

## **On the nature, and proximate cause, of insanity / by James George Davey.**

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ON THE  
NATURE, & PROXIMATE CAUSE,  
OF  
INSANITY  

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DR. DAVEY.

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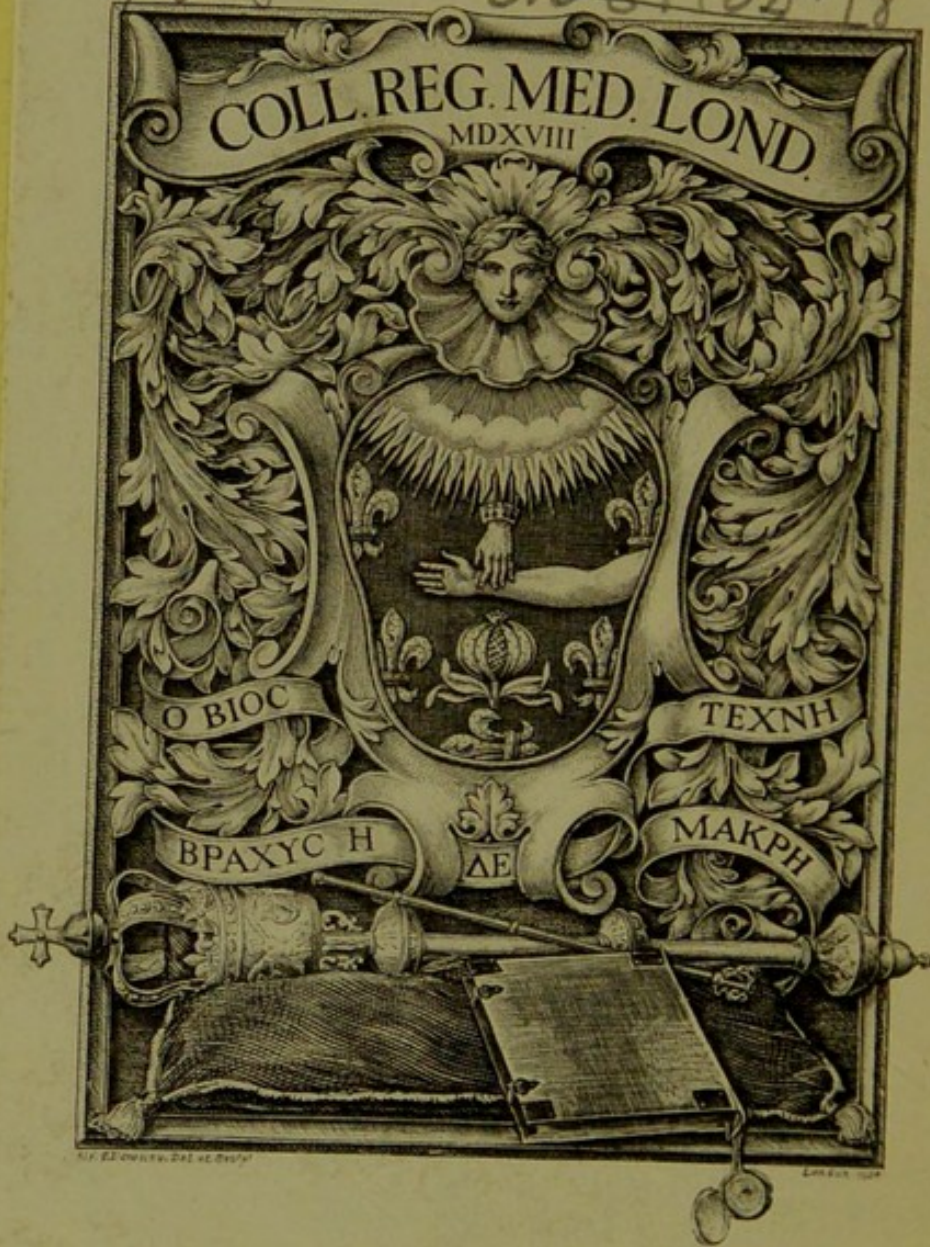
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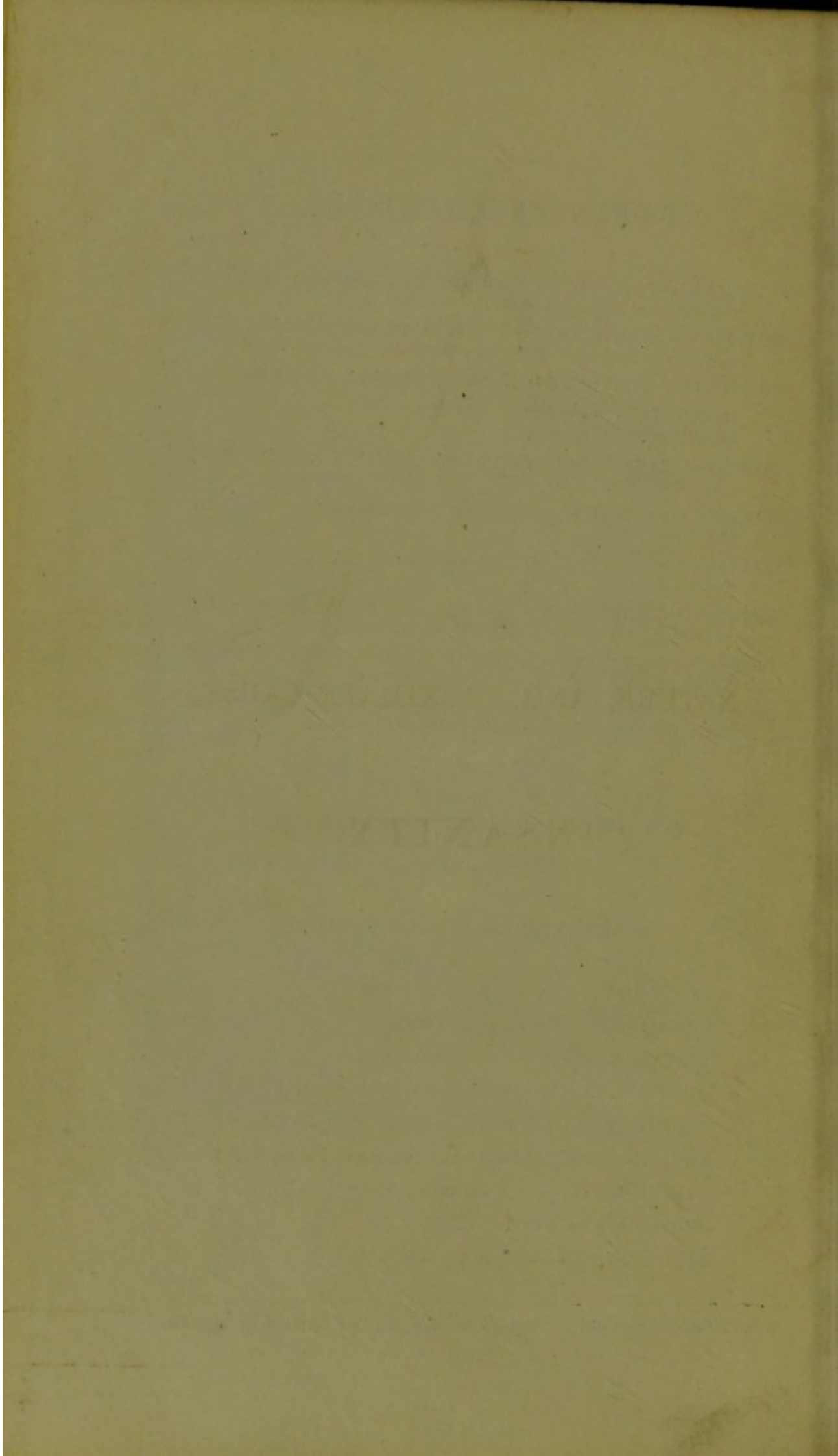
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ON THE  
NATURE, AND PROXIMATE CAUSE,  
OF  
INSANITY.

OF THE  
NATURE AND PROGRESS OF

# INSANITY

BY  
JAMES GEORGE DAVEY, M.D.  
LECTURER AND PHYSICIAN IN CHARGE

OF THE  
INSANE ASYLUM, ST. MARY'S HOSPITAL,  
LONDON.



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NATURE, AND PROXIMATE CAUSE,  
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BY  
JAMES GEORGE DAVEY, M.D.  
FORMERLY OF THE COUNTY OF MIDDLESEX LUNATIC ASYLUMS AT  
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MEM.—The substance of the following pages was read, by the  
Author, at a Meeting of the MEDICAL SOCIETY OF LONDON,  
in January of the present year (1853).

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## PREFACE.

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THE reason for publishing the following pages is,—that I consider the importance of the subject such as to demand the widest publicity. I am moreover prompted thus to present these views, on the *nature* and *treatment* of an important disease, to the attention of my medical brethren, in the hope and expectation that they will be so far interested in the subject treated of, as to afford it some share of their attention; and without which, of course, very little, if any, practical good can be anticipated. The principles of *pathology* and *therapeutics*, herein set forth, it will be seen (on perusal of the following pages) were first published by me in 1842, in an essay entitled '*On the Pathology of Insanity*,' and these have since that time been unceasingly insisted on, (as will appear in the sequel,) both orally and in my published writings; and what is more *practically*

carried out both in my public and private capacities. I would beg in all kindness and sincerity, to call the attention of *Dr. Henry Monro* to the above statement, inasmuch as that gentleman published in 1850 a small book, in which not only are the same *views* advocated, but of which he has, strange to say, claimed the parentage, or first authorship. It may be added, that *Drs. Crichton, Cullen, Good,* and *Willis* deserve to be mentioned as having, *in some degree*, anticipated both *Dr. Henry Munro* and myself; but of their several writings on *Insanity*, I must confess myself to have remained in very considerable ignorance, until very lately, *i. e.* until a period long subsequent, even, to the preparation of the following remarks read at the London Medical Society.

J. G. D.

*Northwoods, Bristol;*

*March 10, 1853.*

ON THE  
NATURE, AND PROXIMATE CAUSE,  
OF  
INSANITY.

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IN the investigation of either the healthy or disordered manifestations of *mind*—*i. e.* the physiology or pathology of the brain—it is no longer the practice of the psychologist to waste his time, or that of his hearers or readers, as the case may be, by discussing the relative merits, or more properly *demerits*, of those of the metaphysical school. *We* have the privilege of living in a new era—one essentially practical and inductive. The school to which we belong recognises facts rather than fiction—things, not mere words. It demands of those who would enter its portals an acute perception, a facility of reasoning power, and an earnest desire for *truth*: to these qualifications, the “*thick-coming fancies*,” the vain speculations, and facile inventions of a Berkeley, or a Leibnitz, or a Cousin, *et hoc*

*genus omne*, must succumb; and what is more, fade ere long from the memory of man,—or, if not quite forgotten, but registered as a series of facts in the psychological history of our race.

Those of my readers who have devoted their time and attention to the cerebral physiology, will not have failed to notice the slow and hesitating pace by which the present 'vantage ground of our science has been reached; in the course of their studies they will have remarked how the doctrine of innate ideas, first shaken by the comparatively crude and feeble opposition of such men as Hobbes, Locke, and Condillac—each of whom advocated the dependency of the mental, or rather the cerebral impressions, on the use of the external senses, became in the severer, because more able, hands of Priestley, Lawrence, and especially of Gall, steadily yet certainly extinguished. The doctrine of the duality of the brain, as taught in the last century by Boerhaave, Van Swieten, Haller, and Bichât, though it led to the speedy extinction of the former crude and vulgar errors held in relation to cerebral physiology, was destined, though not exactly to give place to, yet to prepare the way for the more ready comprehension and reception of Gall's imperishable discoveries. The anatomical correspondence of the two hemispheres of the brain very plainly suggested their individuality of action—*i. e.* in a state

of health; but Dr. Gall was the first to perceive that this—the doctrine of the duality of the brain—was plainly imperfect and insufficient to account for the many and complex mental phenomena which his large and varied experience furnished; and to him, therefore, we have become indebted for a science of mind of the deepest importance, not only to the physician, but to the jurist.<sup>1</sup>

<sup>1</sup> It will be in the recollection of my readers that the late Dr. Wigan, in 1843 or 1844 wrote a book to prove the *dual* nature of the *mind* (brain), and that the medical public, including too a goodly proportion of the medical press, were struck not only with what they were pleased to consider the *novelty*, but with the apparent truthfulness of the doctrine. It is, I conceive, a singular fact in the history of medical (psychological) literature, that the able author of the '*Duality of the Mind*' should have been in 1843 so ignorant of the rise and progress of cerebral physiology and pathology, as not to have known that this same doctrine had been both recognised and taught for the preceding 100 years; and what is more that Hippocrates even had expressed himself favorable to a precisely similar psychology. The following quotations from Van Swieten, Bichât, and Spurzheim prove, and incontrovertibly, the justice and truth of the foregoing remarks. Van Swieten writes thus:—"as the consciousness of impressions in two similar organs is single, as, for example, in the two ears, two eyes, &c., so *mental consciousness* generally is single, though the brain be double."

