Murphy receive one chapter each. A chapter each is devoted to organismic theories, constitutional psychology, factor theories, and stimulus-response theories of personality. In some cases, notably Jung's, the authors have collated writings from widely diverse sources that would be almost inaccessible to the usual teacher.

The various theories are so different in intent and coverage that they are not truly comparable, but insofar as possible, the authors follow a systematic outline in presenting each theory. They begin with biographical data, then describe, in turn, the structure, the dynamics, and the development of personality as conceived in the theory. They end each chapter with research that has stemmed from the theory and a short evaluation of its current status.

So far so good, and these valuable contributions must not be underrated, but the authors missed the golden opportunity to do even more. Their discussion recapitulates rather than illuminates. Perhaps because of their desire to be accurate, the authors rarely try to give the reader more insight than he would get from the original. Where Jung or Sullivan or Murphy is obscure or ambiguous, so are Hall and Lindzey. This is too bad, because the originators of ideas are not necessarily their clearest expositors.

The authors present a final integrative chapter that is quite useful, as far as it goes, but again fails to achieve what it might. The profession badly needs serious comparative studies of personality theories, somewhat analogous to literary criticism. Particularly when theories are poorly operationalized, it is not obvious just what is the function of any concept; it is partly a proposal to account for facts but is also an expression of the author's general convictions about human nature. When theories are denotative, it is important to recognize where they contradict each other, where they differ in language only, and where they address themselves to different bodies of data. An attempt to analyze personality theories in these terms would be daring, but we need people who will accept the challenge. My appreciation for what Hall and Lindzey did accomplish cannot but be tempered by my regret that they did not set themselves the genuine task of true psychological "criticism."

ALFRED L. BALDWIN
Cornell University

Archaeology and Its Problems. Sigfried J. De Laet. Translated by Ruth Daniel. Macmillan, New York, 1957. 136 pp. Illus. + plates. $4.50.

This little book, originally (1949–50) a short article in Flemish, was "not in the first place written for the reader, but more for the benefit of its author, who was trying to clarify his thoughts upon certain problems of methodology which had been preoccupying him for a long time" (page 11). It was expanded and translated into French in 1954; from this version the present English edition is derived, with slight modifications. *Archaeology and Its Problems* therefore reflects primarily the problems of the archeologist in Belgium and northern France, and, in discussing these, the author warns his British colleagues "against accepting continental archaeological material on equal terms with Scandinavian and British evidence" (page 10), since the latter is usually excavated, preserved, and interpreted according to higher professional standards. Many of the problems in practical matters, however, are ones with which his colleagues all over the world have had to struggle.

The author does not have to make a personal apology. His work exhibits the broad appreciation of the scope of archeology and of its relationship to other disciplines, the command of technical skills, the theoretical insights, and the sound judgment that mark the scholar and scientist of distinction. The American reader, whose own knowledge may be limited to problems and conditions peculiar to New World archeology or to techniques especially developed or in vogue in this country, will find this book especially illuminating, because the discussion is focused predominantly on current methodology and results in northern Continental Europe. There is also a wealth of concrete detail, drawn from the whole field of Old World archeology, which ranges from the Paleolithic to the Middle Ages and from Egypt to Scotland. Many of the particular techniques perfected in Europe should be more widely applied in this country.

The author's interpretation of data not only can be used as a model of what the archeologist should or should not conclude from the excavated remains and auxiliary evidence but also can serve to correct certain notions on the history of European culture that we may have drawn from less judicious summaries. Thus, he writes: "How often has a theory of migration or invasion been based purely upon the distribution of a pottery type, a weapon, or a burial custom? . . . so great is the detail and assurance with which these scholars recount the facts that one might be reading the chronicles of an historic epoch, left as a record of the chroniclers themselves. I, however, believe that for the most part dust is being thrown in our eyes" (page 119). And the author proposes his own more convincing, and far more stimulating, explanations of the data in question.

What illumines De Laet's work is not simply his competence as an archeologist but his profound appreciation of the wider field of anthropology, that science of culture in general, which, more than history or history of art or philology, gives full significance to the archeologic record.

