ivory, was excellent by any standard.

There were correspondences, of course, between Eskimo intellectual and esthetic culture and the realities of everyday life. Among those connections was a constellation of activities ordinarily related to the food quest or to curing, which involved the ritualistic and ceremonial uses of masks. In this book, Dorothy Jean Ray primarily addresses herself to describing a collection of such masks from the coasts and islands of 19th-century Alaska, most of which are in the Lowie Museum at Berkeley.

The volume has two major sections. The first part, in addition to a short introduction and 12 color plates, contains chapters on the history of Eskimo masks, why and how they were carved and how they were used. The second part, in addition to a bibliography and index, consists of 70 full-page plates and a substantial chapter of descriptions of the masks depicted. About 170 masks are illustrated and described.

In one sense, the book falls between two stools, for it is neither solid ethnography nor a study in depth of a plastic art form. One has the feeling that the author is writing to the modern thinking man who is a little bit interested in art and a little bit interested in Eskimos. Ray has by no means exhausted her subject. Further, in treating historical and ethnographic data, she is inclined to take a kind of potshot approach that is bound to disconcert the serious researcher. She also makes a few mistakes. In her best chapter, entitled "Archeological-historical relationships," she partially bases an interpretation of an important historical event on the assumption that dog traction was introduced to northwestern Alaska "within the last three centuries." This is hardly in agreement with the archeological evidence. However, the book has its virtues. It is without question a fine catalog of the western Eskimo masks in the Lowie Museum. Its illustrations are excellent, and many of the accompanying descriptions are based, in part, on the author's own field data. Further, the previously mentioned chapter on archeological-historical relationships is by and large a scholarly piece of work. In a generally well-documented summary, the author presents a convincing case for the genesis and development of western Eskimo masks, her point being that proliferation of the art and its concomitant ritual and ceremony did not occur until early historic times, and that these were directly derived from the Eskimo tradition, not from other cultures. Finally, Ray has managed to say something about how the Eskimos, in the world beyond nature, found weapons against hunger and sickness and cold.

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Neurophysiology

Invertebrate Nervous Systems: Their Significance for Mammalian Neurophysiology. C. A. G. WIERSMA, Ed. University of Chicago Press, Chicago, 1967. 380 pp., illus. $10.

Those of us who work in comparative neurophysiology or related areas of biology are immediately alerted when C. A. G. Wiersma organizes and edits a symposium. For more than 30 years he has carried out extensive and fruitful studies of neuromotor control, interneuron function, and sensory information processing, mainly in the crayfish and other decapod crustaceans. Our attention is also drawn to this book by the presence among the 34 contributors of several other distinguished workers, such as F. Huber, C. L. Prosser, and J. Z. Young, in addition to a number of first-rate biologists from the next generation, recently graduated from the Young Turk category. Most of the contributors are from the United States, with a majority of these from West Coast academic institutions; three are British; and there are one each from Canada, Japan, and West Germany.

The title of the book may lead to disappointment on the part of some readers, for the work is neither a broad reference or textbook of invertebrate neurology nor a really coherent discussion of the relevance of the neurophysiology of invertebrates to that of mammals. Indeed, few of the contributors deal substantially with such a relationship; undoubtedly a single dedicated author would be needed to tackle this topic with effective originality. In any case, no one can reasonably challenge the fact that a considerable share of our basic understanding of neurophysiology as a whole has come from an astute study of seemingly recondite invertebrate preparations. The heart and lateral eye of *Limulus*, the giant fibers of the squid mantle, and the muscle receptor organs of the crayfish abdomen are surely classic cases in point.

What the book does do is effectively to present a series of reports on six major topics ranging in complexity from neurochemistry to the neuronal basis of simple behavior, with development and neurosecretion, central nervous programming, and visual information processing as the intermediate sections. Eighteen of the 27 chapters are about the neurobiology of one animal group (whether crustaceans, insects, or mollusks) predominantly; the remaining third have a broader, comparative scope.

The format of the original conference, in which major papers were followed by several satellite presentations, often by associates of the senior author, has been retained. On the printed page, the satellite papers are, however, not easily distinguishable from the major ones, because the chapters range in length from a scant three pages to a generous 32. It is not surprising that the most effective articles are among the longest; unless the short ones are firmly linked to a substantial preceding development they may seem rather ephemeral between hard covers.

For this reader the most successful sections in the book are in the latter half. Particularly impressive is a trio of arthropod-centered chapters by Donald Kennedy, Donald Wilson, and Donald Maynard on, respectively, muscle control, rhythmic motor patterns, and central ganglion organization. The last is noteworthy for its thoughtful originality. The editor's chapter on higher-order visual neurons in decapod crustaceans is enlivened by an account of the astonishing degree to which efferent and intermodal influences act on afferent information processing in the eyestalk. Also provocative is Felix Strumwasser's detailed analysis of factors involved in spontaneous activity and its temporal modulation within single *Aplysia* ganglion cells.

Clearly there are several invertebrate neural elements or systems here described which may well make substantial contributions to our general understanding of neurophysiology, including that of man and other mammals. The likelihood of their doing so will undoubtedly be greatly enhanced if enough readers with what Pasteur referred to as the "prepared mind" become familiar with the current progress reported in this book.

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