Bichât in his interesting work entitled '*On Life and Death*,' (the first three chapters of which are devoted to the elucidation of Dr. Wigan's views!) has these words:—"the functions of every organ of the animal life are immediately connected with the resemblance of the organ to its fellow on the opposite side if double; or if single, to its similarity of conformation in its two halves; from hence the influence of organic changes upon the derangement of the functions may be well conceived. But this assertion will become more sensible when I shall have pointed out the relations which exist between the sym-

The investigation of the abnormal states of the mind (brain), their nature and cause, like to that

metry and the irregularity of the organs, and the harmony and discordance of their functions."

Bichât then proceeds to treat of the *external senses*, and having demonstrated how much their healthy condition depends on the symmetry of the organic structures concerned on either side of the body, and contrariwise, he passes on to the "*duality of the MIND*," the healthy manifestations of which he makes dependent on the synchronous action of the two hemispheres of the brain, and its diseased conditions to result from their want of harmony; and finishes the argument thus,—“I now conclude myself to have proved, that with inequality of action in the hemispheres there must be confusion of intellect. I have also pointed out some states of disease in which such confusion is evidently the effect of inequality of action so occasioned. Here we see the effect and its cause: but may we not from analogy infer a similar cause where we see a like effect? when the judgment is habitually incorrect, and all the ideas wanting in precision, may we not be induced to believe, that there does exist a defect of harmony in the action of the two hemispheres of the brain? We see inaccurately if nature have not given to both eyes an equal power; we perceive and judge inaccurately, in like manner, if the two sides of the brain are naturally dissimilar. The most correct mind and the soundest judgment presuppose in the hemispheres a perfect harmony of action; and what a multiplicity of shades do we not behold in the operations of the understanding! It is probable that they all of them correspond to so many varieties in the proportions of power in the hemispheres.”

Spurzheim writes,—“The two hemispheres of the brain, *and the individual parts or organs of each*, may be in different and quite opposite states, and produce different affections. . . . In giving the histories of cerebral injuries, the duplicity of the nervous system has very generally been forgotten; but one half of the brain may be destroyed, and the various faculties still be manifested by the other of the opposite side, just as one of the optic, auditory, or olfactory nerves may be destroyed, without our being blind, deaf, or deprived of our smell. It is well known, too, that the two hemispheres of the brain may be in very different states of health.” Spurzheim cites

of its healthy manifestations, has had to contend against manifold prejudices and difficulties. The pathologist, like the physiologist, when in earnest pursuit of a sound psychology, has had to wrestle long and manfully against not only the ignorance but the prejudice of his predecessors and contemporaries;—nor is it even yet allowed him to relieve and disencumber his researches of the spiritual dogmas claimed by the metaphysician, with impunity. There are yet, I fear, many medical men who refuse

cases from Gall and Tiedemann, and Dr. Parry, of Bath, wherein the inharmonious action of the two hemispheres of the brain was marked by “*double vision*,” or “*double consciousness*,” and “*double hearing*.” He tells us that one of Gall’s friends, a physician, often complained that he could not think with the left side of his head—the right side was an inch higher than the left; and that “Gall attended a gentleman who for three years heard peasants insulting him on his left side; but he commonly discerned his derangement and rectified his error.” I might add, it was Gall’s dissatisfaction with the opinions advocated by his predecessors and contemporaries concerning the brain and its functions, that prompted him to commence and carry through those labours which went to demonstrate not *only* the “*duality of the mind*,” but what is more, the *plurality of the mind*. That the industry and research manifest in the writings of Boerhaave, Van Swieten, Haller, and Bichât materially aided Gall in his original investigations cannot be doubted; and that therefore the doctrine of the *duality of the mind*, as they taught it, much facilitated those labours of Gall with which his great name must be for ever associated. Moreover, without the phrenological doctrine, the super-structure raised by Dr. Wigan on his partial views of mental philosophy, viz. the *duality of the mind*, must break down, fall for want of the necessary support; his *conclusions* are incompatible with the paucity of his *premises*. In the ‘*Lancet*’ for 1844 is contained a paper written by myself, and designed to show the error of regarding the doctrine of the *duality of the mind* as one of *modern date*.



thus summed up, viz.—“ 1st. He has observed that serosity in the great cavity of the arachnoid is wanting in some strongly-marked instances of the disease. 2dly. He has frequently discovered similar effusions in the heads of individuals who had perished under dementia, without any symptom of paralysis even to the last. 3dly. In cases in which effusions were found of five or six ounces of serosity, the symptoms of general paralysis had been not less intense, or even more intense, than in others displaying effusions of twice that extent. 4thly. If the compression of the brain was so considerable as many have thought, the structure of its parts would display disorganisation of some kind; but the structure of the convolutions, commissures, septum, &c. is uninjured. 5thly. In cases of chronic hydrocephalus of long duration, the deposit of serosity has been enormous, without loss of locomotive power, till the disorder reached its last degree. 6thly. If compression from such a cause acted mechanically, we should expect paralysis depending on it to affect all nerves equally or indifferently; no reason could be perceived why the motive faculty should be impaired first in the tongue, then in the muscles of the lower members, and lastly in the upper, as the fact is observed to be in general paralysis. 7thly. We certainly cannot imagine that, such a cause acting, the upper ex-

tremities would still retain their mobility unimpaired, after the total palsy of the lower limbs." For these and other reasons M. Calmeil concludes that "the symptoms of mania, or rather of dementia, or of general paralysis, are not, as M. Bayle supposed, dependent on compression of the brain, the result of effusion, but on the state of the encephalon, which gives rise to such effusion, and chiefly to inflammation, of which the thickenings, adhesions, and vascular turgescence of the pia mater, and the peculiar condition of the cineritious substance, otherwise afford sufficient proof."

On proceeding with our inquiries into this interesting department of pathology, we learn that Foville is the author of opinions which differ widely from not only those mentioned by Bayle, but also from the conclusions of Calmeil, just quoted. Foville, like Calmeil, attaches the greatest importance to the appearances, post-mortem, of the cortical substance of the brain—in fact, these physicians claim for this particular structure a parallel importance to that insisted on by Bayle for the "*meninges*," as he prefers to designate the membranes of the brain;—but whilst doing so, it is not a little strange that the first named should connect with mental derangement (mania) those specific appearances which the latter regards as restricted to general paralysis. When treating of the "*changes in the grey sub-*

*stance,*” Foville has these words: “In the most acute cases the surface of the cortical portion presents, on the removal of the membranes, a most intense redness, approaching to that of erysipelas. This is still more marked in the substance of the grey matter itself; it is more striking in the frontal region than on the temporal lobes, and in the higher regions than in the posterior parts of the brain.” In brief terms, the morbid changes observed by M. Foville in acute cases of madness, are nearly confined to the following, viz.: “Red colour, uniform, and very intense; numerous mottled spots, varying from a bright to a violet-red, bloody points, minute extravasations of blood; diminished consistence in the thickness of the cortical substance, coincident mostly with a slight increase of consistence in its surface; dilatation of the vessels, resistance of their parietes.”

But there seems no end to the disagreements of our continental psychologists—those of my readers who may not have given their attention to the department of medical science which now engages our attention, will be not a little astonished to learn that Foville has found yet another cause for the general paralysis of the insane—one located not in the “*meninges,*” as Bayle teaches us, nor in the cortical substance of the brain, as Calmeil asserts, but in the medullary (fibrous) or white substance of

the cerebral mass;—*this*, he says, is indurated in all cases of Mania, complicated with general paralysis. “Each cerebral fibre has contracted morbid adhesions with the surrounding fibres, so as to render their separation impossible”—such are his words.

Drs. Pritchard and Hitchman, and Mr. Solly, advocate a very similar doctrine to that insisted on by Foville, in so far as the “changes in the grey or cortical substance” are concerned;—thus the first named has given it as his opinion, that a softness of the cortical substance belongs to cases of the last degree of *dementia*, with general paralysis; and that in all such cases its *colour* is more brown than usual. The second writer (Dr. Hitchman) insists on it that insanity is essentially dependent upon “some *change* or *irritation* produced in the vesicular neurine of the convolutions of the brain; and that that malady is influenced by the same laws, and dependent on like physical changes of material structure, as are diseases of the lungs or any other viscera.” “That in every case of acute sthenic mania there is an inflamed condition of that structure; and that the convolutions, if seen, would present a *roseate hue*.” With regard to Mr. Solly, his views on this interesting subject are, in all important particulars, the same as those just quoted from my much-esteemed friend, Dr. Hitchman. At page 400, *et seq.*, of his

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great work '*On the Brain*,' are these words: "We cannot, of course, ascribe the mental disturbance, excitement, excessive pain, intolerance of light, delirium and insanity, which we have observed as the diagnostic marks of inflammation of the arachnoid and pia mater, to simple lesion of either a serous or vascular membrane; we are compelled to refer them all to the injury which that portion of the brain in contact with those membranes must have received from the disturbance of its circulation; hence it reasonably follows, that the hemispherical ganglia are intimately connected with the intellectual powers, and that it is in them peculiarly, and not in the whole cerebral mass, that these powers reside; in fact, as before stated, that the medullary substance beneath is, in all probability, merely the passive servant, as it were, of the cineritious, either as the conductor of its commands to the muscles, or, of the materials, namely, the various impressions made on the peripheral extremities of the nerves of sense,—which the cineritious perceives, and with which it works."

This reciprocity of action, both normal and abnormal, between the "*meninges*" and the cerebral substance is, as Mr. Solly observes, much insisted on by many eminent men, including Pinêl, Bouillaud, and Lallemand. The last named writes: "The substance of the brain is irritated by an

inflammation of the arachnoid, from its vicinity and its functions are therefore exalted—and consequently those of the nervous system under its dependence—and consequently those also of the muscular system,—and from hence arise convulsive movements, &c. ; but as the *tissue* of the brain is not as yet destroyed, these symptoms are neither accompanied with nor followed by paralysis.”<sup>1</sup> I have already stated on the authority, both of Foville and of Dr. Hitchman, that in cases of acute mania “the grey matter of the brain” is found of “a most intense redness, approaching to that of erysipelas,” or “injected, and of a rose colour.” It must be a source of much regret to him, earnest in the pursuit of truth, and without the opportunity

<sup>1</sup> The brain, of course, holds the same relation to its membranes, and with which its surface lies in contact, as the heart and lungs, &c., do to the pericardium and pleuræ respectively, and so on. If an individual is attacked with meningeal inflammation, the fact is necessarily made manifest by the irregular action, disturbance, or excitement of the cerebral faculties, intellectual, emotional, or animal ; and similarly, if an individual suffers from “*pericarditis*,” this pathological condition is made evident to the medical man by its effects on the heart’s action ; and if the pleuræ should happen to be affected with acute disorder, then do the lungs indicate the mischief in progress. Neither the brain, the heart, nor the lungs can be expected to continue their several functions unimpaired, when the serous membrane in contact with either one or the other of them, is involved in disease, or organically impaired. I mention this, because I would have the brain, its functions, and its derangements treated of as alike subject to precisely the same laws as we are in the habit of recognising when speaking of the heart, or lungs, or liver, or stomach, or uterus, —their functions and their derangements.



found in an establishment like Hanwell or Colney Hatch, to collect the necessary facts for himself, to discover so very manifest a discrepancy in the reports and opinions of our most practical and scientific men. Thus, whilst Foville and Dr. Hitchman affirm that the grey matter is *injected* and of a *rose* or *scarlet* colour, Mr. Solly is found to declare the same structure to present, and in the same disorder (mania), "*a dark plum colour.*" And, further, I have before me the notes of the post-mortem examination of M. A—, a patient of the Hanwell Asylum in 1842, and who died there under my care, "*during a paroxysm of acute mania,*" in whom Dr. Conolly has reported that "the cineritious substance" was "*generally very pale;*" but for these, and not less the foregoing contradictions to which I have had occasion to draw the attention, I hope to offer a most satisfactory explanation in the succeeding remarks; and more than this, to render the same the means of demonstrating the *boná fide* nature and seat of mental derangement in all its various phases.

Impressed with the importance of the subject which now engages our attention, I have been at some considerable pains to collect at one view, in the following tabular forms, the practical results of my own investigations into the primary cause of insanity, carried on in the dead-house of the Han-

well Asylum. These extended over a period of about four years, and were commenced and carried through without any preconceived views or theory in relation to this department of our profession; and the facts herein contained are therefore the more likely to be fairly and honestly set forth: for it cannot be doubted that the most conscientious of us are hardly proof against some amount of prejudice and inconclusive reasoning,—so surely do the external senses become, under certain circumstances, the mere tools of the other faculties, persuading if not absolutely leading them into error, from which escape is sometimes hardly possible.

