

testable hypotheses. Numerous comparisons and contrasts are made with all the Sahara and its Sahelian and Maghrebian borderlands with respect to cultural evolution and environmental changes.

Six years of expeditions (1972-1977) are reported on here; in general, each year was devoted to a different area of the "Western Desert," roughly the southwestern quarter of the country of Egypt. The introductory parts of chapters 1 through 5 are very readable accounts of logistics and life in this uninhabitable area. Everything must be brought along by the expedition: food, water, vehicle fuel, and fodder for the animals that will be eaten by the human members of the party. Stories of events that are quite amusing, at least in retrospect, punctuate these accounts and provide a vivid picture of expeditionary life. These include stories of a cobra in a tent during a sandstorm, the selection of the noisiest ducks for dinner, and a publicity plug for Volkswagen 181's for desert travel.

The two central chapters of the book deal with paleoenvironment and prehistoric exploitation of the Western Desert, mainly in late Quaternary ("Late Acheulian" to "Neolithic") time. It is amazing to read of relatively humid climates, with estimated annual rainfall of 100 to 300 millimeters, in this now almost totally dry country. The relatively humid, but still no better than semiarid, phases are labeled by their archeological content: pre-late Acheulian, Acheulian, Middle Paleolithic, and Holocene. Absolute dating is available only for the Holocene wet phase, and the "geochemical" problem of radiocarbon analyses is mentioned repeatedly and discussed specifically in chapter 7 by Haas and Haynes. Some Middle Paleolithic sites and presumed contemporaneous pluvial manifestations elsewhere (Chad and Saoura basins, for example) have yielded finite dates in the 30,000- to 40,000-year range. All finite ages in this range are rejected, however, and the Middle Paleolithic can be dated only as having occurred more than 40,000 years ago.

A series of appendixes by specialists completes the book. Geological evidence is presented throughout the preceding chapters, but an appendix by R. Said on Quaternary sediments of the Western Desert and another by C. V. Haynes on evidence of pluvial climates in the Nabta area are of particular value for the geologic reader. A. Gautier lists and describes the vertebrate and invertebrate faunas recovered in the area. Other appendixes deal with ceramics, artifact

styles, vegetation, a human mandible, inter- and intrasite spatial analysis, and scanning electron microscopy of cereal grains from various areas in the Western Desert.

Of prime importance for many readers are the questions of plant and animal domestication in the entire Saharan area, and these questions are treated in some detail in both of these volumes. Neolithic peoples with domesticated cattle and cereals were widely distributed throughout and around the Sahara during the Holocene wet phase, but what were their origins? In *The Sahara and the Nile* J. D. Clark concludes that the earliest African sites with domesticates are in the Sahara but that there are only two or three of them. A. B. Smith points out that, although animal domestication originated with sheep and goats in the Middle East, the idea may have been applied to cattle first in Africa. The evidence for domesticated cattle in the archeological record, however, is still too sparse to be convincing, perhaps, as Wendorf and Schild suggest, because Neolithic cattle in Africa were used as modern cattle are, primarily for milk and blood, and not butchered for their meat. Thus, few bones would appear in archeological sites.

For the Sahel, A. B. L. Stemler (in *The Sahara and the Nile*) sees the sequence of cattle domestication leading to increased human population, in turn encouraging utilization of wild, native African cereals (*Pennisetum*, *Sorghum*) to support the augmented population. Ultimately, times of drought would lead to cultivation of those local plants more or less simultaneously in a number of Sahelian loci.

