condition of frustration." Indeed, frustrated rats are not machines that think and want.

It is precisely the difference in basic assumptions and in methodological approach which makes this symposium such stimulating reading. The reader will find ample food for thought on these pages.

The physical makeup of this paper covered book is simple but entirely adequate. Only the fact that running headlines read consistently "Ward C. Halstead—Brain and Behavior" was annoying to the reviewer. He would have preferred running headlines indicating chapters and their authors.

GERHARDT VON BONIN

THE ORGANIZATION OF BEHAVIOR: A NEUROPSYCHOLOGICAL THEORY. D. O. HEBB. John Wiley and Sons, Inc., New York, 1949, 335 pages, 19 illustrations, 288 references. $4.00.

Psychology on the one hand and Neuroanatomy and Neurophysiology on the other have long followed divergent pathways. Details of structure and function have usually been unimportant for psychological theory and the oversimplified accounts of conditioning as they appear in most physiology texts have presented little of challenging value. Furthermore the Neuroanatomist and Neurophysiologist attempting to read psychological literature has been faced with a nomenclature whose meaning seems to vary from author to author. These factors have not aided progress. In the "Organization of Behavior," Hebb has attempted to bridge this gap with a theory based on current anatomy and physiology. By adding a limited number of assumptions to such familiar concepts as reverberatory and optional transmission circuits he has found it possible to develop a "middle of the road" theory for perception, learning and attention. After this had been accomplished he has found that no further assumptions were necessary to provide a general explanation for many other phenomena such as emotion, the effects of prefrontal lobotomy and the differences between the effects of early and late brain injury. Many details of his theory can be tested by physiological methods and others suggest new approaches to current problems. For example, Hebb has provided an explanation for the effects of prefrontal lobotomy that should be thoroughly explored. The book is well documented with an extensive bibliography and an excellent index. The Neuroanatomist and Neurophysiologist need have no fear of the jargon of psychology as most expressions are either clearly defined

or self evident. Furthermore this book is excellent reading. The carefully planned concise arguments are a pleasure to follow; a pleasure which is enhanced by occasional bits of dry humor.

GEORGE CLARK

THE MEANING OF EVOLUTION. A study of the history of life and of its significance for man. By GEORGE GAYLORD SIMPSON. New Haven, Yale University Press, 1949. 354 p., $3.75.

This book, a summary of which as the author states, was given as the Terry lectures at Yale University in 1948, should be required reading for everybody concerned with evolution in any of its aspects.

The first part, the Course of Evolution, covers ground familiar to most morphologists, from geological time scale to tempo of evolution. Yet its lucidity, its sparing use of technical terms (which often "mean the same thing [as expressions of everyday language] but to fewer people"), and, last but not least, its emphasis on primate evolution make it a particularly valuable account for many readers of this journal.

The second part, the Interpretation of Evolution, discusses such topics as orthogenesis, opportunism and progress in evolution and, in a short final chapter, the history of evolution. The clear logical analysis of these intricate questions is among the best that has been written on the subject. "The history of life turns out to be an odd mixture of the oriented and the random." "All the objective phenomena of the history of life can be explained by purely materialistic factors." In particular, "evolution is not invariably accompanied by progress." The definition of progress is indeed beset with many difficulties. Herrick's definition, given "in a very short note which is worth many pages of less pithy discussion," namely that evolutionary progress has been "change in the direction of increase in the range and variety of adjustments of the organism to its environment" is accepted by Simpson as the most adequate one.

The third part, Evolution, Humanity and Ethics draws broader conclusions and explains the "meaning" of evolution. Simpson's remarks on the "tooth-and-claw" ethics, on the organismic theory of the state should be read in extenso. After reviewing these and other attempts, the author concludes that "such naturalistic ethics share with those they attempt to replace a certain evasion of responsibility. They still try to find an external standard, one given without need for