THE JOURNAL OF NEUROLOGY AND PSYCHOPATHOLOGY.

VOL. I.

NOVEMBER, 1920.

No. 3.

Original Papers.

PSYCHOLOGY AND THE MEDICAL CURRICULUM.

BY PROFESSOR C. LLOYD MORGAN, BRISTOL.

Has not the time come for considering the advisability of introducing psychology into the curriculum of our medical schools, at some period of study, for some students if not for all?

I suppose everyone admits that there is close and intimate connection between mind and body. And I suppose that, not so very long ago, the common attitude in this matter among those with whom we are now concerned was something like this: When specific cerebral processes reach the requisite level of intensity or complexity, or both, there is an accompaniment of consciousness. This is just an interesting effect that is produced by purely physiological causes. It is for psychologists to study these effects. *We* are concerned with causes; and they are always and in all cases physiological. No doubt in popular speech we talk of the mind as influencing the body; but translated into scientific terms this means that certain cerebral changes are influenced by, and in their turn influence, other changes in the body.

I do not, of course, suggest that the mid-Victorian physician took no account of mental symptoms. But I do suggest that they were very often regarded as *indications* of disorder in the nervous system, so that their causal origin was there to be found, if found at all. Just as the physicist may see, in the phenomena of colour, advertisements of so many electromagnetic pulses per second, and yet hold to the belief that colour as such is non-causal and does nothing; so physicians of the old school commonly saw in the phenomena of mental abnormality the effects of organic disease, in themselves wholly

without causal influence. Hence it sufficed to know just so much about the mind as to be able to recognize abnormal symptoms. Beyond this, serious study of psychology was unnecessary, though it might be interesting.

But if I read aright the signs of our time, a change has come over the scene. It is now pretty widely held that abnormal mental symptoms are not *only* indications of abnormal physiological processes (though this they may also be), but are due to underlying psychical causes. Their origin must be sought not only in the nervous system—or, if sought there only, will not be found—but in the psychical system, which either subtly interacts with the brain or is correlated with its functional processes. In either case mental effects as such must be traced to causes which are themselves psychical in their nature. And if this be so—if he whose health and sanity is to be preserved is not only a physical but a psychical being—may one not urge that the time has come for a consideration of the question whether opportunity should not be given, not only to learn from a physiologist the best that is known about the one, but also from a psychologist the best that is known about the other?

If one seeks to deal with practical issues in a practical way, one must look around with circumspection. One then asks whether in current practice there are not lines of treatment, by suggestion and as the outcome of psycho-analysis, which are becoming generally recognized as something far better than mere quackery; whether there is not thus implied a submerged part of the psychical system (in intimate touch, perhaps, with the physiological system) beneath the threshold of our ordinary consciousness; whether there is not a mental as well as a biological embryology; whether psychical phylogenesis may not throw light upon ontogenesis in the human individual; and whether the psychologist may not have something of practical value to teach in this matter.

One has here, of course, in view the working hypothesis of the unconscious. Now this word is negative in form, and, one would suppose, should, in the first instance, imply a prior definition of the consciousness which it is *not*. And I take it that one must turn to the psychologist to supply such a preliminary definition. One would then get: (1) Consciousness, as the class of all instances of being conscious, with certain assignable characteristics; and (2) The unconscious, as comprising psychical processes which lack these characteristics. The assigning of positive characteristics to the unconscious would then follow in due course. If there be two such classes, it is surely the psychologist who must define them. One is told, however, that academic psychology cannot supply the kind of definitions which are of service for the purpose in hand, or at any rate

has so far failed to do so; for this purpose a new psychology is needed to replace the old. One may perhaps harbour doubts as to whether the old psychology to be discarded is not in large measure obsolete psychology, much of which has been already superseded in the modern development of the science. But let that pass. The essential point, presumably, is that what is needed by those who deal with such matters in the practice of their profession is a *true* psychology, whether it be old or new. If so, is it unreasonable to submit that this should be officially taught by those who (1) have made a special study of this department of scientific knowledge, and (2) know, and can show, at least in broad outline, how it may be applied in professional life?

