DR. MAUDSLEY ON THE DOUBLE BRAIN.

By Professor J. M. BALDWIN.

In his article "The Double Brain," in *MIND* No. 54, Dr. Maudsley makes three points, which may be stated logically thus: (1) the brain, as the organ of thought or consciousness, is capable of dual activity, this duality making it impossible for us to find unity of mind in the representative processes alone; (2) real unity is to be found in the affective or sensitive life, which (3) finds its basal principle of unity in the organic unity of the body, i.e., in the nervous system. These points are closely interwoven, and present an account of the mental life to which spiritualists generally take broad exception. It is my purpose, however, simply to indicate a few considerations from a psychological standpoint which tend to show that Dr. Maudsley's physiological data do not suffice for the interpretation he gives them.

The facts bearing upon the dual nature of the hemispheres, and the functional interpretation of them which Dr. Maudsley gives, are conceded from the outset. It seems to be established that, besides the common functional activity of the hemispheres, that area over which they both have dominion, there is a residuum of motor function belonging to each alone, and that each may assume the performance both of the common function and of that which is peculiar to itself. It is when we pass on to consider "how the hemispheres act toward one another in thinking" (p. 166),¹ that is, how they are related to each other as respects consciousness and its unity, that the question of psychological interest arises.

In answering this question, Dr. Maudsley first cites the case in which we attempt to perform movements clearly involving the separate action of the hemispheres, as the performance of different movements with the two hands. He says (p. 166): "If a person who is performing one kind of act with one hand and another kind of act with the other hand will endeavour to think of both acts at the same moment, he will find that he cannot do so; although he can execute the respective movements simultaneously he cannot think them simultaneously; he must pass in thought from one to the other, a rapid alternation of consciousness takes place. The alternation, though rapid, is by no means instantaneous; it is distinctly successive, since there is an appreciable pause in the performance of it." After excluding other alternatives, such as the coexistence of two different consciousnesses, he concludes that "there remains . . . the supposition of an alternating action of the hemispheres corresponding to the alternating consciousness". This alternation,

¹ All page-references are to *MIND* No. 54.

he goes on to say, gradually yields on the part of the hemispheres, through repetition and education, to the uniting of the hemispheres in simultaneous activity as a single organ (p. 166), but consciousness preserves its method of "extremely rapid alternation". The conclusion, therefore, as respects intellectual unity, is that we find no basis for it in the functional activity of the hemispheres.

This conclusion may be true, but the analysis it employs of the psychological unity of the states involved is so meagre and false that we cannot take it alone with us in our search for the true principle of unity. By consciousness in this connexion Dr. Maudsley seems to mean *attention*. It is true that I cannot attend to the two movements at once, that my attention alternates usually, even when the movements are simultaneous; but it is not true that I may not be conscious of the two movements at once. Recent experimental work in determining the area of consciousness establishes the contrary. Repetition, also, tends to make the two movements elements of a single state of consciousness, just as repetition tends to make the hemispheres a single unit organ. A simultaneous consciousness is not a "distracted or dual consciousness," but an integrated consciousness, a new state, whose elements arise from previous states. Attention is a state of monoidism, but consciousness is not.

Now this integration of states in consciousness is possible only on the basis of a fundamental unity of mind, as necessary to the intellectual life as organic unity is to the members of the body in the variety of their physical functions. If I move my right thumb to the left, is the movement my only consciousness? Am I not simultaneously conscious that it is my thumb, my movement? Are there not unnumbered, organic, detached and stray peripheral affections bound up with the act or with its very conception? And when I shift my attention and move my right thumb to the left, is there a pause in my consciousness of *all* these things? I am just as conscious of my thumbs, of my organic affections, of myself between the movements as during them, and a simple change in my motor experience can in no sense be said to create a pause or break in my consciousness. Each hemisphere, instead of contributing a separate consciousness, contributes an element of content to my simple consciousness, a motor element.

And further, attention itself, as a principle of active unity, is dependent upon the complexity of the mental life. The selecting, relating, unifying, disposing function of attention has been so emphasised in recent discussion that it is needless to dwell upon it. In consciousness it is the outgoing of efficiency, the self gaining the ascendancy over the complex of its presentational life and asserting the principle of oneness which is its own nature.

