to the cortex the three chief afferent systems of the body, viz., somato-sensory, auditory, and visual; he has fixed their cortical endings, and come to definite conclusions of which a few may here be annotated. As regards the first of these, the cortical termination of the main pathway of somatic sensibility extends more widely than was at one time supposed; thalamocortical radiation covers both sides of the rolandic fissure, and spreads far beyond, over the entire precentral agranular region, the whole of the post-central granular and part of the parietal agranular region; it also reaches to Brodmann's areas 1-6 and to 48. Further, the system is strictly unilateral, no fibres crossing by the corpus callosum. Dr. Poliak also shows that much more of the thalamus than its ventral nucleus is concerned with this somato-sensory pathway. The 'focus' of the cortical zone lies in the most anterior strip of the postcentral cortex at the foot of the rolandic sulcus.

As for the auditory radiation, it is proved to extend over the entire dorsal lip of the superior temporal convolution buried in the Sylvian fossa, and to part of the convexity of the same gyrus. The total area is smaller than might be for other reasons postulated, and perhaps represents only the minimum. Visual afferent fibres terminate exclusively in the area striata. The hypothesis of a retinal cortical projection beyond the area has no anatomical foundation.

In general, it may be said that each of these three afferent paths is a definite anatomical and physiological entity, distinct (though not absolutely separated anatomically) from other fibre-systems; the projection areas are gateways into the cortex, but the fundamental problems of how such zones are interconnected with other cortical fields and how 'higher processes' are mediated in relation thereto are still to be solved. Dr. Poliak's work approaches the conception of Flechsig, Henschen and other of the older investigators; his experiments substantiate the belief in representation of different functions in different cortical regions, and negative any theory of functional equivalence of the cortex as a whole.

S. A. K. W.


Under a somewhat arresting if equally vague title Dr. Hoskins has compiled a general review of the whole endocrine situation as it exists to-day. To write a book which is at once popular (and therefore rather superficial) yet based on expert knowledge has always been regarded as a task of no little difficulty. The 'vulgarisateur,' when he succeeds, deserves well of his readers. In this particular case the rôle of presenting up-to-date scientific knowledge in pleasantly readable fashion has been well enacted, and we congratulate the author on his skill. For here the neurologist and endocrino-
logist must not expect nice balancing of rival views or deep discussions of knotty points; yet there is no failure to cover the whole field, since the latest acquisitions—e.g., Cushing’s pituitary basophilism—are duly described. So far as we have noticed, facts are carefully and accurately cited, inferences being drawn with commendable caution. The scientific spirit of the writer is well seen in his hesitation over the value of various endocrine preparations and his scepticism in regard to more than one. There are a number of good illustrations, but the bibliographical references are very incomplete.


The interest of this monograph for the professional student of the nervous system resides mainly in its descriptions of ergotism from clinical and pathological standpoints. The author distinguishes gangrenous from convulsive ergotism, in this respect following what are now somewhat old if not actually obsolete descriptions. But the term ‘convulsive’ is misleading, and for it nervous or neural ergotism is much to be preferred. The nervous symptoms, we judge, are those of a toxic degeneration of peripheral and central neurones, so that they range from sensorimotor phenomena in the periphery to occasional fits and to dementia. The distinction made by the author from the gangrenous form is not valid, and he himself cites instances in which the two have been combined clinically. Antiquated accounts of symptoms (of which this book is full) are useless from the standpoint of pathology and pathogenesis; and there is no good reason to suppose that two separable forms or two different agents exist. On the contrary, ergotism resembles other known nervous affections in that either the periphery or the neuraxis may suffer. It is hardly necessary to point out that trifling lesions in the spinal cord will not explain the central phenomena of the condition, and that it is doubtful whether ergot convulsions can have a structural pathology. On the chemical and pharmacological sides knowledge is much farther advanced than on the clinicopathological. Recent Russian epidemics have brought pathological material, but little is said here of the actual findings. The Manchester epidemics of 1928 and 1929 are also referred to, but they were mild, and seemingly little if any pathological information was gleaned therefrom.

That deficiency in vitamin A may be a pathogenic factor is here alluded to as possible, on the basis of work by Mellanby; but much more knowledge of the objective facts of pathology is requisite ere the assumption can be validated.

It is much to be desired that the subject of nervous ergotism should be examined afresh by those who have expert knowledge of the nervous system, since it is still encumbered by abandoned conceptions. Part of the value of this truly fascinating monograph is, that it must stimulate interest in a
somewhat neglected chapter of nervous diseases, for text-books over the last half century have merely repeated uncritically old descriptions which are now out of date.


