

The Study of Insanity. By CHARLES MERCIER, M.B. (Lond.),
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When the doctrine of Insanity emerged from its primitive condition of a belief in demoniacal possession, a belief highly spiritualistic in form, and highly materialistic in fact, it became re-moulded in the current forms of thought, and assumed a shape much like that which now obtains among the uninstructed. The concept of mind having attained to but a low degree of differentiation, and the boundaries between mental and material processes being but vaguely defined, alienism in its early stages could not but reflect the imperfections of the knowledge upon which it was compelled to rest. The alienist, observing that his own actions were preceded or accompanied by mental processes, that the more pronounced his actions the more vivid the feeling which accompanied them, that from each action he could trace backward the line of thought which prompted it; and being generally impressed with the close interconnection between his mental states and his conduct; looked at them as in the relation of cause and effect, and shared the then prevailing doctrine that the Mind, by means of that portion or faculty called the Will, directly produced the bodily actions, much as the force stored in the mainspring of a watch produces the movements of the hands.

Having by introspection reached this conclusion, the alienist then projected the whole process into the organism of his patient, and inferred, logically enough, that as conduct was the product of the mental state, the only possible explanation of the conduct was a knowledge of the mental state of the patient, and hence the whole study of Insanity became a struggle to ascertain the state of the patient's consciousness.

This method of expressing Insanity in terms of subjective states only, reached its climax in the opinion given by the Judges in McNawghton's case, and, although a good deal weakened by an influence that will be presently considered, it still retains a large proportion of its sway. It is true that alienists have long rejected and combatted the doctrine that the test of insanity shall be in criminal cases the ability of the patient to distinguish between right and wrong, and in civil cases the oral admission of a delusion, but they have not recognised that the rejection of these tests involves the rejection of the theory on which they are based, nor that the doctrines still

upheld by themselves involve that theory fully as much, although they do not push it so far towards its logical extreme, as the tests they have rejected.

That theory is, that Insanity is to be studied from a subjective standpoint; that, as it is a disorder of the mind, its phenomena are to be studied as affording an insight into mental states; in short, as said above, that we must strive to ascertain the state of the patient's consciousness, under the belief that when that is known, the whole matter is explained. Many will disavow this doctrine when thus nakedly stated, but, explicitly or implicitly, it is undoubtedly the theory in possession.

Explicitly it is avowed by Dr. Copland, who defines insanity as "a deviation from, or perversion of, the natural and healthy *state of the mind.*"* Similarly Dr. Combe, quoted with approval by Dr. Hack Tuke, says, "It is a prolonged departure . . . from the *states of feeling and modes of thinking* usual to the individual who is in health." Dr. Bucknill, again, calls it "*a condition of the mind*, in which, &c.," and to these might be added many others fully as unequivocal. It may, however, be objected that these are mere abstract expressions, embodying, indeed, a speculative opinion, but in no wise committing those who are responsible for them to any special line of practice. Without diverging here to any discussion on the influence of speculative opinions on practice, it is easy to show that the study of insanity down to the present day has been founded on what may be termed the spiritualistic doctrine, and still remains committed to its implications.

The Committee of the English Medico-Psychological Association may be taken as thoroughly representative of the highest development of modern alienism, and in 1869 this Committee drew up, for the guidance of the profession, a Form for the investigation of cases of insanity, which may be taken as an embodiment of the opinions of its members as to the point of view from which a case of insanity should be regarded. This Form deals almost wholly, and confessedly so, with the *state* of the patient, and if as I believe, and shall endeavour to show, insanity is the disorder, not of a state, but of a process, it can no more be expressed in statical terms than the flight of a projectile can be expressed in terms of space and force alone.

