
The unwarranted classification of medulloblastoma among the neuro-ectodermal tumors stimulated the author to re-examine all aspects of the problem. The material used in the study consisted of 76 of the author's own cases with so-called medulloblastomas. Appearance and susceptibility according to age allow the following classification: Large-cell tumors (primarily in 4-6-year-olds), small-cell tumors (primarily in 15-17-year-olds), and mixed tumors occurring primarily in children 2-4 years of age.

In the first group (large-cell tumors) the cells are polymorphous, scarce in reticular fibers, and have a relatively uninfiltrative growth. The small-cell tumors demonstrate an abundance of cells and reticular fibers and infiltrate nervous tissue along preexisting tracts and vessels. Their sub-pial spread resembles a pre-existing embryological granula layer. The mixed-tumors consist of two distinct parts, 'fields' and 'tracts'. They are more differentiated, usually lie outside the cerebellum, and nearly always occur together with anomalies of that portion of the brain.

In the author's opinion the 'fields' are of neuro-ectodermal origin and contain areas of granulated cell layers and the 'tracts' should be regarded as mesodermal. Proceeding from this tumor form, the author shows that the large cell and small cell medulloblastomas follow the principle of 'overgrowth' in that the mesenchymal portion has superseded the neuro-ectodermal portion. According he regards the medulloblastoma as a locally bound embryonal mesenchymal tumor of the central nervous system, by which the tissue immaturity is bound with highly specific localization. This theory is supported by observation of cultured tumor cells, by the similarity of congenital mesenchymal tumors in other organs, by the 'curious' appearance in certain medulloblastomas of muscle fibers, portions of lipomas and other mesenchymal formations, as well as the lack of differentiation into neural and glial portions (exception: mixed tumors).

It is shown that nerve and glia cells in the medulloblastomas are actually locally bound elements which have become part of the tumor. The constant localization of these tumors results the embryo-mesenchym of the embryonic primordium in the region of the area membranacea (later foramen Magendie) not as in other areas transformed to pia mater but rather remains as embryonal cells with high developmental potential. In addition, in the lower cerebellum neuro-ectodermal portions are seen in transformation, which freely explains the localization of mixed-tumors.

The original, new classification of medulloblastomas is well based and includes ample pictures. A. LEVY, Basel

Book Reviews
Volume 9 of this famous review contains 7 topics: 'Development of organotopic bioelectric activities in central neural tissues during maturation in culture' [CRAIN], 'The unspecific intralaminary modulating system of the thalamus' [KRUPP and MOÖNIER], 'The pharmacology of imipramine and related antidepressants' [GYERMEK], 'Membrane stabilization by drugs' [SEEMAN], 'Interrelationships between phosphate and calcium in bioelectric phenomena' [ABOOD], 'The periventricular stratum of the hypothalamus' [SUTIN], 'Neural mechanisms of facial sensation' [DARIAN-SMITH].

CRAIN reviews the bioelectric activities, which develop in explants of vertebrate central nervous tissues during differentiation and maturation in vitro. Dorsal root ganglia attached to sections of the spinal cord develop functional connections with the cord neurones to an entire spinal reflex arc. Neonatal brain of mouse in culture presents the typical primary evoked potentials. The organ-specific properties in ex-plantated fragments provide a basis for experimental drug application in the absence of a blood-brain-barrier.

KRUPP and MOÖNIER give a review of present knowledge of thalamic nuclei and their significance in sleep, arousal, learning and pain perception. GYERMEK tries to correlate the biochemical actions of antidepressants with their psychosedative and antidepressive effect.

SEEMAN offers a comprehensive review of the membrane stabilizing properties of drugs like tranquilizers, steroids and anesthetics. A variety of membranes like that of erythrocytes behave like nerve cell membranes. There is a definite correlation between the anesthetic potency and the erythrocyte stabilization by steroid compounds. The membrane of the erythrocyte is a very useful model for membrane studies.

Interrelationship between phosphates and calcium in bioelectric phenomena are described by ABOOD. Certain polyphosphate complexes may exist in the vicinity of the membrane. A slight localized disturbance in the Ca\(^{2+}\)-association could result in a widespread desintegration of the excitatory complex.