Nay, it may be said, what is wanted is a specialist to lecture to specialists; and a good deal of such teaching is already provided. One must not split hairs; but the word 'specialist' is a little ambiguous. What I am myself urging is that the subject should be entrusted to a specialist, or, in other words, to a psychologist. But there are specialists in application, e.g., in the methods of psycho-analysis. And one may at least raise the question whether it is wise to entrust the subject entirely to them. Just as there is one science of chemistry, which may be applied to metallurgy, or to brewing, or to soap-boiling, and the fundamental principles of this science should be taught by a chemist, so also there should be one science of psychology, which may be applied in teaching, in advertising, or in psycho-analysis, and the fundamental principles of this science should be taught by a psychologist. This does not preclude further specialization in application by those who have learnt to apply general principles in particular ways. It marks only a claim that those who thus apply them should themselves have a sound and adequate training in chemistry or in psychology. One would not regard as satisfactory the teaching of one kind of physiology to science students and another kind to medical students at any stage of their career; nor would one regard it as satisfactory that one kind of psychology should be taught to these and another kind to those. Of which, as matters now stand, there is, I think, some danger.

If, however, it be granted, just for the sake of argument, that something may be adduced on the lines briefly indicated in favour of the contention that the teacher of psychology, however applied, should be a psychologist, it may still be said that those who need to learn are those only who are to become specialists in application. That may be so. I must leave the profession to judge. But one is certainly often told that if those who came forward so nobly in the late war had been better able to trace to their psychical causes certain mental symptoms, much suffering would have been averted and many men would have been more speedily restored to mental and bodily health.

So far as it goes, this is in favour of psychology for all. Furthermore, if once it be realized that in each one of us there is a psychical system with deep-laid foundations influencing our whole life in a hidden way—that there are psycho-physical dispositions and processes which are only manifest in the supraliminal mental life through their emergent effects—is it not then a tenable position that every practitioner should have some knowledge of that science which deals with the functional activity of this psychical system?

No doubt it may be said that my attitude is like unto that of the shoemaker who extols the virtue of leather as affording the best foothold in all walks of life. But I am trying to look a little beyond my last; and I may as well give a sketch of what I think I see.

I ask myself what a man walks about with under his hat. What is he? For he it is with whom the medical practitioner has to deal. Well, he is (1) a marvellously complex physico-chemical system; he is (2) an organism; he is also (3) an animal, with certain fundamental instincts; and he is (4) a man, with sundry human interests. But as organism he is something more than a physico-chemical system; as animal he is something more than an organism; as man he is something more than an animal. Still he is all of these; all at once; and all in delicate interrelations. Now it is generally recognized that the medical student should know something about physico-chemical systems—not only this one under the man's hat, but more widely and generally. He needs therefore an adequate grounding in chemistry and physics. He should, too, learn the nature of organisms, their structure, the functional processes wherein they live, their mode of development, and so forth; this broadly and generally, by instituting sufficiently wide comparisons; this also in full detail in the particular organism which is his 'subject'. So far one is merely giving inadequate expression to the commonplace. Take, however, the next step. Under the same hat is an animal with certain fundamental instincts. Is much opportunity afforded to the medical student for acquiring systematic knowledge of these deep-seated instincts in animal life? I shall be told that he really has not the time for this. I suppose this must be because those who draw up the curriculum deem the matter unimportant. But is this quite up to date? No doubt a quarter of a century ago those who made a special study of instinct were regarded as amiable wanderers in amusing side-tracks of natural history. Is that so to-day? Are we not coming to realize more and more fully that on instinctive foundations our life is largely built, and that our human interests are partly enriched and partly tainted from this deep-lying source? But both these interests and the instincts on which they are founded fall for consideration by the psychologist. Is it, then, wholly unreasonable to plead that the medical student

should learn from a trained psychologist, at least in essential outline, what goes on in the psychical system, which, no less than the organic system and the physico-chemical system, makes us what we are in health and in disease?