In Table *No. 1*, is shown the numerical proportions of “*mania*,” “*dementia*,” and *melancholia*, and the complications of the two former with *epilepsy* and *general paralysis*, to the whole number of cases examined, viz. 100. I have preferred to confine my attention to but 100 cases, hoping by so doing to give a specific and practical character to the mode of inquiry adopted; and believing the same to be, in all respects, sufficient for the purposes intended. It may be fairly presumed that an analysis of a second, or even a third hundred, would but add to the trouble of arrangement, without, in any appreciable way, adding to the value of the conclusions to be drawn therefrom. In Table *No. 2*, is demonstrated the relative proportions, in

the 100 cases examined, in which the various parts of the cerebral mass and its coverings, including the calvarium, were severally affected, *i. e.*, presented indications of disease, or alterations from the normal standard. Confining my attention to the head, it is proper I should remark here that the appearances, post-mortem, of the several structures enumerated in this Table, were those which belong, for the most part, to either past or present inflammatory action; but this fact the succeeding Table (*No.* 3) is well calculated to prove, and for this especial purpose it has been prepared. To the Table *No.* 4, I would invite particular attention; it is intended to demonstrate the entire want of correspondence heretofore insisted on between the several disorders known as varieties of insanity, and individual post-mortem appearances.

In *eight* of the 100 cases reported, it is seen there were no morbid appearances found on dissection.

A critical analysis of the recorded facts must convince us—1st. That Bayle must have egregiously erred in attributing the exclusive importance he did to the “*meninges*” of the brain, seeing that, however frequently these are found diseased in cases of *mania* and *general paralysis*, nevertheless are exceptions, neither few nor far between—exceptions, moreover, in which the membranes are not only in all

respects healthy, but the abnormal appearances confined to other structures not enumerated by him (Bayle), in spite of his reputed pathological acumen. The researches and opinions of Calmeil we are, I fear, called on to treat with a similar discourtesy. Where to seek for a *practical* illustration of his position, which ascribes to "*an inflammation of the cortical substance,*" the proximate cause of the general paralysis of the insane, I must confess myself entirely at a loss; nor have I been able to discover the relationship insisted on by Foville and others between this same cortical substance, or "*grey neurine,*" and "*acute cases of madness,*" as represented by its "*intense red or rose colour.*" That mania, as complicated with general paralysis, may exist without any hardening of the fibrous portion of the brain—*i. e.* morbid adhesions between the cerebral fibres—is shown by Foville himself, who admits that he "*has found these adhesions wanting in only two cases;*" and by referring to Table No. 4, it is seen that, in one remarkable case of general paralysis combined, not with mania, but with dementia and epilepsy, the "*white substance*" of the brain was found free from all appearance of disease, ("*induration.*")

I may add, if we will be at the trouble to observe what particular portion or portions of the brain and its investing membranes, &c. are found diseased—

whether it be in cases of mania or dementia or melancholia, complicated or not with either epilepsy or general paralysis, it will be seen that the appearances, post mortem, are such, and so united the one with the other, whether of this or that structure, that nothing definite can be made of them, regarded only as *causes* of mental derangement and its complications;—*e. g.* *mania* may be, and is, found with or without disorganization of the membranes,—with or without effusion into the sac of the archnoid,—with or without appreciable disintegration of the vesicular neurine or grey matter,—with or without abnormal changes in the white or medullary matter; and similarly of *dementia*; and so also of *melancholia*; and similarly, too, of both the complications of mania and dementia with either epilepsy or general paralysis. The tabular forms which accompany this essay may be said to furnish too much for any exclusive doctrine; for, if certain facts contained in Table *No.* 4, for instance, were isolated from the others therein registered, the theorist may stand a chance of convincing one of the truth of his delusions, not otherwise. If Bayle were to be told that the majority of the cases of mania herein recorded presented signs of disease of the *meninges*, he would view the fact as demonstrative of his own exclusive system. If Calmeil, Foville, or Solly, were to be

told that in about two thirds of the cases of mania herein recorded, the "*grey substance*" was found disorganised, *they* would insist on it that the fact plainly favoured their own peculiar doctrines, and so on. But Bayle would err, I think, in not taking into his consideration the influence of a depraved calvarium, or that of an abnormal condition of the grey and white substances, to say nothing of the disordered state of the heart and lungs, &c.; for these are shown to have been diseased in nearly three fourths of the instances of insanity enumerated; and Calmeil and Foville and Solly can hardly be held inexcusable for omitting to take into their consideration so completely as they should have done, the effects on the cerebral functions of the other disorganizations contained in the tables appended to these observations.

Having, then, stated the opinions of certain eminent medical men on the direct cause of insanity, and the relation of its several varieties with specific morbid appearances of the brain and its coverings, and having compared the same with my own experience in the matter, and concluded therefrom that the various theories and opinions hitherto advocated are unsound, because contradictory and out of harmony with *all* the facts of the case; having, in a word, shown what is *not*, I hasten now, to what may be considered the second division

of my subject, viz. to treat of what *is* : to know what *is not*, is, in some degree, to be prepared for the truth ; and this (*truth*) is not infrequently the direct sequence of such a negation.

I believe I cannot do better than precede the observations I have to make in reference to the occurrence of morbid action in the brain, with a few words on the physiological uses of the same organ. The brain, then, is that portion of our organism, by means of which the adaptation of man to the external world is, in an especial manner, made manifest. The external senses ever on the alert, as good and trustworthy sentinels, supply to the brain an unceasing stream of knowledge of all the facts and circumstances which may surround us ; and by means of these, and their relationship to the brain, the central organ, the affections of man are called into being, and his sympathies awakened ; the emotions also are similarly excited to action, and the deep passions of our complicate nature aroused. Upon the integrity of the external senses, man relies also for the stimuli necessary to the development and perfectibility of his intellectual powers. The cerebral mass itself is in every way adapted by its peculiar organism to the performance of these wondrous offices in the animal economy, composed as it is of various and dissimilar parts, each one ministering in its especial manner to the

mental entirety of the individual.<sup>1</sup> It must be remembered that the essential material of a nervous system, *that*, in fact, by which it is distinguished

<sup>1</sup> A master mind, in the person of the famous Priestley, suggested some sixty years since, the following truism,—“Continuing to reflect upon the subject, I became satisfied that if we suffer ourselves to be guided in our inquiries by the universally acknowledged rules of *philosophizing*, we shall find ourselves unauthorised to admit anything in man besides that *body* which is the object of our senses.” Since Priestley wrote “*on matter and spirit*” many have directed their attention to psychological studies—and the result has been, his views and opinions have been very generally confirmed. It has been asked by one of the most eminent of living physiologists: “Who knows the capabilities of matter so perfectly as to be able to say that it can see, hear, smell, and feel, but cannot possibly reflect, imagine, judge? Who has appreciated them so exactly, as to be able to decide that it can execute the mental functions of an elephant, a dog, or an orang-outang, but cannot possibly perform those of a negro, or a Hottentot? . . . . Where shall we find proofs of the mind’s independence on the bodily structure? of that mind, which, like the corporeal frame, is infantile in a child, manly in the adult, sick and debilitated in disease, frenzied or melancholy in the madman, enfeebled in the decline of life, doting in decrepitude, and annihilated by death?” This latter question has been replied to by many, and by some men now living, but in a manner indicative only of an imperfect acquaintance with the subject. “Medical writers are still found who show an anxiety to propitiate the fallacies of men long since gone from among us; who, though authorities in their day, can hardly be expected to retain their influence at this period. In the latter part of the past century, physicians and surgeons, with a zeal and industry deserving a better cause, collected *facts* and *cases* from the writings of Morgagni, Bonetus, and Haller, designed to prove the independence of the mental faculties on the cerebral organism; or, what is the same thing, that the texture of every part of the brain may be morbidly altered from its natural state, and yet all the faculties of the mind remain entire,—that portions of the brain have been forcibly detached by cutting instruments,—that great excavations have been



from every other, and upon which the peculiar attributes and powers of the system depend, is not uniformly alike; it is not homogeneous, it is not every where the same. Its physical properties are different in different situations; in one, its colour is grey, and its texture is soft and pulpy; in another, it is white and distinctly fibrous; and these two are not found indiscriminately mingled, but the grey or pulpy is always met with in a ganglion, and the fibrous alone enters into the composition of a nerve,

formed in it by abscesses, scirrhus or scrophulous tumours near two inches in length have been found in it, fungous tumours have arisen from its surface, all its arteries have been ossified, its coats have been variously diseased, the interior part of the cerebrum, and of the cerebellum, the basis of the cerebrum, the pituitary gland, the pineal gland, the plexus choroides, have all been found exhibiting morbid changes of structure in people who were in full possession of their internal senses." The above quotation is from Crichton '*On Mental Derangement*,' published in 1798; in 1844 there issued from the press a small book by Mr. Sheppard, entitled '*Observations on the Proximate Cause of Insanity*,' in which an attempt is made to demonstrate,—“1st. *That insanity does not depend on disease of the brain*; and 2d. *That a morbid quality of the blood is undeniably at times the cause of insanity*; and there is at least presumptive evidence, *that insanity may always be dependent thereon*.”

Mr. Sheppard, like the late Dr. Crichton, has erred in not duly considering the peculiar organism of the brain. Mr. Sheppard knows well, that the brain's functions are a very different affair to those of the liver, or heart, or uterus. The BRAIN is a *double* organ, IT has two divisions or hemispheres, and each one like to either eye or ear is, to a very great extent, independent of its fellow on the opposite side of the head. The science of *psychology* demands the strict recognition of the above fact,—*it might one day have its deserts*.

while the commissures are occasionally compounded of the two. From these and other circumstances, it is fairly concluded that the peculiar power of the nervous system resides in the grey or cineritious portion, and that the office of the medullary is simply that of a conductor. This conducting power is described by Mr. Solly of a three-fold kind.

1st. As a conductor of the stimulus which arouses the cineritious neurine into action, (the nerves of sensation.)

2dly. As a conductor of the will, which originates in the cineritious or pulpy, neurine (nerves of motion or volition.)

3dly. As an agent for the purpose of combining the various impressions conveyed to the cineritious neurine in the ganglion, which may then be viewed as a centre of power, (commissure.)

Viewing the brain, then, as the instrument or bond of union between man and all external objects, and its grey matter as the origin or source of the various emotions, sentiments, and propensities, and not less the seat of both the perceptive and reflective, *i.e.* the intellectual powers,—and considering the white or medullary structure as the conductor to and from it of the various sensations and forms of volition which belong to our nature; and its union with or dependence on the external senses for the stimulus to which it (the grey matter) may be said

to owe much of its integrity, we are directly led to appreciate not only the structures more directly involved in cases of *insanity* generally, *i.e.* of deranged emotions, sentiments, and propensities, but the mutual dependence of the grey and white substances, and their co-operation as a condition of health; and contrariwise. If the production of the *nervous power* in a state of health is due, as it undoubtedly is, to certain and oft-recurring physical changes taking place in the cerebral organism, and this the result of nothing more nor less than the difference of both the organic and chemical properties which distinguish the grey and medullary substances respectively, it must follow that any cause calculated to interfere with such certain and physical changes, whether it operate by either increasing or diminishing their frequency, or altering their order of succession, must, if it exceed certain limits, lead to the secretion of a "*nervous power*" of so altered a quality or quantity as to induce disease,—insanity;—or, to go farther, if the organic or chemical properties which distinguish either the grey or medullary substances become altered in any way; if the "fatty matter," or "osmazone," or "albumen," or "water," lose their legitimate or normal form of combination, or relative proportion in either one or the other, or both of these structures, and so assume another

character, and present, *en masse*, a dissimilar colour or consistence, and so on, it must follow that the same physical changes (just referred to) must be materially and injuriously affected thereby; and if these occur to the grey matter, which is, I think, more commonly the case, this being the source of power to the other parts of the brain, then will one or more of the affective feelings or propensities, or of the intellectual powers, give evidence of deranged action, according to the location and extent of the convoluted surface brought under the influence of diseased action.<sup>1</sup> The application of the facts and

<sup>1</sup> “According to the location and extent of the convoluted surface brought under the influence of diseased action;” these words, my reader may remark, have a phrenological tendency,—they have, and are so intended. How much is it to be regretted that the science which Gall discovered and taught should not yet have found its way into our medical schools? Truly pitiable it is to reflect on the poor and meagre cerebral physiology and pathology, at this day recognised by the profession. Though poets and philosophers for ever exclaim, “*Know thyself*,” “*The noblest study of mankind is man*,” yet are the medical classes, not only in the provinces but in the metropolis, still kept in ignorance of all sound mental philosophy. The writings of Gall and Spurzheim and the Combes are still unread by, and therefore unknown to, physicians and surgeons of the very highest eminence. Throughout the country, psychological journals exist and enjoy a very respectable position, but are nevertheless without the first principles of a sound and inductive psychology. The name of Gall can hardly be found on their closely printed pages, and as for that of Spurzheim or Combe, it is never so much as hinted at. What creates so many of the difficulties in the way of a right comprehension of the various and peculiar indications of insanity, but the want of correct views of the mind (brain) in a state of health! A knowledge of the normal uses of any portion of the human organism must of necessity precede an

principles above insisted on to the every-day history of individual cases of insanity, is alone necessary to verify the origin and seat of this dreadful malady.

acquaintance with its diseased manifestations. The following extract from a paper written by myself many years since may not be out of place:—"The mysteries of the mind and of lunacy fade alike into insignificance before the light of phrenological science; with its aid the brain comes to be regarded as a part and parcel of the human organism, and as subject in common with the liver and lungs, &c., to similar organic laws and sympathies; the several parts of the *brain*, like the several parts of the *eye* and *ear*, are thus seen to be linked together in one harmonious whole; and just as in the latter instances, *vision* and *hearing* result from a well-adjusted balance of the several parts of the *eye* and *ear*, and the due performance of their individual and specific functions in either organ, so does *cerebration* (ENGLITUDE) result from or depend upon a well-organized brain with its several parts duly balanced and adjusted the one to the other."

