

false ideas, may carry out acts accordingly, acts which are denominated those of a madman. Disorder may occur in any of these physiological processes. Sometimes we may be able clearly to point out the spot. Frequently it will elude us, but it is physiology, and physiology alone, that can help us to find it, not the examination of our own self-consciousness.

Dr. Blandford now broaches the question, "What is the pathology of insanity?" By vivisections, and by accidents and disease in man, we have arrived at the fact that the gray cerebral matter is the seat of mind. The microscope reveals to us that this gray matter is made up of minute cells and fibres, connective tissue and blood-vessels, and that the white substance is formed of fibres connecting these cells with distant nerve centres and other parts. All these parts are necessarily nourished and kept alive by the blood, and increase or diminution in the supply of which causes a proportionate excitation or diminution in their functions. "The chemist tells us that the brain is a highly complex organic structure," and that it is characterised by constant change in the arrangement of its atoms, "by rapid recombination and decomposition."

Dr. Blandford then proceeds to justify his theory by the facts stated above, and thus writes:

"Now, what I have said concerning *structure* and *function* may be reconciled with the diagram of nerve physiology which I drew at my first lecture. If you recollect what I said about stimuli and the centres which are stimulated, you will understand, *first*, that where the stimulation of a centre is excessive, disorder, or even disorganization, of that centre may take place, with corresponding resulting action, either temporary or permanent; *secondly*, that change may from other causes take place in the centre itself, either from its inherent and inherited tendency to change, or from faulty nutrition, or injury, or other accidental circumstance, and so disordered action may result, permanent or otherwise, according to the persistence of the change. In one of these two ways insanity is, I believe, in every instance, brought about."

Then having briefly enumerated the principal appearances visible to the naked eye in the heads of the insane opened after death, he concludes this portion of his subject with the following words:

"We conclude, *à priori*, deductively, that the nerve-cells and the blood-vessels which supply them must of necessity be affected in cases of insanity, and our microscopic observations teach us that this is the fact. The *nerve-cells* undergo degenerative change, and appear in every stage of decay. Sometimes they have lost their transparency, their contents are altered into fat and pigment-granules. Their outline is broken down, and they cease to be cells, appearing as dark collections of granules. These differ according to the form and duration of the attack. Much, however, still remains to be learnt on this head. More attention has hitherto been paid to the *cerebral blood-vessels*. Microscopical examination has shown a thickening of the walls of the capillary vessels going on to contraction and obliteration, with atheromatous or osseous degeneration. This may be due to deposit within

or without the vessel. Excess and hypertrophy of the connective tissue of the brain account, according to some, for this deposit on the vessels, and also for the obliteration by pressure of the nerve-cells. These changes have been observed in various forms of insanity, and even in other diseases of the brain. The study of them by means of the microscope is still in its infancy, beset with the difficulties I have already alluded to; yet every year will bring new results if we do but observe in the right way. The relation between insanity and the other organs of the body I shall speak of hereafter."

The subject of Dr. Blandford's *third lecture* is the "Causes of Insanity." He commences thus :

"The ancients used to vex their souls with metaphysical disquisitions upon the nature of causes. Everything, said they, must have a material, a formal, an efficient, and a final cause. Philosophers nowadays have given up the first three, though they still cling fondly to the last. In medicine you hear of 'predisposing' and 'exciting' causes; in books upon insanity they appear as 'moral' and 'physical.' Now, it must be clearly borne in mind that the cause of any given case of insanity is the assemblage of all the conditions which precede and contribute to it, whether they be *events* or *states*. We may talk of causes, or conditions, or antecedent states, or actual casual events, but it rarely happens that a case depends on one single state or event; almost invariably there is a concurrence of several, which concurrence or assemblage constitutes the cause. You will understand how little *events* have to do with the production of insanity when I enumerate among the most important causes that *state* which is termed hereditary predisposition, and such states as age, sex, and civilisation."

He would therefore seem to divide the causation of insanity into three classes—the predisposing, the moral, the physical.

The first includes hereditary predisposition, the states of age, sex, and civilisation, and is a most prolific cause. The second, the moral causes, are produced by abnormal stimulation of the nerve centre, and include domestic losses and troubles, grief, disappointed affections, jealousy, religious and political excitement, fright, over-study.

"All these," writes Dr. Blandford, "except perhaps the last, are violent stimuli of the emotional centres, morbidly exciting the feeling of self, self-love, and self-interest. The balance of the relation which the individual bears to his fellow-men is upset, and he stands isolated and self-centred. Yet these events happen to men daily without driving them mad; therefore we must look upon them as only a part of the cause, the remainder depending on the constitutional defects of the patient. Often we hear that a man has had much trouble, or excitement, or disappointment, when in truth, being saturated with insanity, his own crazy brains have manufactured these so-called causes out of nothing at all, the excitement and worry being all along subjective, and having no real existence whatever."

The third, the physical causes, are produced by defect or disease in the nerve centre through the bodily health. They may be sudden or they may be protracted over years. They are very numerous, so much so, indeed, that one noted psychologist (Dr. Skae) bases his nosology entirely on the physical causes, denying all others.