The quæsitæ indicated in the Form are grouped under the heads of Body and Mind; various possible bodily states and

* All the italics in this passage are inserted, and not in the originals.

mental states are suggested; the bodily states are looked on from the point of view of the physician, and indeed this portion of the Form is a rescript of the physician's scheme for case taking; the organism as a whole is looked upon as at rest, and the only actions considered the interactions of its parts. The dynamical aspect of the organism is ignored. Similarly, under the head of Mind, various mental states are suggested, but, not only are the references to mental processes few and incidental, but all reference to Conduct is omitted, except in so far as it affords an index to states of consciousness which may be supposed to prompt it. The wording indeed is somewhat ambiguous, as if the draughtsmen felt, without explicitly recognising, the insufficiency of the scheme. Thus, the "Exaltation" and "Depression" may be applied equally to a state of mind or a phase of conduct, but their position under the heading "Mind," renders it necessary to interpret them in the former sense; and similarly, the coherence to be tested must be a coherence of thought, and not of language merely.

It is probable that the prolonged vitality of what is here termed the spiritualistic view of insanity, is largely owing to the similarly equivocal connotations of the majority of the terms employed, together with the instantaneous manner in which, from a phase of conduct, we *infer* a state of mind, and then go on to speak of the mental state as if we had actually observed it, or, which is almost equivalent, as if the inference possessed a validity equal to that of the observation. The current phrases, "How happy he *looks*," "Did you *see* his perplexity?" are extreme instances of this habit, and although no alienist would use expressions of such loose construction as this, yet the attitude of mind which such phrases imply is one from which hardly any one is free, and against which it is most difficult to be sufficiently guarded. For instance, when a patient is spoken of as "excited," the state described by this word is one of energetic action, of rapid or powerful bodily movements, such as restless glances or loud screams. We infer that this bodily state is associated with an "excitement," *i.e.*, an unusually vivid condition, of the patient's mental states; and hence the word "excited" drags into consciousness the concept not only of the bodily state, but that of the inferred mental state also, and the mischief is that these two totally different connotations of the word may then be used interchangeably; and we may argue that, as a patient is "excited," *i.e.*, in active movement, certain consequences may be expected from the "excitement" of his mind; when, as a fact, his con-

sciousness may be altogether in abeyance, as for instance, in certain post-epileptic occurrences.

Once this fallacy, for it is a pure logical fallacy, is exposed, and the danger of falling into it, and its immense importance are fully recognised, the spiritualistic doctrine of insanity falls to pieces. For, if we regard a knowledge of the consciousness of a patient, a knowledge, that is, of his "states of feeling and modes of thinking," or of the "condition of his mind," as affording an explanation of his altered conduct, then we may construe these expressions either in their absolute sense or in their looser and more vernacular meaning. In the first case it is a primary canon of psychology, it is indeed a truism, that no one being can enter into the consciousness of another, so as to know what is passing therein. If we accept the expressions in the approximate sense in which they are used in ordinary discourse, we note in passing that scientific accuracy is abandoned, and go on to show that even in this modified sense the theory is untenable.

According to the spiritualistic view, the altered conduct of the insane is explained, accounted for, and presumably caused by the alteration of the state of feeling and mode of thinking of the patient. But such propositions as these, although capable of being stated in words, are, strictly speaking, unthinkable. If modern psychology teaches anything, it teaches that a mental state can no more cause a bodily movement than heat can cause a triangle, or than the number twenty-three can cause a flash of light. This objection is sufficiently fatal, but even could it be explained away, which it cannot, another remains behind which is still destructive. Grant that the mental state is a full explanation of the conduct, how are we to arrive at a knowledge of the mental state of a patient? The only possible answer is, from his words and acts; that is, from his conduct. So that we are to judge of his mental state by his conduct, and then turn back and judge his conduct by his mental state; a proceeding which looks dangerously like a vicious circle.

It appears then, that however modified and softened, the spiritualistic view of insanity is not only baseless and insufficient, as an explanation of the altered conduct of the insane, but that it is actually self-destructive, and only needs to be stated in explicit and unmistakable terms to ensure its abandonment.