De Laet writes with charm and vigor, and the translation is so excellent that we have no feeling that we are groping for his thoughts through the medium of an alien idiom. Although no concession is made to "human interest," as in the recent spate of popular books which describe the spectacular achievements of notable archeologists, this is really more exciting and satisfying reading, for it answers our legitimate questions. It is not only a book for the scholar's library but one that he can give to friends or recommend to students, and one that he will also want to keep on his bedside table.

FREDERICA DE LAGUNA
Bryn Mawr College

Bones for the Archaeologist. I. W. Cornwall. Macmillan, New York, 1956. 255 pp. Illus. $10.

Meeting Prehistoric Man. G. H. R. von Koenigswald. Translated from the German by Michael Bullock. Harper, New York, 1957. 216 pp. Illus. + plates. $3.50.

Of the two works reviewed here, the first, as its title indicates, is intended as a manual that will enable the archeologist to make at least rough identifications of the vertebrate remains found in association with human bones or cultural debris. The second volume is a simple, nontechnical account of the experiences of G. H. R. von Koenigswald while searching for fossil man and his interpretation of his own and other workers' discoveries. Since bones have to be identified before they can be interpreted, we will begin by discussing I. W. Cornwall's book.

As F. E. Zeuner points out in the foreword, there is a surprising dearth of works that treat of this subject, and we must thus recognize that whatever the faults of this volume may be, it is a sincere and well-intended effort to provide a handy textbook for that obscure region lying between the paleontologist and the student of extinct cultures. Unfortunately, I cannot endorse the volume as entirely successful from an American point of view.

In the first place, although Macmillan has chosen to issue the book in the United States, the author has deliberately ignored those animal groups which are so important at present to the New World archeologist. He has confined himself to the Old World vertebrate fauna, and thus the hopeful American

student finds little or nothing to help him in his encounters with the fragmentary remains of extinct American bisons, sloths, camels, and other Pleistocene forms. At best, only certain Old World species are available in some intercontinental families.

There are additional faults. The book lacks an index, and, for any volume intended as a handbook of instruction, such a lack is crippling indeed. One cannot avoid the impression that, from the standpoint of a short course intended to transmit a maximum of practical information to workers in another discipline, the volume is excessively bookish. More careful selection would have obviated this difficulty, shortened the book, and intimidated fewer beginners. Although considerable attention is paid to the human skeleton, there has been no attempt to discuss certain anomalies and pathologies which occasionally excite attention in the field—anomalies such as the metopic suture or parietal fenestrae for example. No account is given of the use of the *Dryopithecus* pattern in primate-human identifications, nor does the author mention the crenulation which is so typical of orang teeth. A number of the illustrations of the occlusal surface of the primate dentition are so small that detail is obscured. There are other sins of omission and commission which will force the instructor to return to the older, more standard osteologies, such as Flower, or augment his material from other sources.

Cornwall has obviously expended a great deal of labor and time upon his book. I do not wish to minimize the difficulties he must have encountered or the compromises he must have had to make. A start in a somewhat unorthodox instructional field is always difficult. It may well be that only when such a course as Cornwall teaches is more widely installed in archeological departments will we be in a position to pool our experience in a more satisfactory and useful textbook. Cornwall has made a brave, singlehanded start, and I, for one, hope he will not be deterred from future revisions of his pioneering attempt by any grumbling from the sidelines.

Turning now to von Koenigswald's little volume, *Meeting Prehistoric Man,* we enter on an exciting world in which von Koenigswald himself has played a leading role as an explorer and discoverer in the Pleistocene fossil beds of Java. We owe largely to his efforts and to those of his faithful Javanese assistants the discovery of *Homo modjokertensis* (Weidenreich's *Homo robustus*) from the Sangiran deposits that predate the Trinil beds which yielded Dubois' original specimen. We also owe to him the recognition of *Gigantopithecus blacki,* from China, and of *Meganthropus paleojavanicus.* He contributed to the investigation of the Ngandong beds which yielded *Homo soloensis.*

