dence in Scandinavia. If Mrs. Davidson does not exactly break new ground, she provides valuable suggestions.

The author asserts that "Nerman's theory that the three largest burial mounds at Gamla Uppsala hold the remains of three early kings of Sweden, remembered in Beowulf and Ynglinga Saga" is generally accepted. Probably she got this impression from archeological publications. Even there, acceptance is not complete. But more important is that this and related protohistorical problems are debated among historians. And the Ynglinga Saga can have no primary source importance at all for this question.

Minor mistakes are inevitable in a book of this kind. Two of them ought to be mentioned. There are not 200 rock figures at Nämforsen, but 1400. Simrislund, with the well-known rock picture of the axe-bearer (Fig. 8) is not at Tanum, Bohuslän, on the west coast, but in Scania, in southernmost Sweden. Misspellings of our difficult placenames, etc., are more frequent than usual (so far, the reviewer has noted some 40). It does not matter—except when the reader has trouble in trying to identify them elsewhere. Certainly, the author is not responsible for the climax of spelling vandalism reached in the cover text, where the epoch called "Vendel period" (after the site of Vendel) appears as the "Vandal period."

Scandinavians will likely prefer to use Folke Ström's *Nordisk hedendom* (second edition 1967; this work is not among those in the select bibliography of the reviewed book). But they ought to appreciate Mrs. Davidson's contribution, and now at least international readers have a useful introduction to a difficult and controversial field.

Pleistocene Mammals of Europe. BJÖRN KURTÉN. Chicago: Aldine Publishing Company, 1968. viii + 317 pp., 111 figures, 15 tables, appendix, references (319 entries), index. $11.95 (cloth).

Reviewed by KARL W. BUTZER
University of Chicago

This book is highly welcome in that it brings a great wealth of paleontological data together for a wide audience at a nontechnical level. Students of archeology, prehistory, and a variety of related sciences will readily appreciate an explanatory text that provides a systematic overview of the Pleistocene mammals of Europe. Similarly, Pleistocene specialists of many kinds, with little or no anatomical training, can now enjoy ready access to a previously obscure field, thanks in part to the widely ranging bibliography (319 items). For largely the same reasons, however, others will regret that more technical data were not incorporated and that many of the sections were not considerably expanded.

The first section deals with the stratigraphic framework to the European faunal sequence. A summary of the major Villafranchian mammal localities is followed by an outline of the stratigraphic scheme followed in the subsequent text: the Villafranchian (subdivided into five stages—Etouaires, Pardines, St. Vallier, Senèze, and Val d'Arno); the Tiglian interglacial; two Günz stadials separated by the Waalian and followed by the Cromer interglacial; a single Mindel glacial followed by the Holstein interglacial; two Riss stadials separated by the Ilford phase and followed by the Eem interglacial; and, finally, two Würm stadials. Since these units are defined or dictated by European biostratigraphic assemblages, with which Kurtén is particularly familiar, the relative stratigraphy itself—regardless of strict correlations with the overwrought glacial nomenclature—is worthy of some confidence. The brevity of these introductory chapters is partly compensated for by a range of well selected diagrammatic illustrations. It is only regrettable that the rather controversial interpretation of the Cueva del Toll pollen and faunal sequence (see K. W. Butzer and L. G. Freeman, "Pollen analysis at the Cueva del Toll, Catalonia: a critical re-appraisal," *Geologie en Mijnbouw* 47:116–120, 1968) should be introduced as one of the basic examples.

The second section, the core of the book, presents the Pleistocene mammalian species by order (insectivora, chiroptera, primates, carnivora, proboscidea, perissodactyla, artiodactyla, rodentia, and lagomorpha). Unlike the majority of paleontological texts, the species rather than the genus is the basic category of discussion. Each is, in fact, discussed in essay fashion, ordered first according to taxonomic groups and, where perti-

nent, in stratigraphic order. A succinct statement of the stratigraphic range and characteristic fossil localities begins each of these essays, followed by a simple anatomical description with a discussion of some of the more distinctive traits. For the more important species there may also be statements of ecological aspects or zoogeography. Although the illustrations of diagnostic bone parts are often too few, they are good; unfortunately the occasional sketch reconstructions of the animals themselves are often too impressionistic. The writing is remarkably engaging, considering that this is basically an encyclopedic arrangement of data. In fact, one inevitably would like to read more, and the more poorly organized discussions of fossil horses and wild cattle by F. E. Zeuner (*A History of Domesticated Animals,* London: Hutchinson, 1963) provide examples of just how appealing a little more flesh on the bones might have been. In the case of the elephantidae and rhinocerotidae, Kurtén's treatment becomes little other than inadequate: these families are so crucial to an understanding of European biostratigraphy that they simply cannot be glossed over in thirteen brief pages. A four-fold expansion of this data would provide a great service to many. The appendix (Table 15), which presents the range of 280 species through 17 time-stratigraphic units, is of help but does not compensate for the incomplete discussions of anatomical characteristics, ecology, or distributions of the two dozen or so most important species.

Part III presents a valuable survey of Kurtén's original ideas on speciation and faunal evolution during the Pleistocene. The concept of faunal "half-life" and its potential applications to Pleistocene chronology is particularly interesting. The final evaluation of the European fauna in terms of world animal regions is once more too brief. With the strong emphasis on stratigraphy, it is also curious to find next to no treatment of bioassemblages as a whole.

All in all this is an excellent and useful book, presenting an amazing amount of data in a restricted space. Hopefully Kurtén will oblige his audiences by a later book or an expanded, revised edition supplementing the many themes that suffer from excessive brevity of treatment.

Dor el Gussa und Gebel ben Ghnema: Zur nachpluvialen Besiedlungsgeschichte des Ostfezzan. HELMUT ZIEGERT. With a contribution by Eberhard Klitzsch. Wiesbaden: Franz Steiner Verlag GMBH, 1967. x + 94 pp. + 203 unnumbered pp. of plates, 19 illustrations, 203 plates, 3 foldout maps, English summary, index. DM 66 (cloth).

Reviewed by THEODORE MONOD
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Archeological exploration of the "hyperarid" regions of the Sahara, the so-called "Vollwüsten," "Extremwüsten," "Kernwüsten," is of particular interest because the climatic worsening that occurred after the subpluvial of the humid phase of the past-Pleistocene is there manifested, so to speak, in a "pure" state, since no water was introduced from other sources, either from underground or outside the region. What this meant was that in those climatically "exemplary" zones, the processes of dessication were able to take place freely. The consequence for human history was that these regions not only became unsuitable for any kind of sedentary habitation, but presented serious obstacles to nomadism and even to simple travel by camel. This situation includes a large part of the Libyan Desert, as well as, in the West, the Majâbat al-Kubrā, the western Empty Quarter that maps still occasionally label erroneously, "El Djouf."

The work of Helmut Ziegert will thus be welcomed, especially as it concerns a difficult region, little known until now; whose geological structure has itself only been described within the last decade. H. Ziegert and his collaborators worked in the Gebel ben Ghnema and the Dor el Gussa from the end of November 1963 to the end of April 1964. The present work presents the archeological findings of that expedition.

The region studied is part of the eastern edge of the Murzuk basin and includes, from the East to the West: a paleozoic plateau (Cambrian-Devonian), the Dor el Gussa, a carboniferous plain, and finally a second plateau, the Gebel ben Ghnema, made up, for the most part, of *Intercalary Continental* (Nubian Series). [Note: The reference to the work of Klitzsch (1963),