In my medico-legal reflections on the trial of Daniel M'Naughten, published in 1843, are these words: "The term *insanity* conveys the idea of unsound mind; and in order to express its varieties, the words *mania*, *monomania*, *melancholia*, *dementia*, &c., are in common use. Such import no more than a very general notion of the character of the disease. If the reader bear in mind the preceding remarks, and the principles upon which they are based, he will readily understand how the brain, like any other viscus, may suffer from repletion or collapse; that its function may become impaired in consequence either of general or local alteration of structure; or, in other words, that a part only of the whole organ may become affected with disease, the remainder preserving its normal or healthy character. Disease of the brain, then, may either be confined to a part, or it may affect the whole of the organ; and the disease or impairment of function may be at the same time either the consequence of excessive or diminished action; and, in any case, it may be functional or organic, idiopathic or symptomatic. The indications of these several pathological conditions are recognised by the general term **INSANITY**. Now, disease of any part of the body, including of course the brain, is marked by an interruption to its particular and healthy action, and hence it must follow, that if the cerebrum or brain possess

Among the insane, the "*nervous power*" here spoken of, is, as a general rule, *i. e.* under circumstances of excitement, as in *mania* (acute or chronic), converted into "*irritation*" or "*morbid sensibility*,"<sup>1</sup> (GOOD and BILLING;) and this fact

parts or organs whose functions consist of respectively caution, veneration, self-esteem, firmness, acquisitiveness, destructiveness, combativeness, ideality, gaiety, hope, &c., that a derangement of the *mind*, considered in the abstract, may be caused by disease affecting *one* or *two*, or more, of such functions exclusively. Herein consists the only clue whereby to unravel the mysteries of mental derangement—of, in one word, *insanity*."

The facts and principle involved in the foregoing remarks are in no way contradictory of those ever recognised by writers and teachers of *psychology*. Dr. Mason Good, who was not only no *phrenologist*, but unhappily greatly opposed to, because ignorant of, the science, has these words in the "physiological proem" which precedes his consideration of mental derangement, (*Study of Science*, vol. iv :) "All the powers of the mind are as liable to be affected with diseases, and diseases of various kinds, as those of the body; and either the body or the mind may be enfeebled at the same time in the whole of its powers, in a few of its powers, or in a single power. A sound mind supposes an existence of all the mind's feelings and intellectual powers in a state of vigour and under the subordination of the judgment, which is designed by nature to be the governing and controlling principle; and thus constituted, the mind is said to be in a state of order or arrangement. It often happens that this order or arrangement is slightly broken in upon by natural constitution, or some corporeal affection; but so long as the irregularity does not essentially interfere with the mental health, it is no more attended to than slight irregularities or disquietudes of the body,—yet whenever it becomes serious and complicated, it amounts to a disease, and the mind is said, and most correctly so, to be deranged or disordered."

<sup>1</sup> "The consequence of the brain or spinal cord becoming in a state of *morbid sensibility*, is that its healthy actions are deranged, that is to say, in health the brain communicates to the muscles of voluntary motion the dictates of the will only; but if the origin of

is well illustrated by the origin and progress of almost any case of mental derangement. Long-continued mental exertion, protracted anxiety, or excessive action of any one or more of the cerebral faculties, lead ere long to a morbid susceptibility of a portion or portions of the cineritious neurine,—this, the source of power, intellectual and emotional, if overtaken, loses, like any ordinary muscle, the capacity to respond duly to the too frequent and long-continued calls made on it, and it assumes, therefore, a condition of *irritation* (excitement without power), which, if allowed to proceed unchecked, or if not relieved, realises all the external indications of mental derangement. The brain (grey neurine), like the spinal cord, or like any other portion of animal matter, is subject to precisely similar organic laws; and if we would avoid the consequences of their infringement, man must learn to discriminate between their *use* and *abuse*, avoiding the latter of them. Interesting and instructive illustrations of the *abuse* of the said “*organic laws*,” as shown in the effects on the human organism of the various emotions and passions when urged to excess, or intemperately

the voluntary nerves of a part, in the brain, be in a state of morbid sensibility, or if the same disordered condition of the part of the medulla spinalis, through which the nerves pass, exist, that part may be thrown into action independently of the will, or even against its dictates.”—BILLING, *First Principles of Medicine*, 5th edit., p. 204.

protracted, are furnished by Good in his '*Study of Medicine,*' (vol. iv.) "Cardan gives the case of an artisan of Milan, who having had the good luck to find an instrument that formerly belonged to Archimedes, ran *mad* with the fit of transport into which he was hereby thrown; and Plutarch, in his life of Artaxerxes, has a like story of a soldier, who, having had the high honour of wounding Cyrus in battle, became so overjoyed that *he lost his wits* from the moment. Occasionally, (says Good,) the exhaustion of sensorial power hereby produced is so sudden and total, that the whole nervous system seems instantaneously to become discharged of its contents, like a Leyden phial loaded with electricity when touched with a brass rod, and death takes place at the moment. There are various instances on record in which a like fate has followed upon the injudicious production of a pardon to a culprit just on the point of his being turned off at the gallows. Valerius Maximus relates two anecdotes of matrons, who, in like manner, died of joy on seeing their sons return safe from the battle at the lake Thrasis: the one died while embracing her son; the other had been misinformed, and was at that moment lamenting his death." Dr. Good adds: "Many a crown won by good fortune, and which might have been preserved by moderation, has been lost by the delirium



of pride and vain-glory; of which the history of Demetrius of Macedonia furnishes us with one of the most memorable examples; who, in his disgraceful fall, was obliged to abandon, among the other idols of his heart, the unfinished robe which was to have hung over his shoulders, containing a magnificent embroidery of the sun, the moon, and all the stars of heaven, designed to have represented him as the sovereign lord of the whole. But if *such* be a frequent effect of the stirring passions of a pleasurable kind, it is not difficult to conceive that those accompanied with pain, as the passion of *anger*, and all its compounds, suspicion, revenge, and especially jealousy, must make a much wider inroad upon the domain of a well-ordered mind, and introduce confusion and derangement. Nor is the effect confined to the head, for a stimulus thus violent affects the entire system, and, as we have already observed, has a peculiar sympathetic influence on the liver, producing in many instances a very diseased secretion of the bile, and altering it, in a very short period, not only in its quality, but in its quantity. At the same time, every vessel is exhausted of its irritability, and the whole strength is so prostrated, as occasionally to lead on to obstinate faintings, convulsions, and death. The expressions and gestures are always violent and offensive, and are similar to those of maniacal rage;

the eyes are red, and inflamed; the countenance is flushed, swollen, and distorted; and the person is ungovernable. Such was the case in 1392 with Charles VI of France, who, being violently incensed against the Duke of Bretagne, and burning with a spirit of malice and revenge, could neither eat, drink, nor sleep for many days together; and at length became furiously mad as he was riding on horseback; and drawing his sword, struck promiscuously every one who approached him. The disease fixed on his intellect, and accompanied him to his death." The last days of our own Elizabeth furnish an additional illustration of the ill-effects of the application to the '*grey matter*' of a stimulus too intense or long-continued, or, what is the same thing, incompatible with the healthy uses of the cerebral mass. The life of this once-popular princess was plainly sacrificed to her female vanity. Enraged beyond endurance at what she conceived the slights of her favorite, the famous Earl of Essex, her haughty and imperious nature leaped all bounds of prudence and foresight. Stung by remorse and grief for having, under the operation of strong and vehement passion, ordered the execution of this nobleman, her mind knew no repose; sleep fled from her couch, (to speak figuratively, for she died on the floor of her apartment;) and she sank into a deep melancholy. The bodily exhaustion which thus

resulted was greatly aggravated by her refusal of all food and medicine ; and in a few weeks she expired under the accumulated pressure of an “*acute melancholia*,” the offspring only of her own “*abuse*” or infringement of the organic laws ; to which, I need not add, we all owe obedience and *enjoyment*. That *insanity* is primarily a disorder of the *nervous* rather than of the vascular system,<sup>1</sup> is proved by the frequency of its occurrence among the poor and

<sup>1</sup> There is, I think, a fashion in this day for tracing diseases almost exclusively to *vascular* derangement, and overlooking the morbid movements or state of the *nervous* system. The longer we live, says a reviewer in an old number of the *Medico-Chirurgical Review*, the more we see and the deeper we study, and so much the more are we convinced, that not only are the primary *impressions* of morbidic causes sustained by the *sentient* system of the human fabric, but that it is in *this* system the primary morbid *movements* first begin, and are thence propagated to the vascular system ; which, from that moment, re-acts upon, and is again influenced by, the nervous system.

“All diseases commence,” says Dr. Billing in his ‘*First Principles of Medicine*,’ “by disturbance of the function of the solid parts of the machine ; and first of all, of the nervous system. This is ‘solidism,’ or ‘neuro-pathology.’ The nervous system regulates and supplies all with energy ; there is no organic sensibility, or organic contractility, independent of the nerves. Every natural impression is received by the nerves ; every morbid agent is first felt by and operates upon the nerves. Inflammation of cellular tissue, bone, conjunctiva, &c., through mechanical or other violence, result in consequence of injury to the peripheral nerves, and to the capillaries ; fever, from injury to the centres of the nervous system, which arises either from peripheral injury propagated to them, or through lesion by miasma, which, by the route of the circulation, directly poisons them ; most probably by chemical combination and alteration, instantaneously lowering their power or energy. I have shown throughout, (he adds,) that the immediate effects of the lowering of the

half-starved in the lower classes, and not less by the general state of health of its victims in the middle and higher classes of society. Apart from the consideration of hereditary tendency to mental disease, insanity is very commonly associated with the more common signs of an acquired constitutional debility. All those of lax fibre and of weak and delicate health,—all those whose nervous organism is incompetent to a prolonged exertion, or power and energy of the nerves or nervous system is inflammation, or congestion of the capillaries,—the first degree of inflammation.”

