Book Reviews

Regional Development of the Brain in Early Life. A Symposium organized by the Council for International Organizations of Medical Sciences; established under the joint auspices of UNESCO and WHO and by the Délégation à la Recherche Scientifique et Technique; edited by Alexandre Minkowski. (Pp. xii + 539; illustrated. 120s.) Oxford: Blackwell Scientific Publications. 1967.

The contents of this symposium are not immediately applicable to clinical work but will nevertheless be of great interest to those concerned with neurological problems in infancy.

There are 24 papers concerned with various aspects of the brain's development during the period before and shortly after birth. The first 4 are concerned with anatomy and histology. We are given an exhaustive account of the sequence of myelination in the human brain and peripheral nervous system, and learn that this process does not terminate at the end of the first postnatal year, as is commonly supposed. Techniques for establishing an atlas of the cerebral cortex in premature infants are discussed, and the quantitative histology of the cerebral cortex of the premature infant of 8 months is described in detail. There is also a study of synaptic maturation in the visual cortex in the rabbit.

A group of papers concerned with histochemistry and neurochemistry deals with such topics as enzymic activity, including a simple account of the way in which genes influence the development of enzyme systems; use of neurochemical techniques to study the influence of the environment on neurons and glia; and the biochemistry of myelination. There are also studies of nerve growth factor and of the experimental induction of phenylketonuria in puppies.

The third section of the book deals with a variety of physiological topics, but there is also an account of the morphological development of the human brain in relation to other aspects of the child's development. There are papers dealing with electrical and biochemical observations on various functional systems of the brain during development in several different species.

The last section describes various aspects of electroencephalography, including the study of evoked potentials and of sleep in premature and very young infants. There are also accounts of the interrelationships between the brain and other organs, including the thyroid gland, and of the development of several enzyme systems in the rat's brain.

The authors are of high standing in their respective disciplines and the papers are well presented. Some of them are in French but most of these have English summaries. The discussions between papers are valuable additions to the reading matter.

This book is highly recommended.


In recent years there has been a renewed interest in the electroencephalogram of children, and the present substantial volume of 650 pages is very welcome. It is arranged in a fairly conventional way with 2 large pages of historical introduction and 7 pages on the neurophysiological basis of the EEG. Both the historical references and those on the neurophysiological basis include those up to 1965, with only one (from the authors) of 1966. The pages devoted to the techniques are on general lines largely limited to the authors' personal experiences, and no reasons or instructions are given either in relation to the number of electrodes or to their placement on the scalp of babies and children.

The atlas consists of a series of illustrations of a large variety of normal and abnormal EEGs taken with a 10-channel apparatus. The written text is brief and clear: it starts with a description of the usual EEG features seen during the waking state and sleep in the adult (24 pages), while the introduction to the EEG during maturation covers just about a page. However, the illustrations are good and well reproduced. The montages illustrated, however, are somewhat varied, often complex, and no clear reason is given as to why they were selected (probably only in relation to departmental routine). The range of the normal EEG is displayed in some 47 illustrative pages. The paper speed is only 1 1/2 cm. per second following the French schools, and there is no indication as to the time constant employed.

The authors, however, have taken a lot of trouble in selecting various ranges of normal phenomena and stages of sleep and they should be congratulated for their efforts.

The main bulk of the volume is divided into various chapters and sub-chapters. First of all the alterations in the EEG and their maturation are discussed in relation to specific changes that the authors consider to be due to the effect of brain development upon an apparently static pathological process. Records taken during seizures of various kind in different age-groups are also well illustrated with a minimum of artefact.

About three-quarters of the atlas is devoted to the illustration of the abnormal EEG in a variety of clinical conditions, from seizures to motor and psychological disturbances, from meningo-encephalitis to migraine and narcolepsy, and from head injuries to congenital defects.

An extensive bibliography covers 56 pages with 2352 entries which the reviewer did not check. Each paper is listed with its title, whether a relatively small communication or a major paper or book. There is also a subject index which helps considerably in sorting out the