A specialized study of narcolepsy was bound to make its appearance sooner or later, in view of the fact that cases have been occurring on an increasing scale of recent years and of the peculiar light which the phenomena throw on cerebral function. This essay deals with the subject along the usual lines of etiology, symptomatology, pathogenesis and therapy, and it covers the field with great thoroughness. The authors conclude (with Kinnier Wilson, Lhermitte, Redlich, and others) that narcolepsy cannot be considered a disease in the technical sense, a morbus sui generis, but rather a clinical syndrome of multiple causation. Nevertheless, they stress the admitted fact that some, perhaps many, cases are of endogenous nature, where some constitutional factor is at work, precipitating the affection, and they hold that these form a special class. The problem, it will be seen, is the same as that of epilepsy, in regard to which it is preferable to abandon the term ‘idiopathic’ and substitute ‘cryptogenic.’ Cryptogenic narcolepsy would signify that the cause is as yet undiscovered, but not that there is a narcoleptic disease distinct from the symptomatic variety.

The paragraphs on treatment refer to the value of ephedrin, and also, we are glad to note, to the usefulness of air injections—a recent development that promises well.


A distinguished editorial group of some seven writers is responsible for this volume, the latest contribution to a vexed problem. Addressed to the laity in the first instance (and therefore, presumably, containing a glossary in which it has appeared needful to define such words as ‘alimentary,’ ‘sedative,’ ‘ovum,’ ‘hallucination’ and others which we should have thought any educated person must know) the book discusses at some length such aspects of alcohol as its effects on normal man and experimental animals, its influence in varying dosage on personality and activity, its bearing on genetics and inheritance, therapeutic value, relation to longevity and life assurance, and kindred topics which need not be particularized. Much of the writing must of necessity be technical, and properly so, for the question of the action of alcohol on the systems of the body is technical, and cannot be ‘popularized’ without being rendered superficial. Accordingly, we find such terms employed as ‘icteric,’ ‘endocardium,’ ‘urobilinogen’ and scores of others of which no
definition is furnished in the glossary, thus proving the unsatisfactory nature of any attempt to write for two classes of readers at one and the same time.

As a compendium of present-day knowledge this monograph can be consulted with much advantage. Its presentation of material derived from sources, in various instances, that are not readily accessible adds to its value as a work of reference; it contains numerous charts and tables in connexion with mental disease, death-rates, etc., and also selected bibliographies. A general critical spirit pervades the book, which is illustrated, for example, in the remark that the frequent claims made for the homosexual element in alcoholism need substantiation; the lowering of standards in the alcoholic environment and 'non-dependability of potency under ordinary stimulation' may well play a rôlé.

Methoden der Kriminalbiologie. By Dr. F. v. Rohden, Alt-Scherbitz.

In this section of Abderhalden's monumental handbook Dr. v. Rohden devotes more than 200 pages to a discussion of the methods of examination that should be adopted in the investigation of the criminal. With typical German thoroughness these are made to range over so wide a field in somatology, neurology, and psychology, that the task must consume weeks in a single case. Physical examination includes all the latest novelties, e.g., capillary microscopy and blood-group determination, also hunt for anomalies and stigmata of structure, etc.; study of the motor system comprises method of shaking hands, gesture and emotional expression, in addition to others either more, or less, familiar; graphology receives its due appreciation, also body build, physiognomy, and, on the purely psychopathological side, a large number of tests by which intelligence, character, personality and the like are, it is claimed, capable of being objectively assessed.

After analysis comes synthesis. The author describes various methods of classification. He cites statistics which are taken to prove that a high percentage of criminals, notably habitual criminals, are psychopaths; these he divides in different ways, e.g., impulsive psychopaths, psychopathic temperament types, psychopathic character types, complex psychopathic types. From another angle he discusses the criminals who are so from inclination, weakness, passion, conviction, and need, respectively. The view here taken is, that criminals are born and not made, in the sense that environmental factors are of much less pathogenic significance than those which are inherited or innate. How far the immense collection of data and the extraordinarily elaborate examinational methods here provided may be thought to contribute to a solution of the problem of the relationship of psychopathy to crime, is difficult to say. At least, they illustrate well its complexity.
REVIEW OF NOUVEAU TRAITÉ DE PSYCHOLOGIE


The second volume of the new treatise on psychology edited by Professor Dumas deals with the foundations of the life of the mind, hence include much that belongs in reality to physiology and biology. Indeed, the division of subjects is largely physiological; 'excitation and movement' is the general heading under which come discussions of cellular irritability, the neuron and the reflex, inhibition, conditioned reflexes and others classified as supra-elementary, tonus and still other motor phenomena. The secretions are next surveyed, and some account provided of how they are influenced by sensations, perceptions, and emotional states. Then follows a long and intricate study of sensation in its widest meaning which is very well done. A critical attitude is adopted towards the views of Head, although they are dismissed rather summarily and too little attention given to the matter of systemic duality. As might be expected in a work of the French school, anaesthesia receives due consideration. Next are examined the special senses. The third part of the volume is taken up with the emotional life and affective states; with pleasure and pain, their physiological basis and outward expression, and with the whole series of emotions and their psychophysiological mechanisms. Desires, needs, and instincts are also studied seriatim. The James-Lange theory of the emotions is subjected to criticism along lines formulated by Cannon and others.