The reader is referred to an able article in the *British and Foreign Medical Review*, (1850,) in which he will find the theory of inflammation, known as the “*neuropathic*” or “*neuro-pathological*,” most ably treated. Mr. Paget, it would seem, has taken an objection to the views of the “*neuro-pathologists*,” inasmuch as “the firmest tendons and articular cartilages” are liable to inflammation; and these, he says, have no *nerves*. I would add, not perhaps *cerebro-spinal nerves*; but do not these structures named contain organic or *ganglionic nerves*? Mr. Simon has expressed himself similarly to Mr. Paget; and in confirmation of his opinion, this gentleman does not, like Mr. Paget, cite what he supposes to be nerveless structures, viz. tendons and cartilage, but paralysed parts, and those rendered nerveless by operation or division of nervous trunks,—*cerebro-spinal nerves*. Mr. Simon gives a case of anæsthesia of the fifth nerve, dependent on organic disease, wherein the local contact to the conjunctiva of a few grains of cayenne pepper caused violent inflammatory symptoms. This gentleman adds, “no nervous excitement could have preceded this said inflammation, because the fifth nerve was annihilated; the patient operated on suffered neither from pain nor from lacrymation.” Mr. Wharton Jones in his lectures adopts a very similar line of argument to Mr. Simon; he, however, would seem to agree with Dr. Billing in supposing that capillary congestion or “dilatation” (HENLE), alias, the “*stagnation of the blood*,” is in some way directly dependent on the suspension of the nervous influence upon the *arteries* and not on “*nervous excitement*.”

a sustained volition directed to the acquirement of the means of support,—are especially prone to attacks of insanity. The poorer classes—the unhappy victims of a depraved and exhausting physical regime, extended over successive generations,—inherit all the seeds of impaired mind, in virtue of an imperfectly-matured nervous or cerebral organism; and these, therefore, are very liable to insanity. But each and all of those, to whatever class or station of life he or they may belong, who are exposed to the depressing or exhausting influences on the brain and nervous system, of long watching, protracted labour, or insufficient or unwholesome food, can hardly be expected to escape therefrom with impunity. From a large experience of these matters, extended over a period of thirteen years, I have come to the conclusion that insanity is most decidedly a disease of debility, as the preceding remarks so plainly indicate; and this fact is made evident not only by its occurring very much more commonly than otherwise to those who have either inherited a weakly and delicate constitution, or whose various excesses or extravagancies of life, or misfortunes, have induced such a state of things; but by its attacking persons who may happen to be exposed to any accidental or temporary cause of exhaustion, such as hæmorrhage, night-watching, the puerperal state, long-continued

and violent pain, the depressing passions, &c. In such patients it must be directly conceded, that the absence of all signs of a phlogistic diathesis precludes the bare idea of inflammatory action, of either the brain or its membranes. The symptoms which characterise the mental disorder in each are not those belonging to an increased vascularity; the heart's action is rapid, but *feeble*; the temperature of the skin is not, generally, increased; nor is the countenance flushed. The great excitement and well-marked restlessness,—the unceasing mobility,—the rapid succession of ideas, and consequent incoherence of speech,—the wildness of manner and automaton-like movements which mark an acute attack of mania,—are, then, the direct effects of a "*morbid sensibility*" of the cineritious neurine or grey matter of the brain;—what was "*use,*" or power, has become "*abuse,*" or *action without power*;—and this the consequence of the application of a stimulus too intense or long-continued, or disproportionate, in some way, to the healthy physical capacities of that portion of the cerebral structure named. *In the grey matter of the brain, then, is located the proximate cause of insanity.*

To recapitulate:—if the convoluted surface of the cerebral mass be, as it really is, the seat of the intellectual faculties, and not less that of the affective feelings, the emotions, and propensities,—

call the primitive mental faculties by whatsoever name we may,—if the *grey matter* be the seat and source of power of and to all these—the measure of their activity and endurance,—if its quantity and quality in certain parts of the cerebral surface be the certain indices to their several existences, so to speak, then,—admitting the physiological position—must the same be, in every case of insanity involving a disorder of either one or more of such primitive faculties or propensities, whether intellectual, moral, or animal, the *bonâ fide* seat of diseased action.

The tabular forms which accompany or rather form part of this Treatise, demonstrate the fact, that rather more than nine tenths of the whole number of cases examined revealed appearances, post-mortem, which were plainly referable to either past or present inflammatory action of the brain, or of its investing membranes. *How*, the reader may probably inquire, do you reconcile this fact with your theory of irritation or “*morbid sensibility*” of the grey matter of the brain? I will, then anticipate the question, and would reply, “most easily,” and on grounds few will be inclined to dispute.

Admitting that the proximate cause of insanity consists in an irritation or morbid sensibility of the grey (nerve) matter, and admitting also the dependence of the normal action of the vascular

system on the integrity of the nervous power, it must follow, that in all cases wherein the latter is interrupted from any cause, the former, *i. e.* the vascular system, cannot escape the consequences. If "*morbid sensibility*" occurs to the nerves of a part, the consequence either of the application of an external stimulant, or the result of some accidental and internal or organic change, the capillaries, although they may resist, more or less, and for a given time, the injurious effects of the same, are ultimately rendered incompetent to the proper discharge of their offices in the animal economy; and losing the *tonicity* natural to them, and through the instrumentality of which the blood is forced onwards through their delicate textures, they become congested, their parietes yield to the pressure of the contained fluid; and unless this be relieved, inflammation, more generally of an *asthenic* character is set up, and the chances are that a certain amount of disintegration (of the tissues involved) follows;<sup>1</sup> and to this succeeds the various necro-

<sup>1</sup> "Irritation, continued excitation of the nerves, *i. e.* nervous tissue, of a healthy part, at last produces inflammation by exhausting that nervous influence which gives the capillaries power; they become weakened, allow of over-distension, and the part is in the state of inflammation or congestion."

\* \* \* \* \*

"Thus in a part inflamed there is a diminution of organic action, in consequence of which the blood is admitted in excess. As long as the capillaries are supplied with nervous influence, as long



scopical appearances contained in the accompanying tables, all of which, as I have remarked above, are "plainly referable to either past or present inflammatory action of the brain or its membranes." There can be no doubt that the various effusions, opacities, adhesions and vascularities, and so on, which appear on the examination of the brain and its investing membranes, in persons dying insane, must be regarded as the mere *effects* of the cerebral disorder, and not as its first cause. It must be remembered, in connection with the foregoing, that of the one hundred cases reported on, there were eight per cent. without any appreciable lesion of the

as they possess perfect organic action, they preserve a due size; when they lose it, either from the influence not being supplied from the nervous system, or robbed of it by heat, electricity, cantharides, or other cause, they give way, and admit more blood than before. Taking this view of the proximate cause of the enlargement of the capillaries, we can account for all varieties of congestion, from a simple transient blush to the stage with which inflammation commences; and it must be impossible to draw a line between congestion and inflammation, one passing into the other by insensible shades. Hence the numerous terms used by authors to express the gradations of distended capillaries; congestion, active and passive, engorgement, hyperæmia, erythema, passing to erysipelas, &c."

\* \* \* \* \*

"As soon as a want of that harmony between the nerves and capillaries which is necessary to organisation, takes place, their fine tissue begins to decompose, the particles which were held together by this inscrutable agency begin to be precipitated from one another; and this takes place in every shade and degree, from the slightest scorch of the fire, or blush from the wound of an insect, to mortification and putrefaction."—BILLING.

parts within the cranium, although, in each instance of the kind, the investigation was conducted with great care. The not infrequent absence of all signs of disease of the brain among the insane, is a fact recorded by almost all writers on this branch of medicine; and this circumstance in itself proves, in the words of Dr. Copland, that “changes may take place in the nervous system, not only sufficient to produce disease, but even to subvert life, without being so gross as to be demonstrable to the senses.” Thus I am in possession of the notes of a very singular case,—it is that of a female who had been insane for a period of eighteen years, on examination of the cranial contents of whom no vestige of disease could be discovered.

In *recent* cases of mental derangement which have terminated fatally,—*i. e.* in cases wherein the cerebral disorder is confined to the nervous rather than to the vascular structures, or wherein the morbid affection of the former has not yet involved the latter portion of the organism,—we may not expect to find else than the most superficial changes, and even these doubtful; the signs of congestion or of an increased vascularity, if any, are just as likely to be the mere concomitant of death, or what is the same thing, the mere effects of the cessation of vitality in the parts themselves, as anything else. If, however, the mental disorder has passed beyond

its first stage, viz. that of *morbid sensibility*, and death should then occur to the subject of it, the presence of congestion—the direct antecedent of inflammatory action—may be anticipated. The continued excitation of the cineritious neurine, and with it that also of the medullary portion of the brain, mutually dependent as these two structures are on each other, must necessarily involve the capillaries of the parts named in the disorder *primarily* affecting their “*nerve-matter.*” It has been plainly shown by Dr. Billing, that the “*morbid sensibility*” here spoken of becomes, after a time, succeeded by a loss of power, a comparative inaction of the said “*nerve-matter,*” and the capillaries of the part or parts affected losing thereby the contractility natural to them, admit of over-distension (*congestion*), and that this morbid condition being realised, the transition to an inflammation of the tissues involved is a certain sequence; and on these grounds we come to understand *why*, in the examination of the heads of persons dying insane, more than nine-tenths of the whole number should present such unequivocal marks of disorganization as they do. The opinions herein set forth I had the honour to lay before my medical brethren so far back as July, 1843, (now nearly ten years since.) In a paper “*On the Pathology of Insanity,*” then published by me, are these words: “If we imagine an

individual labouring under any intense mental emotion, as *avarice*, *grief*, or *pride*, it would follow that the increased and increasing physical action of the same portion or portions of the brain would induce such a state of susceptibility or irritation ('*morbid sensibility*') of the grey matter involved, that at length the volition would become suspended, or, which is the same thing, the structure itself assume a condition of being wholly incompatible with its normal action; and if such remain unrelieved, nothing is more likely than the occurrence of inflammation of the brain and its membranes, more or less insidious, which progressing, would necessarily beget those palpable disorganisations of structure, effusions, &c., so generally observed. Such, I repeat, are generally the effects of diseased cerebration, and not its first cause." In treating of the frequent occurrence of asthenic inflammation of the parts within the cranium occurring to the insane, or, in other words, in the progress of insanity, that is, of that form of the disease consequent on "*nervous irritation*" (to quote again my own words), I have this remark, viz.: "The patients in Hanwell are very liable to attacks of cerebral and meningeal inflammation, and which not unfrequently prove the immediate cause of death. In such cases, the general symptoms which indicate the existence of inflammatory disease, assume the same asthenic

character which belongs to pneumonia, enteritis, erysipelas, &c. &c., when occurring to nervous and delicate subjects; and upon the same principle that such persons are more liable to the ordinary derangements of the general health, of which sub-acute or chronic inflammatory diseases form a great part, so are the insane predisposed to the occurrence of cerebral and meningeal inflammation, *and hence the ordinary appearances observed after death.*"<sup>1</sup>

<sup>1</sup> The paper from which these quotations are made, is contained in vol. i, of the *Zoist*. It was written (in 1843) to prove that insanity is a "NERVOUS DISEASE," that it consists primarily in a state of "*irritation*" (*morbid sensibility*, BILLING,) "of the ultimate (molecular) structure of some portion or portions of the cerebral mass,"—"which, continuing to increase in intensity and extent, so affects the vascular condition of the brain and its membranes that to it at length we become indebted for the more palpable and demonstrable pathological conditions" described;—and the above was declared to be the inevitable conclusion from the following facts, viz., "that the most violent forms of furious mania more commonly occur to persons of weak and delicate fibre and great susceptibility;" that "the most urgent symptoms of acute insanity are more frequently witnessed in combination with a small and feeble and quick pulse, cold skin, and a retracted and anxious countenance;" that "the most appropriate and successful treatment consists in the administration of sedatives with a generous diet, and the employment of those various means calculated to improve the general health;" and that "many cases of violent mania are cured in Hanwell (by the author) by the administration of wine and steel." Seven years after (*i. e.* in 1850) the foregoing opinions were published in the columns of the quarterly named, Dr. MONRO, jun. gave to the medical public a book entitled '*Remarks on Insanity, its Nature and Treatment,*' in which not only are the very same views as regards the specific nature of mental derangement, its association with an impaired general health "*vital exhaustion*" (DAVEY), "*vital depression*" (MONRO); its frequent com-

I may remark here, that both Pinel and Jacobi appear to have been so struck with the disproportion observed between the morbid changes of the brain and the mental disorder manifested during life, that they have been induced, plainly enough, to conclude that insanity is but *rarely* the result of idiopathic cerebral disorder, but generally the offspring of disease of the heart or lungs, or liver, and so on. If Drs. Pinel and Jacobi had been more discerning psychologists, they might have known not only that the integrity of the nerve-matter of the brain is of the *first* importance to a *sound* mind, but that its disorder is, as a general rule, the *first* cause of insanity; and hence, as has been above shown, the uncertainty of the pathological changes observed by them. It must be conceded, that the appearances observable on examination of the brains of the insane, are just those which are found in those persons who have died from more ordinary diseases, as fever, apoplexy, &c. Haslam was plainly of

combination with *asthenic* inflammatory affections of the cerebral mass and its membranes, effusions, &c., regarded only as "EFFECTS," (DAVEY and MONRO), of a pre-existing cause, viz. "*nervous irritation*" (DAVEY), "*irritable excess of action*" (MONRO), and its treatment by "*a generous diet*," and "*the employment of those means calculated to improve the general health*" (DAVEY),—"good food" and "*tonic medicine*" (MONRO), advocated; but what is a very singular feature, these same views or opinions are arranged in the very same order and sequence. It has been with no slight satisfaction, I have found my own judgment confirmed by the experience and investigation of Dr. Henry Monro.

this opinion. He says that "nothing decisive can be obtained in reference to insanity from any variations of appearance that have hitherto been detected in the brain." I cannot forbear quoting the following few lines from Esquirol; they are pregnant with truth, and deserve therefore our best attention: "The inspection of bodies of lunatics offers numerous varieties as to situation, number, and kind of morbid appearances. The lesions of the encephalon are neither in relation to the disorder of the mind, nor to the maladies complicated with it. Some lunatics, whose mental and bodily disease had given suspicion of extensive organic lesions, have presented but slight changes of structure in the brain; while others, whose symptoms had been less severe, have been the subjects of great and numerous alterations. But what disconcerts all our theories is that, not unfrequently, even in the instance of patients who have passed through all the stages of insanity and have lived many years under derangement, no organic changes whatever have been traced, either in the brain or its containing membranes."

