Part II.—Reviews.

Common Principles in Psychology and Physiology. By J. T. MacCurdy, M.A., M.D. Cambridge University Press. 9¾ in. × 6½ in. Pp. xvii + 284. Price 15*s.* net.

" If the concept be once established that relations, rather than direct sensory experience, are fundamental, then values, previously relegated to religion and art, will become commonplace and paramount in greatly enriched lives. That for which the human spirit yearns will become ' scientific.' " This passage occurs towards the end of the last chapter of his book, which the author declares to be essentially a postscript, and for the matter of that a philosophical one. It is at once the conclusion and the text upon which Dr. MacCurdy's *Common Principles* is written; for in his attempt to state a set of principles by which the two at present widely divorced sciences of psychology and physiology may be brought together, he is consistently an anti-materialist and anti-mechanist. It is a conclusion which follows from the whole argument of the book; it is implicitly contained in the initial standpoint he takes up. MacCurdy uses the doctrine he developed in his previous work—*Psychology of Emotion: Morbid and Normal*—as the starting-point of his *Common Principles* in laying down that " the basis of mental life is an unconscious flow of images; when these enter consciousness, becoming subjective data, they are the fundamental elements of which ' thoughts ' are composed; on the other hand, they initiate and control many physiological processes of both voluntary and involuntary systems." The solution of the lamentable antithesis between physiology and psychology as they are taught to-day is, he believes, to be discovered in his doctrine of " patterns " in the unconscious mental flow; and " patterns are," he says, " immaterial."

This is not the first attempt that has been made to bring psychology and physiology into closer touch, and to put an end to what is at once a thorn in the side of the serious thinker, and something of the nature of a scandal to biological science. Not one of the older quasi-scientific, but wholly metaphysical, theories, however, proved to be generally acceptable; probably because they were put forward as offering the solution of a problem which was wrongly stated at the outset. The fault is traceable to Descartes. Of the more recent theories it can only be said that they are not generally accepted because they are not yet fully worked out, and because they leave out of sight facts that must certainly be taken into account. MacCurdy's attempt makes out a *prima facie* case for

most serious consideration, unprejudiced as it is by *a priori* philosophy, and takes into account apparently most if not all of the relevant facts. His own doctrine, consistently developed from the point of view of the psychologist, the psychiatrist and the physiologist, has close affinities with those of the behaviourists and of the formalists, as far, at any rate, as psychology is in question, and affinities not so remote with those of Aristotle and Aquinas. Biologically considered, it has close affinity also with the doctrine of the neo-vitalists, as Driesch and Pauly. What are MacCurdy's immaterial "patterns" if not relational systems, forms, entelechies?

It would be impossible, even in a fairly extensive notice, to do justice to this book. It covers a very large part of the ground of two sciences and ranges over a vast array of facts. The adequacy of the "common principles" MacCurdy proposes must be judged by the way they fit the facts and explain them, as well as by their success in destroying "the bulkhead which has appeared between psychology and physiology." But the principles themselves should be examined, if only in a general way, in any review of the book. These principles are all derived, first, from psychological data as Laws of Patterns; afterwards, from physiological observations as Laws of Designs (physiological) analogous to the psychological ones. The argument depends upon the concept of the "pattern"; and this, in turn, is derived from the concept of the "image," "liminal image," and "image function."

It is by an objective definition of imaginal process that the author passes from what every individual introspectively recognizes as an image which *he* experiences, to "liminal images" and "image functions," which, though inaccessible to introspection, may be held to account for his behaviour. This is an attempt to link up the two psychological methods of introspection and observation of behaviour; an attempt which is, and can hardly fail to be, unsatisfactory, since there can be no direct evidence that images, as we consciously know them, are images when they are no longer in consciousness; or that the behaviour of other persons than ourselves is to be accounted for by the occurrence of images to them whether conscious or otherwise. MacCurdy, however, defines "imaginal process, from the standpoint of an objective observer," as "some kind of reproduction of a specific bit of past sensory experience, which is inferred to exist from the presence of a reaction for which the specific experience would be the appropriate stimulus —this reaction not being completely accounted for by any demonstrable environmental event." Obviously, such a definition would cover true images introspectively discernible as revivals of past conscious experience, as well as "unconscious" images and image functions, if such should indeed exist. The latter could thus be accepted as concepts for psychology. But the question is, Do they in fact exist as mental rather than as physical entities? As MacCurdy points out, biologists like Semon and Loeb taught a very similar doctrine to account for the fact of modification of behaviour by experience; but these biologists held that the modification was one of physical structure and not of mind. MacCurdy's

