions found and the symptoms manifested during the progress of the disease verify the localization of function as taught by Ferrier."

I give the order in which the psychical and motor symptoms appeared in the above case:

*Psychical.—First.*—The first abnormal symptoms noticed by the family of A. B. were general restlessness; intense application to business; irritability of temper; change of disposition, and less regard for the proprieties and moralities of life.

*Second.*—Extravagant ideas and desires, with self-exaltation.

*Third.*—He had an attack of acute mania after a prolonged, harrassing and important business transaction—recovering from it.

*Fourth.*—He had impairment of memory, especially of recent events, and forgetfulness of persons and names.

*Fifth*—Extreme willfulness and unwillingness to be controlled, and general discontent, with occasional attacks of maniacal excitement.

*Sixth*.—Hallucinations of the senses of sight and hearing.

*Seventh*.—Good nature, mental weakness, dementia, coma and death.

*Motor Symptoms*.—*First*.—An excited manner of walking.

*Second*.—A pleased expression to the countenance, caused by the contraction of the occipito-frontalis muscle.

*Third*.—A fibrillar motion of the tongue; irregularity in the pupils of the eye; a tremulous movement of the chin and lips.

*Fourth*.—Loss of co-ordinating power of the hands (as shown by hand-writing), and a hitch or shuffle in his gait.

*Fifth*.—Alteration in the voice.

*Sixth*.—And lastly, a general paralysis of the arms, legs, and sphincters.

## Art. VII.—The Organization of Hospitals for the Insane.

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*The Propositions of the Association of Medical Superintendents of American Hospitals for the Insane.—Continued.*

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By JOHN CURWEN, M. D., Harrisburg, Penn.

**I**N institutions of a corporate character, either public or private, it has always been found proper and expedient to delegate certain power and authority for the general direction of the affairs of the institution to a given number of individuals, under the general name of trustees, managers, directors, or similar titles indicating the nature of the duties which they are expected to perform. These duties are generally of a mixed character, requiring the oversight of the financial affairs and the appointment of certain executive officers to whom are committed the immediate direction of certain classes of duties.

In institutions of a more directly charitable character, it is incumbent on them to see that the special design of the institution is fully carried out in accordance with the specific objects of its creation; and in all institutions for the care of the insane, the primary duty is to insist that the medical, moral and hygienic, treatment which has been found by experience most in accordance with the greatest relief, comfort and restoration of the patients, be carried out in the most thorough manner, regardless of all considerations, except the welfare of the insane themselves.

What then should be the character of those to whom such a high trust should be committed?

This question seems very fully answered by the following propositions of the Association:

1st.—The general controlling power should be vested in a board of trustees or managers; if of a State institution, selected in such a manner as

will be likely, most effectually, to protect it from all influences connected with political measures or political changes; if of a private corporation, by those properly authorized to vote.

2d.—The board of trustees should not exceed twelve in number, and be composed of individuals possessing the public confidence, distinguished for liberality, intelligence and active benevolence, above all political influence, and able and willing faithfully to attend to the duties of their station. Their tenure of office should be so arranged that, where changes are deemed desirable, the terms of not more than one-third of the whole number should expire in one year.

Nothing, at first sight, appears more desirable in all such institutions than to keep them free from all political management or control, and yet events within the last few years have shown most conclusively that in certain sections of the country this principle has been entirely disregarded; and the officers, from the lowest to the highest, have been selected with special reference to their political relations to the party which chanced to be in power, and, should a change of administration in the State take place, every officer must be displaced to make room for, and reward, those of the party which was at the time in the ascendant, demanded, as the phrase is, "by the exigencies of party."

Any party which cannot recommend itself to the sound sense of the community by any other course than by dragging institutions for the insane and the defective classes generally, into the slough of politics, ought to cease to exist or have any control in public affairs.

That this whole proceeding is essentially and radically wrong is admitted even by those who practice it, in the excuses which they make to justify it; but no justification can ever be made for that which is fundamentally wrong, and, in its tendency, injurious to the best interests of those who are the wards of the State, and, therefore, fully entitled to the best which the State can give them. No man need to be told that it is impossible for an institution for the insane to be managed for the greatest welfare of its inmates when its officers are displaced with every turn of the political wheel. It requires time and careful study for a man to understand all the varieties

of mental disorder in any institution, before he can be said to be qualified to give proper direction to the treatment; and to be displaced just when he has gained such information is a flagrant wrong done to the insane themselves, unless the principle is avowed, which, in these latter times, seems in some quarters to have obtained official sanction, that the more experience a man has the less he is qualified to minister to the treatment of the insane.

The phrase in the proposition, "above all political influence," means that they should be men so imbued with a sense of duty, so highly "distinguished for liberality, intelligence and active benevolence" that they will be far removed from all political motives to influence their management, and will have an eye single to the best interests of the insane, and that alone.

It is unquestionably true that such men do not push themselves forward for such places; but that is no reason why the appointing power should not seek them out and give them, in all cases, the preference, to those who seek the position for some fancied advantage in one way or other which they think it may give them.

That man is of the class required, and very much needed too, who, though for years connected with the management of large hospitals, would never consent even to take a dose of medicine, if he required it, without paying for it at once.

They should also be men "possessing the public confidence," to inspire the minds of the community with the conviction that they will administer the trust committed to them in a high-toned and honorable manner, free from all private piques and resentments, with no desire to serve personal ends or purposes, and possessing that amount of leisure, or, if engaged in business, willing to take that amount of time, which will fully enable them, and that degree of philanthropy which will qualify them "faithfully to attend to the duties of their station." They

should also be selected from as extensive a section of the country, for which the hospital is designed, as can be done, so as to give a full representation to every part, and not have them confined to the immediate neighborhood of the institution.

In some States the law requires "that no two members of the aforesaid board of trustees, or directors, of said institutions shall be residents of the same county, nor shall more than one trustee or director aforesaid reside in the county where said institutions shall be respectively located."

The official explanation of that clause is, that they shall not be able to influence the patronage or purchases of the institution to their own advantage, or to that of their friends; and, in many States, the law expressly forbids any trustee or director to have any interest, directly or indirectly, in any purchases made for the institution, or furnishing any articles of any kind.

The number appointed to the charge of any institution will, of course, vary in different sections, but it seems desirable that it should reach that number which will most fully represent the whole section in which the institution may be located (not exceeding twelve), and not throw too much labor on a few men who may be willing to perform their duty most fully and most patiently, and in a manner to give entire satisfaction to the community they are called upon to represent; and when changes are by the terms of their appointment, or from any other cause, required, so far as possible, the same men, or men of the same high tone of character, should be appointed so that familiarity with the duty may enable them to perform those duties with the greater facility and advantage to the institution and to the community.

They should also be men of steadiness of aim and purposes, not inclined to fall in with all the crotchets and fancies of the would-be reformers and philanthropists, who care more for the success of some favorite scheme or



project than for the welfare of the insane, and who lack in the composition of their own character that ingredient of charity, "which thinketh no evil," which they are so anxious should be infused into the character of all connected with the care of the insane.

What is most needed at this time is calm, cool judgment, sober reason, and a steady adherence to just and correct principles, which have been established by extended experience, and found by the most careful and rigid observation to be what is most needed in the management of all our hospitals for the insane.

"A little learning is a dangerous thing,  
Drink deep or touch not the (*Pinelian*) spring."

If all men appointed to offices of trust and management in institutions for the insane were animated with the indomitable spirit, calm faith, cool courage and steady perseverance in high aims and noble purposes of Philip Pinel, the community would never have cause to complain of the management of any institution for the insane in this or any other land.

3d.—The board of trustees should appoint the physician, and on his nomination, and not otherwise, the assistant physician, steward and matron. They should, as a board or by committee, visit and examine every part of the institution at frequent stated intervals, not less than semi-monthly, and at such other times as they may deem expedient, and exercise so careful a supervision over the expenditures and general operations of the hospital, as to give to the community a proper degree of confidence in the correctness of its management.

The reasons will be given in full for the manner of appointment of the physicians, and those subordinate to him, when the next proposition claims consideration, as it is desirable to confine the present discussion to the character and duties of trustees.

No duty of a trustee of a State hospital for the insane is more neglected than that which requires them "as a board or by committee to visit and examine every part of the institution, at frequent stated intervals, not less than semi-monthly, and at such other times as they may deem expedient," for in this way only can they become properly and thoroughly acquainted with the interior

management of the institution. No better rule can be adopted than that regularly and systematically carried out by the trustees of many incorporated institutions of visiting the wards of the hospital regularly every week, and seeing and knowing the actual condition of every patient; and by the knowledge thus obtained, they will be able to say that all the inmates are properly cared for, and, also, properly inmates of the hospital, and not, as is so frequently alleged, kept there to gratify the personal animosities of friends and relatives.

(It may not be amiss, in this connection, to call attention to a remark made in an address of Lord Shaftsbury, Chairman of the English Commissioners in Lunacy for nearly forty years, that the parliamentary committee appointed in 1879, to examine into the condition of the insane in England, after repeated meetings extending over many months, and the examination of every one who expressed a desire to appear before them and of many who did not wish to appear, found that of 188,714 insane in the different institutions for the insane in England, not one had been wrongly or unjustly confined). By such knowledge also the trustees are better able to give advice and counsel to those in charge of the hospital, which will aid them in the execution of their duties, and assist them in the various trials and perplexities of their position, and not rely on the reports made by subordinates in the institution, who too often color what they say in such a way as to place the superintendent in a false position, by endeavoring to excite prejudice against him.

By such visits, and careful examination also, they are much better prepared to exercise "so careful a supervision over the expenditures and general operations of the hospital," as to show and be convinced that such expenditures are just and needful. Many expenditures which, at the first view, seem unnecessary are found, when carefully examined, to be not only correct and proper, but greatly to conduce to the welfare of the patients; and the sanction of such expenditures by the trustees

removes what might otherwise be an unjust assertion or reflection on the superintendent.

No superintendent will ever feel inclined to complain of any criticism on his management, dictated by a full knowledge of all the facts derived from full and careful investigations; but everyone will, with justice, complain when those criticisms are founded on information derived from subordinates, who have no just perception of their own duties, and who perform what they think are their duties in a careless and indifferent manner, and are roused to resentment by the enforcement of the rules requiring them to attend to their duties in a more correct and satisfactory manner, and whose misrepresentations are in proportion to the extent in which they have failed to comply with what was required of them.

It is not too strong a statement to make, that every trustee will better perform his duty to all connected with the institution, if he will consider clearly how he would like to be treated if he was in the position of those whose conduct he may be disposed to criticize or condemn.

"The members of a board of trustees, performing their duties properly, are always able to exercise a most important influence on the prosperity of any institution, and on the welfare of its inmates; and they may also by injudicious measures, or a want of interest in its affairs produce effects of an entirely different character. While giving the strictest attention to their own appropriate functions, they should most carefully avoid any interference with what is delegated to others, or meddling with the direction of details for which others are responsible. Especially should they avoid any personal interest in subordinates that might lead them to a course that would weaken the authority of the principal of the institution. It would, indeed, be a safe principle to adopt, that there should be no ties of a personal or pecuniary character, between a member of the board of trustees and those who are employed in any of the departments of an institution, which could, at any time, prevent an unbiased judgment in a case of difficulty. Under no circumstances should a trustee so far forget the proprieties of his station as to resort to subordinates for information that should come from the principal—or to circulate unfavorable reports in regard to the institution without first having informed this officer of their existence and tendency, and learned from him the truth or falsehood, as well as the reasons which may have induced acts, which, although correct in themselves, might, without proper explanation, be readily so misunderstood as to do great injustice to innocent parties.

"Board of trustees whilst exercising the strictest, honorable scrutiny of their officers should be prepared on every proper occasion to give them a steadfast support in the performance of their arduous and responsible duties. They can thus add especially to their power of doing good. It is a great encouragement to those who are engaged in this vocation, to find their efforts properly appreciated by those to whom they are directly responsible, and who ought to be most familiar with their modes of management and the beneficial results of their labors."—*Kirkbride*, 1854.

The following extract is given from a paper read by that highly accomplished and distinguished alienist, Dr. Isaac Ray, before the Association, in 1873, and published, at its request, for circulation among the members :

"The Good Director hath accepted his office, not solely as a token of honor, or of kindness, or to be an ornamental appendage to a list of other names, but as a field for active, intelligent, useful work in the service of humanity. He taketh its duties upon him, determined to discharge them to the best of his ability, and to allow no flimsy excuse to turn him from their regular performance. He is deeply interested in the welfare of the unfortunates, for whose comfort he hath made himself in some measure responsible, and is distressed by none of those delicate sensibilities which are offended by the sight of misery. While he patiently listeneth to their complaints, he formeth no judgement and maketh no promise until enlightened by farther inquiry ; because he is sure there is a reason for whatever is alleged in spite of appearances, and he is bound to know what it is. However reasonable the patient may appear, he never forgetteth that circumstances may render compliance with his requests, prejudicial to his best good. His protestations that he was never insane, but only the victim of malevolence ; or that he is ill-used by attendants and doctors, and subjected to all manner of hardship, disturbeth not the even balance of the Good Director's judgment and feelings. He declineth to carry messages to or from the patients, as well as invitations to this or that person to visit them. He maketh no promises, hastily or incautiously, but when once made he faithfully performs them. His stated visits are never omitted except for the most imperative reasons. He would sooner allow his note in bank to go to protest than to let such an omission appear on the records of the hospital. He confineth not the visits to stated periods, but maketh many informally and without notice. In this manner he seeth the hospital in various aspects, and extendeth his knowledge of its operations. He thus learns to distinguish what is accidental and temporary from that which is habitual and systematic. He seeth, in some degree, how its results are obtained, as well as the spirit which guides and governs its movements. In this way he learns to appreciate justly the labors of the officers, the difficulties they are under and the trials they sustain. He thus learns also how far their shortcomings proceed from incompetence, and how far they may be attributed to the peculiar nature of their duties. He entertaineth a higher notion of his office than to suppose that its sole object is the discovery of faults or occasions of criticism, and

so his visits are not made in the spirit of a detective on the track of an old offender, but rather of an earnest and judicious friend prepared to discriminate wisely, and to commend and encourage whatever is indicative of zeal, industry and intelligence, high aims and study progress. He esteemeth it a privilege and a blessing to aid, by all the means in his power, in this signal service of humanity, and yieldeth no grudging support to the superintendent in his plans of improvement. He regardeth it as no part of his duty to interfere with any work that properly belongs to the superintendent, well knowing that such interference is sure to create ill feelings, to impair responsibility and frustrate the object sought for.

When the public is alarmed by stories of wrong doing, he is ready to say on the strength of his own personal knowledge, that such stories are without any other foundation than that of a distorted reason or depraved imagination. And so when the wrath of men is kindled, and the public clamor is loud, he is never led by lack of knowledge or of honesty to cast off all responsibility, and make a scape-goat of the superintendent. He resteth on the conviction that the latter is right, and waiteth serenely for the better judgment of the future. Much as he is attached to the hospital, he never persuadeth himself that it is exempt from deficiencies, and, in all things, worthy of imitation. On the contrary, he believeth that no work of mortal hand or head is beyond the reach of improvement, and, so thinking, he visiteth other establishments, in the hope of finding something that may be profitably adopted at home. All *nil admirari* feeling is left behind, and whatever meets his notice is viewed in a teachable disposition.\*

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## Art. VIII.—Experts and Expert Testimony.\*

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By JOHN B. CHAPIN, M. D.,

SUPERINTENDENT AND PHYSICIAN OF WILLARD ASYLUM FOR THE INSANE,  
WILLARD, N. Y.

IN presenting the subject which forms the title of this paper, it is not the intention to attempt to clear away the difficulties which are conceded to surround it. It is the purpose to offer, for your consideration, some propositions which may promote discussion, and an interchange of views, which will, in the end, solve the recurring problem, viz: The conditions which are essential to enable a witness, called into court in the capacity of an

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\*Read before the Association of Medical Superintendents of American Asylums for the Insane, May, 1880.

expert, to appear in such a manner that his independent judgment may be secured, and that it may be presented free from bias or the suspicion of its existence.