A new model of the excitatorial process is presented by DARIAN-SMITH in the survey of our present knowledge of facial sensation. At the morphological level the pathways ascending from the receptor to the specific somatic cortex are reasonably well known and confirmed by single cell analysis of successive nuclear regions. Much less understood are the feed-back-mechanisms operating at all levels.

This volume gives a wealth of information for all those who work in the field of neurophysiology, neurochemistry, neuroanatomy and for all scientifically engaged neurologists and psychiatrists.

H. E. KAESER, Basel

This volume, dedicated to Professor MARIO GOZZANO, contains the proceedings of an international meeting held in Siena (Italy) from June 30th to July 2nd, 1966. Of the 24 papers, the majority deal with evoked potential studies in man; however, there are also several reports on neurophysiological and pharmacological investigations performed in animals (CREUTZFELDT and KUHNT, DAGNINO et al., HEIZ et al., BERLUCCHI et al., BAVA et al., CARREA and RUARTE).

The improvement of computer design and the use of modern averaging techniques have made the detection and analysis of evoked potentials at the human scalp much more refined and it is now possible to separate clearly the evoked responses from the background EEG. Some technical difficulties in recording evoked responses to auditory and somato-sensory stimuli in man might partially explain that the majority of articles of this meeting deal with various aspects of the visual evoked potentials (VEP). As M. A. R. BRAZIER pointed out in her article on 'Varieties of computer analysis of electrophysiological potentials'.

Of the many reports on the VEP in man, only a few will be mentioned: VEP during sleep [CORLETTO et al.]; the effects of attention and distraction on the VEP [CROTS;] the VEP in binocular rivalry [CORN et al.]; variations in VEP as a function of the alpha rhythm phase [ROES and LESEVRE]. CREUTZFELDT and KUHNT presenting experimental and clinical data on the VEP attempt to explain the evoked response in terms of summed postsynaptic potentials. There are only few papers concerned with studies of auditory and somato-sensory evoked responses. GASTAUT and coworkers are presenting a comparative study of potentials recorded from different regions of the human scalp to auditory, visual and somato-sensory stimuli. PAGNI presents data about the thalamic and cortical somato-sensory evoked potentials in man recorded by means of depth electrodes. GREY WALTER reports about slow potential changes in the human brain associated with expectancy, decision and intention. Three articles deal with investigations of evoked responses in subjects with neurological and psychiatric disorders [FLORIS et al., BERGAMINI and BERGA-MASCO, BOSTER et al.].

In summary, this volume contains a number of papers which will be of value, mainly to those interested in evoked potentials in neurophysiology, graphy of the human evoked potentials. It is to be regretted for those workers who were unable to attend this symposium that the discussions of the papers are not published.

L. HOSLI.

Book Reviews
This is a new exhaustive study as a part of the famous research program on the epidemiology and genetics of mental and neurological diseases in Sweden. In a small rural area in the north of Sweden 121 instances of dystonia deformans or torsion dystonia all belonging to the same pedigree complex were detected. Besides the predominantly hyperkinetic and the myostatic or rigid types a number of abortive and atypical cases were registered. On the basis of genealogical, geographical and genetic analyses the authors prove that for all these patients the disease is conditioned by a unitary single-gene mutation with autosomal monohybrid inheritance. No connection with other striatal diseases was detected. Age at onset, symptoms and course varied to a great extent. About half the patients presented postural abnormalities and arthrosis deformans.

The great variety of clinical manifestations speaks in favour of a theory that the effects of the conditioning gene are modified by the action of other genes or environmental factors. It seems that the variability is mainly caused by the interaction of a major gene and multifactorial inheritance. The authors forward the theory that the misdirection from an aberrant dominant gene can be counterbalanced up to a certain moment through the individual's genetic equipment. Thus dystonia deformans would be another example of a dominant single-gene mutation for the occurrence of diseases with onset at adult age.

This kind of study is of utmost importance for the research in neurological diseases. It would be highly important to carry out similar thorough studies in other countries.

The present volume is of great interest for all neurologists and researchers in the field of human genetics.

H. KAESER, Basel