

Event-related brain potentials in man. — E. Callaway, P. Tueting and S.H. Koslow (Eds.) (Academic Press, New York, 1978, 631 p., U.S. \$ 22.00)

The material presented in this publication evolved from a perceived need by the National Institute of Mental Health for a conference to assess the 'state of the art' of human event-related potential research. The scope and thoroughness of the individual reviews attest to the scientific acumen and enthusiasm of the authors.

The initial section on the functional anatomy of ERPs covers their electrogenesis, basic temporospatial characteristics, and localization of voltage sources. Auditory, somatosensory and visual evoked potentials, vertex and coincident potentials, motor potentials, antecedent eye-movement potentials, speech-related potentials, slow potentials, long-latency task-related potentials, and myogenic potentials are described in detail and the relevant literature is painstakingly reviewed for commonality of investigative results. This is followed by a valuable essay on the measurement of ERPs in which five major types of measurement problems are identified and discussed: extraction of 'signals' from 'noise', feature extraction from signals, analysis of changes between signals under different experimental conditions, analysis of relationships between signals in different regions or successive signals in the same region, and analysis of relationships between signals in different individuals resulting from the same stimuli. A subsequent section, especially useful to the clinician, is devoted to a review of various applications of EPs with emphasis upon auditory and visual modalities. Studies of relationships between sensation, perception and attention and features of ERPs are well covered in the fourth part while factors influencing the late endogenous components are equally well handled in the fifth part. The two final major substantive contributions are devoted to ERPs and psychopathology and ERPs across the life span. The volume is rounded off by a number of shorter commentaries of historical, ethical and methodological interest along with poster session abstracts of some current studies.

Each section is followed with discussion by a designated discussant and by contributors to the conference which helps to focus attention upon key issues and fruitful avenues of research.

There is a recurring concern with both the importance and value of ERP research, clearly the result of the nature of the task presented to the contributors. Certainly, the scientific importance of, and administrative priorities for, investigations of the functional organization of the brain in man must remain of the highest order. Whereas its value may be less immediately apparent, because of the relatively slow accretion of knowledge, the natural impatience of sponsoring agencies to see major breakthroughs must be

tempered by appreciation of the technical and methodological complexities of work on the human brain.

This book should be in the libraries of all research-oriented ER laboratories where it is destined to become thoroughly thumb marked over the years. It will be used less in clinical settings, although the patient-oriented sections are well worth reading for their overview value. In either case, it provides excellent direction for access to the primary literature.

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Ciba Foundations Symposium No. 58 (New Series). Functions of the septo-hippocampal system. — (Elsevier/North-Holland, Amsterdam, 1978, 438 p., ill., U.S. \$ 43.50, Dfl. 98.00)

The very exciting topic of this symposium, the functions and mechanisms of one of the relatively best known structures of the brain, is discussed by outstanding research workers, anatomists, physiologists, neurochemists and psychologists. Although a lot of work has been done in this field, these functions still remain baffling. New experimental data dealt within 13 papers are discussed together with earlier ones in a truly interdisciplinary manner. A good number of references are supplied for the papers and some of the contributions to the discussions. The volume is completed by a subject index (8 pages) and an index of contributors. This and short abstracts to each of the papers make the volume easy to handle. Moreover, it contains three general discussions.

Among the 27 participants were P. Andersen, J.A. Gray, J.O. Keefe, J.B. Ranck, C.H. Vanderwolf and O.S. Vinogradova. The studies include anatomy and organization of septo-hippocampal projections, neurotransmitters and their role, long-lasting facilitation of hippocampal synaptic transmission, hippocampal unit activity to sensory stimuli, hippocampal cognitive map, the concept of the hippocampus as a spatial map, effects of lesions and drugs on behaviour, the 'septal syndrome' and the amnesic syndrome resulting from hippocampal damage in man and animals, hypotheses about the role of the septo-hippocampal system in memory and the functional significance of the theta activity (RSA).

The volume can be recommended to anyone interested in the field of the septo-hippocampal system and the functions connected with it.

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