The alienist may, however, complain, and complain justly, that the doctrine above examined and rejected is but a partial statement of his position; that the consideration of the mental

condition forms but a single aspect of the case which he examines from both sides; that the data from which he determines, or if you will have it so, from which he guesses at, the state of the patient's mind, form but a moiety, and that, perhaps, not the most important, of the data which guide him to a decision. Admitting the justice of this protest, let us examine the obverse aspect of his method, and see if it contains the elements which are wanting in that already considered.

Ever since Insanity has been a subject of study, some forms of mental alienation, as, for instance, that occurring in acute fevers, and those occurring in alcoholic and belladonna poisoning, have been expressly excluded from the denotation of Insanity, have been called by another name, and considered altogether apart. This exclusion arose, not because of any difference in kind or degree between the forms of alienation occurring with these bodily conditions and the forms occurring in "true Insanity." It is not asserted that there are no differences, but those differences, if any, had nothing to do with the exclusion of these forms of alienation from the consideration of the alienist. They were and are still excluded simply and solely on account of the very definite and recognisable bodily conditions which accompany them; and this exclusion of certain cases of alienation from the consideration of the alienist was the first recognition of the necessity of taking account of the bodily condition among the facts to be estimated in a case of Insanity. A coarse and clumsy recognition, it is true, but an extremely definite one.

With the rise and development of scientific pathology, and the ever-increasing closeness of observation brought to bear on cases of bodily disease on the one hand, and cases of insanity on the other, the existence of a connection between abnormal alterations of bodily processes and abnormal alterations of mental processes came to be more completely recognised; and, as a consequence, the study of Insanity came to include more and more searching and minute investigations into the bodily functions of the insane. The pursuit of this line of study has led to results of unquestionable importance. It has led to the discovery of special defects in the bodily organisation of the insane; microcephalism in some, hydrocephalism in others, reversions to types of organisation left far behind in the general progress of the race; it has recorded, muscle by muscle, the amounts of contraction obtainable from them; the degree of acuteness of the special sense organs; the variations of temperature; the amount of activity, and the quality of

work of almost every organ in the body. It has ascertained the changes in the brain after death, of vascularity, of bloodlessness or the reverse, of weight, colour, consistence, specific gravity, and what not; and the microscopic alterations in the nerve cells and tubules, in the capillaries and neuroglia; and it has established many connections of interest and value between these phenomena. It has established a connection, vague indeed, and not pretending to amount to an explanation, but still a connection, if only of contemporaneousness, between pregnancy and one form of Insanity, between lactation and another, between phthisis and a third; it has discovered gross structural alteration of the brain in general paralysis, and microscopic changes in dementia. Indeed, so striking have been the results of this method of investigation in connection with the barrenness of the former, that it has not unnaturally been accepted in too absolute and crude a sense, and assumed an exaggerated importance; so that a leading medical journal could go so far as to say that insanity would never be properly understood until it was considered as a bodily disease, and an eminent and justly-admired physician could altogether reject introspective mental studies, and ridicule the aspersion of insanity from the subjective standpoint. Opinions so extreme as this are never generally followed, but they serve to emphasise the characteristics of a doctrine and to mark the culmination of a wave in the undulatory progress of thought.

Great as has unquestionably been the advance in our knowledge effected by the inquiry into the bodily condition of the insane, yet the influence of this course of investigation has not been an unmixed benefit to alienism. Pathology being the source from whence the major portion of our substantial knowledge regarding Insanity has been derived, and alienists having moreover to pass through a thorough drilling in the methods of pathological research before entering on their proper field, there has resulted a considerable importation into the study of Insanity of the phraseology and implications of a system borrowed from a totally different science, dealing with totally different matters, by which the student of Insanity has been embarrassed and misled.

