the common ancestor to be a therapsid reptile and not a mammal. He also includes the superfamilies Ceboidea, Cercopithecoidea, and Hominoidea in the suborder Anthropoidea, although he recognizes the independent origin of the Old World and New World monkeys from a prosimian base. The taxons Mammalia and Anthropoidea as used by Simpson seem to rest upon analogies and diphyletic origins and therefore to be in need of taxonomic revision at the higher category level.

If these differences of opinion were merely arbitrary and concerned the classification and naming of a few groups of animals of interest to a small number of specialists, the matter would not be of great import, but basic principles of biology are involved. Sufficient evidence is available to indicate that more strict definitions of homology, and parallel evolution would provide better correlations of taxonomic and evolutionary order.

Scholarly Approach to Taxonomy

In spite of these criticisms, it is my sincere opinion that this book marks an important advance in taxonomic theory. The result of mature experience in the taxonomy of both fossil and living mammals, it represents a fine scholarly approach to a science that is essential to all comparative biology. Even its ambiguities and inadequacies will set the stage for more critical tests of important hypotheses and interpretations in the near future. All biology will progress as the result of the balanced integration of modern taxonomy within the life sciences.

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Handbook of Abnormal Psychology. An experimental approach. H. J. Eysenck, Ed. Pitman, London; Basic Books, New York, 1961. xvi + 816 pp. Illus. $18.

In this book we have clear indications of how a new, vital discipline has finally evolved into a distinct species and of how it is beginning to find its own place among disciplines of similar genre. As in the case of all historical emergents, it is bound to influence related disciplines in some degree, giving advantage to some and perhaps hastening the modification or disappearance of others as it struggles to survive and grow.

The chapters have their roots in and represent a special focus of experimental psychology. Abnormality is defined not in terms of people suffering from mental disease produced by "definite" causes, but in terms of the defective functioning of various psychological systems. The psychiatric framework is rejected outright. Chapter headings found in textbooks of recent vintage—such as "The neuroses," "Amnesia," "Disordered emotion," "Disorders of volition," and the like—have given way to chapters entitled "Somatic reactivity," "Conditioning," "Learning and abnormal behavior," "Abnormal animal behavior," and "Applied abnormal psychology: the experimental approach." Throughout the book, there is a deliberate effort to avoid the concepts, nosology, and clinical observations of both descriptive and dynamic psychiatry and also, to some extent, the literature on multifactorial tests such as the Rorschach, Thermatic Apperception Test, and even the Wechsler intelligence scales. Instead there is a common effort to base all topical reviews on laboratory findings and sound statistical analysis.

The reader, however, should not expect to find many signs of maturity in this young field, apart from some methodological and orientational ones. There is still no body of accepted theory which can come close to unifying the wide, varied literature reviewed.

The theories which are found are primarily those of Hull, Pavlov, and Eysenck. The latter's theoretical formulations are represented out of all proportion to what would be the case if a similar book were compiled in this country, primarily because the authors of the various chapters are mostly his students and colleagues. The treatments of some of the topics are narrower in their outlook than they should be and statements are sometimes offered as fact although they represent still unsettled issues, but the level of the work is uniformly high. Two of the chapters should not have been included at all. The controversial quality of some of the discussions clearly reflects the youth of the subject, but it also indicates the subject's vitality and sense of purpose.

Eysenck asks, "What is a handbook?" And he answers: "A handbook is what a handbook does." What this handbook does is to renounce its psychiatric heritage, to proclaim abnormal psychology as a legitimate offspring of experimental psychology, and to point the direction in which the field must grow. As a single reference and source book of abnormal psychology, it now stands by itself, but before very long we can expect others in this same experimental vein with different emphasis and with more complete development of most of the topical areas.

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Structure and Function of Muscle. vol. 1, *Structure.* 472 pp. $14. vol. 2, *Biochemistry and Physiology.* 593 pp. $16.50. vol. 3, *Pharmacology and Disease.* 489 pp. $15. Geoffrey H. Bourne, Ed. Academic Press, New York, 1960. Illus.

In the not too distant past, the publishing of multivolume handbooks was a specialty of the German scientific world, but it seems that this has now become an American occupation. It is hard to say whether we make them bigger and better, but surely many of them have recently been devoted to various biochemical and other biological subjects, and indeed they form most valuable additions to institutional and departmental libraries.

The work under discussion is not specifically called a "handbook," although it is one because of the breadth of its scope. Its virtues: in three well-executed volumes of not excessive size, it gives a cross section through the field of myology. To various degrees (some special comments follow), the individual chapters are well-rounded and mostly very readable, so that anyone who studies the entire work (which is perfectly possible) will acquire a great deal of knowledge. Its weakness: so much is missing that such an eager reader will still have to supplement his reading to a significant extent if he wishes to be in contact with the major problems, and not all of this additional material is easily accessible. It would have been better, strange to say, if the work had been expanded somewhat to cover some additional topics.