The practice of the courts is to admit the testimony of a class of witnesses who are not supposed to have personal knowledge of any facts or circumstances bearing upon a pending case, but, on the assumption that they are able from their special training and experience to apply scientific tests and present to the court and jury the import and value of such evidence as may appear, which laymen could not be expected to comprehend and properly estimate. The expert witness may be said to be tolerated by the courtesy, and usages of the practice, of the courts. He cannot have any other standing. That he can be compelled to furnish any testimony against his inclination is not clearly established. He has nothing to offer but his opinions or scientific deductions, which may, or may not, in the estimation of the court and jury, have an appreciable value.

According to the statutes and common law, a person of unsound mind is not in a fit state for punishment, to enter upon his defense, or, responsible for his acts. The opinion the medical expert offers has reference to the quality and quantity of mind at the time of the commission of a crime, or when some transaction took place about which a question may arise. The opinion which is presented can hardly be said to have been formed from a circumstantial knowledge of the occurrence, or, as the result, in all cases, of a personal examination.

The true mental condition of the party involved is a question of fact, like other facts pertaining to the guilt or innocence of a person charged with crime, to be determined by the verdict of a jury. This method must stand until some other process of adjudication shall be accepted. To this tribunal the medical witness offers his opinion, not as he may have formed it from the whole of the evidence adduced, but, upon an assumed, or a hypothetical case embracing as much of it, and omitting as much,

as may serve the purpose of the examiner. Courts are not disposed to remit to other tribunals the determination of issues of fact, for there "would be nothing left for the jury to determine." So carefully guarded do the courts seek to preserve the sacred province of the jury, that the medical expert, in cases where the issue is the mental condition of the party involved, is only permitted to express an opinion upon a hypothetical question, or an assumed case.

In the language of a learned judge :

"A question of this character to be admissible must always be an hypothetical one, based either upon the truth of all the evidence given in the case, or upon an hypothesis specially framed of certain facts assumed to be proven for the purpose of the inquiry. Such a question leaves it for the jury to decide in the first case whether the evidence in whole or in part is true or not, and in the second case whether the particular facts assumed are or are not proved."\*

Assuming this dictum to be the settled practice in conducting judicial inquiries of this nature, hypothetical questions to be propounded to medical witnesses are prepared by counsel representing opposite theories of the case, and calculated to elicit replies entirely different. Counsel confer beforehand with medical men, summoned in the interests of their clients, in the preparation of the questions. By a process of ingenious aggregation, or elimination of symptoms, answers, favorable to either view of the case, are elicited, or such a congregation of circumstances presented so deficient in essentials, that the witness is unable to express any opinion.

While the courts are disposed to insist that the basis of the hypothetical question shall embrace conditions that have been developed in the course of the investigation, there is a radical defect permitted in their formation in this respect, that the hypothesis does not embody all the medical history, neither is the medical witness allowed to frame a case which will embrace a complete history of it. The witness is present to answer questions, and not,

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\* *Carpenter vs. Blake*, 2d Lansing, New York.

as he may be informed, to deliver a disquisition on medical science.

The hypothesis which is presented contains just so much of the case as will elicit an answer or opinion favorable to the party in whose interest it is framed. The courts do not insist that it embrace more, but that what it does contain shall have appeared in evidence in the course of the trial. The answer to the question comes, sometimes, with the automatism of a machine. We have known the medical witness, impatient at the tedium of a protracted trial, request that he might record his "aye" and "nay" in response to the hypothetical questions as they may appear, and that he be allowed to depart. If the questions are skillfully framed the experts usually agree in their replies, otherwise they appear ranged on opposite sides offering opinions that are contradictory. The spectacle is presented of the uncertainty of medical judgment and science, as well as of men, who ought with like premises to reach conclusions precisely similar, expressing opinions in conflict with each other.

It is not a matter of surprise that courts have announced from the bench that medical men might be better employed at home, in attendance upon their patients, and, that doctors are respectable men in their way,

"Who are called to administer to our ailments, but we are not bound to believe their opinions unless they are compatible with sound sense: doctors give opinions which are merely speculative. They have their theories and speculations. You (gentlemen of the jury) are not bound to believe the opinion of a doctor unless it comports with your common sense."

It is undoubtedly true that many cases are presented for judicial investigation which are beyond the domain of actual determination—subjects of mere opinion, uncertainty and speculation, to be determined only by results. Juries, on the other hand, have furnished too many unfortunate instances of the extreme assertion of their prerogative in cases, within the knowledge, doubtless, of many here present, where they have ignored the expression of professional opinions, which were founded on actual



experience, and should be received with all the weight to be attached to the testimony of facts bearing upon the case.

How opinions that are merely speculative and theoretical are to be discriminated from those formed from actual professional experience it may not be easy to determine. It must be admitted that a real difficulty arises at this point. Possibly a recognition of this difficulty may have induced the judge, whose language we have quoted, to advise the jury, in the dilemma and amidst the conflict of professional opinion in the mazes of which he found himself involved, to adhere to and exercise their common sense.

We have alluded to the fact that the practice of the courts is to admit a class of witnesses known as experts, and that the physicians of asylums, and others who have relations with the insane, are in a position rendering them liable to be called to give testimony in certain cases. They are also subjected to a line of examination, which, while established by the usages of the courts, is not in harmony with the course of inquiry recognized by medical men and believed by them to be the method best calculated to reach a correct opinion. They are not always willing witnesses. Sometimes they attend on request, and, again they are present in obedience to the commands of the court.

Such briefly being the practice, it remains to consider some of the results, one of which may be stated to be a growing distrust of the value, and, we may say, the honesty, of expert testimony. Want of confidence exists not only towards medical experts, but towards experts in sciences reputed to be exact. It is only necessary to point to some recent trials to assert that the want of confidence and distrust are confined not wholly to judges and jurors, but, to a certain extent, prevade the community. This sentiment has its origin in various causes, among which may be mentioned:

1st. The fact that medical experts are usually summoned by counsel,

and not by the court, in the interest of their side or clients, and their supposed liability to have a bias arise in the progress of the case—a possible risk that their feelings and sympathies may become enlisted in behalf of the side on which they are called.

2d. The arrangement which is sometimes made for the payment of money, or a retaining fee to medical experts for their services, by counsel in whose interests they are summoned, the amount of which is not fixed by law, and which may possibly be contingent upon the issue of the case.

3d. The form of submission of the hypothetical question, which is permitted to contain a portion, and not the whole, of what a physician may deem essential to the formation of a satisfactory opinion, or so much as may be necessary to bring an answer favorable to the interests of one or the other parties, and,

4th. The general prejudice which exists in the popular mind against the interposition of the plea of insanity in criminal cases.

There may be a difficulty about the adoption of any new rule for the selection of witnesses other than the one in force. It cannot become a question but that under the present practice counsel have a right to summon such, and so many witnesses as may be admissable, or that a person charged with crime may avail himself of any proper line of defence at any stage of the trial, and for this purpose call witnesses. There is no doubt, however, that the results which we have pointed out, are in great part to be attributed to the existing practice. As a profession, we have the right to protest, and to ask that a mode of procedure calculated in its operation to bring discredit upon the profession, be changed. To effect a change, legislation must be invoked to alter the practice so that the law confer upon judges alone the power to subpoena experts in such cases where their opinions would seem to be desirable. There can be no doubt the power thus conferred would be exercised wisely and result in elevating the standing and character of expert testimony, and, what is more important, restore to experts that independence of judgment and respect for their opinions we do not believe they enjoy under the present system. No suspicion of bias could then properly attach to them. They would then assume their appropriate and originally-intended relation to the court, that of *amicus curiæ*.

It has been urged, as a defence of the present, that

each party in interest is entitled to have as full an exposition of expert knowledge as can be brought forward to serve the respective interests—that, in other words—medical experts should be permitted to say as much as possible in behalf of the cause in which they are engaged, and as little as possible as may serve the opposite party. The course is hardly admissible, as it ignores the true position of the expert and converts him into that of a *quasi* counsel.

The physician, by actual study and experience, acquires knowledge and matured judgment, which is peculiarly his own property and capital, the independent use and enjoyment of which ought to be as fully assured to him as if the avails of his life-work were invested in goods and land. His goods and land cannot be taken from him without his consent or some process of law, and his proprietary right to his professional experience ought to be as sacredly guarded and secured to him.

If the knowledge and experience of the expert is a necessity, and if the principles laid down above are correct, he should unquestionably be paid for the service he renders. Ought the compensation to be the subject of a private bargain between the expert and parties interested in his testimony, or be fixed in a manner authorized and provided by law? Certainly, whatever plan will elevate the expert witness above all suspicion of bias, and conduce to his independence would seem the more desirable one—indeed, the best. The witness appears before the court and jury to submit his opinion on a hypothesis, the elements of which are made up from evidence already adduced. He is not a juror, but a *quasi* juror. Extreme caution is taken that jurors themselves shall have no pecuniary relations with parties interested in the result of the trial, and penalties are imposed for the violation of a rule intended to preserve the purity of the jury-box. It would, therefore, seem to be the proper and obvious course to authorize and direct the court in all cases where experts appear, to fix and determine their compensation, in its

discretion, and, if deemed necessary to go further, prohibit, by positive enactment, the reception of any gift or compensation for expert services directly from parties interested.

The composition of the hypothetical question, and the time of its submission, have been alluded to as causes tending to bring discredit upon expert testimony. They are believed to exert a decided influence in that direction. The expert testimony is introduced at successive stages of a trial, and, if the question is so framed as to include, generally, what has been produced in evidence to a certain period of the trial, it necessarily embraces but a portion of the whole case. The consequence is, that, at one stage of the trial, a hypothesis will admit of one answer by an expert, and, at a subsequent stage, another hypothesis framed from additional evidence warrants another, and exactly opposite answer. There is presented an apparent conflict of professional opinion between "two trained bands of witnesses in battle array against each other," with the possible and probable result of lowering, in the estimation of the court and jury, the value of the whole expert testimony. We know of no remedy for this except it may be found by changing the rule, and permitting experts to express an opinion on a hypothetical question which embraces, in the judgment of the medical expert, all the points bearing on the question of insanity, where this is involved. A medical opinion formed after hearing one side of a case, is deserving of no more respect, and has no more value, than a verdict of a jury formed in a similar manner, or the opinion of a high court of appeal, the judges of which are, in a sense, experts in law, rendered after argument on one side only.

The frequency with which expert testimony has been introduced in judicial proceedings leads to the conclusion that it is destined in the future to bear a still more important part. The influence which it will exert upon the issues of trials, and the respect in which it will be

held, will depend greatly upon the independence of the witness, and his absolute freedom from circumstances calculated to produce a bias or even the suspicion of its existence. Whatever may conduce to these results, "to the elevation of the standard and character of the medical expert," it should be our highest duty to promote. Notwithstanding the respect we may have for the usages and established traditions of the law; however willingly the medical witness may feel disposed to assume grave responsibilities which are imposed, and not coveted, we still believe the right of respectful protest should be vigorously exercised against practices which tend so frequently to depreciate the estimation in which he and his opinions ought to be held.

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## Art. IX —Impending Periodic Mania.

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By C. H. HUGHES, M. D.

THE rapid increase in the number of recognized cases of insanity and the over-crowded condition of our hospitals for the insane, devolves upon the medical profession the imperative duty of early discerning, and so far as may be practicable, repressing this disorder in its initial stages. To this end brief records of these cases and their management from authentic sources, ought to be welcomed and read by the family practitioner who must become, to no inconsiderable a degree, the psychological physician of the near future, since successful psychiatry embraces nearly the whole domain of medicine.

CASE.—In November, 1876, S. K., age 14 years, was sent to me by Drs. Gordon and McKenzie, of Chester, Ills. The father of the youth related that, at from four to seven years of age, the child was excessively nervous. He would become tremulous, agitated and frightened at night, when disturbed by any one touching him, even by cold air, and seemed to waken at the time. In the

morning he would remember nothing, but would not be so quiet on such days, as after nights when not so disturbed. These were night terrors. He was at this age different from the rest of his brothers and sisters—three in all—being more excitable and passionate at times. At seven years of age he was treated by Dr. Frazier, of St. Louis, for worms, and improved, but did not get entirely well. Has had chills and fever several times in his life. Lives on low lands on the Mississippi river.

He has now periods lasting a week of extreme quiet, with marked and obstinate indisposition, but not *inability* to talk or move. He can be induced by authoritative parental command, to both walk and talk. Has remained in bed all day, and would do so most of the time, during this stage of inertia, if permitted to. He is never unconscious at these times. These periods are followed by and alternated with a marked hyper-activity, in which he is excessively voluble and active. He commits no very flagrant impropriety at these times of reaction either of speech or of conduct, but is a great tease and mischief-maker.

In his quiet state he is *constipated*, *sleepless* (for several nights in succession) and refuses food, saying he does not want it, but eats a little when urged to do so by his father. His answers to questions at this time are generally correct and suitable to his age and the subject, but he is really indifferent as to whether they please or displease, and responds to questions only when persistently pressed for answer. When he emerges from these quiet and passive stages, he remembers and will discuss what he has seen and done in them. He displays no marked shame-facedness nor disposition to be away from others observation, on the contrary, he does not want to go out of the house alone at these quiet times, and an indefinable, though not exaggerated fear comes over him—"phobia."

At our first days interview he wanted to return home because he felt afraid of the crowds in the city—Anthrophobia.

His memory is good for names and dates, and facts and faces, present and remote; and, his perceptive powers are active.

He has not been to the city for seven years, yet he manifests but little interest in scenes that are novel, and ought to interest him. He took no notice of a passing

band, though naturally fond of music, explaining, when asked to notice it that, "it bothered his head." The most attractive places of the city, though he would notice what was pointed out to him, elicited but little evidence of interest on his part. Surrounding influences cause no evidence either of psychical pain or pleasure; his emotional nature being passive and abeyant.

He is not of much trouble when out of doors, but teases and annoys the other children at home when in his stage of exaltation. He has never had chorea, epilepsy, hydrocephalus or somnambulistic displays, but is dizzy at times, though never unconscious, in the quiet stage of his malady.

At a subsequent visit to the city he took more interest in an aviary of rare birds than in anything else.

His head measures twenty-two inches in its greatest occipito-frontal circumference and is symmetrically proportioned. On first examination his height was 5 feet 4 inches. In two months after he measured 5 feet 5 1-2 inches in height. His muscular development is good for a boy of his age. No marked variation was shown in the cerebral temperature during the quiet stage, and we had no opportunity to compare the head heat of one stage with that of the other, since the treatment has caused him to gradually emerge from the quiet periods, which are growing less frequent and prolonged, into one continuous state of natural and ordinary and not exuberant and hilarious, mental activity. The æsthesiometer revealed no abnormal peripheral sensibility, but there was a delayed perception of peripheral nerve impressions. His pulse was seventy-five in the quiet stage, his tongue coated yellow and white. He confesses to masturbation.

His brother and sisters are said to be healthy; his father has had asthma, is sallow, somewhat deaf, and otherwise impaired in *physique* by working in tobacco, and living in a malarious country; his mother is described by the husband as healthy.

The boy's maternal grandfather died of apoplexy, at 85; his grandmother, at 68—disease not ascertained. His paternal grandfather died of epidemic spinal meningitis, aged 72; his p. g. m., at 55 years. Among the collateral branches of the mothers' family one of the ancestors died, at 65 years of cancer of liver; one of same disease, at 75 years; one of erysipelas, at 65; one of old age, at 96; one of heart disease, at 62; one of dropsy, at

45; one of asthma and general debility, at 65. Malarial fever carried off several others. The ancestral mortality on the fathers side could not be further ascertained.

TREATMENT.—At the beginning we kept him under observation two weeks, and gave three ten grain doses of quinine and three ten drop doses of Fowlers' solution, daily for four days; an active mercurial cathartic—Hyd. Chl. mit. gr. x; pulv. Jalapae gr. x; Ol. Tiglii gt. tj.—daily for two days. Cephalic electrization five minutes daily; forty grains Kali brom. at bed time; a copious sulphuric ether-lotion daily to the head, to make a profound impression.

This initial treatment was supplemented by a continuous one of thirty grain doses of the Potassium-bromide forty minims of fluid extract of Ergot, and five minims liq. potass. ars. *ter in die*, assisted by a brisk cathartic and three ten-grain doses of quinine one day in each week; the patient to visit the city as often as once in six weeks and remain a week under observation, at which times we always gave him daily cephalic electrizations. After the accomplishment of bromism, a combination of calcium bromide in five-grain doses, the syrup of the lacto-phosphate of calcium in half-drachm doses, and the Fowler's solution, were employed three times daily. A single thirty-grain dose of Chloral hydrat, largely diluted, was given nightly when required to induce sleep.

