Editors' Introduction

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It is generally accepted that turtles individually live to a ripe age, but that virtue is magnified when we realize that as a group, the reptilian turtles have been present in very much their modern form since the Cretaceous period, a good 120,000,000 years ago. Since that time, turtles have been content to watch the ebb and flow of evolution, secure in the success of their adaptation, for nature endowed them with superb machinery for assessing environmental demands and reacting to that stress in a wise and meditative manner. Among students of behavior and evolution, there is agreement that a correct Interpretation of the reptilian brain together with an understanding of its behavior has implications for all organisms that interact successfully with their environment.

Our interest here in the turtle accrues from its behavioral patterns, presumably simpler than higher vertebrates, and the fact that much recent material has been gathered relating to its neuroanatomy and physiology. This correlation of behavior and structure within a single species drawn from one order is central to the organizing theme of the Conference. We have tried to synthesize a wide range of phenomena with contributions from normally disparate disciplines, hoping to achieve a meaningfulness in context difficult to appreciate in separate endeavors. The papers concentrate largely on the visual mechanisms underlying turtle behavior, for the visual apparatus in this animal represents a vast array of natural experiments not elsewhere met with in the vertebrate phyla. Wherever possible, the relationship of behavior, on the one hand, to controlled, parametric laboratory studies, on the other, has been stressed. The results have important implications for problems involving

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natural behavior in turtles, such as orientation, phototaxis, nesting and navigation.

The papers cover areas of neuroanatomy, physiology, and behavior according to the program. An additional paper, by Mr. BUSH and Dr. LUNGER of the University of Delaware, describing electron microscopic observations on the turtle retina, was offered in the morning Session immediately following Dr. HALL'S presentation. It is included in this volume. The University of Delaware graciously made available meeting rooms, dining facilities and

accommodations for the two days of the Conference. Additional funds were made available through the Department of Psychology, University of Delaware. We are indebted to Mr. JAMES H. MAXWELL for assistance in all phases of the Conference; his generosity of effort is deeply appreciated. Our especial thanks go to the participants who made the Conference successful and valuable.

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