

Anatomy of Arteries and Veins" brings stereoscopic views of representative areas of the region concerned, where the topography of both arteries and veins in their relation to the neural surface formations is shown on 10 plates in stereophotographs. In the following chapter, one of the most important topics is dealt with, namely, the parenchymal arteries. Here, again, as in the first chapter, the brain-stem and its parts are illustrated on 21 plates in stereographic drawings with the patterns of the vessels in one selected specimen. The same procedure is applied to veins. Then follows a microsectional anatomy of the vessels with careful investigation of the variations studied on celloidin sections. A shorter section on angioarchitecture concludes chapter IV.

In the last chapter an old wish of neurologists is fulfilled, namely, to find tables where the names of the different vessels described by the different authors are presented in a clearly arranged manner. Another tabulation demonstrates the variability of the blood supply and the thalamic artery syndromes, arranged according to their authors, case histories, clinical pictures and sites of brain lesions. A chapter on miscellaneous arterial syndromes of the upper brain-stem concludes the volume.

This fascinating atlas represents the topography and complexity of the upper brain-stem and its blood supply with an exactitude never attained before: it truly fills a gap in the literature. The book is not intended to replace any of the numerous stereotaxis atlases (there are no dimensions and scales indicated); it is simply the result of clear topographic anatomical thinking. The author, and not less the publishers, are to be thanked for this great achievement.

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**Feature extraction by neurons and behavior.** — G. Werner (Editor). (MIT Press, Cambridge, Mass., 1975, 90 p., \$ 2.95).

This small paperback edition includes eight papers from "The neurosciences: Third study program", F.O. Schmitt and F.G. Worden, Editors in Chief. Although the orientations naturally reflect the special interests of the authors, the selected contributions provide a surprisingly broad review of the observations upon which current concepts of neural mechanisms for feature extraction are based.

Functional organization of feature detectors within the visual system are examined in four papers. F.W. Campbell assembles evidence pointing to the presence of channels within the visual system that are specifically tuned to spatial frequency. C. Blakemore out-

lines types of universal and species-specific feature detectors to introduce a discussion of the critical importance of early visual experiences in determining feature extraction properties of visual neurons. M.J. Wright and H. Ikeda present data that suggest the existence of separate central pathways for detection of a pattern and the detection of its movement. J. Dichgans and Th. Brandt gather together psychophysical and neurophysiological observations in support of the notion that optokinetically induced sensations may be due to an interaction between visual and vestibular inputs within the vestibular system. Companion articles concerning the neural bases of hearing are those of E.F. Evans, who develops the view that processing of auditory stimuli involves spectral analysis as well as preservation of temporal features, and J.P. Wilson, who considers pitch perception as a specific example of spectral pattern recognition. More general treatments, incorporating relevant observations on several sensory systems, come from R.P. Erickson and G. Werner. The latter emphasizes the integral role of movement detectors in guiding the "receptor sheet" to the appropriate position.

Explicit neural models for feature extraction are given by Wilson and by Erickson. Implicit throughout is a concern for consistency of known data with sequential, parallel and multimodal models of neuronal organization.

This stimulating fare portends achievement of a new level of understanding of central nervous system function.

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**Circadian rhythm and epilepsy.** — T. Hara and T. Wada (Editors). (Japanese Branch of International League Against Epilepsy, Tokyo, 1975, 162 p., \$ —.—).

This paperbound book represents the partial proceedings of the Eighth Annual Meeting of the Japanese Branch of the International League against Epilepsy held in Hakone, Japan, October 18–19, 1974. The first 90 pages contain five papers and related discussion that were presented as a symposium on Circadian Rhythm and Epilepsy. The tone is set by the first paper of Janz who restates his concept that the classification of seizures according to their occurrence during sleep (S), upon awaking (A), or at other times (D) is fundamental to the understanding of epilepsy. The remaining papers focus on nocturnal sleep, accentuation of epileptiform discharge during different stages, and the possibility (not demonstrated) that classification of seizures according to their relation to sleep would predict the effectiveness of common anticon-