It is quite necessary that pathologists should be prepared, *at this time*, with more correct views of insanity than those too generally entertained. All know well the relation of *neuralgia* to the sensory nerve-fibre; of *chorea* or *tetanus* to the motor track, or its

dependencies ; of *asthma* to the pulmonary nerves ; or *angina pectoris* to the cardiac ;—all practitioners are prepared, I take it, to explain the dependence of either one or the other of the diseases here named—of neuralgia, tetanus, &c., on a “*morbid sensibility*” of specific portions of nervous matter, *grey* or *white* ; but all do not so well know, it would seem, that the only difference between maniacal affections and those I have just named, is in the *seat*, and not in the nature of the disorder. The parts first or directly affected in these several morbid conditions enumerated, exercise, as a general rule, certain functions in the animal economy, *i. e.* they contribute their respective aids to the animal functions, which, combined, constitute the *life* of the individual ; but *exceptions* now and then occur, and the same parts then exercise an abnormal influence ;—contribute not *aids* but obstructions to the animal functions in a state of health ; or, in other words, what was *use* becomes *abuse* ; disease is set up in the nervous system, and the nature of this will depend on that portion of the nervous organism affected. If it be the grey matter of the brain, insanity in some shape or the other will show itself ; if it be the grey matter of the cord, sensation will be deranged ; if it be in the medullary or white fibrous matter of the brain or cord, either volition or motion will be impaired, and so on ; and hence the occur-



rence of not only mania and dementia, but of neuralgia and anæsthesia, of tetanus, chorea, paralysis,—and what is a very material point, each and all of which, not forgetting *asthma* and *angina pectoris*, to carry out the simile, are commonly, in *chronic cases*, complicated with an asthenic inflammation of the vascular tissue of particular parts;—the usual signs of which are not only discoverable after death, but are indicated to the physician or surgeon during life.

Pinel and Jacobi, Haslam and Esquirol, have distinctly admitted that “no lesions sufficient to account for the phenomena of uncomplicated” *insanity*, “have been hitherto detected in the” *brain*; and strange to say, Laennec has employed these very *words* to prove the same of “ASTHMA” and the LUNGS. Nor does the parallel insisted on end here;—it has been above shown that insanity, as a general rule, occurs to the delicate and enfeebled, and to those of much susceptibility; that this is the case with the various nervous affections named, no one will doubt. Attacks of insanity, like those of neuralgia, hysteria, chorea, tetanus, asthma, and angina pectoris, are not unfrequently quite sudden, *i. e.* not characterised by any premonitory symptoms, and what is more, are oftentimes but of temporary duration; insanity is essentially a remittent, if not a paroxysmal disease, and so also of hysteria, chorea, asthma, &c. Like the

*neuroses* generally,—*insanity* will sometimes, and all at once disappear, and that even after long years of endurance, and without any of the usual signs of amendment preceding the restoration of the party afflicted.<sup>1</sup> The *treatment* found most efficacious in

<sup>1</sup> The accession, progress, and termination of insane affections, like all the *neuroses*, is oftentimes most peculiar and capricious; thus Sir Astley Cooper, in his work '*On Dislocations and Fractures*,' records the case of a gentleman afflicted with mania, who, being left alone, seized the opportunity and jumped out of the window of his apartment, on the third story, into the street; and alighting on one of his feet sustained a compound fracture of the ankle-joint. From the period of the occurrence of the accident, the indications of insanity left him; he became composed in his manner and coherent in his speech. *He quite recovered.* This gentleman, moreover, sustained only a temporary inconvenience from the injury received. During my official connexion with the Hanwell asylum, one of the epileptic patients, an imbecile girl, who had so many as four or five convulsive attacks each day, when out walking fell down a steep bank, and alighting on some heavy stone-work, received a lateral dislocation of the foot, with fracture of the external maleolus. Although she was under surgical treatment for a period of nearly two months, she was, during the whole of this time, without a single epileptic seizure; but no sooner was the use of the extremity restored to her, than the attacks returned with their former frequency and severity. This girl, I may add, had been the subject of epilepsy for some ten or twelve years. *Mania* and *epilepsy* are equally the external and physical manifestations of a "morbid sensibility" of portions of *nerve matter*. The cerebral derangement of the one, like the convulsions of the other, but too plainly indicate a want of balance between the nervous and vascular forces, the former being in excess. The specific and remedial effects of the local injury in either case, on the brain or spinal cord, can be, perhaps, but a matter of conjecture at the present time.

Good, in his '*Study of Medicine*,' quotes a case of sudden recovery from puerperal insanity from GOOCH, which in itself affords a very good example of the occasional "*capricious*" termination of mental dis-

lunacy is precisely that required in the management of the "*neuroses*;" whenever cerebral derange-

order. The lady, who had been some time ill, was suddenly brought into the presence of her husband, whom she believed to be dead; the effects were "*magical*,"—"she has since then continued perfectly well, and has had another child, without the slightest threatening of her former malady."—GOOCH.

It is well known that insane persons occasionally, on being attacked with acute disease, as well as on the receipt of accidental injury, become perfectly sane; I have met with several such instances. An inmate of Hanwell, the subject of chronic mania, suffered from a severe form of pleuro-pneumonia; directly on the accession of the new disease, the brain perfectly recovered its tone, the disordered mind was temporarily cured; but after a few days, the morbid affection of the respiratory organs was relieved, its symptoms had yielded to appropriate treatment, and then the cerebral derangement returned. An insane patient under my care had a large carbuncle over the inferior angle of the scapula; the local symptoms were very urgent, she suffered intense pain in the part, in spite of the free incisions made through its substance. From its occurrence to the separation of the gangrenous cellular tissue, or until the wound began to suppurate kindly, this poor woman gave no kind of evidence of deranged mind,—but no second carbuncle made its appearance, and she relapsed into her previous madness.

During my recent connection with the New County Asylum at Colney Hatch, one poor woman, an inmate of the establishment, admitted when pregnant, was seized with labour-pains. These continued, and in the most natural manner passed from bad to worse; in proportion to their severity so did the mind recover its former and lost tone. On delivery taking place, and for two subsequent days, my patient was not less sane than myself,—however, her cure was a very temporary one, she quickly relapsed into her former wild, fanciful, and incoherent manner and speech. Another, who happened to fall off some stone stairs, and who thereby received a severe contusion of the fore-arm, which was followed by "*low cellulitis*,"\* on one occasion of my visiting her, and on hearing me give some directions to the infirmary attendants, preparatory to

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\* S. F. Statham's '*Practical Sketch of Low Inflammation*.'

ment, or neuralgia, or chorea, or tetanus, or asthma, or angina pectoris is found complicated with local inflammatory disorder, increased vascularity of the structures involved, local bleeding is practised with good effects; counter-irritation and mercurial alteratives (with the occasional employment of opiates) are then also prescribed. But apart from such a complication in these several maladies named, the indications of treatment required are equally applicable to any one or other of them. It will be, I apprehend, readily conceded, that in *all*, it is of the first importance to establish a normal action of the *prima via*, thereby ensuring a healthy state

my making incisions into the part affected, to my great astonishment, addressed me after the most sane and approved manner, concerning the accident which had befallen her, and the chances of her recovery therefrom. She continued in the possession of her mental faculties for about eight or ten hours, when, after some general signs of nervous excitement, she became more or less delirious. An irregular kind of epileptic attack succeeded the exaltation of the cerebral functions, and after a few hours she died. Within two or three weeks of the last casualty, a young woman (insane many years) who had long been suffering from *phthisis*, became, about eight hours before her decease, so *sane* as to talk not only most rationally, but in the most affecting manner of her illness and near dissolution; this case produced a strong impression on the infirmary attendants, from the strong contrast furnished in the state of mind of the patient just before her death, and on all former occasions;—as a more *maniacal* person, literally speaking, can hardly be conceived. Dr. Billing accounts for the occurrence of phenomena like to those above detailed, by the fact of a certain relaxation of the capillaries of the brain taking place, and thereby altering “*the active character of the complaint.*”—‘*Principles of Medicine,*’ p. 221.

of the secretions and excretions, both as regards quality and quantity; in *all* the necessity to counteract the debilitating influences of diseased action in the system by the use of tonic remedies, as quinine, steel, &c.; and so to preserve the constitutional powers, as far as possible, unimpaired, is sufficiently apparent to every practical man. In each one and all of these affections the adoption of that physical regime calculated to supply pure air to the lungs, appropriate food to the stomach, power to the muscular system, agreeable and varied occupation to the mental faculties, and tone to the perspiratory apparatus, will be held as an essential element of treatment.

This paper has already exceeded the limits which I had proposed to myself, or I could have furnished many practical illustrations of the successful treatment of the most violent forms of mania by tonics and good food; confirmatory as these are of the correctness of the pathological views set forth. I may be permitted to add these few words:—it is admission day at the Hanwell Asylum or at Colney Hatch, the medical superintendent is summoned to a patient just admitted, he proceeds to the admission room; what a spectacle awaits him! A female, bound hand and foot, the arms and upper part of the body encased in a hard and stiff canvass envelope, the feet secured to each other by a handkerchief or

coarse bandage; around her are perhaps two or three females and a parochial authority, who have brought her from one of the metropolitan union houses. The vehement and useless struggles of the poor patient to free herself from the manacles which oppress her, the shrill and eloquent curses which fall from her parched and darkly-furred tongue and lips, the anxious and painful expression of countenance which so plainly mark the mental oppression and distress which are so rapidly exhausting her vital powers, the sunken cheek and prominent eye, the dishevelled and matted hair, the dry and hot skin, the disordered dress, and miserable exterior contrast strangely, but reproachfully, with the physique of her late guardians. The superintendent is, of course, anxious to learn the causes which have led to her present condition, and to the imposition of such galling restraint; it is reported that the poor object before him is *violent* and *dangerous*, that she has given no end of trouble, that she has made two or three dreadful attempts on her life, that in fact she has realised in her conduct all the horrors of the most abused propensities of our common nature; and for these several reasons, it will presently appear, (if the superintendent has the patience to investigate the matter,) the poor object before him has been so tied up; the occupant perhaps of a close and dirty apartment, and there-

fore denied not only the air or light of heaven, but also a sufficiency of food and perhaps raiment; to say nothing of the neglect of all appropriate attention and medical treatment—and hence, of course, her wretched, excited, and emaciated appearance. The poor-law officials retire, congratulating themselves on the termination of their peculiar responsibility, and in spite of the animated picture drawn of the difficulties and dangers of the case, the patient is directly relieved of the strait jacket and bandages, the arms and hands are set at liberty; the body no longer encumbered and irritated with coarse and torn and not over-clean apparel, is immersed in a warm-bath; the hypertrophied nails, which from long inattention have almost concealed the digital extremities of both the upper and lower limbs, are shorn of their undue proportions, the head is well sponged, and the hair cleaned and set in order, and arranged as a woman's hair should be; and after thirty or forty minutes, the same poor creature is presented to the attention of the medical superintendent, nicely and comfortably attired, wearied it is true and highly nervous, but spell-bound by the changes which have come o'er the spirit of her too troubled dream. The senses of the poor maniac once again respond to the voice of sympathy, her affections are again aroused by the gentle and considerate attentions of those about her, she is

encouraged to take food, solid or fluid, or both. After a little time, two or three attendants walk with her into the airing court or garden attached to the ward; the pure air and the gentle exercise are found admirable auxiliaries to the foregoing proceedings. A medical examination reveals the presence of much cerebral excitement with great bodily exhaustion; the anxious countenance, the dark-coloured, furred, and dry tongue; the dry and glistening teeth and incipient sordes; the rapid and thread-like pulse; the hurried respiration; the cold or hectic skin, and the hard and distended abdomen, suggest the employment of those means calculated—*1st*, to remove all morbid collections from the intestinal canal, and to ensure a healthy digestive process; *2d*, to support the *vis vitæ*, already passing into a low typhoid condition; *3d*, to allay the “*morbid sensibility*” of the grey matter, the proximate cause of the disease. The use of purgatives judiciously combined, and repeated according to circumstances, will fulfil the first indication; the administration of strong beef tea, light custard pudding, boiled rice, milk, and such like; and (if the urgency of the symptoms should seem to demand so much,) diluted port wine will meet the second: and with the aid of morphia and henbane (combined) the morbid sensibility will most likely subside.



Some attention to the state of the bowels, a proper and withal a liberal dietary, including wine or Bass's pale ale, and the internal use of quinine with the mineral acids, or of the ferri sulph. in camph. mist. and inf. quassiæ with the Tr. card. co., together with a due attention to exercise and employment, pure air, and above all, *kindness*, may be expected to meet the subsequent requirements of the case of the poor woman imagined.