For instance, we have the artificial division of the mind into faculties, corresponding with the natural division of the body into organs, and along with this division we have the behest, actual or implied, to conduct our investigation of the mental condition of the insane on the lines of the division thus laid down. We have, moreover, a classification of Insanity adopted

by the International Congress of Alienists, based upon the variations of physical condition with which insanity is associated.

And now, granting the great accessions to our knowledge regarding insanity that have accrued from a study of the associated pathological conditions; and granting furthermore the indefinite extensions that our knowledge may gain with the further development of this method of study; there remains the question, Can we hope, by pushing our studies in this direction far enough, to arrive at a satisfactory explanation of Insanity? Grant that, in a given case of mania, we have a register of the conditions of all the bodily organs, that we have an hourly record of the temperature, that we have the precise amount of carbonic acid exhaled by the lungs, that we have the urea, the phosphates, the albumen, in the urine quantitatively estimated, that we have the tests of the acuteness of all the special senses, a drawing of the fundus of the eye, a record of the electric reactions of all the muscles, and the percussive reactions of all the tendons; that we have sphygmographic tracings of the pulse, and can measure, to an ounce, the amount of blood passing through the brain, and to a decimal figure the proportion of its constituents; and now, having gained all this, how much nearer are we towards the explanation of an act of homicide? Nay, grant that our means of investigation may advance so far that we can produce a balance-sheet of the amounts of force collected and expended by the organism, how far have we advanced towards accounting for a grandiose delusion?

Clearly, the facts belong to different orders, and however adequate may be our knowledge of the facts of the one order, it will never give us an explanation of the facts of the other. However far we may pursue a path, it will never lead us to a goal which lies in another direction.

Here again, the upholder of the *status quo* may refuse to admit the justice of this representation of his position. "It is true," he may say, "that the view from the subjective standpoint affords no explanation of the facts of insanity; it is true that the observation of statical bodily conditions does not afford much insight into conduct; but we do not depend on either process separately. Our object is to find an explanation of insanity by investigating both bodily states and mental states, and establishing a consensus between the two." Granting this, yet still it must be admitted that, although investigation on this basis has been long in progress, yet, so far, the advance towards a rational system of alienism has been almost nothing. The two lines of investigation have been, for the

most part, conducted apart, and where they have been forced into contact they have refused to amalgamate. The connection empirically established between Pregnancy, Parturition, &c., and certain forms of Insanity, remain isolated facts, detached, inert, and without any semblance of containing the germ of a system of alienism. They afford no explanation of the conduct of the patient, even in cases in which they occur, far less do they suggest any principle which can be applied to other cases, or to insanity in general.

On what system, then, is insanity to be studied? If the study of mental states is insufficient; if the study of bodily functions is insufficient; if the simultaneous study of both, and the relations between them is insufficient, what alternative course remains? If the facts of these widely differing orders do not either in themselves or in their collation constitute the whole data for the study of insanity, to what order of facts do the remaining data belong, where are they to be looked for, and, when found, on what system are they to be organised? The answers will be anticipated by readers of the foregoing. The remaining data are to be sought in the study of Conduct. The facts obtained from this source form the complement of those hitherto considered, and the organisation of these three series of facts into an interdependent whole, forms, from one aspect, a true concept of a scientific system of alienism. It has, of course, been impossible to study insanity without taking Conduct into account, and the records of cases of insanity are mainly occupied with the relation of the acts of the patient, but hitherto they have been examined only as affording an insight into states of consciousness, as indicating the processes going on in the mind, and there has been no explicit recognition that Conduct and Intelligence are co-ordinate aspects of the same process, and that one can no more be disordered without corresponding disorder of the other, than a body and its shadow can move independently.