Some minute details of treatment, indicated for special intercurrent symptoms, need no be here mentioned.

The case, though not entirely well has progressed quite favorably, and promises, if judiciously managed, to escape the graver stage of an evidently impending serious mental malady. The boy's change of manner is less noticeable, the excitable stages have disappeared, and the periods of quiet are much less marked, so that he is even somewhat companionable at these times, and more *resemble his former natural self, which is the true criterion of improvement.*

The causative factors in this case appear to be malaria



and masturbation, and, possibly, a too rapid growth. The ancestral element cannot be satisfactorily made out.

There being no antipathies to those about him necessitating a change in his surroundings, no inclination to violence towards himself or others, or resistance to medical treatment, no causative influence other than physical, and the case seeming as yet to require only medical treatment, we shall continue our efforts towards the boy's restoration at home, advising the continuance of periodical visits to the city, and if he is not speedily cured we shall, in addition, recommend a change of residence to a more salubrious locality.

[Other cases intended to have been here reported, are deferred to a subsequent issue for want of space.]

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### Art. X.---Mysophobia.---Melancholia with Filth Dread.--Mania Contam- inationis.

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By IRA RUSSELL, M. D., Wichendon, Mass.

**I**N November, 1877, the late lamented Dr. John E. Tyler, of Boston, sent me a patient for treatment in my family home. From Dr. Tyler, and the friend who came with the patient, I learned the following particulars of his life, and the manner in which his disease commenced. The patient was a large portly gentleman, unmarried, aged forty-seven, of fine personal appearance and cultivated manners, a graduate of Harvard College and of the Harvard Medical School. Being a man of wealth, he never engaged actively in the practice of his profession. He visited medical schools and hospitals abroad, and traveled extensively in Europe, Egypt and Palestine. He was of a cheerful, happy disposition, upright and conscientious; his ready wit, learning, and

intelligent conversation rendering him a great favorite in the cultivated circles in which he moved. His father, a well-to-do merchant; a brother, an eminent lawyer; and a sister committed suicide. A few months prior to his coming under my care, a brother had died suddenly in his arms, which made a profound impression upon his nervous system. He, in consequence, became melancholic, slept badly, was noted for indecision, imagined his hands were dirty, and began constantly washing them. When he came under my care, although very courteous and gentlemanly in his manners, he was much depressed, and complained of a bad feeling in his head. He was fearful that everything he touched would contaminate and soil his hands; the chair, the door-knob, in fact, everything that came in his way he carefully avoided touching with his hands. When reasoned with in regard to his morbid notions, he would admit their unreality, but could not resist the impulse to wash his hands whenever they had come in contact with anything. I provided him with an attendant, a medical student, who is now an assistant physician in the N. H. Insane Asylum, who was constantly with him and carefully watched and noted his symptoms. He had a routine which he regularly observed and for several weeks did not vary from it. Usually he would begin his preparations to retire about ten o'clock in the evening, and it would be two o'clock in the morning before he would be fairly in bed. Before he would begin to undress, his attendant must fill the wash bowl with water, as he dared not touch the stop-cock with his hands; then the water must be let off, the bowl washed and filled again for three times, then he would wash his hands three times, the bowl being filled anew each time. Then after the removal of each garment he must wash, finally he would wash his face, rinse his mouth, each, three times, say his prayers and retire, consuming three or four hours, and using twenty or more towels. In the morning he went

through a similar process, taking two or three hours to dress. Before and after each meal he would wash three times. During the day he walked or rode with his attendant, played billiards, bowled, and frequently went to dancing parties in the evening. At such places no one would suspect that anything was the matter with him. He was fond of music and enjoyed playing on the flute, while some one played on the piano. On Sunday he went to church.

After several months he began to improve, and the following summer was nearly well. At this time, his friends insisted on taking him away, in opposition to my judgment, and the opinion of Drs. Hodges and Walker, of Boston, who saw him in consultation with me, as they feared a return to his home would bring on a relapse. Still his friends insisted and took him away. In two or three weeks after his return home, all his morbid fancies returned very much intensified, and with so much mental excitement that his friends became alarmed and put him in the insane asylum.

Not meeting with the improvement his friends expected, I was importuned to take him again, which I did, and found him much worse than when he first came to me. He was unwilling to admit that the ideas of filth were groundless. But, after a few weeks of treatment, he began to improve, and in three months was so much improved that he went to New York and Washington with his attendant, spending several months. But, on his return home, he immediately had a relapse and came under my care, and staid with me until he fully recovered. Without stopping at his home, he sailed for Europe, and thus far has had no return of his disease.

TREATMENT.—When he first came under my care, and after each relapse, he was very much troubled with insomnia, requiring large doses of hipnotics to procure sleep. For that purpose I gave him monobromide of camphor, bromide potass., chloral hydrate, mecona feet

morphia, belladonna, hyoscyamus, each alone or variously combined. I gave him also Esquirol's Red Mixture—strychnine, quinine, and syr. of hypophosphites of iron, lime and soda. At first it was a question with me how much I should restrain, or whether I should permit him to gratify his morbid desire to wash.

After mature deliberation I decided to grant him perfect freedom to wash as often and to use as many towels as he chose. At the same time I endeavored to show him the absurdity of his whims, and appealed to him as an educated physician to use his own reason and judgment and to consider how he would regard similar symptoms in another person. Finally, at first, and after each relapse, I persuaded him to make an effort to lessen the number of washes each day, and as he did so he gradually gained the power of self-control, and was much pleased with the results of his efforts.

While in the asylum he was restricted to a certain number of washes and towels a day, but he told me that the restriction only aggravated his morbid desire to wash and made him almost frantic.

From the first, I regarded the case as a peculiar form of melancholy.

Like other forms of that disease, the mind had fastened upon one thing or subject, while rational upon all others. Thus it is with melancholia, some fancy that they have committed the unpardonable sin; some that they are poor, and refuse to eat; some that they have committed a criminal act; and yet, on a great variety of subjects, will reason and act rationally.

The above case, to my mind, teaches this lesson: That an insane person may be cured and remain cured, provided he is not subjected to the causes or conditions that produced the attack, but may have a relapse or recurrence of the disease when exposed to the causes that produced the first attack. Many insane patients are sent to an insane asylum, and, to all appearances, are cured. They are discharged and subjected to the

same moral and physical causes that first produced the disease, and a relapse follows, while, under other conditions and surroundings there would be no return of the disease.

The symptoms of physical defilement, associated with melancholia is a less frequent occurrence than that of moral defilement. Hammond has applied the term *mysophobia* to a symptomatic expression of disease not necessarily associated with insanity. In a paper read before the New York Neurological Society, in April, 1879, and published in the "Neurological Contributions," of that year, he reported two cases, and referred to eight others that had come under his observation.

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## Art. XI.—The Nature and Treatment of Hysteria.

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By DR. EDWARD C. MANN,

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ANYTHING that weakens a woman generally may—by altering the relation of the several nervous functions—bring about the condition of nervous disturbance, known as hysteria. Our women are the more readily becoming hysterical by reason of the absence of a *physique* and stability of nerve tissue capable of meeting successfully the demands that our climate and civilization make upon them. The vital temperament is deficient in the American woman and the nervous temperament is too predominant and too active; so much so as to require an undue proportion of the nutrition of the body. If we are to avoid an aggravated type of hysteria in the girls of the rising generation, we must, by great and continual attention to the subjects of diet, fresh air, sleep and tranquility of life of the young

of the present generation, endeavor to produce a better type of physical development and mental stamina. What is especially needed is a greater harmony between the physical and mental organization. We need, among our American women, a better developed physical system, more evenly balanced in all its parts or organs, with a greater harmony in the performance of all their functions.

The principal characteristics of hysteria consist in an exaggeration of involuntary motility and a diminution of the power of the will. The voluntary movements are not properly executed, while the reflex, sensational and emotional movements are abnormally active. The will is determined by the ideas, feelings and fancies. There is a malnutrition of the nervous system, so distinct, that the higher functions are impaired. The lower functions exhibit increased activity, while the higher functions exhibit diminished power. Hysteria is pre-eminently a disease of females, and is induced by want of occupation, real or fancied morbid states of the reproductive organs, conflicting emotions, disappointed affections, late hours and unhealthy and perverted manner of life. It is sometimes met with in males as the result of over-mental work, worry and excitement, or dissipation. Hysteria appearing in women generally comes on, for the first time, between the age of commencing puberty and twenty-five years. It may, however, come on at any time during the life of the individual. Of the cases admitted here for treatment, I have traced emotional disturbance as the principal cause in the production of the hysteria, and the majority of the cases admitted here have been young unmarried women. I have found the ovaries involved more often also than the uterus. The evidence of this may be found in the fact that they are painful upon pressure. The mental condition of a woman affected with hysteria is somewhat peculiar. The patient, when the hysterical feelings come upon her, does not feel disposed to make the slightest effort to resist them, and yields to her emotions, whatever they may be. She

will laugh or cry on the slightest provocation, and is very nervous and excitable. She cares nothing for her duties and seemingly takes pleasure in exaggerating all her slight discomforts and annoyances, and by her suspicious exacting and unreasonable behavior makes life generally uncomfortable to those about her. She indignantly resents all attempts and efforts for her comfort and cure, and discards all advice from her best friends, but will eagerly listen to the counsel of the many friends who come in to pity, sympathize and condole with her. She will say that for her to do certain things is absolutely impossible, but under the stimulus of strong desires or wishes, will, if unobserved, do precisely the things declared to be impossible. I have repeatedly known hysterical women to undergo severe fatigue and even privation under the influence of a dominating idea, that a healthy person would find most arduous and difficult of accomplishment, and, upon my next visit, the same patient would declare that the slightest effort to move her limbs was excruciatingly painful. I have also had patients declare that they were suffering the most frightful neuralgia, and exactly simulate a neuralgic attack of great severity, although the placid countenance and expression of the mouth was a convincing proof to the contrary. As a rule, I have observed no marked disturbance of the menstrual functions, although my patients generally give a very undue prominence to them when stating their cases to me. I have also failed to see that hysteria in women could be traced to sexual excesses.

One of the earliest symptoms of hysteria is a condition of hyperæsthesia or exalted sensibility. All the senses seem to be preternaturally acute—hearing, sight, smell and taste. Patients also complain of pain, which they locate on the top of the head, in the mammary region, the hypogastric or sacral region, or in the various joints. It is a noticeable fact that, although a slight touch on the joints is much complained of, that pretty, active, passive motion will be borne without discomfort. Hysterical anæsthesia I have also found existing in the some instances.

As regards the muscular system, we may find an increase of involuntary muscular activity, and a diminution of the voluntary movements. We find at times, in hospital patients, partial paralysis of the various limbs. Thus, the leg or the arm will appear to be paralyzed, or the patient will feign paraplegia, and she generally watches very carefully the effect of her performance upon the bystanders. Such a patient will tumble down and recover herself as a paraplegic patient could not do. The nutrition of the affected limbs does not become impaired, as it does in actual paralysis, and, as a rule, there is unimpaired electric sensibility and contractility. We may find indefinite disturbances in all parts of the body. The general health may be good, and the body very well nourished, or there may be a condition of ill health and general delicacy. The disturbances of digestion are generally traceable to a foolish diet and excess of stimulants. This excess of stimulants not unfrequently, in cases coming under my care, has gradually led to dipsomania, which exists at the time of admission, and requires to be combated and cured. The indulgence in opium, especially in the form of morphia, I have also seen several times complicating the state of hysteria. In the hysterical convulsions which occur there is no sudden loss of consciousness. The patient will inform her nurse or whoever is near that she "is going to have a fit," and a general theatrical effect follows. There is no distortion of the features as in epilepsy, neither is there dilatation of the pupil. The eyelids quiver, and the patient sees and often watches the effect of her "fit" upon her friends or attendant. There may be foaming, but the tongue is not bitten unless purposely to deceive her physician, as I knew one patient to do. The patient often utters a loud scream as she falls, but she is very careful to fall so as not to hurt herself. The presence of the hysterical aura, commencing often in the iliac region, spreading to the epigastrium, causing nausea or vomiting to the chest, causing palpitation of the heart; to the throat, giving rise to the globus



hystericus, and finally to the head, where it induces noises in the head; dimness of vision and clonus, generally precede the hysterical convulsion and serve to distinguish between it and the epileptic convulsion. The larynx and air passages may be involved to the extent of aphonia and dyspnoea. Very often there is a loud, barking cough, which has a very characteristic sound. The urinary organs may be affected, and we may find either retention of urine, or a large secretion of pale, limpid urine. As regards the reproductive system I have found, as I have remarked, that many hysterical women are quite free from menstrual disorders. We may, however, find amenorrhœa, dysmenorrhœa, menorrhagia and other menstrual troubles.

TREATMENT:—The treatment of aggravated hysteria is almost impossible in the home of the patient, and in the midst of the usual surroundings, as the moral and bodily constitution rapidly deteriorates under the influence of the pity, sympathy and over-attention which hysterical patients live for, and which they are constantly laying plans to attract from their friends. There is no radical cure for hysteria, but judicious firmness of management, combined with kindness and friendliness of manner on the part of the physician. This is much more easily accomplished by a change of scene and surroundings. In addition to improving the general health and bringing up the general nervous tone, regulating the menstrual function, relieving anæmia and constipation and local symptoms of hysteria, the patient should be made to take an interest and pleasure in some occupation, intellectual recitation or study. We must endeavor to remove the mental or emotional cause of the disease, and particular attention must be paid to diet, rest, exercise and recreation. The class of patients who are sent here by their friends are women, who, from their social position and surroundings, have really no object in life to occupy them but to amuse themselves. They have, as a rule, been spoiled and petted since childhood, and as their nervous system is developed far in excess of their *physique*, they become, as they grow up, capricious and hysterical. Their imaginary ailments are undoubtedly the cause of much distress to them, for to a person with highly strung nerves a slight pain seems a severe pain, and discomfort is magnified into pain. One of my last cases, who had an income

of six thousand dollars a year and was unmarried, would have been, as a physician who was also here as a patient remarked: "a splendid woman if she was married and had to live on twenty-five hundred dollars a year." It is certainly true, that nothing to do and nothing to profitably occupy the mind with, are strong provocations of hysteria in a person predisposed to it. Occasionally, hysteria assumes a grave form and becomes hysterical insanity. Such a case in the person of a young lady 24 years of age was referred here by Dr. Wm. A. Hammond, about two years ago.

Upon her admission she was acutely maniacal, with no appreciation of her condition or surroundings. She was a girl who had a highly sensitive nervous organization, and who, being a Catholic, had attended all the Lenten services, and, after attending the general confession, had arrived at a state of emotional frenzy which passed into hysterical insanity. She was entirely incoherent, with delusions relating to religious subjects, and also relating to persons. The physical condition was very fair. She was given a warm bath, followed by one fluid drachm of Fothergill's hydro-bromide acid. This was followed in two hours by a four-grain capsule of mono-bromide of camphor, and the patient slept well. For a week after admission, rest in a darkened room, with mono-bromide of camphor *t. i. d.*, and Fothergill's sol., following the use of the prolonged warm bath, was employed. At the end of that time, the delusion had disappeared; the mania had subsided and the patient made her appearance in the family circle. Electricity, in the form of central galvanization, was applied daily. Daily exercise was insisted upon, and due remedial treatment continued, and in a short time a perfect recovery took place. The lady has since married and has enjoyed perfect health up to the present time.

Hysterical patients require to be watched, attended to and unconsciously guided away from self and into new grooves of thought, feeling and action, at once interesting to the mind, while not fatiguing to the body, and this can

be done, not by harshness or discipline, but by kindness, firmness and wise regard to the feelings of the patient. We must supply some purpose or motive in life, which can easily be done by studying patients' characters, thus stimulating them to make co-operative endeavors for their own care, unknown to themselves. All this requires strong will and great patience on the part of the physician, but success is certain if such treatment be persevered in, and is not interfered with by over anxious friends or relatives. With regard to the medicinal treatment to be pursued, I have used with benefit, mono-bromide of camphor, two-grain pill *t. i. d.*, Fothergill's solution of hydrobromic acid, the chloro-phosphite of arsenic (Routh's formula), the bromide of lithium and the constant current of electricity, which last, if properly applied, is of the greatest value.