A truthful picture this of the neglected and wretched state in which insane patients are, not unfrequently, sent to the County Asylum; and of the mode of treatment, hygienic, dietetic, and medicinal, found best adapted to the relief and cure of insanity, *i. e.* of *morbid sensibility of the grey matter of the brain.*

TABLE I.

*Of 100 insane persons examined there had been affected with*

Mania . . . . .	19
Mania with epilepsy . . . . .	11
Mania with general paralysis . . . . .	7
Melancholia . . . . .	15
Dementia . . . . .	19
Dementia with epilepsy . . . . .	7
Dementia with general paralysis . . . . .	3
Dementia with epilepsy and general paralysis . . . . .	2
	—
Total . . . . .	83
Form of disorder not stated . . . . .	17
	—
Grand total . . . . .	100

## TABLE II.

*Of 100 bodies of insane persons examined the*

HEAD.	{	Calvarium was affected in . . . . .	24
		Dura mater . . . . .	15
		Arachnoid . . . . .	77
		Pia mater . . . . .	6
		Grey substance . . . . .	52
		White substance . . . . .	24
		Ventricles . . . . .	18
THORAX.	{	Heart and pericardium . . . . .	26
		Lungs, and pleuræ . . . . .	44
ABDOMEN.	{	Stomach, bowels, and peritoneum . . . . .	20
		Liver and spleen . . . . .	16
		No morbid appearance was observed in . . . . .	



TABLE IV.

*Structures and Organs affected, their proportion and relation to particular forms of Mental Disease.*

Number of Cases.	Form of Disorder.	Calvarium.	Dura mater.	Arachnoid.	Pia mater.	Grey substance.	White substance.	Ventricles.	Heart.	Lungs.	Stomach, bowels, and peritoneum.	Liver and spleen.	No morbid ap- pearance.
19	Mania	4	3	9	—	11	4	1	9	11	6	8	2
11	Mania with epilepsy	1	2	10	—	6	2	2	6	3	—	1	1
7	Mania with general paralysis	3	1	8	1	3	3	2	—	2	—	—	—
15	Melancholia	1	3	12	3	4	2	3	3	8	4	1	2
19	Dementia	7	1	19	—	15	6	2	3	12	4	5	1
7	Ditto with epilepsy	—	1	—	—	4	2	2	2	3	1	—	—
3	Ditto with general paralysis	—	1	3	1	2	2	3	—	—	—	—	—
2	Ditto with epilepsy and general paralysis	—	—	2	—	2	—	1	—	—	—	—	—
17	Not stated	—	3	14	1	5	3	2	3	5	5	1	2
100	All forms	24	15	77	6	52	24	18	26	44	20	16	8

## POSTSCRIPT.

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THE principles of *pathology* and *therapeutics* contained in the preceding pages, are fast gaining ground in the profession. The *heroic* treatment of disease by BLOOD-LETTING has become dispossessed of many of its “*charms*” and extravagancies. A sounder *physiology* would seem to be leading the minds of practitioners to a more correct estimate of those abnormal phenomena they are daily called on to treat. *Disease* is more than ever seen to be *very commonly* something else than an *inflammation*, and the physician therefore has much else to do besides the adoption of an antiphlogistic regime. Though “four fifths of all diseases may be more or less inflammatory in their nature”<sup>1</sup> and tendency, it may *not* be added, that all *such* even require bleeding and leeching, &c., to the exclusion of other treatment. In Gooch’s ‘*Diseases of Women*,’ we find recorded several cases of “puerperal insanity” success-

<sup>1</sup> Lawrence’s ‘*Lectures on Surgery*.’

fully treated by opiates, good food, and tonic medicines. The author's remarks on "*irritable uterus*,"<sup>1</sup> regarded as a cause of cerebral disorder among par-turient women, are of the highest value, and not

<sup>1</sup> In my *report* of the COLNEY HATCH ASYLUM, are these words, viz. :—

“Here I may remark, perhaps, that the medical charge of nearly 800 females presents such frequent illustrations of the mutual dependence and endless sympathies of the brain and uterus, that in the treatment of disorders of the former, those of the latter claim an almost equal attention; it is therefore necessary to have especial regard to the condition of the uterus if we would be secure in our diagnosis and prognosis of cerebral affections.” “The peculiar organic changes which attend both the first appearance of menstruation, and its cessation in women, prove not unfrequently the direct and immediate cause of mental disorder. There are two young girls now in the Asylum under treatment, in both of whom the brain and nervous system are out of order, plainly because nature has been, up to the present time, endeavouring in vain to establish the periodical discharge; and there is a good reason to believe, that when the uterus shall have been encouraged to assume the offices to be expected of it in the animal economy, these young women alluded to will quickly recover their mental health, and be allowed to return to the homes of their respective families: and there are many more females, between the ages of forty and fifty, whose recovery may be expected when the uterus shall have fairly resumed its original inaction and inutility—the characteristics of early life—and when also the brain shall have so lost a fertile source of irritation and disease.”

“It happens unfortunately that females of the poorer classes are much too unmindful of their health at the critical periods of life, and pay too little attention to the means whereby the uterus may be assisted in its efforts to preserve its due influence in the human economy. It is from this neglect, in a very great measure, that insanity so frequently occurs among them; and that the number of female patients now in the asylum exceeds that of the males in proportion almost of *seven to four*.”

less so are those by the same author, which treat of the cerebral (convulsive) affections which occur to children of a lax fibre and weakly constitution. Gooch very properly cautions the practitioner in the use of depleting means of treatment, and gives some interesting cases to show the necessity of cordials and tonics in the management of very many of these attacks. Dr. Marshall Hall has also called the attention of the profession to the same subject, and with good success.

In Mr. Guthrie's very able work '*On Injuries to the Brain*' inducing insanity, we find that the views of this eminent surgeon are in strict harmony with those above illustrated; for instance, he cautions the practitioner against the indiscriminate use of the lancet in such cases, employed with the view of reducing inflammation of the brain, or of its investing membranes; and adds, that the persistence of mental derangement, regarded as an effect of local injury, may or may *not* call for the abstraction of blood, and other evacuants; that it is very commonly found necessary to administer sedatives, as *Dover's Powder*, to allay the irritability present in the parts within the cranium; and (such is the liability of the patient to sink from direct physical exhaustion—the consequence of the mischief done to the brain) that the strength must be supported throughout by the administration of good beef-tea, and the like.



During my connection with the civil (medical) service of Ceylon, (from 1844 to 1849, inclusive) I had not infrequent opportunities of testing the value of Mr. Guthrie's advice and treatment in respect to injuries of the brain inducing insanity. The cocoa-nut plantations which so abound in every direction from COLOMBO,<sup>1</sup> contribute a fair supply to the General or Government Hospital at that town of such casualties; and the principal charge of this establishment, reverting now and then to myself, in the course of circumstances peculiar to our colonial (medical) regulations, enabled me to realise the necessity of seeking, by other means than the *lancet*, the relief of the maniacal paroxysm (as well as of supporting the powers of life) in him delirious from local injury.<sup>2</sup>

If the reader will be at the trouble to refer to the able and highly interesting reports by Dr. Conolly, of the Hanwell Asylum, he will see that the recognition, by that gentleman, of the *atonic* nature of insanity, and his consequent adoption of a more liberal—or rather of a less scanty—dietary for his patients therein confined, led both to a considerable reduction in the number of *deaths*, as well as to a well

<sup>1</sup> The European Capital of Ceylon.

<sup>2</sup> In the "*cases illustrative of the general treatment of insanity*," published by me in the form of an Appendix to the '*Medical Report of Colney Hatch Asylum*' for 1851, an interesting example is referred to.

marked increase in the proportion of *cures*. On my arrival in Ceylon, in 1844, and on taking over the charge of the "*Lunatic Hospital*" from the senior military surgeon, I directly saw (as Dr. Conolly saw, on becoming attached to the Hanwell Asylum) that without a better dietary, both as regards quantity and quality, very little good could, by any possibility, attend any endeavours of mine directed to the amelioration of the insane in the colony. For a long time, and all in vain, did I insist on it, and demonstrate "*that the high rate of mortality among the insane was plainly referable to the inappropriate and insufficient food allowed them ;*" that "*the premature DECAY and DEATH of the inmates of the hospital illustrate strikingly 'the result of gradual causes long in unperceived operation ;'*"<sup>1</sup> and that "*to reduce the mortality it was necessary to introduce another and an improved dietary among the insane,*" under my care and direction.

In my "*report*" to the HON. THE COLONIAL SECRETARY, I wrote thus :—“ Inasmuch as insanity is generally a disease which is accompanied by *debility* in some shape or the other, and which, in nine cases out of ten, requires for its relief or cure the employment of a *tonic* plan of treatment, and furthermore tends in its natural progress to exhaust the vital energies, and slowly, yet surely, hastens the

<sup>1</sup> Combe.

dissolution of the body, it cannot be doubted that *a generous diet* is alone applicable to this disorder." However, "*truth will prevail*;"—"will be uppermost like *cork*, some time or the other, though kept down in water," to employ the words of an old writer; and as an evidence of the TRUTH contained in the foregoing extracts from official documents addressed to the local government of Ceylon, I may add here, that although I found the mortality among the insane in 1844, at 33 per cent., I left it in 1849, reduced to about 7 per cent. per annum; that although I found the cures at 0 in 1844, I succeeded in raising them, after some time, to nearly 40 per cent.; that a comparison of the mortality among the insane, inmates of the Government Lunatic Hospital, of the five years preceding my arrival in the colony, with that of the five years succeeding—that is, during my sojourn at Ceylon—will show a diminution in favour of the latter period of upwards of 20 per cent. per annum; and a like comparison of the rates of *cures* will give an increase in favour of the latter period, of nearly 40 per cent.<sup>1</sup>

But pending the above facts, *i. e.* during the period of their growth and maturity, the expenses of the Lunatic Asylum attracting some attention

<sup>1</sup> See my '*Contributions to Mental Pathology; with introductory observations, containing the past and present state of the insane at Ceylon.*'

from the Commissariat Department, I was called on, and at the suggestion, too, of a medical brother, of whom better things may have been expected, to offer my reasons for so very considerable and additional an expense as I had allowed for the purchase of sundry "*eggs,*" "*fowls,*" and "*bottled beer.*" The communication addressed to me, said, that "so much *nutriment* could hardly be beneficial to lunatic patients, who are generally in a state of great *excitement* and *fury.*" I replied, that the "*excitement and fury*" mentioned are, in the majority of cases, but evidences of *vital exhaustion,* and constitute merely an asthenic or atonic delirium, and are of much the same nature as such which obtain in the advanced stages of "*typhoid fevers,*" that the two patients referred to had improved under the treatment found for them, and were daily improving; and that, under the circumstances, I could not allow either that the quantity was "*extraordinary,*" or the "expense" in any way "*additional.*" However, the recovery of the one, and the permanent relief of the other, afforded after some time, the *most* satisfactory response to my inquirers.

I feel I need hardly offer any apology to my readers for the above allusion to my CEYLON experience, seeing that it so plainly demonstrates the incorrect and fatal views so *generally* entertained,

both of the nature of *insanity* and of its treatment, *i. e.* *dietetically* considered.

To detail cases, at any length, successfully treated, and in accordance with the facts and principles contained in these pages, would be to exhaust the patience of most men. I will, nevertheless, risk the recital briefly of the following: I was requested (some long time since, in 1846,) to see a gentleman suffering from *acute mania*. I found him pacing up and down the apartment he occupied in the most rapid and restless way, and talking unceasingly at the very top of his voice, in the most incoherent manner possible. The countenance too painfully portrayed the deep and varied emotions which afflicted him. Violent in the extreme, the incessant movements of his muscular system had in themselves wellnigh exhausted the powers of life; my patient however, had been, unfortunately, not only bled from the arm, but put on a low or slop diet, and getting rapidly worse, I saw him. The use of generous food, commencing with good beef tea, mutton broth, milk, and such like, followed with a meat or ordinary diet, paved the way for his recovery. On my first seeing him, I felt satisfied from the excessive *debility* which accompanied the indications of cerebral disorder, *i. e.* "*morbid sensibility of the grey matter*;" that the first thing to be done was to support the *vis vitæ*. The administration of appropriate food was of all things the

most urgent, and he was therefore offered and encouraged to partake of various things thought best adapted for him; but to the *surprise* of all, and *regret* of myself, Mr. \* \* \* \* would touch nothing, fluid or solid. Some hours passed by, and finding all the symptoms worse, and certain and alarming signs of exhaustion present, it was suggested that food should be administered artificially. I lost no time in conveying into the stomach, though with great difficulty and not without the assistance of some eight or ten persons, the best part of a bottle of Bass's pale ale, mixed with a quantity of good and strong soup. Frequent and full doses of *morph. acet.* were given him, the bowels were regulated, and the secretions thereby preserved in a normal state. The disinclination to take food entirely ceased after a few days, sleep returned with its benign and healing influences, and the mental inquietude and bodily restlessness gradually declined; he, no longer impelled to the automaton-like movements and conduct consequent on depraved sensations, became gentle, coherent, and rational; and after a few weeks volition, *i. e. health*, was restored to him.