I have thus briefly touched upon the elements of conscious mental unity which analysis seems to give, and which demand

explanation whatever hypothesis we adopt: first, a subjective reference of all mental modification, both motor and sensory; secondly, the subordination of conscious *incidents*, past and present, to the permanent *fact of consciousness*, which remains as the background of their flow; and thirdly, the grasping and disposing energy of attention, which is *always one*. The class of movements hitherto spoken of, those controlled by the different hemispheres individually, with no co-operation, bear only upon what I have called above *incidents*, and not upon the higher aspects of mental unity.

If the case rested simply upon this class of movements, Dr. Maudsley might make it stronger by extending the difference of function, not to the two hemispheres alone, but to each of the motor areas within either hemisphere. The centre for speech, for example, is distinct from the other motor areas. We can perform the movements of the speech-organs and the right leg simultaneously, but cannot attend to them simultaneously until a close association is brought about by education. Hence, as before, motor states lack unity, and even within the function of *one hemisphere*. From this aspect we have not two brains (centres), but perhaps a dozen. This tends to bring out our contention, that the unity of the mental life is not touched at all by the functional subdivision of the cerebrum.

Dr. Maudsley next proceeds to consider those movements in which the hemispheres co-operate: they "combine to dictate different movements of the two sides for a common end, just as the eyes combine their different visions of one object". The question here is this: "From what higher source do the hemispheres obtain their governing principle of unity? How is it that, when dictating different movements, they yet have an understanding to work together to a common end?" And the answer is again, that the unity of the motor consciousness is an educated unity, and that, like two acrobats, the hemispheres learn to perform together "by much travail and pain".

This is true, and its importance can hardly be estimated; but, again, it must be criticised from the standpoint of what it leaves out. We are forced at once to inquire, Whose is the "end or aim in view," "the conception or foresight of the act, its ideal accomplishment"? Certainly it is not the conception of the hemispheres themselves, though the figure of the acrobats would lead us to think so; for how could such a conception be acquired by either hemisphere before the action had been actually performed? And if then acquired, how could it be intercommunicated without a central bureau of consciousness, at which the progress of the co-ordinated movements might be apprehended and recorded? The conception which precedes all effort at motor execution is itself a fact of unity, higher mental unity, an ideal unity of the motor consciousness, to which the complex activity of the motor apparatus is to be reduced by long and wearisome effort. Here, again, is the outgoing of the self in its

relating and efficient activity, perceiving the many while itself is one, relating the many in an ideal which is one, and reducing the many to the unity of a foregoing ideal plan. Here, as in the former case, I find no fault with the account of what takes place in and for the motor consciousness, but cannot see how this consciousness can be considered for itself alone in independence of the higher thought-consciousness, in which alone the idea of motor co-operation can germinate and bear fruit. And the conclusion is that mental unity is, potentially at least, antecedent to co-ordinate movement.

The other figure which Dr. Maudsley uses in this connexion makes the case still plainer. He says the hemispheres are related to each other in such co-ordinated movements as the eyes are in binocular vision, their early binary images being reduced in experience to a unitary perception. Let us suppose that the eyes are the seat of consciousness, and that at first they did not give a single image. Then, either each eye has its own consciousness, or there is one consciousness for both eyes. If each has its own consciousness, there would be no consciousness of the discrepancy between them and no means of remedying it. If, on the other hand, there is one consciousness for both eyes, the unifying co-ordination of the images would be in virtue of this consciousness and not in the eyes themselves. It is only in the interpretation of a unit consciousness, which renders both images possible, that they can be reduced to the form of vision which is its ideal conception.

The mental unity, therefore, which is to be explained is something more profound than the simple consideration of the motor consciousness would lead us to expect; and it remains to ask whether the organic solution offered by Dr. Maudsley is adequate.

The two great questions here involved are these: Is the "unity of the intellectual life based upon the unity of feeling," and "this again upon the unity of the organic life"? These propositions are so comprehensive that one's opinion is what one's entire systematic thinking has made it, and I can only advance a general consideration or two in opposition to the equally general considerations of Dr. Maudsley.

First, the same line of argument by which Dr. Maudsley proves the absence of unity in the motor consciousness applies with undiminished force to the affective consciousness as well. Can we attend to two simple sensations in the peripheral organs at once—say, a taste and the pain of a wound on the hand? Not at all. The case is just the same as when we attempt to attend to two movements on different sides at once. There is the same alternation of attention, until the sensations become united in a single attention-complex. The emphasis of single affective states in the adult life is open to the same charge of psychological atomism as we found attaching to the similar isolation of motor states. Indeed, simple feelings of movement are *themselves affective states*, being simply intensive, and the argument in

regard to them applies to all states of the affective order. The feeling of effort which is bound up with feelings of movement is quite distinct in its nature, and seems, as has been said, to indicate a higher plane of intellectual unity, which Dr. Maudsley leaves quite out of account.