With respect to domestication of wheat and barley, on the other hand, the recently reported discovery by Wendorf and colleagues of grains of barley and einkorn wheat on the Nile as early as 18,000 years ago raises a number of interesting questions. The evidence is reviewed in chapter 8 of *Prehistory of the Eastern Sahara*, where Wendorf and Schild reject their earlier hypothesis of intensive gathering of wild grains and embrace the idea that these cereals were cultivated. One of the perplexing aspects of this discovery is that domesticated grains disappear from the Nile Valley somewhat less than 18,000 years ago, only to reappear in abundance right at the beginning of the Holocene wet phase in the Western Desert, but not in the Nile Valley. Perhaps, the authors point out, it is largely a matter of lack of evidence, because the low water level and very restricted floodplain along the Nile after

18,000 years ago was followed around 12,500 years ago by unusually high Nile flood levels. On the other hand, the explosion of grain domestication in the desert after 10,000 years ago runs in opposition to Childe's "oasis theory" for the origin of plant domestication. At that time the climate was becoming more favorable and human populations were expanding into new territory, not being crowded into shrinking oases. Wendorf and Schild close their remarks on domestication with the speculation that the wild ancestors of wheat and barley must have existed along the Mediterranean fringe of Egypt, in the Sinai, or in the Near East because the climate of southern Egypt was not favorable. These cereals were introduced to the middle Nile by people who had domesticated them elsewhere earlier than 18,000 years ago. This argument leads to the hypothesis that pre-Neolithic but grain-using cultures, such as the Kebaran and Natufian of the Near East, may already have been dependent on cultivated grains, rather than the inverse hypothesis that the use of wild grain by those peoples led to domestication of cereals.

These two volumes taken together provide a wealth of information on the Sahara, its encircling lands, and its major river. In them one can follow the evolution and fluctuations of the desert itself from mid-Tertiary times, as well as human adaptations from late Quaternary to historic times. They will be essential and rewarding sources for any serious student of the Sahara or of the Nile Valley.

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On the Course of Society

Soviet and Western Anthropology. Papers from a conference, Burg Wartenstein, Austria, 1976. ERNEST GELLNER, Ed. Columbia University Press, New York, 1980. xxvi, 286 pp. \$37.50.

Marxist social science, including Marxist anthropology, has many mansions in its house, but the Soviet anthropologists whose essays appear in *Soviet and Western Anthropology* are committed to views of both history and science that are sharply different from those held by most Western anthropologists. The Soviet anthropologists base their research and analysis on a view of human behavior rooted in the Marxist philoso-

phy of history. Seven of the Western anthropologists represented in this volume, not including the two Western Marxists, work without a clearly articulated view of the nature of history, but their research shows that the history of each society is looked upon as contingent and that the basis of explanation cannot be limited, as in the Marxist position it sometimes, at least, can be, to social and economic forces.

The Soviet anthropologists view their own work as truly scientific in that it operates within the illumination of Marxist theory with its correct understanding of the bias that results from membership in social classes. The Western anthropologists do not directly address the Soviet statements regarding bias and the proper conduct of scientific inquiry, but it is clear that they believe objectivity resides in the presentation of reproducible findings rather than in adherence to a theory of history whose truth need only be applied and illustrated rather than established. Apologists for Soviet social science point out that all of us have theories and preconceptions that limit and shape our work, and that is surely true. However, so long as we do not share the same limiting beliefs there is at least a chance that objective truth will emerge from exchanges between us. The commitment of the Soviet anthropologists to the basic premises of the view of history and human destiny formulated by Marx and Engels keeps their disagreements and discoveries within quite narrow limits.

In this view of history humanity goes through stages beginning with the primitive and continuing through slaveholding, feudalism, capitalism, and socialism, with a final emergence when communism is reached. The main task of anthropology in the U.S.S.R., several of the authors tell us, is the reconstruction of the eras of the past through the use of archeological and ethnographic sources. Ethnography is particularly concerned to discover "archaic" features in the lives of contemporary peoples so that these "survivals" can be used in reconstructing a past whose general form is given by the theory.