Dr. Blandford does not attempt any classification of insanity, "the mind being too much a unit to admit of a classification according to its parts." He therefore falls back upon the old time-honoured system of symptomatology of Pinel, who gave but four—idiocy, mania, melancholia, and dementia.

In his fourth lecture Dr. Blandford treats of "Insanity without Delusions—Impulsive Insanity—Transitory Insanity—Insanity with Delusion."

The first of these, insanity without delusions, which he remarks is also called "moral insanity," "partial insanity," "impulsive insanity," "emotional insanity," he illustrates by a case:—"A city merchant, past middle age, grave and respectable, suddenly takes to drinking and low company, becomes extravagant, quarrelsome, gives up business, takes to horses and riding, of which he knows nothing; is, in fact, an altered man." At last his conduct becomes so outrageous that he is confined in an asylum, but, although excitable and rambling in argument, he has no delusion, no intellectual lesion. This case Dr. Blandford considers a good specimen of *manie sans délire*, or, as he calls it, the "so-called moral insanity" of Dr. Prichard. He does not give the termination of the case, which would be interesting, as the symptoms described closely resemble those so frequently observed in the premonitory stages of general paresis.

Dr. Blandford considers the term "moral insanity" misapplied; he does not think there can be such a state as insanity of the feelings and emotions without corresponding intellectual lesion, and he believes this proved by the fact that all such cases degenerate into cases of monomania. Dr. Blandford then refers to impulsive insanity, and writes—

"There is, however, another species of insanity at which the public sneers still more than at the last mentioned, and which, if wrongfully applied, might unquestionably be made to cover crime even more easily. This is the so-called 'impulsive' or 'instinctive' insanity. As described, it consists of a sudden insane impulse in a previously sane individual to commit a crime, which impulse ceases as soon as the deed is done, leaving the individual sane as before; consequently the crime stands out as the only evidence of the insanity. This is an exaggerated account of a form of mental disorder which really exists. A patient consciously, but involuntarily, in spite of every wish and the utmost efforts of his will, is hurried by an irresistible impulse to do some act of violence. The impulse in his brain-centres forces him straight to action, reason and will being powerless to check it. The act is as automatic and 'instinctive' as the acts of lower animals. Such cases occur, and are seen in asylums; they are not invented merely for legal purposes. The patients are often aware of their propensity, and beg to be guarded against it. They have no delusions, they do not justify their crimes; be the impulse to suicide or to homicide, they deplore it, and seek treatment and assistance. The diagnosis of such cases must necessarily be guarded. There is little evidence of insanity beyond the act itself. The patient's feelings are not perverted except at the moment, for he bewails his

state, and often attacks those he loves best. He assigns no motive, but rationally confesses his inability to resist. Such impulses have been explained by the theory of the 'reflex action' of the cerebrum, which operates in a manner analogous to the reflex convulsive action of the spinal centres. If this does not explain, it at any rate illustrates the disease. It is involuntary action coming from some morbid stimulation of a nerve centre, with consciousness, but in spite of every effort of reason and will. Inquiring into the history of such, we find generally a strong hereditary taint; possibly symptoms of head disorder may have been exhibited quite early in life, or there may have been epilepsy or a blow on the head. It is essential in such cases to try and discover a cause wherewith we may connect the manifestation of disorder.

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"To conclude, cases occur of a spasmodic or transitory mania, during which acts of great violence may be committed, there being for the time a visible change in the look and demeanour of the patient, and which may pass off in a few hours or days, leaving no trace of insanity. There is here also a morbid stimulation of the cerebral centre, resulting in morbid and irregular act, without the intervention of the mind proper. The act is not the result of diseased will, but is independent of will, involuntary, and often unconscious."

Dr. Blandford now considers insanity with delusions, and commences by defining the meaning of the three words, delusions, illusions, and hallucinations. *Hallucinations*, he says, are false or fancied perceptions of the senses, as, for instance, when the eye or ear fancies it sees or hears something when there is absolutely nothing to see or hear, when, perhaps, it is the time of the darkest and stillest midnight. *Illusions* also are false perceptions of the senses, with this difference, that there is a foundation for them. There is a noise or there is an object, but the patient thinks it some different noise or different object from that which it really is. Illusions may occur to every one. The *mirage* of the desert, the spectre of the Brocken, are illusions; but they differ from those of the insane in this, that a number of persons together will all see them, whereas the illusion of the insane appears real to him alone; his companions hear nothing and see nothing, or hear and see things as they really are, not as they appear to him. A *delusion* is a false belief of some fact, not a false perception of one of the senses; it is a categorical proposition, false by reason of the diseased brain of the person who believes it, and set down as false by others because it is contrary to common experience of the laws of nature, or to former experience of similar things, or is contrary to the knowledge of some or the evidence of the senses of the majority of mankind. There is no infallible test of delusions, and often when in signing a certificate you mention one you will be obliged to state how and why you know it to be a delusion, for many which have been so considered have turned out to be facts, and not fancies.

We shall renew our notice of Dr. Blandford's lectures as they appear. The above is a summary of the four already published.