prehistory of the southwestern United States; the illustrations, drawings, maps, and comprehensive bibliographies add to the merits of the work. Because it includes full descriptions of the "cultures" of the Southwest as well as new discoveries and developments, this book will be welcomed by all readers.

The first section deals with methods, techniques, classification, and dating. The remainder of the book is concerned with a chronological and geographical treatment of the appearance and evolution of the various southwestern subcultures through some ten thousand years.

McGregor clearly sets forth his aims, methods, and definitions. Of particular interest are his definitions of *archeology* and *culture*. To him, *archeology* is the interpretation of the interrelationships of three kinds of phenomena: events, time, and space; and *culture* is all the material and nonmaterial traits of the people, or the ideas in the collective mind of the people. Throughout, the emphasis is on converting prehistory to history and placing past events in a chronological order. To perform this task, the archeologist studies "things"—houses, pottery, axes, and projectile points. In essence, the archeologist digs up artifacts, regards them as being comparable and unrelated, and makes up a list of "traits."

Increasingly, archeologists are becoming aware that merely listing culture traits and arranging these in time and space makes little contribution to anthropology and the finding of cultural laws and regularities. We now focus on cultural processes and are bent not only on describing complete fossil cultural systems in time and space but also on explaining change and stability in these systems. Thus, the emphasis is shifting from questions of "where" and "when" to questions of "how" and "why." Artifacts must be regarded as physical manifestations of cultural systems with their distributions at a site being structured (nonrandom) and reflecting patterned behavior and the loci of this behavior. True, we cannot dig up a "social" system, as such. But we can dig up the artifacts that are the physical manifestations of social systems, and, by comparing the differential distributions of the artifacts with the differential distributions of artifacts in extant social systems, explicate the extinct "social" system.

McGregor started work on this revision several years ago. Were he to start now from scratch, I think he would construct a radically different text. As it stands, his book marks the end of an era in archeology, for archeology is in the midst of a scientific revolution. When we go beyond taxonomy and inventories of material traits, then archeology will cease being a "tool-course"—and become anthropology.

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Primates as Experimental Animals

The Baboon in Medical Research. Proceedings of a symposium (San Antonio, Tex.), November 1963. Harold Vagtborg, Ed. Published for the Southwest Foundation for Research and Education by the University of Texas Press, Austin, 1965. xii + 643 pp. Illus. $12.50.

The explosive increase of scientific interest in primates during the past several years has been a wonder to behold. Seven primate centers have been established, the International Primatological Society has been formed, and several new journals have been launched. Sufficient experience is at hand to reveal the characteristic attributes of various primate species, not only as they disport themselves in their native habitat or in semirestricted laboratory conditions but also in the data they provide and in the way they adapt to laboratory investigations of major biomedical problems.

As the various laboratories develop special interests in specific health problems, they tend also to identify a few species that they find especially useful for their work. The roles of the rhesus macaque in polio research and of *Cebus* in nutrition studies are noteworthy. Some laboratories even concentrate on one or, at most, a few closely related species. A notable example of this is the almost exclusive use of baboons at the Southwest Foundation for Research and Education (SFRE) in San Antonio, Texas. This laboratory has pioneered the use of the East African baboon in medical research and has the largest captive colony in existence. The book jacket notes that, with the exception of the great apes and man, baboons are the largest primates both readily available and easily maintainable in captivity. They are used in investigating problems related to heart disease, circulatory troubles, cancer, infectious diseases, and mental health. SFRE believes that baboons should be more widely used.

In the fall of 1963 SFRE sponsored a symposium which it hoped would bring together many scientists who use primates, particularly baboons, and who would summarize the currently available information about baboons. In addition, the Foundation wished to present summaries of the experimental work conducted at, or in collaboration with the scientists on the staff of, SFRE in order to illustrate how the Foundation, through its organizations in San Antonio and near Nairobi, Kenya, could assist scientists who wish to work with the East African baboon.

This book is a summary of the proceedings of the symposium. It presents 46 papers on taxonomy, habitat and ecology, social behavior and maintenance, morphology, physiology, biochemistry, pathology, and experimental medicine. More than half of the studies reported directly involved the participation of either the San Antonio or the Darajani colony of SFRE.

A salient feature of the book is what is doubtless a verbatim account of the discussion that followed the papers. These discussions vary widely in substance, generality, and relevance to the main papers. Some comments are merely questions that seek clarification of a particular detail while others are informal presentations of "a few slides that I happen to have in my pocket."

This is the first of a series of symposia (the next one will be held in early November 1965) and others are scheduled at intervals of two or three years. It is likely that in the future the editor of the proceedings volumes will be somewhat more restrictive about publishing the commentaries in order to tighten the presentation and to assure their generality. He is also likely to be somewhat more persuasive with the authors in an attempt to reduce the time lag between the symposia and the publication of the proceedings.