Niemeyer says :

"There is no doubt but that the morbid excitement of the motor nerves which gives rise to hysterical spasms, proceeds from the spinal marrow and medulla oblongata."

And this morbid excitement is, in my experience, very markedly relieved by the employment of the constant current in the manner I have spoken of. It is certainly one of the most effectual nervines, and affords radical relief in most cases, instead of the merely palative effects obtained from many drugs. The psychical treatment is, however, of primary importance. By the use of the galvanic or constant current of electricity, we modify the circulation and nutrition of the whole body, and from my experience with it I am more and more satisfied, as Niemeyer says : that

"In the constant current we have a means, more powerful than any other, of modifying the nutritive conditions of parts that are deeply situated."

When hysteria is caused by uterine disease or by anomalies of menstruation, the original cause must, of course, be removed, if possible, by appropriate treatment. In several cases I have discovered the existence of dysmenorrhea, which I have entirely cured by the Fl. ext.

of *Viburnum prunifolium* in one fluid drachm doses. This, in some cases, is a very valuable remedy.

In cases where the hysterical state seems to depend upon chronic uterine disease in married women, there is a condition of malnutrition and passive congestion, and, to improve the uterine tissues and to excite reflex action, so that the nerves accompanying the distended vessels will cause contraction, and thus restore the natural tonicity, I direct the prolonged application, by the nurse, of hot water vaginal injections, with local application of electricity as an adjuvant. By this means we are generally successful in combating the state of chronic inflammation that exists in such cases.

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## Art. XII.—Shorter Clinical Records.

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### **Arsenic Hypodermically in Traumatic Tetanus.**

**D**R. JNO. T. HODGEN, of this city, contributes the following notes of a case of comminuted fracture of the femur (upper third), and of the os calcis, with intercurrent tetanus, successfully treated by hypodermic injections of arsenic; the patient subsequently dying of septicæmia:

Charles Dauber, age 34 years, robust and healthy, fell, Sept. 14th, from a ladder forty feet, and alighted on a projecting point of stone, cutting the skin and dense tissue of the foot, and producing the fractures named in the caption. Dr. Hodgen saw the patient just recovering from shock, at 4 A. M.—Dr. Shore in attendance—enlarged the wound in the sole, removed such fragments as could be easily detached, made extension of the thigh, and employed such other essential measures including carbolic acid dressings, arrangement for proper drainage, etc., as would suggest themselves to a surgeon of Dr. Hodgen's well-known ability, but needless here to mention, and which we therefore omit.

On the 29th of September, trismus and opisthotonos

appeared. Dr. Shore gave the patient some morphine during the night. On the 30th, Dr. Hodgen, for the relief of the persistent tetanic rigidity, injected at 12:30 P. M. ten drops of Fowler's solution of arsenic, ordering also 30 grains of chloral every hour if patient was not asleep. At 4 P. M. the patient was much more comfortable though still rigid. He had taken 120 grains of chloral.

Ten drops more of the arsenic solution were then given and the chloral discontinued. At 8 P. M. another ten-drop dose of the arsenic was given hypodermically. At 12 and 8 A. M., Dr. Shore repeated the arsenic, and at 12 M. the patient was quite free from rigidity, rational and talkative. At 4 P. M. another hypodermic injection was given. At 8 P. M. another tetanic spasm occurred, when Dr. Shore repeated the hypodermic dose. At 10 A. M., Oct. 2d, the arsenic was again repeated and the patient was free from rigidity. Vomiting took place at 4 P. M. Arsenic was given at 10 P. M.

Aug. 3d, 8 A. M.—Patient had a good night, takes food freely and has no rigidity.

To-day, however, the thigh is distended with fluid and tympanitic on percussion, and the patient is restless and inclined to delirium. On the 4th of Oct. decided symptoms of septicæmia set in, and the patient died Oct. 5th, at 2 P. M.

Remarking on this case, Dr. Hodgen says: "The effect of arsenic was most marked, the symptoms being decidedly improved after the second dose. For many years I have used arsenic in treatment of tetanus, but never hypodermically. Dr. Barnes, of this city, first called my attention to it as a valuable remedy in this affection. Its hypodermic use was first practiced and recommended by Dr. ———, of Boston."

**A Case of Cerebral Traumatism.**—By Dr. Dan'l Kuhn.

Mrs. F. received, April 14th, 1880, at four o'clock in the evening, a shot from a small pistol. When I saw her, twenty minutes after the accident, she was conscious, but vomiting. The ball entered just above and in front of the right ear, at the termination of the helix, and passed downward, backward and inward. The probe followed the track until opposite the auditory canal, having entered the bone, blood flowed from the ear, showing that this canal had been injured, and immediately after probing, the patient had a

severe convulsion, in which she turned to the left side; the face was drawn to the left side. The convulsion lasted about ten minutes, after which the patient went into a deep stupor with sturterous breathing; the stupor continued one hour at this time. She had another convulsion similar to the first, with turning to the left side, and followed also by stupor. About the time of her recovery from this stupor, three hours after the accident, Dr. Hodgen saw her, she was then restless—sick at stomach—and inclined the head to left side. During the night heavily complained, when awake, of dizziness in the head, and asked frequently that something should be given her to relieve it. The dizziness was much intensified when she turned to the left side, or allowed the head to rest on the left side; had darting pains through the right ear. She remained very much in the above condition, except the vomiting and convulsions, until the 16th, when she complained of a constant hammering up-stairs; when told that there was no hammering up stairs, she referred it to her head; was much disturbed by it, and asked her attendants to listen that they might hear it also. Lightness of head and nausea continued. Has had no more convulsions.

April 16.—The nausea is less, the dizziness less, but is increased when she turns to the left side, and she cannot get up because of the dizziness.

April 20th.—The noise in the head has ceased; the hearing is almost perfect. When she walks there is a constant tendency to turn to the left; the gait is very unsteady.

April 23d.—Patient is improving rapidly in every respect.

On the 10th of May, I called to inquire about her, and found her quite recovered, and she so continues to this day.

**Clinical Illustration of Cerebral Localization.\*—By H. H. Mudd.  
M. D., St. Louis.**

William Ford, colored, aged 32, and healthy, was struck with a stone on the left side of the head about one and three-quarter inches to the left of the sagittal suture, in a vertical line drawn three-quarters of an inch in front of the parietal eminence. The blow produced a scalp wound but did not render the patient unconscious,

\*Being part of a paper on "Cerebral Localization," read before the Missouri State Medical Association, May 18th, 1880, at Carthage, Mo.—Ed.

and he continued at work as teamster for four or five days, when headache and dizziness compelled rest.

I saw the patient at 6 P. M., Oct. 27, seventeen days after the injury, and found the scalp wound healed; no thickening or œdema about it, but slightly sensitive. There was very little, if any, irregularity detected in the bone by firm pressure. He was at this time suffering with epileptic convulsions, which commenced on the night of Oct. 24, by irregular jerking of the right hand. He next observed the same involuntary jerking in the right leg. The first general convulsion occurred at 12 M., the 27th inst. The convulsion involved only the right side at first, but finally included convulsive action of all parts. He was entirely rational between attacks, but lucid intervals became shorter, and convulsions more prolonged and severe.

I gave bromide of potash gr. XL. at a dose, and the convulsions became less frequent and severe during the early part of the night, but the next morning, notwithstanding continuance of use of bromide, they became more severe.

At 9:30 A. M., the 28th inst., I trephined at site of cicatrix in scalp, and found, upon denuding the bone, that there was a line of fracture about three-eighths of an inch long, showing a slight depression, possibly one-eighth of an inch. I found the inner plate very slightly depressed, and the bone at the site of injury congested and somewhat softened; dura mater not injured, but seemed to be tense. As anæsthesia passed off, the twitching in the right arm and leg reappeared, but, at 4 P. M. the same day, all convulsive twitching disappeared. Nov. 28.—Wound healed; feels well, and has not had convulsion or headache since operation. April 27, '80.—The wound afterwards inflamed and suppurated, and he had epileptic spasms, which were relieved when the pus was freely evacuated. Since it permanently healed he has at intervals, varying from three weeks to four months, had an epileptic seizure. It is possible, I think, that these have been produced by thickening about the wound, in consequence of continued suppuration.

This case presents some interesting features. The convulsions supervened on the seventeenth day after injury, and were preceded by twitchings of the arm and hand, which commenced on the fourteenth day after injury. Subsequent to the first twitching of the arm and hand, but

prior to the development of general convulsions, no evidence of compression, no tangible evidence of inflammatory action was present, no marked depression; the line of fracture could not be determined through the natural scalp; inner plate of cranium did not press upon or injure the cerebrum; the dura mater was not broken or inflamed, but was irritated by the focus of irritation in the bone, which was unnaturally vascular and somewhat softened.

The muscles involved in the spasm indicated the site of the lesion, and the removal of this point of irritation relieved the epileptic spasms.

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## EXTRACTS FROM LETTERS AND ANSWERS TO SAME.

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WORKMAN.—*Vicarious Function of the Cerebrum with the Cerebellum.*

BEALL.—*The Relation of Bromism and Epilepsy to the Possibility of Rape.*

I have for several years had under observance a case on which I think it (Seppilli's article on "Atrophy Etc.," *vide ante*—Ed.) throws some light—that of a boy, now about 12 years old. He is the youngest and only surviving of five children—the four preceding having all died in early infancy of some brain affection. For the first four or five years of his life he appeared to be quite defective in standing or walking power, and crept around on all fours, pretty nimbly, finally, through improvement of muscular development and tone, assiduously and earnestly seconded by a discreet mother, he began to assume an erect position, but balancing power was very defective, and he had to keep himself up by leaning on or holding to surrounding objects. As his strength increased he was able to walk or run fast, right onward, but when he halted he wobbled, or fell, or had to sit down. This defect still continues, but in a far less degree. He is almost entirely speechless, but quite acute in hearing. At first he could say *good dog* but not *dog* alone. He can now say *Jack, Joe*, and a few other monosyllabic words. He perfectly understands every word spoken to him by his parents, and perhaps by others also, as is clearly shown by his obedience to all instructions. He is very affectionate, and very truthful, for he shows that he believes all he is told, and cannot understand a joke which involves anything of fiction or dissimulation. His general health is good, and his appetite normal. His head is small, forehead receding, but high, occipital development small. It is pretty evident that his muteness is not



the result of perceptive or conceptive incapacity. I am therefore inclined to ascribe it to a missing link in the connection between ideation, or thought action, and the apparatus of speech. *Quære?*—Has there been a congenital atrophy, or but a rudimental development of the *Cerebellum*, which as he has advanced in growth and strength, has been vicariously supplemented, as Seppilli has suggested, by the *cerebrum*? The problem is one of great interest, and I would very much like to have your criticism on the case.

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REPLY:—As the hemispheres of the cerebellum like those of the cerebrum are in a measure vicarious in function, and as it seems demonstrable that the convolutions are likewise, the suggestion of Seppilli is not at all unreasonable or the fact improbable. Nature is ever conservative of function, and often cures by substitution, what she cannot remedy by restitution. Vicarious function set in action under the stress of gradually invading disease, is probably destined to explain some of the yet unsolved problems in cerebral pathology, for which the supposition of existent anatomical abnormalities, like the absence of decussation, has been invoked.—ED.

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OFFICE OF DRs. BURTS, BEALL & FEILD, PHYSICIANS AND SURGEONS  
48 MAIN STREET, FORT WORTH, TEXAS. Dear Dr.:—If a party, who is the subject of epilepsy and who had been subjected to large doses of bromide potas for years, is accused of attempt to rape, what inference might be drawn as to his guilt considering his illness and treatment? There is pretty strong evidence that a party so circumstanced as to illness and treatment was mistaken for the real guilty one.

Do scientists now hold to a state of insanity, preceding, during or after a seizure of epilepsy that renders one irresponsible for criminal intention?

With respect, &c.,

E. J. BEALL, M. D.

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REPLY:—The continuous regular use of bromide of potassium in large doses for years, might justify a reasonable doubt as to the persistence of such a degree of sexual passion, as would be likely to lead even a strong animal nature to attempt a rape for the purpose of sexual gratification. The conclusion would be more reasonable that such a person as is here described, even if taken apparently in the act, was attempting blind and aimless violence, rather than rape proper. There may be in epileptics, *anti. post* or supplemental paroxysms of maniacal automatism, in which acts apparently volitional but actually without free and voluntarily directing-will are performed, and these acts may be violent or incendiary, or otherwise destructive and criminal as well as harmless.—ED.

## SELECTIONS.

### DISCUSSION BETWEEN WESTPHAL AND NASSE ON THE PRESENT STATUS OF THE QUESTION OF NON-RESTRAINT IN GERMANY.\*

*Translated by* DR. E. W. SAUNDERS, M. D.

The President, Westphal, said: As this was an eminently practical question, he wished to have it discussed by a body of practical men, and he expected that more would be done in this way, than could be accomplished by collecting statistical material.

Forty years have passed since Conolly's reform began, and still the question has not been definitely settled. However, those who know with what difficulties any practical reform has to contend will understand this. He would touch upon only one point in reference to the causes which led to the opposition against Conolly's reform—a dark page in the history of practical psychiatry. The motive of Conolly's efforts was *humanity*, for the treatment of the insane at that time was deplorable in the extreme—in the interests of *humanity* he demanded the abolition of mechanical restraint.

Now, there were many alienists in Germany as humanely disposed as Conolly, who could not yet coincide with his views. It was natural that they should incur the suspicion of a want of humanity, and this unjust imputation embittered them. According to a psychological law, they, finding that they were unjustly treated by their opponents, made in return, captious opposition to them and their principles. It appeared as if the advocates of non-restraint had at the same time become the sole champions of humane treatment. This is to be deplored, and, at the present day, in Germany at least, the question is simply as to what is the best means to be adopted in the treatment of certain *classes* of patients, and it should be discussed upon its merits alone.

We must not forget that the mechanical restraint of the insane was a measure introduced by the laity and not by the profession. When medical science first turned its attention to the insane, it found them fast bound,—bound by the laity for the purpose of self-protection. Medical science had shown more and more that restraint was unnecessary, and that it was also injurious. The speaker would not feel himself called upon to reply to any one who would now claim that it was salutary in its effects upon the patients.

The question may now be stated as follows:

1. Is it possible to bring the treatment of the insane to that state of development, when all mechanical restraint may be dispensed with?
2. Is the dispensing with all mechanical restraint advantageous to

Before the Society of German Alienists, held in Heidelberg, Sept. 16 and 17, 1879.

the treatment of the insane, or, are there such disadvantages inseparably connected with it, that it would be better not to introduce it?

The question can be decided only by the test of experience, and he, the speaker, did it not seem too arrogant, would deny to any one the right to express an opinion, unless he had made an honest and energetic attempt to do away with restraint in his practice.

It is hard to fight against prejudice, indolence, ill-will, in those who ought to be our helper; far harder is it, however, to fight against one's own false conceptions and timidity. Another condition that he would make is, the experiment should be made strictly in the spirit of Conolly's work. What a farce, for instance, was that which Hofrath Stienmel was guilty of, when he published the results of his trial of the Conolly System, the particulars of which he had learned from a non-medical officer of an English asylum!

The speaker was astonished, that Laehr should have referred to this article in his attack upon the non-restraint system. The publications of recent date upon the subject are rather scanty. In 1868, Stolý, in Halle (Tyrol), said that he considered that the possibility of dispensing with mechanical restraint in the treatment of the insane had been proven by his experience, but that the question whether the general introduction and practice of the system\* of non-restraint is desirable or possible, he must leave to the future to decide. As champions of the system in Germany we find L. Myer, Griesinger, Gudden, Cramer (and the speaker himself), while others have adopted the system, though they have not published their results. The speaker then gave a partial list of the general asylums in which perfect non-restraint had been adopted, to-wit: those at Hamburg, Gottingen, Berlin (Charite) Halle, Marburg, Heidelberg Eberswalde, Keppenheim, Werneck, Munich and Alt-Scherbitz, besides all the asylums of Switzerland. Wherever non-restraint has been carried out, there has never afterwards a doubt been entertained of its advantages. If he might be so bold as to speak of his own experience, he would say, that having served as assistant in the Charite under the old system, and then under the new, to which he had become converted, he would now never again employ mechanical restraint—he knew no indication for the application of the jacket. The difference in the results obtained under the two systems was simply enormous. The only exception allowed too by Conolly, to be made, was in the case of surgical patients, but even here, one must use mechanical restraint only after due consideration.