Now here I must pause to say, parenthetically, that part of the revolt, in certain quarters, from 'academic psychology' is based upon the supposition that it deals only or chiefly with the intellectual powers, with the higher emotions and sentiments, with volition as it bears fruit in the thought and conduct of philosophers. That may have been so in the past. It is so no longer. With the coming of the evolutionary concept came also genetic psychology. It is not true that modern psychology deals only or even chiefly with the most cultivated flowers and fruits of the psychical system implanted in us; it deals also with the stem and the roots which are embedded in the organism. In the Arts classroom the psychologist might well devote most of his time to the flowers and the fruitage; in the science laboratory he would deal with the growing stem by experimental methods; in the medical school he would be mainly concerned with the roots from which the whole plant has grown. And if we can afford a separate lecturer for the medical school, let him be first and foremost a psychologist, and secondly one who has specialized on genetic problems.

He would probably choose the biological avenue of approach to these problems. Let me try to summarize, very briefly, the kind of line he might take in leading up to the instincts of animal life. He might begin with a reminder on differentiation and integration, not as mere words, but as vitalizing concepts. If we consider, he might say, the life of a complex organism, we find a number of so-called systems, or more strictly sub-systems, within the individual life-system as a whole—respiratory, circulatory, reproductive, and so on. We find these functional activities interrelated in many ways in the life that is common to them all. We consider the integrative action of the nervous system, and of that which may be called the hormonal system of internal secretions so subtly distributed by the bloodstream. He would remind his hearers how the working of any one sub-system may facilitate or enhance the working of another, or may partially arrest it, or inhibit it. Abnormal functional activity of one system may throw another system out of gear; and so the trouble may spread. But, he would probably insist, the sub-systems are not historically prior to the system as a whole within which they are functional factors; nor is the whole prior to its constituent parts; whole and parts have been progressively evolved together with closely related interplay.

Now what holds good, he might continue, for the life-system, is

true also in principle, *mutatis mutandis*, of the psychical system. Connected in some way with the upper brain, it is an *imperium in imperio*, in some measure consciously, but in larger measure unconsciously, in touch with much, if not all, that goes on in the wider empire. But the conscious outlook of the mind has reference to the environment, and even the inner happenings of the psychical system as a whole acquire 'meaning' in terms of this external reference. Hence in the psychical life, as contrasted with that which we distinguish as organic, there is a regrouping in reference to the objects of which we are conscious in perception. And hence we say that dispositions, or instincts, or innate tendencies, or interests, or emotional systems, are awakened to activity from a state of more or less structural slumber (we are sure to use some more or less metaphorical expressions). These are then regarded as the sub-systems of the animal mind; each has some measure of autonomous integration; all are interrelated; and in a well-balanced psychical system the net results of a bewildering number of processes, conscious and unconscious, are caught up in all-embracing integration. This is the psychical life as a whole. But taken in detail, there is much interplay between the psychical sub-systems, with facilitation, partial arrest, more or less complete inhibition, and perhaps derangement. There may be failure of normal integration, or even such dislocation as we speak of as dissociation. And any of the sub-systems—the so-called sex-complex, for example—may be active in the subliminal region of the unconscious, or may emerge into the supraliminal field.

There is thus integration within the sub-systems severally and integration of these sub-systems collectively, so as to constitute a whole with due balance and poise. The unity of the whole is not that of simplicity, but that of integrated complexity. In the degree in which the total integration fails to conduce to what we describe as mental health and sanity, we speak of the poise as abnormal, and seek by appropriate means (1) to ascertain to what cause the lack of balance is due, and (2) to re-establish, so far as possible, the normal poise. The difficulty is that part, nay much, of the working of each sub-system is in the subliminal region of the unconscious, and is known in the supraliminal field of the person concerned only by its normal or abnormal effects. The aim of psycho-analysis in practice is to ascertain the nature of, and if possible the measure of, this unconscious determinant of mental processes above the threshold.

Of course the lecturer I have in view would do much better than this. But this is the kind of line he might take, and thus lead up to practical application. And here I must leave him; for I would not implicate even an imaginary person with such heresy as I may now indulge in, mainly with a view to the plea that the problems raised should be discussed by an all-round psychologist.