This volume should be valuable as

a first reference source for individuals who are looking for material on baboons and their use in research. It is less likely to be a major source of new biomedical information unless the information is directly concerned with baboons, for much of the material has been published in scientific journals. Researchers who contemplate the use of baboons will carefully peruse its contents; those who are considering other species should examine it to determine whether the baboon surpasses the alternative choices.

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Sir Benjamin Thompson, a Biography

Count Rumford of Woburn, Mass. W. J. Sparrow. Crowell, New York, 1965. 302 pp. Illus. $5.95.

From 1867 to 1871 George E. Ellis worked through all of the available original documents to produce his monumental *Memoir of Sir Benjamin Thompson, Count Rumford*, which was published by the American Academy of Arts and Sciences in connection with an edition of Rumford's complete works. All subsequent full-length biographies of Count Rumford have been based directly on this classic work. Some have been unscholarly rewrites like *Count Rumford of Massachusetts* by James Alden Thompson (Farrar and Rinehart, 1935). Some have been almost journalistic novels, such as *An American in Europe*, by Egon Larsen (Philosophical Library, 1953), which abounds in historical inaccuracies but which paints a most realistic picture of the Count. This present volume, which was published in England under the title *Knight of the White Eagle*, is as careful a historical study as can be made, using Ellis as a base.

Sparrow has uncovered some original material in England. Here he publishes in book form for the first time some most interesting material that he discovered in the Birmingham Assay Office in the process of doing the research for his Ph.D. thesis, which was on the life of Rumford. He was also instrumental in having the Library of the University of Birmingham buy a copy of a diary which Rumford kept in 1801. Sparrow has also made use of Sir Charles Blagden's *Diary* and of some material in the Royal Institution which Ellis did not use. Thus, Sparrow is the first one in many years who has gone back to some of the original documents.

The book is definitely aimed at an English audience. Although out of his life span of 61 years Rumford spent less than a dozen years in England, more than half the book is connected directly with his life in England. This, of course, is understandable because it is in this area that the novelty of the book resides, but it does give a rather unbalanced picture of his life. Rumford spent his most productive years in Bavaria, and he carried out many more of his scientific and technological investigations in France than in England.

It is worth commenting on the arrangement of the discussion of his scientific work, which is dealt with in two isolated chapters. I believe that one should not discuss the life of a scientist by separating his science from his everyday living. The whole interaction of a man and his environment is so much involved in the direction which his life takes that it does a disservice to a man of science to categorize his political, philanthropic, and emotional life completely separate from his scientific endeavors. Yet this seems to be common practice in writing about scientists; it is somehow assumed that their scientific contributions are separate from their living in the society of their fellows.

The American publisher is to be censured for a most misleading "come-on" on the dust jacket—"Here is the first full-length biography of Benjamin Thompson, the versatile American scientist who first recognized heat as a form of energy." This is certainly not the first full-length biography; three previously published English biographies are mentioned in this review, and there have been full-length biographies in other languages, including several in German. Also, as Sparrow points out, Thompson did not recognize heat as a form of energy but rather as being produced by the expenditure of work. No such blatant disregard for the truth is evident on the dust jacket of the British edition, *Knight of the White Eagle: A Biography of Sir Benjamin Thompson, Count Rumford (1753–1814)* (Hutchinson, London, 1964).

To summarize, one should say that this is a gentle, gentlemanly, and scholarly biography of a man who was far from gentle, gentlemanly, or scholarly. The book is definitely worth reading but one must realize that Sparrow has been even kinder to Rumford than any of his other biographers. Not only does he underplay Rumford's faults of character but he glosses over completely some of the less honorable facets of his life, for example, his mistresses and his illegitimate children. Even Ellis in the early 1870's was not that kind. It is a very friendly biography, is carefully done, and certainly serves to keep the figure of Count Rumford in the eye of the modern public.

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Animal Behavior

Advances in the Study of Behavior. vol. 1. Daniel S. Lehrman, Robert A. Hinde, and Evelyn Shaw, Eds. Academic Press, New York, 1965. x + 320 pp. Illus. $9.50.

This volume, the first of a series planned to cover recent developments in the field of animal behavior, contains six chapters written by authors actively involved with the particular topics. Although close intimacy with a particular topic sometimes prompted an individualistic perspective, the presentations are enthusiastic and sophisticated with respect to general methodological problems. This interdisciplinary volume should have wide appeal to students and investigators in zoology, ecology, human development, psychology, and anthropology.

T. C. Schneirla presents his theory of biphasic (approach/withdrawal) behavioral processes. The theory is carefully developed and encompasses a wide range of biological and behavioral manifestations (fetal behavior, "innate" perception, neural development, imprinting, contiguity, reinforcement learning, and the like).

The resurgence of research interest in the behavior of newborn infants is reviewed by H. F. R. Prechtl. Multitudinous behavioral observations dur-