postulate is that of a very large number of psychologists; namely, that unconscious mental processes (wishes, desires, impulses, etc.) do as a fact occur, and that images need not be excepted from the list. He thereupon proceeds to apply this concept of imaginal process as immaterial, not only to the whole range of phenomena of psychology, but to the whole range of phenomena of biological science as well. He proposes to use psychological concepts and terms in dealing with physiological facts. This, clearly, is to use the terms in question analogically; and it may be asked, How far does the analogy hold good? If physiological processes are indeed material, what analogy can there be between them and psychological processes? The answer is that there is an exceedingly close analogy between the two because of the relations involved between the elements of either. "We are looking," writes MacCurdy, "for simple mental elements that may serve as building blocks in the foundation supporting the superstructure known to consciousness. It has already been suggested that the elements required may be imaginal processes. If so, the question arises, What are the means whereby they are united, arranged or grouped? The answer is *Patterns*." And these are the "unconscious and instinctive agencies underlying our conscious mental life." Whether from the psychological or the physiological point of view, organic activity leads to the postulation of these patterns; patterns exemplified in the laws of association and of interest unconsciously operating, as well as in the distribution of nervous impulses throughout the different neurones of the central nervous system; which distribution also must be looked upon as patterned to a design. Moreover, "so long as enough neurones are excited to represent the design, it is irrelevant how many or what neurones are excited."

Though he applies it indifferently to associations of sensory data, instinctive and acquired behaviour units, anatomical structure and function, and the like, MacCurdy nowhere adequately analyses the concept of "pattern." But it is clear that he has in mind throughout, more than anything else, systems of relation; and holds that these immaterial entities, partially innate and partially acquired, determine the mental and the physical life of man. In his view of the acquisition of new patterns we have perhaps the best clue to his concept of their nature. On the one hand (psychological), original patterns due to heredity tend to unite, so that the stimulus for the activation of one of them becomes stimulus for another; and an integration in a new unit is thus brought about. Indeed, new patterns may come into being independently of any specific new experience, since "liminal images may allow utilization of substitutes." On the other hand (physiological), "repetition of" original biologically patterned "reaction . . . specializes the structure which participates in the reaction." And "when structural specialization is complete, the reaction is so perfected as to make possible a new pattern, but the new function is then dependent on the integrity of the structure, together with the operation of pre-existent more primitive functions." In order to maintain and round off his doctrine, MacCurdy accepts the theory of the

transmission of individually acquired characteristics. Anatomical structure perfected by function, when active, is the correlate of an image function or a liminal image. It is, in fact, a design, or crystallized pattern, the immaterial concretized in matter. Such in brief—though it is already lengthy—appears to the present reviewer to be the main thread of MacCurdy's argument for the "common principles" he proposes. But the book must be read in detail to fill in the dry bones of the sketch. And it certainly will repay reading, for it is a most valuable contribution to the scanty literature of the subject.

The student should be warned, however, that it is not altogether an easy book to read. The unfamiliar character of the employed concepts, their analogical application to matters of diverse orders, and a certain lack of clearness in exposition, make it difficult. It would be greatly helped by the addition of a full glossary. But all this notwithstanding, it is an exceedingly suggestive and stimulating book; and, if it requires considerable hard thought on the part of the student, that can only be to his own advantage. F. AVELING.

Mental Disorders: A Handbook for Students and Practitioners. By HUBERT J. NORMAN, M.B., Ch.B., D.P.M. Edinburgh: E. & S. Livingstone, 1928. Pp. xv + 463. Crown 8vo. Illustrations, 57. Price 14*s.* net, postage 6*d.*

Though Dr. Norman expresses in his preface an anxiety to avoid, as far as possible, controversial matters, he has, as a matter of fact, succeeded in writing a challenging, even a provocative book.

The author's attitude to his subject is not easy to understand or to describe. He does not set out to deal with the modern aspects of psychiatry. He says, "I am not sufficiently converted to a belief in them (the latest theories) to adopt—yet awhile at any rate—a revolutionary attitude towards the past and towards the great men who are its representatives." And again, "It is only fitting that we should acknowledge our indebtedness to them, and also because much of modern psychiatry is still in an inchoate condition—or at least so it seems to me."

This no doubt accounts for the few references he makes to the clinical and pathological research work which has emanated during the past decade from the wards and laboratories of the mental hospitals of this country. On turning to the index of authors which concludes the book we find the author to have been mainly under the influence of Dercum, Rosanoff and Régis. Buckley is largely quoted, principally in biological matters germane to psychology. There are a crowd of others referred to, including Mott, the latter in respect of the histology of the pituitary gland in mental cases. On reading the text, however, it is apparent that the author has also been much influenced by Mott's teaching on "Body and Mind." Mott, however, be it noted, was not a crude materialist or mechanist in matters psycho-physical, but laid great stress on the vital impulse or "urge" and the possession by the body of a biochemical memory.