Secondly, we may well notice that either the manifoldness or the unity of feeling could not be apprehended as such in the absence of a circumscribing consciousness which, through its own unity, takes it to be what it is. Suppose we admit that in the beginnings of life the inner state is simply an undifferentiated, sensory continuity, what is it that *feels* or *knows* the subsequent differentiation of the parts of this continuity? It cannot be the unity of the continuity, for this is then destroyed; it cannot be the differentiated parts, for they are many. It can only be a unitary subjectivity additional to the unity of the sensory content, *i.e.*, the form of synthetic activity which reduces the many to one in each and all of the stages of mental growth. The relations of presentations as units must be taken up into the unit presentation of relation—to express what modern psychology means by apperception; or the “mechanical connexion” must become the “presented connexion”—to use the terms employed by Mr. Stout in *MIND* No. 53.

Thirdly, it is difficult to see how higher intellectual unity can find its basal principle, its originating cause, in the unity of the body as an organism. Admitting, with Dr. Maudsley, that ideas are a matter of organisation, that thought is the progressive organisation of residua,¹ I yet maintain that we never go outside the unity of consciousness to find these residua. There can be no such thing as a residuum except as it is the same in nature as that of which it is a residuum. However far back we go undoing organisation, we never get outside the subjective. Admitting, further, that the body is also an organisation, and an organisation which proceeds in the most intimate progressive parallelism with that of mind, we cannot, from this single fact, reduce either to the other. Mind remains an unexplained thing for itself until the following positions are proved: (a) That the law of organic and morphological growth of mind finds its proximate ground in the growth of body. That is, that the methods of physical organisation run also into mental organisation. Now, as a fact, the great principle of mental organisation, apperceptive synthesis, finds no counterpart in nature: its products have no objective realisation in the synthesis of physical organisation. It seems, as Lotze says, to be unique. (b) That there is a correlation of mental and physical force, a principle which Dr. Maudsley everywhere assumes, but nowhere, as far as I know, attempts to establish. (c) That the mind in its progressive organisation does not exhibit autonomic energies of its own, but owes its existence to its psychophysical connexion; and, further, that the

¹ The general doctrine of Maudsley's *Physiology and Pathology of Mind*.

twofold aspects of unity, mental and physical, are not themselves members of a third underlying principle to which they are both secondary—and which *may be mind*.

Contemporary thought is tending, I think, to the recognition of the fact—as wholesome to the idealist as to the materialist—that personality is one; that it includes mind and body in organic union; that mind is not mind without an object, and an object is not an object without mind; that a within is as necessary to a without as a without is to a within; and that rational unity lies deeper in the nature of things than either the empirical unity of the atomistic psychology or the functional unity of the nervous system.

‘THE SENSES’ IN A COURSE OF PSYCHOLOGY.

By G. LYON TURNER.

I suppose it will be admitted as a matter of fact that the phrase ‘The Senses’ has usually been taken in one of two ways—either as identical with ‘The organs of Special Sense’ or as practically equivalent to ‘Sense-Perception’. In the first or narrower meaning, only such attention has been paid to ‘The Senses’ as is necessary to the understanding of Sense-Perception; and this latter has very generally been described as ‘Perception *by* or *through* the Senses’. Now it is to the manner in which the latter subject has usually been treated that I would direct attention, with the view of suggesting an alteration of method in one or two vital points.

That ‘Sensation’ is the basis of ‘Perception’ all are now agreed. Even Hamilton distinguished between Sensation proper and Perception proper, though he failed to put them in their right relation to one another. Prof. Bain has brought into their right prominence the various classes and varieties of Special Sensation; and Mr. Sully has distinguished them as an element which must be supplemented by an Active Intellectual element before they can yield any true Perception.

But sufficiently patient and careful analysis of the Intellectual processes which must be superinduced upon Sensation has not yet been given. Prof. Bain seems scarcely to have realised that a distinctly *intellectual* element was necessary before any real Perception could result, or he would not have so sharply separated ‘The Senses’ from ‘The Intellect,’ nor have made them include so much of Perception as he actually has done. And even Mr. Sully has failed to point out the many Intellectual elements which are necessary for the formation of the simplest ‘Percept,’ and so has failed to place Perception in its proper relation to Memory and Imagination, and all three in their due relation to Sensation. In a ‘Discussion-note’ there is space only for the most condensed statement of conclusions. The meagrest exposition of reasons