general processes, that makes this book interesting.

A number of books have been written about models of thinking and about complex organizations, and this is one of the very best. It is authoritative and at the same time provocative—a rare combination.

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"Behavior"

Ethology of Mammals. R. F. EWER. Plenum, New York; Logos, London, 1968. xiv + 418 pp., illus. $26.

A book dedicated to meerkats can't avoid being interesting. When those meerkats are named Gollum, Gandalf, and Gimli, one knows without reading further that the book must have been by R. F. Ewer and that prejudices in its favor are justified. In fact, I did read *Ethology of Mammals*, so my declarations are based on more than empathy with keepers of meerkats.

Ewer has set herself three goals. First, she has attempted to describe various kinds of behavior in a variety of mammals. In doing this she has considerably broadened the amount of descriptive material available on library shelves, especially since she has included examples from the lesser—at least less well known—breeds. Her categories of behavior are conventional—communication, feeding, fighting, courtship, for example—and, for the most part, the species described are presented in phylogenetic sequence. Hence, although not encyclopedic in scope, the book does provide a useful reference supplement to such volumes as Bourlière's *Natural History of Mammals*. The style is sufficiently light to be entertaining, yet the documentation is adequate to the needs of the student. The usual pious pronouncement of the publisher that "this volume will appeal to amateur and specialist alike" is justified.

A second goal was an explication of traditional ethological theory, as annunciated by Lorenz and his disciples. In this, too, Ewer has acquitted herself well—too well, I would add, for she will surely convince the uncritically uncommitted. And, niceties of style notwithstanding, in this I believe Ewer to be perpetuating a major misconception. "Behavour is something which an animal has got in the same way as it may have horns, teeth, claws, or other structural features," she writes (p. 4), and this is where I take issue. The notion that behavior is a "noun," a palpable entity, has been responsible for much of the nonsense that ethologists have uttered. We read of "aggression" accumulating and needing discharge, as if it were a fluid liable to seep through cracks in the cranium. I believe we "contain" aggression about as much as a radio "contains" the music we hear issuing from it. Hardin ["Meaninglessness of the word protoplasm," *Sci. Monthly* **82**, 112 (1956)], extrapolating from the work of Benjamin Lee Whorf (*Language, Thought and Reality*, Wiley, 1956), has tried to show how the grammatical forms of English have influenced biologists' conceptions of the body. The polarized structure of our language, requiring phenomena to be described by sentences that consist of nouns *and* verbs, has often distracted us from the realization that a particular event might not lend itself to such treatment. Thus, "*it* thunders," and "lightning flashes," tautologies that obscure the "nounverb" nature of these events. In the study of behavior this kind of reification has done even more to retard understanding than in the areas discussed by Hardin (Klopfer, "Instincts and chromosomes," *Amer. Naturalist*, in press, and see a forthcoming volume on evolution and behavior by G. Bermant). Ewer, unhappily, has contributed to the retardation, though I grant she has provided a clear statement of the Lorenzian premises and arguments.

Finally, Ewer has sought to relate laboratory findings to naturalistic observations. This she has done, with understanding and clarity.

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The Fungi

Fundamentals of Mycology. J. H. BURNETT. St. Martin's, New York, 1968. xiv + 546 pp. + plates. $13.95.

This book is a landmark in mycological literature. Nothing like it has appeared since De Bary's classic work of the last century.

In this book Burnett presents many of the more recently discovered facts about this unique assemblage of plants, the fungi. The focal point happily is always the fungus, whatever aspect may be under discussion. In this respect the book is a biologist's paradise.

Since De Bary's time, experimental mycologists have uncovered a vast, nay stupendous, number of facts about fungi. These include many of the details of the ultrastructure of fungal cells, vegetative growth and morphogenesis, asexual and sexual reproduction, mating systems, production and germination of spores, mechanisms of transport of materials, primary and secondary metabolic pathways, interactions with other organisms, heterokaryosis and heteroplasmons, methods of genetic recombination, and speciation. As a consequence Burnett's book tends to be encyclopedic: there just may be too much material to down in one swallow.

The text is made even more complicated by the author's tendency to join independent clauses into long, cumbersome sentences. It is consequently not an easy book to read through, but it is the only one of its kind. Experimental mycologists and others interested in fungi will be grateful for Burnett's effort. If the book also alerts the writers of our general biology texts to the existence of the world of the fungi it will have served still another purpose.

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Physiological Measurement

Principles of Applied Biomedical Instrumentation. L. A. GEDDES and L. E. BAKER. Wiley, New York, 1968. xvi + 480 pp., illus. $13.50.

This book does not begin to cover the field of biomedical instrumentation, nor is that its intent. It is designed to describe, primarily to the life scientist, the basic principles by which physiological events are measured. This is an area in which the authors are recognized experts, and they are to be commended for resisting the temptation to include a variety of subject matter classified as biomedical instrumentation but outside their realm of expertise. However, considering the rather limited objective of the book, a more appropriate title would have been that of the first chapter, "The transduction and measurement of physiological events."

The authors, who are trained in both engineering and physiology, state