Reviews and Notices of Books.


This is an English translation, brought up to date by the author, of the Spanish edition of 1913-14, which was written at the request of the physicians of the Argentine Republic to commemorate Cajal’s reception of the Nobel Prize. It deals almost exclusively with the results of experimental injury to the nervous system, both central and peripheral. In the examination of his specimens the author has used for the most part his reduced silver impregnation method in one or other of its many modifications, hence the changes described are chiefly in nerve fibre and neurofibrils; but some account is also given, although not in so great detail, of the accompanying reactionary processes in neuroglial and connective tissues. Every part of the central and peripheral nervous systems has been examined, with the exception of the internal ear and the sympathetic plexuses of the blood vessels and hollow viscera. The result is a book full of the most precise information as to the minute structure of the nervous system and its reaction to injury. In some ways there is almost too much detail, for the reader becomes lost in its mazes and finds difficulty in obtaining any general conception of the main processes at work. This difficulty is not made any less by the very literal translation, which contains a number of words not in everyday use, although they may be in the dictionary. This is, however, fully compensated by the numerous beautiful drawings with which the author makes his meaning clear.

The subject is one which Cajal has made peculiarly his own. His work on the peripheral nerves was well known in England before the war, but that on the spinal cord, the brain and the spinal and sympathetic ganglia was unfamiliar. Much that we learnt about the repair of lesions in the brain and cord as a result of war wounds we find in this pre-war book, where it is enriched with a detail and completeness impossible in any study of human material. The time factor, to which the author has given much attention, cannot of course be assumed to be the same in human pathology as in experimental work on small animals, but the relationships in time of one reaction to another are probably similar if not identical.

To neurologists the chief interest of the book will no doubt centre on the repair of those structures which are capable of functional recovery, and to the
effects of contusions of the brain and spinal cord; and the less practical researches on the repair of wounds of the brain and spinal cord may have for him only a scientific interest. Yet who can say that the exact knowledge which this book gives of the reactions of the cerebral cortex to injury may not be applied to the solution of some of the problems of neuropathology and even of psychopathology which continually tease us? Altogether the book is of the greatest value both as a record of scientific work, and as a basis for future studies.


Of the renewed interest taken in the problems of epilepsy in these days this compilation affords ample proof. The viewpoint of the authors is mainly that of physiology, and to some extent also that of treatment. It is satisfying to the neurologist to find them getting to grips with the technical features of the convulsive attack and with the physiological phenomena underlying it; mere description may be of service to the beginner in medicine, but pathogenic difficulties are always prominent in the background. The irritation, the release, the short circuit and the explosive theories are in turn examined and the conclusion drawn is, as may be surmised, eclectic; none of them is by itself satisfactory; probably all seizures are combinations of two or more of the four mechanisms. It is satisfactory, too, to note the authors' recognition of the disproportion between convulsion and 'lesion,' and that a disorder of function, a mode of reaction, constitutes a problem in physiology and not in pathological anatomy. The factor of 'functional abnormality' can be conceived of as embodying an unknown 'reactive capacity,' and also one that is related to physicochemical changes on the one hand and to the emotional or affective life on the other.

The greater part of the book deals with the former of these last two, viz., the effects of physicochemical changes in nerve-cells, and with the influence thereon of extrinsic factors such as the condition of the circulatory system, alimentary system, endocrine glands, blood, urine, and so forth; acid-base relationships and the metabolism of protein, carbohydrate and fat are similarly investigated from the standpoint of their effect on neural tissue. All this is examined technically and lucidly, even if the general impression left on the reader is one of diversity and incompleteness of knowledge; yet we find a summary of the authors' conviction in a sentence which parallels and paraphrases one of Hippocrates' dicta: "whoever is acquainted with physiology and can render a man acidotic, dehydrated and fully oxygenated could also repress this disease, without minding purification of narcissistic personalities, ritualistic empirical diets and all other illiberal practices of a like kind."