Starting with the instinctual world, five main groups are distinguished and discussed, viz. the formative, conservative, sexual, social, and religious instincts, and their biological significance is estimated. Then follows an examination of biological consciousness or "Syneidesis"—the auto-regulative principle of function. The development of motor function leads to problems of orientation and of causality, from primitive discrimination ("Protodiakrisis") to language and "Praxia."

The second part of the volume examines disintegration of function, the result of (1) dissolution of continuity of neural substance, or (2) of secretory imperfections, producing in the authors' view the psychoneuroses, or (3) of "désintégration en briques," responsible for the psychoses.

Doubtless owing, in part, to the many neologisms which pull the reader up, this volume demands patient perusing, but it repays generously the time given to it. With its general contentions, there can be no serious dispute; it furnishes an admirable mise au point for present-day problems of biology; it orients the neurologist and psychopathologist and provokes and compels thought. It is least impressive where it is most debatable—as when the "ecto-mesodermic barrier" is under discussion.

S.A.K.W.


In two superbly printed and illustrated volumes Professor Tilney has studied the brain in its evolutionary aspects on a scale never previously attempted. Fifteen years have been devoted to the anatomical preparation of material from the nervous systems of the higher mammals, ranging from the lemur to man, and inclusive of gibbon, orang, chimpanzee and gorilla. This is only the morphological side, however; the researches have also embraced observations of the behaviouristic aspect of the same animals during life. In regard to the former, it is naturally both technical and lengthy, for it consists of elaborate structural accounts of the macroscopical and microscopical anatomy of the neuraxes concerned, beginning in each instance with the surface appearances and fissural pattern of the brain and the naked-eye configuration of the cerebellum and brainstem, and proceeding to a systematic comparison at different brainstem levels of the internal structure, with its tracts and nuclei. In each case, moreover, a valuable reconstruction of the brainstem has been undertaken, coloured drawings being provided of the relative sizes and positions of the various cell-masses of the gray matter in that part of the brain.
When the reader bears in mind the fact that this scheme has been patiently and painstakingly followed in no fewer than eleven of the higher mammals, man included, the labour which has gone to the making of the book appears overwhelming. Yet its distinguished author has never lost sight of his goal in the midst of this anatomical profusion; at the end of each section are summaries with interpretations and discussions of the accumulation of structural data in their bearing on morphological evolution and behaviouristic development. Among the chapters of the second volume are those dealing with primitive and prehistoric man, with his cranial relics, and with the reconstruction therefrom of his types of brain. This part of the book is of course more speculative and thus perhaps more interesting. The author considers it indisputable that a definite prehuman stock existed, at one time, capable of producing both anthropoid apes and man. Some five distinguishing features comprise the 'make-up' of homo sapiens, viz., the human brain, the human foot, the human hand, the erect posture with bipedal locomotion, and a terrestrial mode of life. Moreover, man possesses within himself a "structural plasticity for further development," which has been sacrificed in the case of the apes. To this potentiality Professor Tilney attaches prime importance for the future, and he believes this future lies with the frontal lobes.

We have merely indicated the general lines of this great piece of work, which will be found fascinating reading. It is a pity that the leaded paper for the illustrations makes the volumes so heavy to handle that they can scarcely be read comfortably except at a desk.

S.A.K.W.


Dr. MacCurdy has undoubtedly given us an important book, and his effort to correlate physiology and psychology is specially welcome at the present time. The general idea of 'pattern' is not new, but Dr. MacCurdy has done much to clarify the conception. The pattern made up in the psychological field of imaginal processes is not, like Semon’s engram, a material entity; it is simply an 'arrangement,' and it is to be presumed that conduct is modified in virtue of the form of the pattern, though the author is not always quite clear on this point.

In the first section, dealing with psychological patterns, the integration of images into patterns and the subsequent building up of the mind are discussed. Consciousness is a developing function and consists in a capacity for discriminating between stimuli arising in the immediate environment and stimuli from image patterns. The evolution of intelligence consists in a power to combine unit patterns, together with a capacity for holding these combined images together in a plan.
The Brain from Ape to Man

S.A.K.W.

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