The change in sentiment on this subject that has taken place in Germany might be expressed as follows: Formerly the rule was, that noisy, troublesome, etc. patients should be put under mechanical restraint. Latterly, there has been a growing tendency to limit the application of mechanical means as much as possible, so that now the rule is exactly reversed, and it is taken for granted that noisy, troublesome, etc. patients should not be restrained by mechanical means from using their limbs freely, unless in exceptional cases. Opinions are still divided as to whether it is best to dispense with mechanical restraint altogether (except in surgical cases), or to reserve its employment still for certain classes of cases. Those who have in practice done away with restraint altogether,

believe that neither necessity nor advantage justify the partial retention of restraint, and that it is better in every respect to dispense with it altogether. The speaker declared that it was an undisputed fact that Conolly and his followers exercised a real and determining influence in bringing about this change of opinion; this should be generally acknowledged. He himself felt confident that judging from its progress in the past, the complete non-restraint system would be adopted in the future. Of course, the necessary conditions must first be fulfilled, the most important of which is that the asylums should not be overcrowded, and that the patient should be under constant medical supervision.

Nasse agreed with Westphal in the main, although he objected to the dignifying of non-restraint to the position of a "system." Before Conolly's time, humanity had been introduced into the treatment of the insane—the distinguishing feature of his system was the abolition of all mechanical bodily restraint—the abolition of all mechanical restraint is, of course, out of the question. Formerly, mechanical restraint was the kind chiefly employed, and it is undeniable that its abuse had become very great, a gainst which, naturally, there came a reaction, and, it is well known, that to this reaction we owe many and great improvements in the treatment of the insane. However, the unqualified adoption of non-restraint seems to be fraught with danger, and especially in England, where, through the interference of the laity, the liberty of physicians has been infringed upon, and the bad results are already apparent. It is to be feared that lack of energy in treatment has resulted, and then non-restraint proves to be only a name.—*Allgemeine Zeitschrift fuer Psychiatrie*, 36 Bd., 6 Heft.

[To be continued in January Number.]

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## THE MEDICAL CONGRESS AT RHEIMS.

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The French Association for the Advancement of Science held, during the month of August, at the above named place, an important five day's session, in the interest of medical advancement. We make, from *le Gazette des Hopiteaux*, the following interesting extracts:

**PURPURA OF EMOTIONAL ORIGIN.**—M. Landowsky gave the history of such a case in the person of a young boy of previous good health and strong constitution. The eruptions appeared in different regions of the surface of the body. The gums were scorbutic, and there was also oedema of the genital parts, which presented some sphaecelated points. The patient suffered, at the same time, from a very sharp pain, extending from the epigastrium to the umbilicus. According to Dr. Quinquad, this young boy having got between two vehicles, but without being at all hurt or compressed, was frightened and syncope ensued. His purpura must have been the result of the lesion of the dorso-abdominal plexus. M. Constantine Paul discussed the

**TREATMENT OF TREMBLINGS BY GALVANIC BATHS.** His experiments gave excellent results in nearly all the cases, amelioration in some, cure in others, notably in the tremblings from spinal irritation, alcoholism and mercurial poisoning. On the contrary, in *locomotor ataxia* the galvanic bath is without a particle of effect. He discriminates between the galvanic and the electric bath. The former is a bath of water in which the patient is placed, and constantly traversed by interrupted currents in an ascending direction. The baths should be repeated every two days and have a duration of half an hour. M. Drausart, of Somain, cited some very curious observations on the pathological

**SYMPATHY BETWEEN THE EYE AND EAR.**—The first relates to a coppersmith, drunkard, who, having become blind in one eye, subsequently in both, by splinters of iron penetrating the ocular globe, also became successively deaf in the one and both ears, after the occurrence of each successive accident. The second observation is of a child whose deafness of the right ear also followed the traumatic loss of the eye of the corresponding side. In the third observation, two young patients, in whom the ocular troubles, accompanied by deafness, were happily modified by treatment. The hearing improved *pari passu* with the recovery of the sight.

The author thinks there are pathological relations of reflex nature between the organ of sight and hearing through the medium of the tri-geminus. He thinks, also, that these influences are the more easily impressed if the patient be under the influence of a general diathesis, such as scrofula, syphilis, alcoholism, etc.

**A CASE OF SYPHILITIC LOCOMOTOR ATAXIA** with the results of the autopsy was communicated by M. Estorc, of Montpellier. The principle lesion was an extensive congestion of the rachidian meninges with thickening and adherence of the *pia mater* to the nervous substance, a peculiar transparency, together with a gray coloration of the posterior columns, a softening of the cortical substance of the brain and its adherence to the meninges. M. Charpentiere presented a memoir on

**THE SENSE OF LIGHT AND OF COLORS**—These two senses, he said, are distinct. If white color is formed physically by mixture of different colors it is physiologically different. The sensation of white is simple, while the notion of color is the result of a different and more complex function. The following is the explanation:

1. White is not a compound color because it acts on the retina like other colors. These latter have a restricted visual area varying with the nature and intensity of each. White has a visual area which is constant and most extensive.

2. The sensibility of the retina to white light is the same for all parts of the visual area. The retina is less and less sensitive to colors as the point of fixation becomes distant—*Landolt and Charpentiere*.

3. Pathological cases are known in which the sense of color is totally abolished (total achromatopsie), whilst the luminous sensibility (sensibility to light) still persists. The author has observed in the clinic of

M. Landolt, a case of hæmiopia, which only existed in regard to the perception of colors

4. A colored light, even monochromatic, which is made to increase only in intensity from zero, commences to produce a simple luminous sensation with a certain very feeble intensity. It is only when that intensity is more considerable that there is a sensation of specific color.

Light then acts in two ways upon the organ of sight: 1st. On luminous sensibility; 2d. chromatic sensibility. It is thus that the action of a light upon the luminous sensibility can be increased, the chromatic sense remaining the same.

It suffices for this to cause the eye to remain fifteen to twenty minutes in obscurity. The luminous sensibility is then heightened, whilst the chromatic has not changed. On emerging from obscurity, there is added to all color sensations, a sensation of white which imparts to the purest colors a washed or whitish tint. Finally the addition of a certain quantity of white light, even strong to a simple color, does not change the sensibility of the eye for that color.

**SPASM OF THE GLOTTIS OF HYSTERIC ORIGIN.**—From an observation of grave spasm in a hysterical patient, which almost necessitated tracheotomy, after reading a paper on laryngeal spasm of hysterical origin simulating a true narrowing of the trachea, M. Gouguenheim concludes: Nervous aphonia accompanies spasm as well as paralysis of the glottis. When the spasm is light, it may pass unobserved, and then the vocal troubles are the predominating symptoms of the laryngeal affection. Laryngoscopical examination is then the only means of ascertaining if the aphonia is symptomatic of a spasm or muscular paresis. The grave spasm of the glottis in the hysterical is often as dangerous as infantile spasms. It is a complication very rarely observed. It can cause death or at least necessitate tracheotomy. This last resort may be taken in subjects whose antecedents are unknown, and in whom the spasm may simulate a laryngo-stenosis of organic nature. The application of revulsives to the anterior part of the neck or even the preparations for tracheotomy may cause cessation of the attack. An accident of this kind must always be thought of in case of a woman whose history is unknown, and before practising the operation, urgency demands a laryngoscopic operation should be made. M. Blondeau would advise chloroform inhalation to muscular relaxation.

“The Resolutive Treatment of *Fibro-Myxomata* by Subcutaneous Ergotine Injections” by Courty, of Montpellier; “The Alterations of the Blood in Disease,” by Dr. Quinquad; “Dropsies and Renal Accidents in the Convalescent from Variola,” by Leudet, of Rouen; “Rebellions Epistaxis Connected with Cirrhosis of the Liver,”—successfully treated by a large blister to the hepatic region—reported by Garnier; and many other matters, were presented in a practical and profitable manner. Had we more room at our disposal we should cheerfully give space to the interesting communication of MM. Dujardin, Beaumetz and Audige, on “The Toxic Power of the Alcohols,” and that of M. Plonquet on “Individual and Hereditary Alcoholism,” as well as the instructive

paper of Lancereau on "The Habits, Localization and Evolution of Hereditary Phthisis" and M. Dumontpelier's account of his refrigerating methods, and Scholtz's New Ophthalmometer.

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NEW FACTS RELATIVE TO THE STUDY OF CEREBRAL LOCALIZATION.—By A. Pitres.

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I had occasion to observe at Bordeaux, in the course of the year which has just passed, a number of cases of limited cerebral lesions.

The principle of cerebral localization is not yet universally accepted. It encounters, it is true, only a small number of ardent opposers, but many physicians receive it only with reserve, hesitation or defiance. It is fitting then to multiply still the proofs and to accumulate facts in order that we may finally constitute a map of observations sufficient to convince the hesitating and persuade the incredulous.

*Obs. I. Softening of the inferior parietal lobule and sphenoidal convolutions—Absence of hemiplegia.*

Piot, aged 59 years entered the hospital for Incurables (service of Dr. M. C. Solles) in 1860. He was effected, at his entrance, with a double cataract, which was afterward successfully operated upon. During his abode in the hospital, he presented the symptoms of progressive muscular atrophy, but never had hemiplegia; he was able to walk to the last day of his life. Sensation was unimpaired in the extremities on both sides. Death took place in December, 1876, from spontaneous gangrene of the right lower extremity.

The autopsy disclosed an old lesion of the brain, which nothing in the clinical history of the patient would have caused us to suspect. Upon the right hemisphere was found a cortical softening of about five centimeters in diameter, with a yellowish irregular base occupying all the inferior parietal lobe from its foot to the origin of the occipital convolutions and extending to the posterior third of the first and second sphenoidal convolutions. The base of the softened patch was separated from the sphenoidal corner of the lateral ventricle by a thickness of three millimeters of healthy white tissue. The rest of the hemisphere was normal. The protuberance, bulb, spinal cord, presented neither asymetry nor band of secondary degeneration. On sections of the cord made after hardening, and microscopic examination, the two lateral columns appeared perfectly healthy.

*Obs. II. Abscess of the occipital lobe—Absence of hemiplegia.*

In the course of the month of March, 1878, I was called to take the place of Dr. M. C. Montalis, in his service at the Hospital Saint Andre. Among the patients whom I had to treat, there was a phthisical one who died from the advance of pulmonary lesions, without having presented any disturbance of motility. Sensation was not investigated.

At the autopsy there was found in the right occipital lobe an abscess of the volume of a large hazel-nut, surrounded with a pyogenic membrane

two millimeters thick. This abscess had destroyed almost all the white fibres of the occipital lobe, and extended to the immediate vicinity of the posterior horn of the lateral ventricle. The spinal cord was not examined.—*Le Progres Med.*, Aug. 7.—*Nelson, St. Louis.*—(To be continued.)

THE PSYCHO-MOTOR CENTER OF THE FACE.—M. Ballet, interne des hopitaux, Salpetriere, communicates to *Le Progres Medicale*, of September 18th, the *anti* and *post-mortem* history of a laundry-woman, aged 71 years, illustrating the fact acquired since the publication of the memoir of MM. Charcot and Pitres (in 1877), "that the cortical center which presides over the movements of the face, or, to speak more exactly, the movements of the muscles controlled by the inferior facial, reside in the inferior third of the ascending parietal and frontal convolutions." The case reported is precisely, in fact, very clearly a primitive paralysis, limited to the domain of the inferior facial with a circumscribed lesion of the inferior part of the ascending frontal. The patient died on the 6th of August, and the autopsy was made twenty-four hours after death. The arteries of the base of the brain were slightly atheromatous.

An inspection of the external face of the right hemisphere revealed a focus of cortical hemorrhage about the size of a walnut. It contained a clot, recently exuded, of red blood which weighed about five grammes; occupied the lower part of the ascending frontal convolution and was confined to the base of the fissure of Sylvius.

On making repeated sections, it was found that the hemorrhage had destroyed the inferior frontal, and encroached upon the corresponding parietal fasciculi without penetrating deeply enough to reach the central gray nuclei.

MULTIPLICITY OF THE SPINAL GANGLIA.—Dr. Leo Davida, of Pesth, reports in the *Lancet* for August, that he has found in a man twenty-three years of age, the first, second, third and fourth lumbar ganglia double on the left side, but on the right only the third and fourth. In most, the ganglia were quite separate, in some they were connected by a gray commissure. The largest was three millimeters in diameter. The posterior root, two millimeters above the ganglion, divided into two, one for each ganglion. There was a difference in the size of the roots corresponding to the size of the ganglia. In a man forty-five years old, on the left side, the first four lumbar ganglia were double, and the fifth was treble. On the right side, the first two were double and the last three treble; one of the sacral ganglia was also double. In some instances the three ganglia were quite separate, in others they were united by gray commissures. In a man thirty-two years of age, the third, fourth and fifth lumbar ganglia were double on the left side, the second, third, fourth and fifth on the right. These were the only bodies examined, and this condition was found in all.

UNILATERAL CONVULSIONS DUE TO BRAIN DISEASE.—Dr BROWN-SEQUARD'S conclusions, *British Med. Journal*, August 28th, 1880.—1. They can be caused by a lesion in almost any part of the brain. 2. By any kind of lesion. 3. They can be associated with any other symptom of brain



disease, or may be for a time or until death, the only symptom existing.

4. They can appear at once in all parts of one side of the body, or begin in any muscle or group of muscles.
5. They can pass into general convulsions or follow them.
6. They usually last longer than general convulsions due to brain disease, and still longer than genuine idiopathic epileptic convulsions.
7. They often appear without loss of consciousness, either at their beginning or at any time of an attack.
8. They can take place either on the side of the brain lesion which causes them, or on the opposite side, the cross convulsions being more frequent than the direct ones.
9. The right limbs are attacked more frequently than the left, in cases of cross convulsions, and also when unilateral convulsions appear in cases of lesion in the the two cerebral or cerebellar hemispheres.
10. In the same individual and from a single lesion, unilateral convulsions can appear at first on the side of the lesion and then on the opposite side, or *vice versa*.
11. These convulsions can appear on the side of hemiplegia or on the opposite side, the paralysis in either case being a cross one; but they can also be direct when the paralysis is also direct and cross while the paralysis is direct.
12. *Direct unilateral convulsions are more frequently produced than cross ones by lesion of the great cerebral ganglia, the crura cerebri, the cerebellum, the pons Varolii, the medulla oblongata; while, on the contrary, cross convulsions are much more frequent than direct ones caused by lesions of the centrum ovale or the convolutions.*
13. In animals, as he had found, an irritation of the base of the brain and even of the motor part of the crura, the pons, and the medulla (the anterior pyramid) generally produces muscular contractions on the corresponding side; while irritation of the so-called motor centers, or of the fibres uniting these parts with the cerebral ganglia, usually produces movements on the opposite side, so that the same general effects are generated in animals as in man.
14. Jacksonian convulsions (either when exclusively and persistently unilateral or only temporarily so) can appear on the side of the lesion, or from lesion in parts of the brain considered as not belonging to the motor apparatus.
15. *The study of unilateral convulsions brings forth a large number of facts altogether in opposition to the views now held about cerebral localization.*
16. The diagnostic significance of unilateral convulsions is often considerable, owing to the association of this symptom with other cerebral morbid manifestations. [Over 500 cases were analyzed.]

DR. W. R. GOWERS ON PARALYTIC CHOREA.—Three symptoms might ordinarily be recognized in chorea: spontaneous movement, inco-ordination of voluntary movement, and muscular weakness. These were not always proportioned. Any one of them might so predominate as to give a special character to the case. In the form now considered, muscular weakness predominated, and appeared, at first sight, to be the only symptom. A series of illustrative cases were narrated. The arm was always the part affected, and the muscular weakness, which alone was noticed by the friends, and sometimes by the medical attendant, might be very great and real. In some cases, however, the natural weakness might be less than the loss of use would suggest. There was no weakness of face, tongue or leg. Close observation would, after a time, usually detect a slight occasional choreiform twitch, but this might be quite absent. There

might be marked twitching in the other arm which was not weak. The affection might pass off without more conspicuous spasm. Sometimes choreiform movements become more marked as power increased. The course of this form was often tedious, but did not pass into severe general chorea. In his experience, whenever a child between the ages of seven and fifteen, presented gradual loss of power in one arm, without affection of face, tongue or leg, the disease was always chorea, even although choreiform movements might not be observed.—*British Med. Journal*, Proceedings Brit. Med. Ass'n.