As a whole, this second volume maintains the high level set by the first, and forms a useful addition to the specialist's library. The reader might well have been spared, however, some unpleasant photographs of eastern provenance; aside from their intrinsic repulsiveness, they illustrate very badly indeed the particular point for which they have been inserted.

Review of The Nervous Child at School


Dr. Cameron's thoughtful, sensible, and encouraging little book on the nervous child at school should be read from cover to cover not only by distressed parents and paedogogues but by the neurologist and psychiatrist as well as the practitioner. In simple language, free from technicalities, the problems offered in these days by sensitive children at preparatory and by young people at boarding schools are first defined and then faced. Broadly speaking, Dr. Cameron finds in fatigue the cause of unhappiness in school life, and offers many wise counsels as to the best ways of combating it. He outlines clearly the vicious circles which arise only too readily as parental disappointment combines with school failure to intensify in the mind of the nervous child his difference from his associates and his longing to escape. Disorders of health and conduct incidental to this unhappiness or distinct
from it are examined concisely and their treatment sketched. Dr. Cameron possesses a happy insight into the heart of youth and is able to put himself in the place of the sensitive boy so sympathetically as to gain inside knowledge, so to speak, whereby to solve the knotty questions that turn up every now and again. We are glad to note that the appeal of the book is not limited to those whose circumstances permit education at preparatory or boarding schools; the author's remarks apply in full force to life at day schools also. There is throughout a gratifying absence of stress on sexual factors and freedom from the fads of the day in respect of early sex information and other things; Dr. Cameron is dealing not with defectives and delinquents and frankly abnormal beings but with children who are not outside normal limits. He admits the powerful factor of sex in the life of every boy and girl, yet insists convincingly that the cases with which he deals are but indirectly concerned with any such element. This sex-free aspect of the question is underlined all too seldom in these days. He has more than a word for the unfortunate mental attitudes of anxious parents and, indeed, of some irritated masters. The book can be put with confidence into the hands of all who have to deal with growing youth.


A schematic division of diseases of the nervous system in accordance with their anatomical site is becoming, we are inclined to think, rather obsolete. Better acquaintance with the processes of nervous disease throws doubt on the strict localization of such states to this or that section of the neuraxis. This is certainly true of peripheral and of central infections, and is supported by evidence derived from encephalitis, meningitis and other generic conditions. We do not speak much of diseases of the cerebellum, for the simple reason that that organ is so related to other neural structures as to render limited cerebellar disease a rarity. The remark applies also to the spinal cord, and Dr. Cadwalader is naturally well aware of this. He includes in his book 'syphilis of the spinal cord,' and, if so, why not all varieties of spinal meningitis? Arachnoiditis circumspecta is mentioned, but not, seemingly, pachymeningitis hypertrophicans; suppurative extradural meningitis or abscess is described, but not intraspinal abscess. Conversely, we find included both the muscular dystrophies and Thomsen's disease, though their connexion with the cord is remote; nor can the writer discuss tabes without alluding to its ocular manifestations, or syringomyelia without reference to syringobulbia. Haematomyelia is dismissed in a single short sentence, and thrombomyelia likewise. There appears to be no notice of spinal embolisms. Such comments are not made with any other end in view than to stress the unsatisfactory nature of any effort at placing spinal maladies in a group by themselves.

So far as the author's descriptions are concerned, the book serves its
purpose well; they are clearly set forth and illustrated. The chapter on topographical diagnosis contains useful matter, as do the initial sections on anatomy and physiology. There is a good bibliography to complete the work.