The difficulties this endeavor encounters come out clearly in what is probably the most interesting part of this broad-ranging and not clearly focused volume. The Soviet theoretician Yuri Semenov addresses himself to the problem that arises from the fact that many human societies do not, in fact, go through the stages of development posited by Marx and Engels. Semenov's erudite and carefully reasoned argument is an attempt to

rescue Marxist theory from the embarrassment of undeniable and recalcitrant historical data. His position, one of a number held by Soviet anthropologists who do not accept the details of unilineal evolution, is that history must be viewed as a single development, with all humanity, rather than separate societies, taken as the unit of development. At each stage there is a center of development and also a periphery, and it is in the interaction between the two that the advances occur that are the basis for humanity's inevitable progress.

This argument is sympathetically examined by Ernest Gellner, who makes it forcefully clear that a position such as Semenov's is essential to the preservation of Marxist views of history, since many societies do not, in fact, go through the stipulated stages. More than this he argues that Semenov's reformulation of the basic Marxist view in the light of the nonconforming data is an especially well-conceived one. Nevertheless, he concludes that Semenov's position founders in its attempt to explain the emergence of capitalism, since, unlike all the other transitions in history (primitive to slaveholding, slaveholding to feudal, and so on), the change from feudal society to capitalist society is wholly internal: the mercantile class replaced the aristocracy with no outside societies involved. If, Gellner asks, history is a unity as Semenov argues, how can we understand this unique event? In the feudal-capitalist transition there is no interaction between center and periphery, and Gellner shows that what seemed a position that protects the Marxist view from the problems presented by the facts simply changes the set of facts that assail it.

As Gellner also makes clear, although Semenov is by no means explicit about this, Semenov's scheme, like the rest of Marxist anthropology, proceeds with the assumption that the destiny of humanity is known and that it is therefore the duty of the knowers "to ease the path" of those who may not know the truth.

A Western anthropologist who dared speak, without irony, of the *mission civilisatrice* or the "white man's burden," would be more or less ostracized by his professional community. Semenov has no hesitation in using the notion of levels of development and referring to the obligations of global leadership which this carries with it.

The Gellner-Semenov exchange forms the only obvious basis for wanting this book in one's private library. There are some interesting papers in the book, but the fact that the Soviet authors mainly adhered to the conference's rules and

presented broad, programmatic essays on the relationship between anthropology and other fields makes most of their contributions rather limp. The growth of the concept "ethnos" in Soviet anthropology receives a good deal of attention in several of these papers and one by a Westerner, and it may be that those interested in this version of the culture concept—similar to the "custom"-based view held by some British anthropologists but not an explanatory tool—will profit from reading this. Several of the Western anthropologists write rather undistinguished papers, but Fortes's examination of the role of psychology in anthropological explanation is stimulating and Woodburn's discussion of hunting-and-gathering peoples is a shining example of how an interest in ancient ways of life can be advanced by data from contemporary societies when guided by testable hypotheses.

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Siphonaptera

Fleas. Proceedings of a conference, Ashton Wold, Peterborough, U.K., June 1977. R. TRAUB and H. STARCKE, Eds. Balkema, Rotterdam, 1980 (U.S. distributor, MBS, Salem, N.H.). x, 420 pp., illus. + plates. \$48.

At the invitation of the Honourable Miriam Rothschild, 58 delegates representing 15 nationalities assembled to convene the first International Conference on Fleas. The conference was formally opened with an address by Sir Vincent Wigglesworth, and during morning sessions of the following four days 33 papers or their abstracts were delivered. It is these that make up this volume.

Following a brief preface by Traub is an anecdotal, annotated biography of Nathaniel Charles Rothschild (1877–1923) by his daughter Miriam. Rothschild, of the well-known British banking family, was an avid amateur naturalist. Though he accumulated excellent collections of iris, birds' eggs, and various groups of insects, his major interest centered on the Siphonaptera, and he was a pioneer in systematic studies of the order. The account includes a bibliography of publications on Siphonaptera by Rothschild alone and jointly with Karl Jordan. The remainder of the volume consists of presentations given during the conference. These are grouped under