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## : EDITORIAL DEPARTMENT :

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TO OUR FRIENDS:—This number completes the first volume. Retrospection brings to mind many delinquencies, and the familiar confession in the episcopal ritual: "We have left undone the things we ought to have done, and done those things we ought not to have done." A confession we commend to such of our exchanges as may discover some of the notes which may have obstructed our mental visual apparatus, while failing to discern the beams in their own. We shall not endeavor to point out the beams which we have seen during the past year in others eyes if they do not attempt to make beams out of our notes, and "So mote it be." Nevertheless, we have made an honest effort to faithfully execute our purpose to present to the profession such matters in "scientific, clinical and forensic psychiatry and neurology as would especially answer the wants of the general practitioner of medicine. The hearty encouragement and generous reception given us from the inception of our enterprise to the present time, confirm our faith in the necessity of and demand for the continued existence of such a JOURNAL as ours, and accordingly we shall continue to visit our subscribers during another year in much the same lineaments and in habiliments quite similar to those which make up our present dress.

Doubtless the attempt which we have made to introduce into, and amalgamate practical psychiatry and neurology with general medicine may seem chimerical, and our JOURNAL may seem novel, but if you continue to take it, the novelty will wear off, the strange face become familiar, the merely tolerated visitor will become a welcome guest, and finally we hope, a permanent member of your family of medical periodicals.

Since our purpose has been to present mainly clinical psychiatry and neurology in their scientific and forensic aspects, we have endeavored to guard our pages against becoming overburdened with neurological anatomy and physiology, while at the same we have not omitted terse mention of real progress in this department of neurological research, so far as our paramount purpose and limited space would permit. For further light our intelligent readers have the *Journal of Physiology* and the *Anatomical Annals*.

The medical editor who would in this day of active research, endeavor to make his pages even a complete *epitome* of the advance in the various foundation branches of clinical medicine would have to conduct a monthly quarto encyclopædia.

We hope in the next four quarters to double the number of our subscribers and to be enabled thereby to make material improvements in our JOURNAL.

Our patrons and those who think of becoming such, will please bear in mind that the ALIENIST AND NEUROLOGIST is conducted on business principles, and lives in accordance with business laws, and will be what its friends, by pecuniary and other assistance, determine to make it. "The stream cannot rise above its source." We cordially thank the friends who have helped us and hope they may call others to our aid.

OUR EXCHANGES, CONTINUED.—Before us lies that old French medical periodical, now in its fifty-first year and still enjoying the confidence of French physicians, *Le Journal de Médecine et de Chirurgie Pratiques à l'usage des Médecins Praticiens*, founded by Lucas Championnière, the accomplished editor-in-chief, whose contributions to "Antiseptic Surgery," to the study of "Traumatic Fever" and other previous works, together with his contribution to the "Historical and Clinical Study of Trephining of the Cranium as Governed by Cerebral Localization," have so greatly enriched the medical literature of France. Its pages bear evidence of its cosmopolitan character, and show that even the reputable journals of St. Louis do not escape the editor's eye and scissors. The Lyon Medical, now in the twelfth year of its existence, is on our table, presenting a good list of contents.—[Among the Jan. selections of the A. and N., we shall give from it one interesting translation.]

A new candidate for the support of the profession in France has just appeared in the wide and ever widening field of psychiatry and neurology, bearing the name of *L'Archives de Neurologie*, under the direction of the illustrious Charcot, and to be editorially conducted by the well-known editor, Bourneville. The associate staff embraces also some of the best known names in neurology in France and in this country.

The old and valuable *Italia Medica*, of Genoa, under the direction and collaboratorial management of Maragliano, Ageno, Albertoni, Gasparini and others equally eminent, comes to us in weekly numbers, and never fails to contain such contributions of merit as the world-wide fame of its many contributors would lead us to seek in its valuable columns.

*La Presse Médicale*, Belge, is one of the less pretentious of our foreign exchanges, yet, under the able direction of M. Magolez, its pages are always interesting.

We turn now to note two new domestic journals, and for the present must conclude. The *College and Clinical Record* is a monthly journal, conducted by Drs. Richard J. Dunglison and Frank Woodbury, especially in the interests of the graduates and students of Jefferson Medical College, and though not especially interesting throughout its pages to the profession generally, it always contains something of interest and value to every physician. It is sufficient commendation of the number before us to say it contains one of Prof. Bartholow's lectures.

The St. Joseph Medical and Surgical Reporter is a monthly journal, devoted to the interests of Western Medicine, conducted by Dr. J. P. Chesney. It has a good deal of value in its pages for its size and price, and is conducted by a gentleman who possesses the editorial ability to successfully manage it.

The Editorial Pen is *fluent* and its scissors *sharp*. Its contributions are good and selections well made, especially those taken from the ALIENIST AND NEUROLOGIST. The profession of the section in which it is published ought to give it a hearty support and unstinted sustenance. The kind of medical journal the profession of any section sustains, tells what sort of physicians that part of the country contains.

In our last issue we inadvertently included the Louisville Medical News, one of the best of our weekly exchanges among the younger medical journals. The "News" is now in its tenth year, and the wisdom displayed in its editorial management is such as its age and experience, and the fame and good repute of its editors would lead us to expect. Although the Journal is *weekly*, it is *strongly* representative of medical opinion in the South and West.

SEPPILLI ON CEREBELLAR ATROPHY.—To form a correct judgment of Seppilli's able clinical contribution to the subject of "Atrophy of the the Cerebellum," the article must be read entire, hence we have given it without abridgement. A bright and glorious future seems in waiting for the men of re-born Italy. The recent productions of Livi, Seppilli, Maragliano, Tamburini, Morselli and others of that sunny clime, show that her medical writers are no superficial skimmers, and while they dive far down into the depths of their subjects, they never weary those who follow them with obscure or tiresome verbiage. In saying this much for the language of the Italian medical writers, we mean no disparagement to our own mono-syllabic English, which, though possibly less musical than the Italian, eclipses in brevity and concentrated expressive force, all the continental tongues.

NITRITE OF AMYL.—DIFFERENTIAL DIAGNOSIS of cerebral hypæmia and anæmia.—Although it is not difficult to distinguish marked forms of these opposite cerebral states, yet there are instances where they sometimes present, even to the neurologist, so many negative evidences that any additional sign that may aid in clearing away the doubt is an actual gain in our means of diagnosis. This sign we have found in the action of nitrite of amyl inhalation in the minimum doses. In the markedly anæmic, a single five-drop inhalation does not produce cephalalgia, or any considerable amount of head heaviness or suffusion of the face, while in the decidedly hyperæmic the sense of fullness of the head, and even of cephalic pain, is often exaggerated and very persistent even after one inhalation, the face also flushing more readily and extensively.

AS A THERAPEUTIC agent in anæmia and imbecility.—The known property of this agent in quickening the cerebral circulation induced us to employ it by inhalation in the treatment of cerebral and spinal anæmia and in the management of some imbecile patients. One little patient with very feeble head circulation, sluggish mental action and weakened power

of control over the lower limbs, is now evidently being benefited by it conjoined with electricity and internal treatment. Two of our chronic aphasics are also on trial with it, conjoined with other medication, with a view of diminishing the area of possible arterial obstruction within the brain.

**THE LOOSENING OF THE TEETH IN ATAXIA.**—The *New York Medical Record* makes a note from *Le Courier Medical*, of March 6th, of the falling out of the teeth, observed by M. Vallin, MM. Luys and Lereboullet in several cases of locomotor ataxia, not preceded by pain or caries, a phenomena due to a bony rarefaction of the alveolar border—a trophic alteration not hitherto described, but which deserves careful study, as it may be an early symptom of the general disease. Two ataxics now under our own observation present this feature, some of the teeth being so loose that they were merely lifted out with the forceps; one patient realizing no pain at all, and the other scarcely any on removal of the teeth. It would be well to look carefully into the mouths of all our suspected ataxics.

**THE INCREASING INTEREST IN PSYCHIATRY.**—It is an encouraging sign to note the increasing interest in the profession at large in psychiatric problems, notwithstanding the crude notions occasionally expressed, and the facility with which the Gordian knot, which has so long remained tied to the most experienced alienists respecting the disposition and treatment of some of the varied forms of mental alienation, is sometimes theoretically severed. We welcome the discussion of this subject, or rather the many subjects of insanity, for when discussion increases, attention and interest are enlisted, and these are the beginnings of knowledge.

**HOW OHIO WRONGS HER INSANE.**—No State in the Union has made more ample provision for the comfortable care of its insane than the "Buckeye" State. Her many magnificent hospitals for these unfortunates, complete in all their internal arrangements, magnificent in proportion and even extravagantly lavished in architectural design, stand up as beautiful and enduring monuments of the good intentions, grand and noble philanthropy of a great and glorious commonwealth, but with these good intentions and commendable philanthropy, the politicians of that state have played sad havoc. Rotation in office for her Insane Hospital Officers and Boards of Trustees with every change in the political sentiments of her people, and the pitifully small salaries for the highest kind of medical service, fixed by "Retrenchment and Reform" politicians, have done and must continue to do the unfortunate insane of that State great wrong, and we hope the profession of Ohio will fight this wrong until the unfortunate wards of that State, who cannot do battle for themselves, shall receive their rights in more permanent medical administration for the hospitals for the insane. We hope to see no more changes in asylum administration in that State for political causes. The medical charities of a commonwealth are not legitimate spoils of political triumph and public sentiment in every State should be so moulded by the medical profession, that no party would have the temerity to claim them as the reward of political victory.

What is true of Ohio, is true of some other Western States. The

Eastern States have generally gotten over this folly. We should like, in this connection, to have made room for some extracts from President Murphy's vigorous protest against this outrageous custom before the Ohio State Medical Society, but space forbids.

**INSANE HOSPITAL ANNEXES.**—Every friend of the insane who has taken the trouble to accurately acquaint himself with the provision made for the care and treatment of these unfortunates in many of the American States, must feel a glowing pride as he contemplates the living evidences of the magnanimous philanthropy and thoughtful care for the most pitiable and helpless of God's creatures, as displayed in these State institutions. Their home-like and cheerful interior arrangements, with facilities of many family groupings, their attractive surroundings, ample pleasure walks, drives, farm, garden, dairy, libraries, amusements, workshops, etc., in short all the appurtenances essential to a life of industry, recreation or diversion, for such as can enjoy them, greatly compensate for the necessary withdrawal of the patient from the social life and liberty of home, pending the medical treatment and modified liberty essential to his welfare. But as the aim of all experienced American Alienists who truly appreciate the varied requirements of the many different forms of insanity, is to accord to patients all the liberty compatible with their mental condition, so that they may not greatly feel their deprivation of liberty, we should like to see some of our States try the experiment of providing hospital annexes quite disconnected from the main building, even removed many miles, to which some convalescents who, having reached a certain stationary stage in their progress towards recovery, might be sent with the hope of giving a new impulse towards their restoration. There are in every large hospital some of these patients, as there are likewise always some mild forms of chronic cases, the remains of whose insanity, like the physical limp that sometimes outlasts a sprain, is so slight that these patients make good companions for any company away from home and the circumstances which first engendered their disease. Such an arrangement legalized by the State would enable superintendents to more safely and extensively carry out, with less risk, the practice of furloughing patients now more or less in vogue at many institutions.

For beginning the experiment, States might make it lawful for medical superintendents to assign carefully selected cases to some of the private homes conducted by medical men, permitting the friends to pay for maintenance in the case of private patients, and in the case of county charges, the State providing for their support.

This would encourage and develop a disposition on the part of medical men to treat the insane, such as might be so treated outside of asylums, and thus more greatly familiarize the general profession and the public with a subject concerning which too much ignorance exists, namely: the proper management of exceptional forms of insanity.

**THE RIGHTS OF THE INSANE.**—When, by reason of disease, an individual departs from that natural manner of thought, feeling or acting, which in his normal mental state he voluntarily preferred and which gave him his rational individuality and no longer governs his actions as he was

wont to do, and as he would do again were his reason restored to him, it is the duty of the State or of the patient's friends, in consideration for what the State has received from that individual in his best estate, to assume such a guidance of that person's conduct as may as certainly and speedily as possible protect him, not only against inflicting physical but mental injury to himself as well as others. It is a mistake to assume that the insane have no rights which the sane are bound to respect, and that the sole purpose of State provision for the care and treatment of the insane is to protect society *only* against the lunatic. The mentally maimed, whose (disordered minds guided by disease and not reason are in danger of psychical suicide, are as much entitled to protection from impending mental death, as they are to be restrained from self physical violence or destruction.

**FURLOUGHING THE INSANE.**—The recognized necessity of depleting the large State hospitals for the insane, as well as the well-known precautions essential to guard against premature discharges, and the consequent endangering of relapses, and the apparent necessity in some instances, where the mental state of the patient seems to reach a certain point in the direction of convalescence and then to become stationary, has led to the practice in this country and England of furloughing certain cases, *i. e.*, giving them only a conditional discharge, so that if they relapse or do not improve, they may be restored to the asylum without the formality of a recommitment. The Inspector General of the insane in France recently favored the adoption of a similar system.

It would be a wise improvement, we think, in certain instances, when friends or the patient's estate will meet the expense, to temporarily discharge such case to reside for a while in some of the private homes for the insane and nervous, like "Bellevue" "Burn Brae," "The Highlands," or "Sunnyside."

**A HINT TO OUR HOSPITAL FRIENDS.**\*—"An urgent and imperative duty is imposed upon those who have special opportunities of studying and investigating nervous diseases. It is pre-singly incumbent upon them to improve their opportunities. It behooves them to add some quota to our knowledge of the physiology and pathology of the nervous system.

To few is it given to penetrate mysteries or flash forth discoveries, but to many is permitted to prepare the way for such enlightenment. Every fact faithfully observed, every experiment judiciously performed, is a step gained on the path of progress. It is upon asylum officers that the obligation to watch and interrogate nervous diseases most heavily falls, for their opportunities of doing so are peculiarly great and excellent. Our lunatic hospitals are stored with only too vast an accumulation of pathological material, while their organization affords unusual facilities for observation and research. The public are entitled to look to them and their medical officers for no small subsidies to scientific medicine and for practical aid in stemming the great and growing tide of insanity, and allied diseases that overwhelms so many valuable lives."

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\*J. Crichton Browne preface to West Riding Asylum Reports, 1875.

**INSTITUTE OF HEREDITY.**—A movement of vast and inestimable significance and importance is being inaugurated by Mr. Loring Moody, of Boston, which indicates that the public mind is beginning to give thought to a subject which greatly concerns the future welfare of the human family, and seeking to avert the not impossible calamity (unless intelligent effort is made to avert it through prevention of hereditary transmission), of family degeneration, race deterioration and ultimate extinction. We wish this important movement the aid it merits from all thoughtful and philanthropic people.

**MONUMENT TO BROCA**—The commissioners appointed by the Anthropological Society of Paris, to obtain subscriptions for the erection of a monument to the memory of this illustrious medical savant, will receive donations through the treasurer of the society, M. Leguay, *No. 3 Rue de la Sainte-Chapelle, Paris.*

While it is gratifying to see the memory of one so illustrious thus publicly perpetuated, it is still more gratifying to know that M. Broca has erected for himself a more enduring monument than inscribed brass or marble column. Monument or no monument, upon Broca's name will be centered a share of the world's praise, so long as the speech centers of mankind do not become too *aphasic* to applaud the worthy achievements of the great.

**STATUE TO PINEL.**—The Municipal Council of Paris having, on the recommendation of M. Dubois, authorized the Medico-Psychological Society to erect, in the *Place de la Salpetriere*, a statue to this illustrious reformer, subscriptions have been opened there by this society for this purpose.