“P. A—, of European extraction, a native of Ceylon,—when admitted was wretchedly emaciated and enfeebled, and very restless and excitable. His mind was tormented by the most miserable

forebodings of evil; and altogether his condition was the most abject and deplorable I ever saw. He suffered also from aggravated dyspepsia, indicated principally by a dirty and loaded tongue, depraved secretions, and an occasional tenderness of the epigastrium. My first care was to put the digestive apparatus into good order, for which purpose I directed the daily use of pills composed of pil. hydr., pil. rhæi co., and p. scammon., which kept up a gentle and efficient action of the bowels; afterwards he took quinine and carb. ferri. Sedatives, as morphia, were given as required at night, and his diet was properly attended to throughout his illness. When he had sufficiently improved he was encouraged to employ himself, and to walk out night and morning. When discharged he appeared a stout athletic man.”<sup>1</sup>

<sup>1</sup> In the able report of Drs. SUTHERLAND and PHILP for 1851, of St. Luke's Hospital for Lunatics, and among the statistical tables is seen one “*of the relative WEIGHTS of patients on their admission and discharge*; and from which it appears that out of the 115 reported as CURED, so many as 108 had (on their discharge) increased more or less in weight, and several so much as 36 lbs. On adding together the total increase of weight of the whole number of patients specified, and dividing the product by the same (108), I find that it gives an average of  $13\frac{3}{4}$  lbs. (about) to each individual. This is an important fact in the statistics of lunacy, and one which demonstrates, and in the most satisfactory and conclusive manner, both the *nature* of the PROXIMATE CAUSE OF INSANITY, and its association with, or dependence on, *for the most part, and in the majority of instances*, a deficient or impaired vital power, *alias* DEBILITY.

“Some time since, I was consulted concerning a high-caste Indian—a Chitty—who presented, in many particulars, much the same condition as the last patient. This poor fellow had been most unmercifully bled, each accession of mental excitement had been met by ‘more leeches,’ ‘more leeches;’ but, as may be expected, this treatment had been attended with no advantage. I put him on a tonic plan, and sent him from his home: he soon recovered.

“A little girl, aged 14, for some months insane, and who was treated ANTIPHLOGISTICALLY by an *eminent* member of the medical profession in Ceylon, was brought to my notice. Pills of pil. hydr. and aloes, and ext. hyoscyam., at night, an occasional shower-bath, with the internal use of carb. ferri and quinine, restored her to excellent health.”

The three following cases occurred at the New County Asylum at Colney Hatch; the particulars of which I have extracted from the Appendix to my “*Report*” thereon, presented to the Middlesex magistrates:—

*Case 1.* E. J—, æt. 52. Insane seven years. The mental disorder of this person commenced on the cessation of the catamenia. At this time, a temporary removal from her home, and from all her old associations, unfavorable as these unhappily were, either to the promotion or preservation of her



mental health, would in all probability have sufficed for her complete restoration to health; but not only was this important step not taken at this early stage of the disorder, but, *as it would appear*, she continued for a long time exposed to all the disadvantages of her poor station in life, with the mind and body alike deprived of the necessary remedial means; and thus was it, the disease persisting, she was, after this serious delay, taken to a public Asylum; whereat however she was put on so low a diet, that the brain was rendered incompetent to resume its original power. It was, plainly, insufficient for her restoration to health, to allay only the indications of active disorder—this, her removal from home, and an introduction to new scenes, to strange faces, and to altered circumstances, speedily accomplished; but, much more was required to restore the healthy functions of the organ affected—to give back the force and energy the brain had lost. On her admission into the Colney Hatch Asylum, her appearance was that which belongs to one but half fed; she painfully yet practically illustrated the effects of ‘*a small cause in long continued operation.*’ E. J., was put on a liberal diet; meat and wine were allowed daily. The sulphates of quinine and iron were directed to be taken, in liberal doses; and an occasional laxative was prescribed, &c. The brain so long accustomed to the

exhausting effects of a fluid traversing its substance, without either *fibrine* or *iron* in its composition,—of a fluid without either substance or warmth, soon became aware, so to speak, of the heart's genial aid and co-operation; and not the less quickly responded to the better quality of the blood, which found its way through its wondrous organism. Sleep, which until now, seemed almost to have forsaken her, returned with its benign and healing influences. Other symptoms of improvement soon showed themselves, and these continuing uninterruptedly, she was discharged *cured*, after a residence in the asylum of ten weeks only.

*Case 2.* R. W—, æt. 30. Insane three weeks (*puerperal insanity*). The mental disorder of this person was characterised by great excitement of mind, a rapid incoherence, and unceasing mobility and restlessness. There were present very evident signs of a vital depression or exhaustion of the bodily functions and powers; and which, taken in conjunction with the other symptoms, led one, necessarily, to conclude the direct or immediate cause of the *mania* to be a "*morbid sensibility*" of the nervous (cerebral) fibre; and the persistence of such an abnormal phenomenon for a period of *three weeks* had resulted, as may have been expected, in so atonic a condition of the capillaries of the brain, that these becoming distended with blood realised

all the conditions of *inflammation*. The injected conjunctiva, not less than the flush on the countenance, and the increased temperature of the scalp, &c., proclaimed the existence of an *asthenic* (inflammatory) condition of the brain and its membranes. To relieve the "*morbid sensibility*" mentioned as the *primary* cause of disease, in the person of R. W., the acet. morphia (in solution) with the tinct. hyoscyami were given in full and repeated doses, and with good effect; the bowels were freely acted on, and the hot-bath was employed. By these means the more urgent symptoms were relieved. The application of leeches behind the ears, removed the distension of the capillaries; and these being no longer injuriously affected by an exhausting nervous influence, soon recovered their lost and natural state. A proper perseverance in the same principles of treatment, brought her into a state of convalescence; and with the aid of tonics, and an occasional laxative, prescribed with the view of both restoring and preserving the assimilating functions in good order, she became perfectly well in *mind*; but in this, as in many more instances of "*mania*," "*melancholia*," &c., occurring to females, the periodical function was not restored to her for some time; and this circumstance it was, which induced me *to delay* her discharge from the Asylum.

Case 3. M. B.—, æt. 49. Insane one month (*mania*). This poor woman afforded an excellent example of the “*excitement without power*,” mentioned in the preceding report: though greatly enfeebled and much emaciated, her “loquacity, agitation, and restlessness” were incessant. The assimilating functions being greatly deranged, the “*tonicity*” of the brain was of course still further diminished, and all the indications of mental disorder were, therefore, considerably aggravated. Unlike the case of R. W., (see p. 71,) this presented no signs of “*asthenic*” inflammatory action,—the *capillaries* had up to the period of her admission retained their *power*, and had *not* become so weakened as to allow of an “OVER-DISTENSION:” a common sequence this of an “*irritation*,” or a “*morbid sensibility*” of the cineritious neurine or grey matter of the brain; which, being continued, passes into a state of *nervous exhaustion* or *paralysis*; and under these circumstances it is the said capillaries become weakened and *over-distended*; and, hence *congestion* or *inflammation*: such is the mutual dependence of the *nervous* and *vascular* systems in man and animals. The pallor of the skin, the retracted and anxious countenance, and the quick and feeble pulse, not less than the diminished temperature of the body generally, are, in themselves, good criteria of the treatment needed in all such forms of mental disorder. M. B., on

admission, was put into a warm bath, and then comfortably attired; a warm and gently aperient medicine was prescribed and continued according to circumstances, with the view both of removing all morbid collections in the *prima via*, and of remedying the impaired condition of the digestive apparatus. The "*morbid sensibility*" of the brain called for the use of the sedatives and the *solut. acet. morph.*, with *tinct. hyoscyami*, in full and repeated doses, were taken with decided relief to the symptoms; but the more healthy state of the assimilating functions which manifested itself, allowed of the employment of a dietary suitable to the emergencies of the case; and the consequence of good and wholesome food, both *solid* and *fluid*, including meat, porter, port wine, &c., with the *farinacea*, as bread, arrow-root, and the like, was the preparation of an improved quantity and quality of *blood*; and this it was, which finding its way to the brain, proved both an agreeable and efficacious substitute for *sedatives* of whatever kind. A bottle of the best *Scotch ale*, or a tumbler of good port-wine negus, has been known to prove the very best *sedative*<sup>1</sup> in maniacal affections;

<sup>1</sup> Dr. Tilt, in his truly valuable book, entitled '*Elements of Health*,' writes, in treating on *sleeplessness*, "a glass of wine, or a little milk with a table-spoonful of old rum in it, shortly before going to bed, may sometimes be prescribed with advantage. We often find it advisable to recommend a biscuit and a little weak wine and water to be kept at the bedside and taken through the night; for some people

but each case has its peculiarities, and to diagnose well is *the great desideratum* of the physician engaged in the treatment of cerebral disorders, as it is, of course, in every department of medical science. The employment of tonics, but more particularly of *quinine*, seemed called for after a time, and these were therefore given, and with apparent benefit. During her residence at the Asylum, it was necessary not to relax in our attention to the stomach and bowels, as these seemed very prone to get out of order; and throughout her illness it was observed also that there was a natural delicacy of constitutional power, which rendered a good, and

who complain that, on waking, they cannot get to sleep again, have derived remarkable advantage from attention to this point." This is what the French call an "*en cas*;" and Louis XVIII, to whose "*appetit charmant*" Lady Morgan has alluded, had always a cold chicken placed beside his bed, *in case* hunger should prevent his slumbers. In the reports of the Hanwell Asylum by Dr. Conolly it is seen that a precisely similar practice has been adopted thereat, and with the best results. A patient of my own, on retiring to his bed one night very lately, became dreadfully restless, and quite unable to sleep; I found him standing by the bedside crying, and betraying by his gestures and speech the most appalling misery. I begged him to get into bed, but he refused, declaring *that he had no sleep in him,—that he could never sleep again*. After a little time I got him to eat a good-sized crust of bread, and to drink after it a tumbler of Guinness's stout; and to amuse him, I wrapped his head up in a damp towel. In somewhat less than half-an-hour he had fallen asleep; he passed a good night. However, the next case of *sleeplessness* I am called on to prescribe for, may require a very dissimilar treatment to be equally successful. *Every case must rest on its own merits.*

generous, and withal, a discriminating diet, indispensable to her. After *five months* she was discharged, *cured*.

I confidently assert that the present crowded state of the wards of the Asylums at *Hanwell* and *Colney Hatch*, is in a great degree referable to the false views too generally entertained of the nature and treatment of *insanity*;<sup>1</sup> it is a common thing to see patients admitted into these establishments, not

<sup>1</sup> "As a strong and presumptive proof of the false and incorrect views entertained generally concerning the requirements of the insane, it may not be considered out of place to mention here the weakly and very delicate state of health in which a large number of Female Patients were admitted from the Union Houses; *and this was very evidently the consequence of an improper and insufficient diet*. Inasmuch as insanity is, as a rule, a disease of debility, and tends, by its very nature, to exhaust the powers of life and enfeeble the constitution; not only is it *not* necessary or even prudent to employ a low diet, but on the other hand it is *indispensable*, if we would place the poor Lunatic in the most favorable position to recover his or her mental health, to administer a good and sufficient quantity of wholesome and nutritious food, both solid and fluid."

\* \* \* \* \*

"A great number of patients in the Asylum, whose appearance is, at the present, that which belongs to those who are well and properly fed, looked very differently on their admission. Their angular features, pale faces, and emaciated forms, are not only very much less apparent; but what is more, these have been in not a few cases exchanged for a physical appearance at once the very converse of this: and in every instance of the kind, the mental symptoms have kept pace with the improvement of the bodily health. *Hence it is, in a great measure, that many of the patients who are reported on the forms of admission, as "violent," "dangerous," &c., have become not only quiet and inoffensive, but some of them even are among our most useful and industrious inmates.*"—REPORT, &c.

only scored with the *lancet* and *scarificator*, but what is more, presenting all the appearances of having been literally *half-starved*; and I know it to be a fact, that at many of the *union-houses* in MIDDLESEX, it is the custom to give their pauper lunatics the poorest and most insufficient diet—"BECAUSE THEY ARE EXCITED AND DANGEROUS"!!!

THE END.



The first part of the paper is devoted to a discussion of the  
 various methods of determining the position of the  
 center of gravity of a body. It is shown that the  
 method of suspension is the most accurate, and that  
 the method of the plumb line is the least accurate.  
 The method of the center of mass is also discussed.  
 The second part of the paper is devoted to a discussion of  
 the various methods of determining the position of the  
 center of mass of a body. It is shown that the  
 method of suspension is the most accurate, and that  
 the method of the plumb line is the least accurate.  
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