which the theory of evolution provides just as effective an intellectual framework as it can do for a textbook of comparative anatomy.

If a word of criticism were to be offered, it might be this: The relation of the behavior of an animal to the evolutionary process is not solely that of a product; behavior is also one of the factors which determines the magnitude and type of evolutionary pressure to which the animal will be subjected. It is at the same time a producer of evolutionary change as well as a resultant of it, since it is the animal's behavior which to a considerable extent determines the nature of the environment to which it will submit itself and the character of the selective forces with which it will consent to wrestle. The various types of "feedback" or circularity in the relation between an animal and its environment are rather generally neglected in present-day evolutionary theorizing. One might have hoped that the complexity of this relationship would be more explicitly taken into account in a book concerned primarily with behavior and evolution, since it is in relation to behavior that the circular relation is perhaps most obvious. However, although such considerations are perhaps often just below the surface of the problems discussed by the various authors, they never seem to emerge completely into the light of day. For instance, when Pittendrigh writes that his "assigned task in this symposium was to discuss behavior as adaptation," I would have liked to see him go on to state that the adaptation must be to circumstances which arise largely as a result of the behavior. Again, Spieth, in his extremely interesting discussion of the role of behavior in the reproductive isolation between closely related species, never quite gets around to discussing how far the behavior itself has played a role in the production of the differentiation between the species. There is here, I think, waiting to be developed, a synthesis between evolutionary theory and the study of behavior which goes even deeper than that recorded in this symposium.

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Human Dissection. Its drama and struggle. A. M. Lassek. Thomas, Springfield, Ill. 1958. 310 pp. Illus. $6.50.

All scientific men are aware of the effort, the long hours, the frustrations, and often the personal danger involved in the tasks they have chosen to do. Some sections of the public may be interested in scientific things, but other people are at times very resistant toward nontraditional ideas. In two fields—namely, animal experimentation and human dissection—obstructions have developed, not because of the ideas involved, but because of the materials and methods used for investigation and teaching. The history of the use of animals remains to be written; this book, however, does an admirable job with the story of dissection—its impact, the personalities involved, and the emotional milieu at different times and places.

Anatomy, like other academic areas, has immediate concern for only a small but selected minority. Today, for instance, an adequate amount of dissection material for teaching and research would be supplied in most states having medical and dental schools by about one body per 200 deaths. Few places now have even this much material to work with; the whole history of dissection, except perhaps for continental Europe during the 18th and 19th centuries, reflects an inadequate supply.

Lassek has made an interesting and careful compilation of accounts from many sources for this history. It relates to the whole span of anatomical study, from ancient times to 1958. About a third of the book deals with pre-Vesalian anatomy; another third is concerned with dissection in Europe and Asia, while the remainder covers dissection in America. The book shows a broad perspective; the author pictures an age-long struggle between effective pedagogy and the search for knowledge on the one hand and prejudice, noncooperation, and obstruction on the other.

Death is an incomprehensible event. Primitive ideas—spirits, mysticism, fear, ritual—have always had an effect on the manner in which people treat their dead. Lassek properly emphasizes this point. Problems have been most complex in the British Isles and in America, where legal provisions for anatomizing have lagged in relation to the demand for trained medical men. People have been disturbed—this was especially true during the 100-year period from 1775 to 1875—by the activities of "gentlemen" resurrectionists (that is, surgeons and medical students) and by hoodlums who engaged in grave robbing. The methods used, the squabbles with the law, the notorious cases, the murders for profit, and the riots of outraged townsfolk are described in detail. The need for good anatomical laws and the pressures on legislators are outlined.

Lassek also gives enough biographical data on about twenty of the key anatomists of the past 2000 years or so to make one appreciate the drives that motivated these men. He tells of spectacles of the 16th century where the bodies of criminals were dissected and demonstrated before students and "important" people. There are stories also of the surgeon-anatomists of the 18th and 19th centuries and of the improvements in instructional standards in the 20th.

Lassek has not only presented a history; he has laid out the background for the persisting problem of cadaver shortage that also plagues present-day anatomists.

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Tribes that Slumber. Indian times in the Tennessee region. Thomas M. N. Lewis and Madeline Kneberg. University of Tennessee Press, Knoxville, 1958. xi + 350 pp. Illus. $3.75.

"This book has been written for students, for amateur archaeologists, and for all persons with curiosity about the Indians" (preface, page v.).

The organization and literary style of this book, enhanced by a most attractive binding and beautiful illustrations, set a high standard for popular writing on American archeology. Since this is the first contemporary book in the field to be written by professionals for persons without advanced technical training, it is well that the standards are so high. Certainly American archeology needs more in the way of good publication for this audience, and it is expected that this book will serve, in some degree, as a model.

Chapter headings include "Nomadic hunters of the Ice Age," "The Archaic era," "Early Woodland Indians," and "Burial Mound Builders." The later and more elaborate Dallas, Mouse Creek, and Historic Cherokee cultures, Busk-Southern Cult ceremonialism, and Cherokee ceremonialism and history are well described and made the subjects of generalized interpretative treatment in the other chapters. Ten thousand years of the prehistory and early history of the Tennessee area are covered.

The first two chapters are sufficiently general to be of considerable interest in the eastern United States as a whole. The later chapters describe and interpret phenomena restricted rather more to Tennessee, although the interpretations are of much wider application.

A real virtue of this book is the constant interpretation, in cultural terms ranging from the general to the specific, of archeological phenomena by means of information culled from accounts of historic tribes. The descriptions are of prehistoric cultures with some life, not of artifacts and structural remains alone. But—a valuable part of interpretation—there are very well-presented and well-illustrated descriptions of artifacts, techinques, and technological processes.

