Mesoamerica (including the reviewer) and some Southwestern archeologists will certainly challenge this conclusion, at least with respect to the intensity of Mesoamerican influence at that time.

Haury's book—including the several appendixes—is a veritable encyclopedia of archeological data. Its great value lies not only in its data and in the major conclusions it draws but equally in the careful and mature consideration of every question arising from the discoveries made. Haury once again has demonstrated his superb mastery of the archeologist's skills, techniques, and methods. The book is thoroughly illustrated with maps, drawings, photographs, and charts, carefully chosen to clarify the descriptions and discussions. Best of all, there emerges from the archeological record presented a clear view—no matter what the outside influences were—of the evolution in situ, in a somewhat grim environment, of the culture of one people over a span of some 15 or more centuries. Historians as well as archeologists will find the book a rich source of data, and the data are so well presented that the "new archeologists" will be able to live on them for many years.

The Hohokam is a fitting testimony to Emil Haury's prominence in his field. It is a rich contribution to archeological knowledge and a scholarly demonstration that the "historico-cultural" approach is still viable and productive.

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Brain-Behavior Relationships

The Hippocampus. ROBERT L. ISAACSON and KARL H. PRIBRAM, Eds. Plenum, New York, 1975. Two volumes. Vol. 1, Structure and Development. xviii, 418 pp., illus. $24.50. Vol. 2, Neurophysiology and Behavior. xviii, 446 pp., illus. $24.50.

The need for a comprehensive review of hippocampal anatomy and function has been mounting for more than a decade, and the appearance of the present two-volume work on this formidable subject is therefore an event of considerable importance in neurology.

The book is composed of 29 reviews and an editorial introduction and summary written by authors noted for their contributions to hippocampal morphology or physiology. The first volume is devoted to cellular organization and development, neurochemical aspects, and endocrine involvements of the hippocampus. The first of these topics is dealt with in seven chapters, five of which are morphological and cover cytoarchitecture and extrinsic and intrinsic fiber connections of the hippocampus (R. B. Chronister and L. E. White, Jr.; E. W. Powell and G. Hines), prenatal cytogenesis and phylogeny of the hippocampus (J. B. Angevine, Jr.), postnatal cytogenesis (J. Altman and S. Bayer), and the rearrangements of synaptic territories that follow experimental interventions on various afferent connections (G. Lynch and C. W. Cotman). Two further chapters deal with the neurophysiological aspects of the same general subject: P. Andersen's with the observations that have led him and his colleagues to a concept of a lamellar form of hippocampal segmentation, and P. D. MacLean's with the exteroceptive and interoceptive inputs to the limbic cortices adjoining the hippocampus. Neurochemical aspects of hippocampal afferentation are reviewed comprehensively by D. W. Straughan, and R. Y. Moore and M. J. Kuhar deal especially with monoamine and acetylcholine afferents, respectively. On the endocrine side, B. S. McEwen *et al.* review the evidence regarding glucocorticoid receptors in the hippocampus, B. Bohus and C. Van Hartesveldt the modulating influence of the hippocampus upon the pituitary-adrenal axis, and B. K. McGowan-Sass and P. S. Timiras the reciprocal involvement of the hippocampus in the cyclical release of ovarian and adrenocortical hormones. Somewhat out of context in this volume is its last chapter, in which S. Nakajima deals with memory impairments elicited by puromycin and actinomycin D and by experimentally induced abnormal neuronal-discharge patterns in the hippocampus.

The physiological and behavioral chapters composing volume 2 deal more explicitly with the general functional significance of the hippocampus. O. S. Vinogradova concludes an extensive review of single-unit recordings with the suggestion that, within the grouping of limbic structures, the hippocampus acts as "the active filter of information, participating in the process of suppression of reactions when the environment is stable." P. J. Livesey concludes that the hippocampus facilitates the attentional processes essential in determining clue relevance; R. J. Douglas attributes to the hippocampus a function in inhibiting emotional reactivity; and D. P. Kimble suggests that it has a role in enabling the behavior of animals to be flexible rather than rigidly determined by reinforcement. The hippocampal slow-wave or theta rhythm, discussed in six chapters dealing with the electrical activity of the hippocampus, is variously linked to attentive attitudes (T. L. Bennett) or to particular forms of active voluntary behavior (C. H. Vanderwolf *et al.*; A. H. Black), but it is also reported to have different behavioral corollaries in different animal species (J. Winson; D. P. Crowne and D. D. Radcliffe). J. B. Ranck, Jr., correlates the theta rhythm with activation of a small number (5 percent of the total) of neurons widely distributed in the hippocampus. On the subject of the role of the hippocampus in memory processes, E. A. Serafetinides *et al.* link ictal impairments of memory and orientation to electroencephalographic abnormalities in the temporal lobe, especially of the speech-dominant hemisphere, and N. Butters and L. Cermak find the hippocampus of that side involved in retention of verbal materials, that of the opposite side in nonverbal memories. In a scholarly final chapter L. Weiskrantz and E. K. Warrington emphasize in particular the growing evidence that the memory impairments following temporal-lobe lesions cannot be attributed simply to a failure of "consolidation" or long-term storage. Each volume of this generally well-written book has a useful subject index, but many readers will find the absence of an author index inconvenient in a publication of this size and scope.

As a synopsis of knowledge concerning its complex subject in the mid-1970's this book is a unique contribution to the neurological literature. With few exceptions, its individual chapters are well worth reading and provide the fair coverage needed to make publications of such scope optimally useful to both beginning students and established investigators.

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Books Received

Admissible Sets and Structures. An Approach to Definability Theory. Jon Barwise. Springer-Verlag, New York, 1975. xiv, 394 pp., illus. $29.60. Perspectives in Mathematical Logic.

Analytical Aspects of Mercury and Other Heavy Metals in the Environment. R. W. Frei and O. Hutzinger, Eds. Gordon and Breach, New York, 1975. viii, 196 pp., illus. $19.50. Current Topics in Environmental and Toxicological Chemistry, vol. 1. Reprinted from *International Journal of Environmental Ana-*

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