The tendency to regard Conduct, not as a primary element in the concept of Insanity, but merely as a symbol of the mental condition which accompanies it, permeates the whole of modern alienism, and is manifest in almost all that is written on the subject. The few phases of conduct that are mentioned in the Form of the Medico-Psychological Association, and the subordinate position that is assigned to them, are illustrations of this tendency. The definitions of Insanity above alluded to, are implicit declarations of the doctrine, and more explicit evidence is readily forthcoming. So far has this notion of Insanity been

carried, that we are but now emerging from the theory which looked on all bodily manifestation as valueless unless it took the form of verbal utterance. While oral conduct was noted, weighed, considered, and even erected into a test of Insanity, as in the case of "knowledge of right and wrong," and in the assumed necessity of proving the existence of a delusion, Conduct other than oral was deemed to have no validity as a test, and scarcely any as an indication of alienation. Even down to the present time, and by the most distinguished alienists, an apologetic tone is adopted when conduct other than oral is adduced as evidence of insanity; or at least, an argumentative and even combative attitude has to be assumed in order to bring about its acceptance. Thus, Dr. Hack Tuke, in the admirable text-book of psychological medicine, already freely quoted from, has this passage:—"That the mere act itself, however strongly suggestive of insanity, must, in the absence of collateral proof, be taken as evidence with extreme caution is most true. Usually, we believe there will be some decided evidence procurable of hereditary disease or of a change in the feelings prior to the committal of the act—generally of both—and yet Griesinger was compelled to admit that the act, and the act alone, might constitute sufficient evidence of the insanity of the homicide." This admission of Griesinger's is adduced by Dr. Tuke to support the view of the existence of a special form of mania, but it illustrates at once the prevailing method of viewing Insanity as an alteration of mental states only, of considering conduct in so far only as it affords evidence of abnormal mental states, and the admitted unwillingness of alienists to consider alteration of conduct as itself forming a primary element in the concept of insanity.

The course of investigation, then, which the alienist has to follow, is three-fold. Let us look a little closer into the process. When a nervous centre discharges—when, that is to say, the action of a disturbing agent brings about a re-arrangement of molecules in, and a liberation of energy from the centre, two things occur. First, the stream of liberated energy passes along the nerves to the muscles, and sets up in them contractions, ensuing in bodily movements; and second, simultaneously with this change in the molecular arrangement of the nerve-centre, a change occurs in the consciousness. This is the simple and typical form of the process, and on this type is modelled all conscious action whatever. It is true that there may be a nervous discharge and a bodily movement without a corresponding change in the consciousness, and there may be a

nervous energising too feeble to give rise directly to bodily movement, but yet attended by mental action ; and with both these cases the alienist is concerned. The absence of consciousness he has to take into account, and in such circumstances as it would normally be present, to account for. In the second case he has to remember that, however feeble the discharge, yet if there be a liberation of energy at all, it must produce its effect. If it do not spread downwards to the muscles, and produce movements, then must it spread laterally, and, by disturbing the equilibrium of regions to which it extends, must set up further and further discharges which at length issue in movements ; or else by exercising a lateral pressure, open up new ways of communication among the centres. Whatever may be the effect, each such effect will have its own subjective accompaniment, will be attended by further changes in the consciousness, and, by altering not only the distribution of pressure, but the resistance among the communications, must modify the subsequent discharges and the movements which result from them. However complex, however highly involved the process may become, however remote may be the apparent connection between the ultimate act and the discharge which initiated the nervous process resulting in that act, yet in all conscious action exist three elements and only three :—the Nervous Process, the Subjective Accompaniment, and the External Manifestation ; or, in chemical terms, we may call the base of alienism a triad element, of which the three poles are Cerebration, Intelligence, and Conduct.