Professional archeologists will find

much to argue with in details of data and of interpretation and in some more general matters. Certainly not all of us accept as much population replacement with the advent of each new cultural entity as is implied, and many of us do not accept all of the ethnic identifications which are made. Yet this is a top-notch job by writers thoroughly familiar with the historic and prehistoric material. As such, it may be strongly recommended to the audience for which it was written.

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Soils for the Archaeologist. I. W. Cornwall. Macmillan, New York, 1958. 230 pp. Illus. $7.50.

This book is a pioneer undertaking. It fills a need long felt in archeology. One supposes that the archeologist, whose principal concern is the extraction of information from the soil, would have a thorough grounding in the subject of soils. This is apparently not the case. Many reports refer to soils only in vague terms or omit discussions of soils altogether.

The author of this book, I. W. Cornwall of the department of environmental archaeology, Institute of Archaeology, London University, brings to us the benefit of nearly ten years of field and laboratory experience in "learning how to extract relevant information from soils and archaeological deposits."

The chapters include: (part I) "Archaeological deposits"; (part II) "Weathering and soils"; (part III) "Techniques of soil-investigation"; and (part IV) "Interpretation and examples." There is an appendix.

Two approaches are inherent in soil studies for the archeologist. One is the identification of artificial or man-disturbed soils. The other is the identification and study of ancient natural soils (paleopedology). Of intrinsically greater importance, the latter approach may give clues to the environments of ancient cultures.

The book is intended "to take the 'magic' out of soil investigations." Its purpose is also to show what sedimentary petrology and soil science can do towards explaining the phenomena which many archeologists meet daily in their excavations. Certainly, if archeology is to progress, the material surrounding the artifact and represented by various symbols in profile drawings must be handled as carefully and analyzed as well as the artifacts themselves. It has been customary to call in the soil specialist for an analysis if the means are available. Cornwall describes how one can find the answers to some questions with the aid of rudimentary equipment and basic knowledge. It may be argued that the demands made upon the field archeologist in his study of the cultural remains are quite enough to keep him busy. Still he should have some background information concerning what lies behind soil studies and some knowledge of how such studies may help him in the broader analysis of man's past. Moreover, in this regard, he should at least know how to collect soil samples so that they may be studied. He should be in a position to discuss his problems intelligently with the soil scientist. Cooperation may be of little help unless direction to the problem is given.

Cornwall's earlier book, *Bones for the Archaeologist,* has been mildly criticized for its emphasis upon the Old World and its limited applicability to the problems of the New World. His present work deals with a more universal subject, although it, too, is understandably directed to Old World readers (there is only one reference to the work of an American in soil studies). It may be said that in concerning himself with a shorter time span of prehistory than some of his European colleagues, the American archeologist at home may find some of the soil studies inapplicable. However, as is implied, not all Old World archeologists deal with ancient time periods either.

In all, this is a very stimulating book and deserves to be looked into by the field archeologist, whatever his problem in soils.

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Social Mechanisms. Studies in sociological theory. Georg Karlsson. Free Press, Glencoe, Ill., 1958. 156 pp. $5.

The author is concerned with social mechanisms—models which cover only a part of a total social process. He differs from Herbert Simon, who builds models for either rational or socially influenced behavior, by insisting that the model builder simultaneously provide for both rational and irrational determinants. Under three headings—social diffusion, group choice, and interaction—he presents existent theoretical models and selected empirical findings. His criticism of earlier work is blunt and direct when a better model is known to him (see his comment on Stouffer on migration, page 64). But in the suggestions for the improvement of models given at the end of the three main sections of the book the speculations appear *ad hoc* and disjointed, and one wishes that either greater use of nonquantitative social theory or more explicitly stated mathematical criteria had guided the criticism.

The author's contribution, in addition to his function as a reviewer, is a system of accounting equations (page 134). These equations assume the availability in matrix form of probabilities assigned to matters like the future acts of other individuals. As we have come to know from the analysis of chess moves, the speed of growth of alternative sequences of action is very great. It therefore stretches our optimism to believe that the many-faceted social process will be easily tamed by probabilistic approaches. It would properly be difficult to convince behavioral scientists that Karlsson's approach is the most direct route to deeper understanding of the regularities of social behavior, but whoever among them chooses to teach or write on social applications of mathematical models will wish to study and refer to this handsomely printed volume, both for its pioneering classification of earlier studies and for the reports of recent European work.

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Insect Migration. C. B. Williams. Macmillan, New York, 1958. xiii + 235 pp. Illus. + plates. $6.

This handsomely illustrated volume, the latest of the "New Naturalist" series, deals largely with the migration of butterflies and moths. The migration of locusts, dragonflies, ladybird beetles, hover flies and other insects is discussed in varying detail, but the lifelong interest of the author in the Lepidoptera is reflected through the entire book.

Williams defines migration as "continued movement in a more or less definite direction, in which both movement and direction are under the control of the animal concerned." Some other authors restrict the term *migration* to two-way movements.

The book is divided into four parts: introduction, evidence, problems, and methods. The first section gives a general introduction to insect migration and a brief history of the phenomenon. The second is devoted to anecdotal reporting of migrations. The third section—the largest—discusses the origin of migration, possible mechanisms of migrant orientation, the return flight, the relation of population density to migration, and similar problems.

Although it is not at present possible to offer solutions to most of the mysteries of insect migration, Williams presents much thought-provoking data. However, the discussion of the evolution of the migratory habit is unfortunately brief. For instance, the book contains little mention of the regular daily movements of certain butterflies, which might well illustrate "primitive" migratory behavior.