This volume, therefore, instead of being one of that numerous and perennial crop of fossil-man books turned out by itinerant journalists, is the valuable record of a man who was on the spot at great discoveries and who is a professional scientist. The book is a simple, straightforward account of von Koenigswald's travels, discoveries, and contacts with other distinguished workers in the field. We are told of the cantankerous and eccentric behavior of Eugene Dubois, who seems to have viewed all fossils but his own with suspicion and dislike. We see Davidson Black, the first describer of *Sinanthropus,* laboring, with broken health, to complete his studies and dying alone in 1934 in Peking, with the precious skull clutched in his hand. We haggle for "dragon bones" in Chinese drugstores. We contend with native collectors who strive to augment their income by breaking the precious fossils into smaller pieces in order to be paid for each fragment. The world of the bone-hunter—its hopes, frustrations, disappointments, and assorted eccentrics—passes before our eyes.

From the professional standpoint, von Koenigswald clarifies the position of the Sangiran beds in relation to Trinil and contends that the massive-faced *Pithecanthropus* of that level (*modjokertensis*) is ancestral to the later *erectus.* He clings to the now doubtful position that *Gigantopithecus* is a giant form because "all extant Primates exhibit an harmonious relationship between size of dentition and body size." Curiously enough, the author, in a later chapter on the South African man apes, discusses the extremely massive mandible of the normal-sized *Paranthropus crassidens* without ever returning to a consideration of the point just quoted, about which questions would now have to be raised.

Von Koenigswald regards the Australopithecines as not on the main line of human ascent, in this way differing from most of his South African colleagues. Human paleontology is far from being an exact science, and, as finds multiply, anatomic and geologic complications are often viewed differently by careful and sincere workers. It is so in this case. Points can be made on both sides of this argument, which threatens to be much in evidence for some time to come. The reader is urged to consult this volume and form his own opinions on many such disputed topics.

A few small errors of a factual and typographic nature should be noted, for correction in future editions. On page 66 the term *Pleistocene* has been inadvertently used when *Pliocene* was intended. Unfortunately, this can confuse students. On page 90 it is intimated that the American sabre-toothed tigers could scarcely open their mouths because of their huge canine teeth. This is a piece of paleontological folklore which persists in spite of being erroneous. As Colbert, among others, has pointed out, the jaw of *Smilodon* was mechanically specialized to permit a very wide gape. The notion propounded by von Koenigswald that the sabre-tooths were carrion feeders who used their canine teeth only to slit open the bellies of putrescent carcasses has a certain morbid and Poeesque charm. It accords ill, however, with American anatomic studies of these powerful, big game-hunting cats.

In the introduction, influenced by G. G. Simpson, von Koenigswald abjures orthogenesis. There are times, nevertheless, as in the story of the cats who died because their teeth had grown too long, when the ghost of this doctrine seems to haunt a few pages. In general, the book is wonderfully informative, and at the present stage of his science, what student of human paleontology can ever lay claim to being totally consistent! Von Koenigswald has blessed us with an intimate, modest, and friendly book. It is a great pity that the state of the world should have interrupted the investigation in Java of an area so rich in the remains of Pleistocene humanity. Without the labors so casually narrated in this little volume, our science would be a great deal poorer than it is.

LOREN EISELEY
University of Pennsylvania

New Books

Report of the Conference on Recent Developments in Cloud-Chamber and Associated Techniques. Comprising collected papers of the conference held under the joint auspices of the Physical Society of London and University College London in March 1955. N. Morris and M. J. B. Duff, Eds. University College, London, 1956 (order from Secretary, Physics Department, University College, London). 227 pp. 30s.

Molecular Structure and Functional Activity of Nerve Cells. A symposium organized by the American Institute of Biological Sciences and sponsored by the Office of Naval Research. Held in Washington, D.C., 3–4 June 1955. Publ. No. 1. Robert G. Grenfell and L. J. Mullins. American Institute of Biological Sciences, Washington, 1956. 169 pp. $4.75.

Vapor Phase Chromatography. Proceedings of the symposium sponsored by the Hydrocarbon Research Group of the Institute of Petroleum held at the Institution of Electrical Engineers, London, 30 May–1 June 1956. D. H. Desty, Ed.; assisted by C. L. A. Harbourn. Academic Press, New York; Butterworths, London, 1957. 436 pp. $12.