**THE INDEX MEDICUS.**—The worth of this valuable periodical index of medical literature to every student of medicine and enlightened physician is so great, that we hope to hear in 1881 of its being successfully and permanently established on a paying basis. It is so important an aid to the medical journals, that they alone ought to support it, and we are prepared to join with any fifty journals in contributing the subscription price for an extra copy additional to the exchange copy, if the publishers are not now making the enterprise pay.

**THE AMERICAN NEUROLOGICAL SOCIETY** offers \$500 for the best essay upon the "Functions of the Optic Thalamus." The committee to receive and decide upon the merits of the essays are Drs. Miles, of Baltimore; Squires, of New York; Jewell, of Chicago. The essays are to be sent in before the meeting of the society in 1882.

**REFLEX ASTHMA.**—Drs. Wm. Barrett, of this city, and J. W. Collins of Colorado Springs, Col., have recently had, each, a case of Asthma in women, in whom relief followed surgical treatment of the uterus.

**DR. DYCE DUCKWORTH**, of Edinburgh, in "Brain," for April, very plausibly assigns gout a place among the diathetic neuroses.

**DR. JUDSON B. ANDREWS**, a gentleman of extensive experience as Senior Assistant Physician of the New York State Lunatic Asylum,



Utica, and Associate Editor of the American Journal of Insanity, of wide culture and rare administrative ability, has been chosen to organize and put in successful operation the New State Hospital for the Insane, located at Buffalo, N. Y. We unite in the sentiment so generally expressed, throughout that State, of approval of this excellent selection. The Buffalo Asylum, under his management, will assume a leading position among the institutions for the care of the insane in this country. The Buffalo Medical College has, in its announcement, notified the profession of the addition to its curriculum of a course of lectures on nervous diseases, by Dr. Andrews. This is an important and valuable addition to its lecture course. Dr. Andrews is the right man in the right place.

DR. GUNDRY.—We congratulate the College of Physicians and Surgeons, of Baltimore, Maryland, on the accession of Dr. Richard Gundry, Superintendent and Physician, to the Maryland Hospital for the Insane, to its staff of lecturers. Dr. Gundry will lecture on 'Insanity,' a field of usefulness, for which his long experience in clinical psychiatry peculiarly fits him.

DEATH OF DR. E. R. HUN.—In the death of Dr. Hun, the Albany Medical School has lost a valuable member of its faculty; clinical psychiatry, an able teacher; society, a useful member. Dr. Hun was but thirty-six years old when he died, but in his life-time he did some good professional work which will live after him. He was once on the Medical Staff of the New York State Lunatic Asylum.

THE HOSPITAL for the Insane, at Elgin, Ills., has recently added to its medical staff a special pathologist.

In this connection we may mention that the Chief-Physician of another Western hospital for the insane, recently inquired if we could recommend a young medical man with a fondness for microscopy for the position of Assistant Physician. We are pleased to chronicle facts like these in reference to the younger institutions of the West.

THE NEW STATE INSTITUTION for the Insane, at Kankakee, Ills., is making trial of two large cottages. Dr. Kilbourne, of Elgin, has two small ones which he thinks will answer well for a certain limited number of his patients.

DR. F. E. ROBINSON'S CHARTS OF THE CRANIAL NERVES, arterial system and topographical, are *excellent, cheap* (65 cents a set by mail.) and *convenient in size*. Every student should have them in his study room. Address: No. 303 Ninth street, Brooklyn, N. Y.

C. L. CHEROT, 1624 Chestnut street, St. Louis, is an excellent Cupper and Leecher, whom we commend to the profession.

BACK NUMBERS.—One dollar will be paid for every copy of number one of this journal sent to this office.

## ❖❖REVIEW❖❖DEPARTMENT❖❖❖

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"THE CARE OF THE INSANE AND THEIR LEGAL CONTROL."\*—A breeze is refreshing, even a storm may be enjoyed, but this book sweeps through nearly all the present territory of British "asylumdom" like a cyclone.

The opinion is broadly stated that "no change of the law can be satisfactory which does not contemplate the eventual abolition of all proprietary lunatic asylums." (p. 130). The author, "sows the wind," with no timid hand, and fears not the reaping of the whirlwind. In fact, he sows the whirlwind also. He would "roll back all Greece and besom wide the plain" with such a tornado of official and public indignation as would leave standing in its pathway no present English proprietary asylum, save only "such as may survive under some other name, for persons of damaged mind, as *voluntary* retreats."

For these establishments the author proposes to substitute "the system of State asylums general throughout the United States, and universal in Holland," "provided by the State and managed by Boards of Governors," pp. 130 and 131. The author's recent visit to this country, and pretty general inspection of our admirably managed State hospitals "such as have been put to the test of trial and already exist in successful practice," seem to have made upon him a very favorable impression, but he gives no evidence anywhere in his book of familiarity with our estimable private American homes, for the wealthy insane and nervous.

The author's "fullest and latest experience has convinced him that the curative effects of asylums have been vastly overrated, and that those of isolated treatment in domestic care have been greatly under valued." He thinks the "care and treatment of the quiet and harmless cases of insanity by the open medical profession in domestic life, in single, double or treble cases ought to be encouraged by the law and not discouraged as it is at present" in Great Britain. By domestic treatment, he does not mean the patients' own home. Undoubtedly the treatment of many cases on the domestic plan, where pecuniary resources are ample, is quite feasible if the cases are judiciously chosen and treated by medical men of special skill and experience, but to treat them on the voluntary plan is not so practical, for the majority of even the quite and harmless insane. Patients, if compelled to choose between the enforced residence in a large State hospital and domestic treatment, or that of a private asylum away from home, might be induced to prefer and accept the latter, as the only alternative left them, just as chronic *habitués* of the hospital, after being used to legal restraint, will, if put on their good behavior and furloughed, go home and in many instances, conduct themselves with sufficient propriety, though in the beginning of their madness and before the State had demonstrated its power and determination to restrain their erratic conduct within certain limits, they were not so tractable.

We do not see the logic either of limiting the domestic plan to the treatment of single, double or treble cases only, or of making the domestic plan voluntary with the patient, and the state plan compulsory. If three may be thus treated, why not a larger number in one household? The best public, corporate and private hospitals and homes for the insane have facilities of family groupings of from eight to twenty or more. The more the better, if they can be congenially associated. Some patients do best alone, some fare badly thus, some improve in small groups and some in crowds, and some do best by often changing them from solitude to company and back again according to the varying aspects of their mental aberration. Some patients are damaged by coming in contact with other insane, and some are benefited by observing and reflecting upon the insanity of others. Associations and surroundings for the insane should be modified according as they tend to excite or suppress antipathies or delusions. Thus the proposition of the best disposition of the insane widens as cases multiply. Psychiatry is the broadest field of medicine, and the treatment of insanity and the management of the insane, with all of its difficulties and embarrassments, must sooner or later occupy, as they are now more than ever engaging, general medical attention.

The author refers to asylum-made lunatics, from the error of too long detention in the proprietary establishments, but nowhere notes the greater evil of the home-made insane, whose minds are ruined by the often tardy and vacillating course of friends, and efforts too long made to effect concealment and cure at home, or to the confirmed insanites from premature removal from hospital restraint and treatment.

The chapter on commitment contains the following preliminary concession—"If asylums were really hospitals, insanity a brief disease and no continuous restraint of personal liberty required in its treatment, it is not obvious that commitment papers would be at all needful." Then why not *make* all the English asylums *really* hospitals, and provide adequately for abbreviating the disease and the necessary restraints, by lawful encouragement of early and prompt commitments, and lawfully enjoining the "non-restraint" our British consins are constantly talking about.

All community life of sane persons, even, is a regulated liberty, in which the individual must conform to the prescribed usages of society and practice some self-restraint, and if a sane individual falls sick the modification of his liberty which his disease imposes, is not essentially different in degree from that which mental disease most often requires. Hospital life for the sane as well as the insane is rather a regulated than suppressed liberty.

He thinks the English Legislature in its laws respecting the commitment of insane persons "for ways that are strange," equal those of the "Heathen Chinee," which even Johny Bull knows "are peculiar." He denounces the law which requires the separate, instead of conjoint examination of insane persons by certifying physicians as "a strange embodiment of jealousy and distrust," and unwisely at variance with the custom in all other diseases.

He disapproves of the mere certificate of insanity without the medical

man's assigning his reasons and the failure to discriminate between the unsoundness of mind associated with congenital deficiency, the enfeeblement of disease or natural decay and the homicidal or suicidal lunatic, or the raving maniac, in these certificates—the same certificate for the asylum the hospital, and the home, the lunatic, imbecile and infirm of mind—he condemns, and we think very justly.

The whole chapter on certificates is suggestive reading, yet the statement made on pages 26 and 27 that "no person of unsound mind, may by common law be rightfully placed in an asylum, if it can be proved that he is perfectly managable, safe and harmless," in the enjoyment of his liberty is mootable. The insane man is a changed man. He is not his natural-self. Not to treat his malady or regulate his conduct for his welfare because he may not be harmless to others, does not conform to the common sense idea of justice to the insane. While the sane man is entitled to life liberty and the voluntary pursuit of happiness in his own way, provided he harms no one else in its pursuit, the insane man, in his affliction, is entitled to such a degree of restraint and modified liberty as his malady requires, in order to bring about, if possible, a speedy restoration of his natural capacity to enjoy life, liberty and happiness, in a rational manner. One of the rights of the insane is to have his liberty regulated in his *own interest*, if by so doing a chance is afforded for mental restoration. No community has any more right to let a curable insane person pursue his own morbid inclinations to his own hurt and mental ruin, even though he be happy in his destructive course, and harm no one but himself than to permit a delirium tremens patient to walk out of an upper window in enjoyment of his liberty, under the delusion that he is going to fly to heaven. The case is different with harmless and hopeless or chronic maniacs, where, while the ineradicable mental scar of a spent disease still remains, enough of rationality persists to enable the individual to appreciate and enjoy liberty. To the latter, hospitals for the insane should be closed, except as voluntary resorts.

In the best regulated civil governments the natural liberty of the citizen is abridged by law. He is compelled to yield up certain rights—yet he is allowed the largest possible liberty compatible with the individual and collective welfare. So it should be with the insane. He should have the largest possible liberty compatible with his welfare, and should be deprived only of so much as is necessary for his own welfare or protection from the ravages of his disease, or for the welfare or protection of society.

We hold it to be the duty of the State to do for the insane man in his affliction as he would wish to be done by were he sane enough and well enough in mind to determine what would be best for him. "To be pronounced insane by physicians, by a judge or jury does not mean "imprisonment for months, for years, or for life;" or to put it in another way, "that there is a disease which reduces its victims to a level with persons accused of crime and exposes them to loss of liberty and happiness." In the same sense that a criminal's liberty and happiness are taken from him, this is not true. The restraint of the insane is in no sense penal, though it does unjustly on some States expose the wealthy to loss of property by requiring them

to pay for support in the very institution their taxes have contributed to build and sustain.

In the properly organized State hospitals for the insane of this country, such as Dr. Bucknill wishes to introduce into Great Britain in lieu of the English proprietary asylums, liberty is regulated according to the extent and nature of the disease, just as in general hospitals, the liberty of the patient is controlled. The man with a bullet wound in his brain, an attack of typhoid, a sunstroke, or a fever, may be taken to the hospital and restrained of his liberty, and no one thinks of suggesting that he is reduced to the level of a criminal in consequence. When in the battle of life a citizen is mentally wounded, it is just as much the duty of the State to take proper care of that injured mind as it is incumbent on the same power to care for its soldiery when they fall before the foe, and in the one instance as in the other, no expense or means should be spared which promises to promote the comfort and restoration of the stricken one. No cry of economy should stand in the way of duty!

While we do not subscribe to all the views of Dr. Bucknill, and while we know there is another side to many of the questions mooted in this book, held by Lord Shaftesbury, the *Journal of Psychological Medicine* and by others equally eminent and capable in Great Britain, we do not hesitate to say that it is a vigorous attack by a strong arm upon the proprietary institutions for the treatment of the insane in Great Britain. Respecting such establishments of this kind as are conducted by non-professional men as purely business ventures upon the principle of gain, alone, and without the higher sentiments of professional pride and aspiration after progress in psychiatry, which characterizes the true physician *in rapport* with his profession, we do not hesitate to join our condemnation with that of Dr. Bucknill's, but the indiscriminate attack upon all the proprietary establishments of the Island, because they are conducted on the principle of gain is not logically tenable. The principle of gain is a universal and underlying principle of human conduct and is not vicious *per se*. It has the sanction, even, of Holy Writ. Take away the principle of gain and the wheels of human progress would well nigh stand still. Mighty things for the good of the race have been done through, pursuit and by the aid of, the "mighty dollar." The same argument that Dr. B. uses against the proprietary establishments for the insane of Great Britain would cast suspicion upon all the physicians and pharmacies of London, and destroy confidence between man and man in all matters of trade. The book will probably do much good to the cause of the insane by attracting additional public attention to this class, and awakening new interest in them and their treatment thus leading to the correction of abuses where they may exist, and securing rights where they may have been invaded.

Such proprietary establishments as are not what they ought to be will probably either go out of existence or rise to a higher plane of usefulness. Mere boarding-house places of confinement for the insane ought to go out of existence everywhere. The denial of freedom to the lunatic on the sole ground of lunacy independently of hopes of recovery or considerations of personal or public safety, ought not to be allowed anywhere,

and something more than the mere fact of insanity should be alledged to justify commitments.

But in Dr. Bucknill's book we discover no valid argument against properly conducted private enterprises for the wealthy insane, who wish to avoid the public hospitals, and go where the highest skill in psychiatry may be secured, as it may be secured in the treatment of other diseases, on the principle of gain to the physician who will and is qualified to give his services in this direction. In this country where the tenure of office of the State hospital superintendent is, from political and other *vicious* considerations, made so uncertain, no better field of usefulness is left to the ex-superintendent than to give the benefits of his experience to the paying class of the insane public, in a private way.

This is about the only compensation of the *vicious* principle of rotation in office, for political reasons unhappily in vogue in some sections of this country, viz.: that it better fits some of the profession than before, for treating the insane in private homes and hospitals.

PHYSIOLOGY vs. PHILOSOPHY.\*—The author essays a comparison of some of the more important claims of science and philosophy, in helping to elucidate the still apparently unsettled problem of life and mind in their relation to body, pointing out the contrasts and agreements of the two, and the reader is reminded that in the ages gone by some of the grandest discoveries ever made by means of which science has been built up step by step and the relation of our world to the universe besides, made known, "have come to us through the door of philosophy, while science was in the cradle of its infancy." The doctor thinks the assistance of philosophy in helping to elucidate some of the yet unsolved problems of life ought not to be ignored, and are in danger of being overlooked as something unreal and impracticable.

The attitude of physiology is set forth as viewing man as "an animal only" with "no duality of his nature," a "unit—entire," and different from other animals in degree only, beginning with "*Protoplasm* as the basis of all forms of living matter, and *Protozoa* as the beginning of animated structure. From these homogeneous, unindividualized masses in which are neither cells, blood-vessels, nor nerves, without stomach, nor lungs; but sensible to external *stimuli*," she passes up to those having the rudiment of a nervous system, viz.: fibres connected with a cell to a complexity of fibres and cells, until brains with only white matter are reached, and next, to such as have the rudimentary cerebral hemispheres with their thin layer of gray matter near the optic lobes as in fishes; then the bird, with a little more gray matter, then the mammalia up to the monkey and man, with their greatly increased areas of gray cerebral substance.

This gradual increase of the cerebral gray is physiology's account of the gradual ascent of man from the rudimentary forms of life and the proof that man and the animals below him in intelligence, differ only in *degree* and not in *nature*.

It certainly furnishes a physical explanatory basis of the many resem-

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\*A short study by Dr. H. P. Stearns, Superintendent and Physician of the Retreat for the Insane of Hartford, Conn. Read before the N. E. Psychological Society, May 9, 1880.

blances of man to the members of the animal kingdom below him, though the author does not note this.

The author does not dispute the claim of physiology, that in proportion as the cerebral cortex is increased in volume and texture in like proportion is intelligence increased, the bird, in this respect, excelling the fish, the lower forms of the mammalia, the bird, and the higher mammals, the lower."

But physiology goes no farther, while philosophy, conceding all the advances made by physiology, takes a secure step higher and beyond the reach of physiology pure and simple.