This mild criticism must be substantiated, so let us proceed. There is a lucid over-all review of the biochemistry of muscular action by D. M. Needham and an outstanding chapter on the biochemistry of the sarcosomes by Slater,

but there is no well-developed treatment of the details of the glycolytic pathway and other main aspects of metabolism, no mention of anserine, carnosine, and carnitine, no discussion of myoglobin after its one-word entry on page 1. Meyerhof is quoted several times but briefly; Parnas is mentioned twice, Warburg once, Embden not at all. A basic and brilliant part of modern physiological chemistry is all but omitted. In the field of energetics and dynamics, things are not much different. Hill is quoted frequently, but is often present in name rather than in spirit. There is an original and personal chapter on thermodynamics by Podolsky, and the chapter on biophysics by Ramsey is a heroic effort to pull together some of the essentials. But a broad and systematic treatment of the contributions of the Hill school is missing, just as a treatment of the biochemical foundations laid by Embden and Meyerhof is missing. Has something gone astray?

Some of the omissions are clearly stated by the authors and are deliberate, because of limited space. Thus, Thesleff points out that the study of the effects of drugs on smooth and striated muscle is the largest area of pharmacology, and limits himself to effects related to bioelectrical properties; one chapter similarly introduces the subject of cardiac physiology and restricts the discussion to a few properties of the heart that are closely related to major currents in other areas of muscle physiology. By such restrictions, it has been possible to unite many different topics in a moderate space, but this teaches us that it is, apparently, not feasible to do so without grave omissions. However, we must also note the relative merits of this situation: many of the chapters deal with topics outside the more central or "fundamentalist" currents of muscle research, and these are less likely to be dealt with in other works.

Volume 1 may be the most successful. It is devoted to structure, and the series of chapters on fine structure, introduced in a scholarly treatise by Bennett and continued by several eminent authorities, is as informative as is possible under the circumstances. Volume 2, dealing with biochemistry and physiology, is afflicted most by the omissions referred to, but it contains excellent chapters; one of them, the chapter by A. G. Szent-Györgyi on the proteins of the myofibril, deserves mention for its wealth of well-presented material which is handled in limited space. Volume 3 discusses pharmacology and disease and contains much that deserves the interest of the "pure" scientist.

Yes, this work offers a great deal, and let us make good use of that. Still, I cannot help but feel that among the missing topics are many of the essentials.

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Eskimo Childhood and Interpersonal Relationships. Nunivak biographies and genealogies. Margaret Lantis. University of Washington Press, Seattle, 1960. xv + 219 pp. Illus. $4.75.

This latest publication in the distinguished monograph series of the American Ethnological Society is a collection of 18 brief autobiographical and biographical sketches of Eskimo residents of Nunivak, a small island in the Bering Sea with a total population of about 200.

The life histories were recorded in 1946 by the anthropologist Margaret Lantis, who has been engaged off and on since 1939 in a study of this community. They were obtained with the aid of interpreters and are presented here in English, with editorial commentary by Lantis and with supplementary genealogical information, notes made on a follow-up 10 years later, and psychological interpretations of Rorschach protocols, the last drawn from analyses by Eugenia Hanfmann, a clinical psychologist, and Alice Joseph, a psychiatrist. In the context of Lantis' several earlier publications on Nunivak Eskimo social organization, religion and ceremonialism, and cultural values, this volume contributes detailed information on the way in which the culture of the society has been experienced by some of its carriers and, thus, helps to round out her long-term study of the community.

Specialists in arctic anthropology will need no reviewer's reminder to consult the volume. To nonanthropological scientists, and to anthropologists not specially concerned with Eskimos, the Nunivak life histories present certain intriguing features. One is the evidence of personal strain suffered by members of a small community of arctic hunters in their efforts to satisfy personal wants in culturally conventional ways; this strain is revealed in the complaints recorded in the biographies and in the apparently high suicide and psychosis rate. Another interesting feature is the importance in youthful character formation of participation in community religious rituals, which are frequently mentioned in the autobiographies as significant early memories. And a third major feature is the documentation of the dramatic variability in personal fate of individuals who have lived in what has been a reasonably homogeneous culture. The latter point is worth pondering, for it bears on the question of the "penetrance" of culture: that is to say, on the degree to which knowing the cultural genealogy of the members of a population permits prediction of their life experience and behavior.

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The New Age in Physics. Harrie Massey. Harper, New York, 1960. 342 pp. Illus. $4.25.

Sir Harrie Massey has set himself a task of enormous magnitude, but a task well worth attempting. In a very few pages he presents with skill and great insight a broad view of what is new and important in physics today.

The book begins with a summary of the historical development of our knowledge of atomic structure, which leads to a brief presentation of quantum mechanics and a look at solid-state physics with some of its current applications.

Next are two excellent chapters on special relativity and relativistic quantum theory. The latter may be the most successful part of the book in that it presents ideas far beyond the bounds of "common sense" in a way that should be intelligible to a wide audience.

Then follows a description of the experimental basis of nuclear physics and the theoretical models advanced to explain the observed results. There are two highly relevant sentences in this section which deserve quoting here and which should be displayed in large letters on the wall of every physics classroom: "As always, however, it is the experimental facts which demand the extraordinary interpretation. We are not concerned with speculative philosophy."