In psycho-analysis there are two closely interwoven strands—that of practice and that of theory. The first we must welcome for all it is worth; and beyond question it is worth much. The second must be discussed as critically as any other systematic body of hypotheses in psychology. Here the trouble is that one has to grapple with new technical terms, some of them founded on metaphor and mythology, and with old terms used in quite unfamiliar ways. Much of the practical work deals with cases in which the normal poise has been in some way upset, but I take it that the theory applies to all cases. I can only deal, in the most summary fashion, with the theory in its Freudian form, as presented, for example, in Dr. Ernest Jones' *Papers on Psycho-analysis*.

It seems that within each one of us two psychical systems are differentiated, between which a barrier is established. There is: (1) That of the conscious censor; and (2) That of the unconscious (including here the preconscious). The latter forms an infantile core "which has persisted *in an unaltered form* [italics mine] as if it had been imbedded in the centre of all later activity". Each has its 'wishes' and 'thoughts'; but the censor is unaware of those which are active in the unconscious. Although unaware of them, it resents their intrusion and represses them—in some cases, it seems, before, through actual intrusion, it can be aware of them. The unconscious has its own affective enjoyment—infantile, alogical, and non-moral; for "it may be stated as a general law that what in the unconscious has a positive affective tone, i.e., of pleasure, has in consciousness a negative affective tone, i.e., of displeasure". If there is failure, on the part of the censor, in repression, what is perforce admitted to consciousness is not only thus affectively "served with a negative prefix", but is 'sublimated' and is disguised in symbolism which is not repugnant to the censor. This is best exemplified in dreams, which in their 'latent' and unconscious source are predominantly sexual in a wide and rather indefinite sense that is apt to become unpleasantly definite under psycho-analytic interpretation. To put the matter plainly, most dreams, thus interpreted, seem to reek of phallicism. And since it is difficult to find *anything* which has *not* been at some time and somewhere a phallic symbol, no matter what the 'manifest' dream may be—the dream that passes the barrier and is remembered—it is thus almost inevitably tainted at its infantile and unconscious source. For it looks as if the unconscious is supposed to retain memory-images of what bulked large in the consciousness of all sorts of primitive folk.

Now one must not reject facts which one may regard, censoriously, as exceedingly unpleasant. But one may ask whether what are reported as facts are not falsely conceptualized in the light of a theory the

validity of which is open to question. That I believe to be the case. But such a lecturer on psychology as I have in view would fully discuss other theories of dreams, and critically compare them with that of Freud. He would have also to discuss the psychological status of ideas and of memory-images. He would have perhaps to consider, and compare with M. Bergson's very different treatment, a view which I will put in a frankly dogmatic form, since it goes to the root of the matter. There are, I should contend, unconscious psychical *processes* which in large measure (and perhaps especially in dreams) serve to determine the nature and course of conscious ideas; but there are, in the unconscious, no ideas, no re-presentations, no memory-images, such as are developed in consciousness and there only. The lecturer (when he is appointed) will know exactly what I mean, and will submit such views to searching criticism. But what do I mean? Baldly stated, in terms of an analogy, I mean that ideas or memory-images are no more preserved, as such, in the mind, than sounds, as such, are preserved in the gramophone record. Only the conditions of reproduction are preserved. If I may so put it, ideas (thoughts, too, and wishes, in the traditional sense of these words) only exist as such when they are consciously cognized. At other times they do not exist as ideas. The word 'revival' is unfortunate and misleading. It implies that memory-images slumber, to be awakened under 'the laws of association'. That I believe to be sheer mythology which we are now outgrowing. M. Bergson tirelessly throws ridicule on the notion that ideas can be stored in the brain. One wonders who nowadays entertains this notion. But he believes that they are stored in the mind as memory. Well, are they? It is for the psychologist to discuss the arguments for and against this hypothesis. His business it is, with all the data before him, to formulate theory. And I take it that practice should be based on sound theory. Hence there is an obvious bearing of all this on Freudian psycho-analysis. If I am right, there are no phallic ideas in the unconscious. We may cleanse these Augean stables. The latent dream is a bit of sheer mythology. It is a metaphorical interpretation of an instinctive urge or 'horme,' which is something wholly different from a 'wish' or a 'thought'. And whether these words should be re-defined in psychology after Freudian fashion is just one of those questions which it is for the psychologist to discuss on broad grounds.