The author has fairly stated the attitude of physiology towards mind. So far as the latter can enable us to see, there exists no mind independent of matter; no function without precedent bodily form. The limitations thus imposed in the nature of things on the researches of physiology demonstrate the need of its hand maiden—philosophy.

There is a philosophy of mental as there is a physiology of cerebral life. This we take to be the drift of the author's able effort, which to portray, more clearly in the author's own words, we regret that we have not more space.

This essay of Dr. Stearn's is entertaining and instructive reading throughout.

L'ARCHIVES DE NEUROLOGIE, a quarterly review of nervous and mental diseases, published under the direction of J. M. Charcot, with the assistance of MM. Amidon, Ballet, Bouchereau, Brissaud, Brouardel, Cotard, Debove, Duret, Duval, Fere, Ferrier, Gombault, Joffroy, Landouzy, Magnan, Neumann, D'olier, Pierret, Pitres, Raymond, Regnard, Richer, Seguin, *pere et fils*; Talamon, Teinturier, Thulie, Troisier, Vigouroux, Voisin. Editor in chief, Bourneville; Secretary, H. Cl. DeBoyer.

This first number of a new journal devoted to diseases of the nervous system is full of choice and interesting material. The introduction sets forth the *casus essendi* of the journal, alluding to the remarkable progress attained in the anatomy and physiology of the nervous system, and the great variety and number of observations made in the field of neuropathology. He notes the fact that for a long time the various papers upon these subject have been scattered through the journals on general medicine.

While in other countries, there have for some time been journals, devoted specially to this department of medical investigation and practice, among which M. Charcot specifies the ALIENIST AND NEUROLOGIST, there has heretofore been no such journal in France except the *Annals Medico-Psychologiques*, which is devoted especially to mental diseases, and it is for the purpose of supplying this want that the *Archives of Neurology* has been established.

He maintains the importance and the necessity of specialism, but cautions the specialist not to lose sight of the totality of the symptoms, which show the condition of the whole economy.

Under the heading of Anatomy, we find an article by MM. Debove and Gombault, "On the Decussation of Sensitive Fibres of the Bulb," one by M. Debove "On the Method of Making Preparations of the Cord." Under experimental pathological anatomy there is an elaborate paper by M. Gom-

bault, "A Contribution to the Anatomical Study of Subacute and Chronic Parenchymetous Neuritis." This is illustrated with two admirably-executed lithographic plates. The department of pathology is represented by a paper entitled "Researches upon the Motor Incoordination of Ataxic Patients," by M. M. Debove and Boudet of Paris. In the *Mental Clinic*, E. Magnan writes "On the Co-existence of several Deliriums of different Nature in the same Insane Patient." M. Bourneville supplies "A contribution to the Study of Idiocy," which is to be the first of a series, and is illustrated with two lithographic plates of the brains of two subjects.

M. Debove contributes to the department of Therapeutics, a note upon two cases of hemiplegia of motion and sensation, cured by application of magnets. Dr. H. C. DeBoyer, has a "Critical Review" of the subject of cephalic thermometry.

The last fifty pages of the *Archives* is occupied with selections from other journals, under the headings "Review of Anatomy," "Review of Physiology, etc.," and notes and reviews of books.

Under such auspices as attend the inauguration of the *Archives* its success is fully assured, and we anticipate finding its numbers filled with abundance of material of the highest value, quite equal to that which renders the first number so attractive and interesting.

RUMBOLD'S HYGIENE OF CATARRH\* is a book of sanitary precepts for the guidance of the victims of this obstinate and almost universal malady, given as the result of the author's long experience of this annoying and mischief-breeding affection. Placed in the hands of the patients of the country practitioner, it will supplement and save much talk. The city doctor usually sends such cases to the specialist, who is better prepared than he is, with suitable appliances to take this enemy of health, happiness and comfort "by the throat." While acknowledging our indebtedness to the author for this interesting little work, we must record our exceptions to the author's injunction to his patients, against frequent change of their underclothing, and note what appears inconsistent advice, in advising patients to eat such food as is agreeable to them, while prohibiting candy and cakes to children. Also to his views in regard to the influence of fretfulness and anger on the restorative progress of nasal catarrh.

We see no logical difference between moderate quantities of uncolored candy and light cakes at proper times of the day, and buckwheat cakes and syrup, which are never or ought never to be refused to children in due season. The book before us is the first part of a complete prospective treatise on the subject by the same author.

NOTA DI CLINICA MEDICA,†—*Del Professore Edouardo Maragliano, Genoa.*—We beg to express our warm thanks to the distinguished author of the above valuable brochure, for his polite transmission of a copy of his valuable practical observations on several highly interesting forms of

\*Hygienic and Sanitive Measures for Chronic Catarrhal Inflammation of the Nose, Throat and Ears. By Thos. F. Rumbold, M. D. Cloth; pages, 174. 1880. St. Louis: Geo. O. Rumbold & Co.

†Notes of clinical medicine, by Professor Edward Maragliano, Professor of Pathology, in Genoa.



disease, which he has treated of with much ability, and with that precision of detail, which is so characteristic of the present cultivators of medical science in the glorious old classic peninsula.

Professor M.'s first article is "*Essential Congenital Tremor*," which is illustrated by microscopical tracings, taken over the muscles of the forearm and leg. The subject of the disorder was a man who had reached the age of 50, and had been effected with the muscular oscillations from his birth; he ultimately became incapable of performing any sort of work. Prof. M. clearly diagnoses the disease as quite distinct from *paralysis agitans*, *disseminate sclerosis* or *toxic tremor*, and he states that it is the first case of congenital tremor that has been placed on record.

Prof. M.'s second article relates to a case of "*Hydroœmic Œdema*" which he ascribes to poverty, hunger and vagrancy. He treated it rationally with plenty of good food and preparations of iron, and though several serious complications had arisen, he had the pleasure of discharging the patient cured in seven weeks from entrance, with an addition of 4 kilograms to his weight.

An important subject treated of by Prof. M. is "*Nitrite of Amyl in Epilepsy*," to which 40 pages are devoted, largely covered with tabular records, arranged in periods of 10 days, showing the number of fits nightly and daily, and their character, as strong or mild, also the number of inhalations administered, and the quantities used. We imagine the latter may be regarded by most of our readers as critically liberal. Prof. M. says he began experimentally with 2, 3, 5, 6 and 8 drops, and being convinced of the efficacy of large doses, he resolutely raised them from 10 to 40 drops, and never observed any bad result. He sometimes extended the periods of inhalation to 15 minutes, or even to 25. The conclusion which he draws from his large surface of figures is not very encouraging to the believers in the curative power of nitrite of amyl in epilepsy; he says the action "was not persistent," and, "at the most, it lasted only for ten days, after being suspended;" but he thinks the results obtained by him should encourage us to give it a full trial.

We much regret that owing to the lateness of arrival of Prof. M.'s favour, we are unable to devote to it that extent of space which we would very gladly award to it. We may, however, in our next issue, present to our readers, some textual extracts, translated into our own language.

THE HYPODERMIC INJECTION OF MORPHINE—ITS HISTORY, ADVANTAGES AND DANGERS.—(*Based on the experience of 360 physicians*), by H. H. Kane, M. D.—N. Y.—The author has given us a carefully prepared work on a subject of interest to every physician. It is no easy task to supply the profession with an interesting and instructive thesis on a subject, the practical bearing of which every one has been dilligently studying for a number of years. This makes Dr. Kane's work all the more meritorious. He has compiled the experience of 360 physicians,—supplying a clinical record, which no other treatise on this subject gives.

After devoting a short chapter to the history of the discovery, the intruments and advantages of the method, he passes to the second chapter, and relates therein the difference of experience found among physicians in

the matter of abscess and inflammation following the puncture of the hypodermic needle, the different solutions used, and of the danger of transmitting syphilis and carcinoma.

Chapter III. treats of the *dose* of the medicine—Idiosyncrasy, narcotism, elimination of morphine by the kidneys, and experiments on the lower animals, tending to show that deficient or abolished renal function, may lead to unusually forcible action of morphine. In chapter IV., the author inquires into certain alarming symptoms following immediately upon the injection, subcutaneously, of moderate doses of morphine.

In chapter V., thirty-six deaths from subcutaneous injection are reported, many of them in subjects of intemperate habits.

Chapter VI. discusses the "Treatment of Opium Narcosis." In chapter VIII., "The Advantage in Using the Sulphate of Atropia with the Sulphate of Morphia for the purpose of Subcutaneous Injection" is considered. In chapter IX., is discussed "The Morphia Habit, Its Danger, Peculiarities and Treatment." This is, perhaps, the most interesting chapter of the work.

The Book will well repay the reader's perusal. We regret that we have not the space at command to give it the extended and critical notice its merits deserve, and which had been prepared for us. While dissenting from some of its conclusions, on the whole we commend it. It is decidedly the most inquisitive and satisfactory book on the subject now before the American public.

**NASO PHARYNGEAL CATARRH**, by *Dr. Martin F. Coomes*, of Louisville, Kentucky, should supplement Rumbold's Hygiene, in the hands of the country physician, as it outlines the treatment pursued by the author, and is accompanied with numerous illustrations of the instruments and appliances necessary in the treatment of this affection. The book is simple and elementary, plain and practical, and well suited as a reference book for the physician who desires to know how to treat this disease. The author is a professor of physiology, ophthalmology and otology, in the Kentucky School of Medicine, member of his State and the National Medical Association, and surgeon to several local medical institutions. Bradley and Gilbert, of Louisville, are the publishers; 1880. The book has 168 pages.

THE TRANSACTION OF THE MEDICAL ASSOCIATION of the State of Missouri, held at Carthage, May 18, 19 and 20, 1880, are presented in 164 pages, bound in cloth and neatly gotten up. The address of the president, Dr. J. M. Maughs, on "Medical Ultraisms" is interesting, and quite characteristic. The essays and reports are interesting, but as a whole, hardly up to the standard of the preceding year for progressive character. The report of Prof. Mudd, on "Lithotomy and Lithotrity" and his contribution to "Cerebral Localization" being probably the best of the papers presented. None of the contributions, however, are discreditable to their authors or the association, though some of them are not so far removed from mediocrity as we should like, for the medical glory of the State, to have seen. Dr. C. A. Todd, discusses "The Dry Method of Treating Discharges from the Ear;" Dr. Tefft, "Miasmata;" Dr. Allen, "The Relation of Mind to Matter;" Dr. Alleyne, "The progress of Medicine;" Dr. Laws, "Medical Education;" Dr. Engleman, "The Accompanying Dangers of Intra-uterine

Manipulations and Operations," while Drs. Lutz, Halley, Steele and Johnson, present, respectively cases of "Cyst of the Broad Ligament, Laparotomy and Recovery," "Resection of the Infra-Orbital Nerve and Spheno Palatine Ganglion," "Deformity of the Wrist successfully relieved," and "Complete Outward Dislocation of the Radius and Ulna."

We have not room for other matters of interest brought before the body. The proceedings are of sufficient value to every physician, not a member of the Association, to justify the pecuniary outlay necessary to procure them. We join our regrets with those of the Publication Committee that the imperfect stenographic reports of the discussions should have occasioned the omission of the remarks, in whole or in part, of some of the members.

We think the Association would do wisely to contract its proceedings next year to some one who would also give them to the profession through some medical journal, as well as in separate form. Such a course would make the work of the Association better known throughout the State, increase its usefulness, membership and prosperity and help the journals. While no journal should have a monopoly of the proceedings, turn about would be but fair play, and sooner or later every reputable medical monthly or semi-monthly throughout the State, old or young, large or small (bids being the same), should have its turn. Such a course could not fail to be promotive of a more vigorous vitality in the representative medical body of the State.

"OFFICIAL REGISTER of Physicians and Midwives to whom certificates have been issued by the Illinois State Board of Health, under the Act of May 29th, 1877; and of Physicians and Midwives who have registered in the County Clerk's office, under the Act of May 25th, 1877, and who claim to have practiced in Illinois ten years prior to July 1st, 1877, but to whom no certificates have been issued. Paper; pages 286. 1880. Springfield, Ills."

We acknowledge the receipt of the above, and upon examination find it the most complete record of the kind we have seen. It is invaluable to all who have use for a complete registry of the physicians of that state.

THE SIXTH ANNUAL MEETING of the Indiana, Illinois and Kentucky Tri-State Medical Society will be held at Masonic Temple, Louisville, Ky., on Tuesday, Wednesday, Thursday and Friday, 9th, 10th, 11th and 12th of November, 1880, and promises to be unusually interesting. Many eminent men will be there, and a good array of valuable papers are announced.

ADDENDUM TO THE ARTICLE ON HYSTERIA BY DR. E. C. MANN.—In conclusion I would say, study the uterus and ovaries, and see that existing disease, if there be any, is remedied. Examine the eyes if you find head symptoms in cases of hysteria and *neuræsthenia*, and I would place the utmost stress on the systematic treatment by rest, seclusion from society, full feeding, massage and electricity. This treatment if carefully carried out by trained nurses, will restore many women to health who are entirely discouraged by the failures of their physicians to cure them, and many of whom are on the border-land of insanity. [Omitted from the context.]

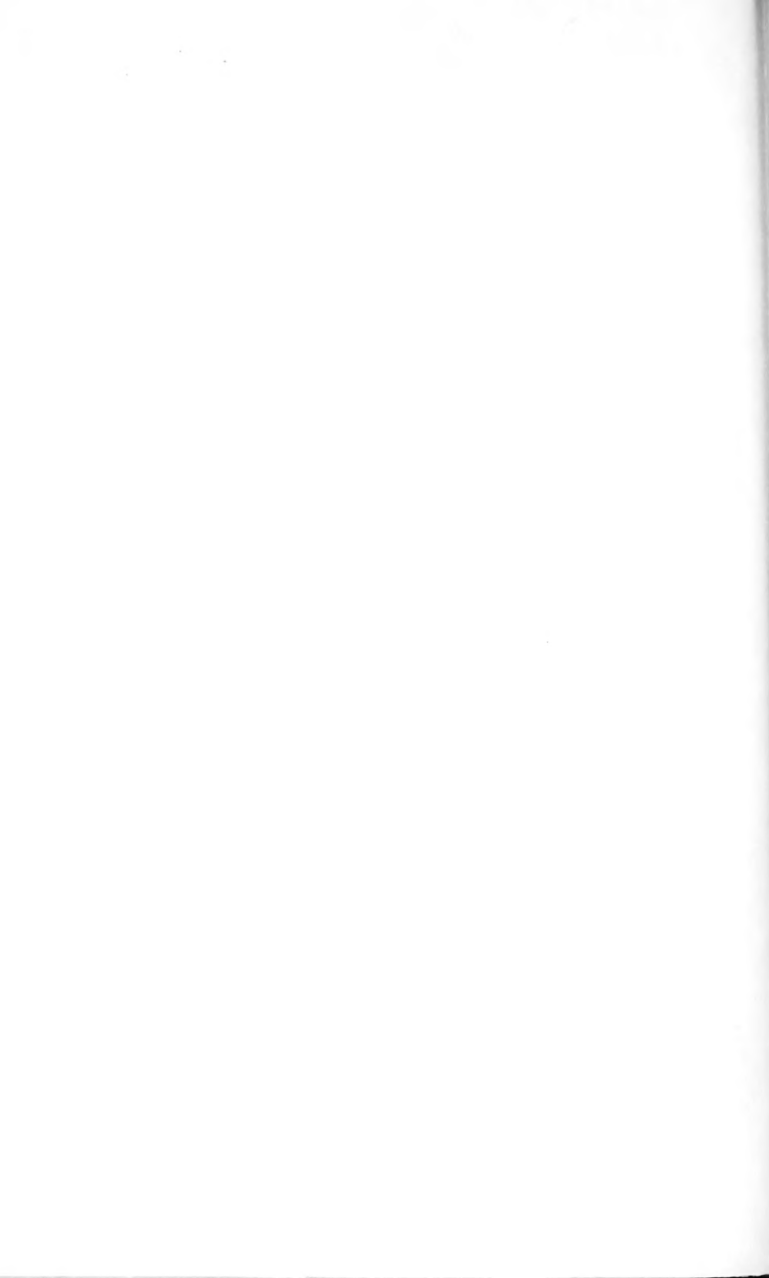
THE INDEX to Vol. I, will be transmitted with the January number.













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