This attractively written and thoughtfully conceived book consists in what might be termed a series of essays, not always closely related in any superficially evident way, which deal with differing aspects of the mental life, normal and abnormal. Chief attention is engaged by questions of 'values' - the meaning of the word, its uses, and its applications. The word, as noun or verb, has both intellectual and affective connotation; values are as varied and manifold as psychic needs. Distinctions can be drawn between the commercial, biological, and sentimental value of a thing. Elaboration of the subject takes the author next to the matter of judgment values, aesthetic values, pivotal values ('those which, in one way or another, unify and justify life, give it coherence and make it on the whole worth living'). Discussion of psychopathological patients' values follows. Much is said also of religious values, and of attitudes of mind in connexion therewith. The author then passes to consideration of 'realities,' which word in his view has four distinct and separate meanings. He argues that the difference between his 'physiogenic' and 'psychogenic' reality is the same as that between 'functional' and 'organic' in neurology. A closing chapter deals more or less on Freudian lines with life and death instincts, though the author's own hypothesis is in a sense distinct from the Freudian.

The Sign of Babinski. By John F. Fulton, Professor of Physiology in the Yale University School of Medicine, and Allen D. Keller, Professor of Physiology in the School of Medicine, University of Alabama. London: Baillière, Tindall and Cox. 1933. Pp. 165. Price 26s. 6d. net.

The theme of this mainly physiological study is the evolution of cortical dominance in primates; and in a sense only a minor part of the work is taken up with the subject which gives it its name. The authors have made a praiseworthy attempt to determine the correlates of clinical reflexes in the higher apes, and from this standpoint the book has its value. Its real appeal, no doubt, is to the neurophysiologist, concerned as it is with extirpations of parts of the motor cortex in the higher apes (gibbon, chimpanzee, baboon, etc.) and with study of the resultant phenomena. The clinical examination of the Babinski response and the discussion of its significance, here offered, will hardly satisfy the requirements of the neurologist. The authors have thought it well to reproduce on an almost microscopic scale the original article by Babinski, which appeared in the Semaine médicale in 1898. Why they should have considered this desirable, or assumed that the journal is
REVIEWS AND NOTICES OF BOOKS

'now difficult of access,' does not appear; it can be found in any medical library worthy of the name.


The part of Dr. Földes’ book that has neurological interest is that in which the relation of the phenomena of epilepsy and migraine to disorders of water and mineral metabolism is examined. Aside from visible water retentions, such as the cedemas, Dr. Földes is at pains to emphasize the clinical and pathogenetic import of non-visible retentions, and also of liquid (water plus mineral) immobilization. Recent studies have shown the great part played by such disturbances in connexion with epileptic attacks, and this aspect of the question is fully gone into; what Dr. Földes does not make clear is whether he regards the retention of water as the sole, or only one, factor precipitating seizures. From what he says on p. 67 ('the development of epileptic attacks is due to a temporary accumulation of liquids in the tissues and spaces enclosed by the capsules of the brain; thus leading to increased pressure in these tissues and spaces and thus to irritation of cortical centres') it would appear that he takes the water factor to be self-sufficient—indeed, he states elsewhere that it 'is a basis upon which all observations can be understood from the standpoint of a single entity.' We fear this claim is ill-founded; while the importance of the water-retention factor is not to be gainsaid there are varieties of epilepsy in which no good reason to postulate its presence in action can be advanced. Further, by making it pathogenically unique injustice is done to other precipitants whose coexistence cannot be denied. In a word, we consider that Dr. Földes here overstates his case, and this is the more regrettable as we are equally convinced that his work is of much value and that he has proved his general thesis. The applicability of the water-mineral disorder theory to other morbid states here dealt with must be allowed.


This big quarto volume of over 1,000 pages contains long accounts of the investigation of five criminal cases in which there was good reason to suppose psychopathological features were too pronounced to be ignored. The first was diagnosed, apparently, as one in which the subject's reactions were considered as 'an overcompensation for a deep sense of defeat.' In the second, the man was held to belong to 'that class of drifters whose life is one long childhood,' and who get into crime 'as a matter of course'; emotional and mental sides of such beings do not keep pace. The third was a homosexual. As for the fourth, he had a 'hysterical make-up' and might have been spared
a criminal career had circumstances not been too much for him. The fifth lived more 'in phantasy than reality,' was constitutionally 'inferior,' and though able to distinguish intellectually between right and wrong, was unable to choose the right thing 'emotionally.'

We have nothing but praise for the infinitely painstaking fashion in which Dr. Karpman has collected his material and for his laborious effort to present it in consecutive, logical, and readable manner. Yet we confess to a certain disappointment, inasmuch as the autobiographies of the criminals bulk far too largely in the volume and become positively tedious; they are filled with trivialities of no significance whatsoever. We are given life-histories which might easily have been blue-pencilled without detriment; by being rendered more concise they would have been more impressive. Moreover, the student of the complex problem of the interrelation of crime and personality would have welcomed more technical discussion of the bearing of the selected cases on that question. Incidentally, the light thrown on the penitentiary conditions of certain American institutions is extraordinarily revealing.

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