It must not be supposed that I attach little value to the outcome of the work that has been done in psycho-analysis. That is not so. There is much that no psychologist can afford to neglect, much that will modify and enrich existing modes of interpretation. We cannot but welcome new sources of data; and we must not lightly set aside new theory, certain features of which, after due criticism, may be

incorporated with old generalizations, so that the complex integration which obtains within the whole psychical system may be better understood.

As in the discussion of life-problems, so too in that of mind-problems, the stress in ultimate interpretation is on integration. It is now realized that, within the psychical system, only a small part of the integration which obtains, though no doubt a very important part, is established in the light of our personal consciousness, thereafter to descend towards the unconscious in habit. Far more integration (however it was originally established) is ours through inheritance. This affords the unconscious foundation of our mental life. But it need not remain subliminal; it may surge up above the threshold with enjoyment which is in itself new in the supraliminal region of that person, though it is swiftly integrated with much that is old. It brings with it no ideas or memory-images, though it colours affectively our mental outlook towards presentations old and new.

In the organism there is differentiation of function; but the life of the organism is the integration of all functions. In the higher animals there is differentiation of instinct; but the psychical life of the animal is the integration of instincts, supplemented by intelligent guidance. At certain times, however, one of these instincts, notably the reproductive instinct, may so dominate the psychical life that others are temporarily suppressed. The whole poise of the psychical system is then altered. In man, there are also in due course developed, in the supraliminal consciousness, distinctively human 'interests'. Now one and now another of these 'interests' may be dominant, with relative suppression of others, which may become subliminal, and with subtle alterations of mental poise. Furthermore, the whole system of such human 'interests' may be more or less markedly differentiated from that more directly founded on the instincts of animal life. Not only this; the human 'interests' may be further differentiated into those that are socially approved and those which are not. But, save in abnormal cases of 'dissociation', differentiation is balanced by concomitant integration. There is: (1) That which subserves organic life; (2) That which furthers animal behaviour (including reproduction); (3) That which leads to the development of human 'interests'; and (4) That which accords with the 'social conscience'. Where the last-named is dominant, we have much that is picturesquely, and I think in the main correctly, described in terms of the censor. But all these are unconsciously or consciously inter-related in such wise that some measure of total integration is partly retained and partly established in each one of us, with subtle and sometimes swift variations in dominance, with facilitation or arrest of this or that, and sometimes with temporary or permanent throwing

of this or that out of gear. In which of us is integration, conscious and unconscious, all that the heart could desire?

I have written in response to editorial request. Otherwise I should not have dared to intrude where perhaps I am not much wanted. And I feel that it may quite well be said that I am so ignorant of the practical politics of medical training that I am incapable of making suggestions of any worth.

What does it come to? This; that man is not only a complex physiological system, but an equally complex psychical system—conscious, but with unconscious foundations; that the medical practitioner has to deal with the man as a whole; that in current practice some knowledge of psychology is of real value; that in specialized practice it is essential; and that the time has come to consider whether the psychologist should not have a status on the staff of a medical school analogous to that of the physiologist.

If there be nothing in the suggestion, there's an end of the matter. But if perchance there is something in it, then the questions arise: For all or for some? How much in either case? At what period of study? And by whom?

These questions would need further discussion by those who are fully competent to deal with them. I am not thus competent. But I incline to the opinion, for what it may be worth, that some adequate instruction should be given to all medical students, not too early, say, after they have been well grounded in physiology; and that more should be given to specialists towards the close of their curriculum, or in a post-graduate course. How much in either case I must leave others to judge. It is a difficult question where art is long and student life is short. The shoemaker is likely to insist too much on the importance of leather.

To the question, By whom? I unhesitatingly reply: By a psychologist. But then there are psychologists and psychologists. Well, then, by a psychologist who has been trained not only in a school of philosophy but also in a school of biology. He must not be out of touch with his colleague the physiologist. He must know not only about the emotions but about internal secretions. And he must have adequate acquaintance with the manner in which what he teaches shall be applied in the practice of the profession. If he himself be a member of the profession, so much the better; but he must be a psychologist.