The importance of recognising the threefold aspect of the process is immense. It is not enough to give the doctrine a verbal acceptance, and then to regard a case of Insanity without reference to it. The full and conscious recognition of this fundamental fact should saturate every concept, every consideration of the alienist. As a psychologist, he must investigate his patient's mental states ; as an alienist, he must observe his conduct ; as a physician, he must study the nervous processes which underlie his mental states and find expression in his conduct. The facts belong to totally distinct and different orders, and the facts of the one must always be kept sharply demarkated from those of the other two. The alienist may not speak, as a layman would, of mental depression causing a suicidal act, or of a dose of alcohol producing a joyous state of mind. He may not speak of hypochondriacal feelings being due to intestinal lesions, or of constipation arising from melancholia ; or if he does so speak, it must be admittedly as a *façon de parler*,

as an abbreviated expression which must be written *in extenso* before it can become a datum of scientific thought. But, while keeping separate the three orders of facts, he must be perpetually collating those of each set with those of the other two, and in the consensus established among them he must find, and he will find, the materials out of which to build a system of alienism.

It will be apparent from what has been said above, that of the three co-ordinate elements which come under the consideration of the alienist physician, the Nervous Process is that with which he is ultimately the most concerned. It is the central figure in the trinity, the bond of union, and more, it is the underlying fact which elicits the other two. Without a nervous process there can be no co-ordinated bodily movement. Without a nervous process there can be no subjective state. It is the substratum on which the double structure rests. Hence, as a physician, as desiring to reduce to normal action those processes which are disordered, the alienist must address himself more especially to the investigation, the comprehension, and the restoration of the nervous processes.

Of the three orders of facts forming the basis of alienism only one can be directly observed. The subjective accompaniment of nervous action, the states and changes of consciousness, can be known to us indirectly only, by an interpretation of the bodily movements, including, of course, the movements of the articulatory apparatus; and the nervous processes, although belonging to the physical universe, are yet almost as completely hidden from direct observation.

In estimating them we have to consider the bodily movements which are their outcome and result, the mental accompaniment with which they have a direct correspondence, and the totality of bodily conditions which makes them what they are. In order to arrive at a definite comprehension of what is taking place in the higher nervous centres, it is not sufficient to note down a random accumulation of observations and inferences containing facts belonging to the three orders of Function, Mind, and Conduct, mingled with each other, and unarranged among themselves. The investigation of each system must be conducted on a definite plan, and in accordance with scientific requirements. Not only must the scheme of investigation keep separate the orders of facts, not only must it provide for the thorough quartering of the ground to be gone over, but it must be so arranged that those facts shall be elicited and classed in proximity, which have to be thought of together. The

surgeon who recorded in the same connection that his patient had myopia and ophthalmia, the physician who noted as contiguous facts that his patient's tongue was coated and protruded to one side, would be derided as unscientific; but their errors would be venial indeed beside that of the alienist who looked on an hallucination as an affection of a special sense organ.

Schemes for investigating the bodily functions belong to the province of the physician, and, save in some departments bearing directly on the condition of the nervous processes, are plentiful and thorough. It remains to supply schemes, adequately fulfilling the requirements given above, for the investigation of mental conditions and of conduct. To supply these aids will be the object of a future paper.

On the Occurrence of Fat-emboli in the Acutely Excited. BY
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There occasionally occurs in lunatics who are labouring under acute maniacal excitement a more or less rapid loss of power. This may be followed by no further consequences; sometimes it marks the beginning of recovery, but it may rapidly end in death.

In many cases of the latter kind, acute inflammation of the lungs is found to be the cause of death; in others, infarcts occur due to emboli detached from peripheral thrombi. Septic infection, also, arising from gangrenous bed-sores, may be the cause of death, or it may be due to severe injuries which patients sustain in their excitement. But very frequently it remains obscure even after post-mortem examination. We are then wont to be satisfied by taking it for granted that death was due to the intensity of the disease, or—which comes to the same thing—to exhaustion.

It cannot be doubted that in many cases this is really the correct explanation of the fatal result. It is, however, quite certain also that the rather vague expression, "general exhaustion" sometimes serves as a cloak for our ignorance, and that under it are concealed several processes which might be more minutely defined.

As was shown in several cases during the latter years of my clinic, one of these processes is fat-emboli in the lungs—an appearance which, unrecognisable by the naked eye, is

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