ing sampling of Scandinavian, English, and Spanish contacts with native people in environments that range from arctic to tropical, beginning with the Norse settlement of Greenland in A.D. 982. The volume as a whole and the four sections dealing with the Arctic, New England, Virginia, and the South are each introduced by a substantial commentary by Fitzhugh, who also contributes a paper on early contacts in Labrador.

Two contrasting approaches to the archeological study of early contacts are found in this book. The contributions of anthropological archeologists, in particular those of Fitzhugh and that of E. R. Turner on the rise and fall of the Powhatan "chiefdom," are deeply colored by the ecology and neoevolutionism that have characterized American archeology since the 1960's. Though ecological analysis is essential for understanding some vital constraints on human behavior, archeologists increasingly are recognizing that it does not account for much significant diversity of human behavior. Turner's argument that the Powhatan state developed toward the end of the 16th century as a response to local environmental stresses related to population increase does not take account of historical evidence suggesting marked declines in population beginning at least as early as the 1570's. Moreover, when these papers attribute change to non-ecological factors, they invoke acculturation, national character, and other concepts that were common in ethnohistorical studies 20 years ago. They also manifest an old-fashioned fondness for facile developmental parallels and broad generalizations.

At the other end of the spectrum are studies that have been explicitly influenced by recent developments in ethnohistory. Shunning simplistic neoevolutionary approaches, these take account of historical traditions and a multiplicity of economical, political, and psychological factors that influence human behavior. Instead of viewing native adjustments to Europeans as a unidirectional process of acculturation, they strive to understand how and why traditional elements of native cultures frequently persisted and intensified despite growing dependence on Europeans. They also note that in early contact situations accommodation often cut across ethnic and cultural boundaries, pitting Englishmen against Englishmen and members of the same native peoples against each other as different interest groups pursued their various goals. F. J. Fausz's paper on English-Indian relations along the mid-Atlantic coast from 1584 to 1634, which is based entirely on ethnohistorical data, is an excellent example of what such an approach can accomplish. Fausz argues that the development of the Powhatan state was a response by Algonquian groups who found themselves caught between traditional enemies to the west and English settlers along the coast.

The archeological study of a late-17th-century Narragansett Indian cemetery in Rhode Island by Robinson, Kelley, and Rubertone indicates a strong adherence to traditional mortuary practices and a persistence of Narragansett religious beliefs despite widespread disease and European domination. Like Fausz's paper, P. A. Thomas's study of Indian-European interaction in the Connecticut Valley in the 17th century documents the complexity of these relations. Thomas also demonstrates how in this region the gradual substitution of land for furs as a commodity of exchange modified social and economic patterns. Archeological data from a fortified Sokoki village site are used to supplement the historical record. Finally William Engelbrecht, in a study that pays considerable attention to oral traditions, presents archeological evidence that suggests that the League of the Iroquois originated in prehistoric times, although it was further consolidated as a result of European contact.

It would appear that the most profitable way for archeology to enrich the study of native history is through growing cooperation between archeologists and ethnohistorians. North American anthropologists should examine more closely the work of their Australian counterparts (not mentioned in this book) who have succeeded in integrating archeological, as well as ethnological and historical, approaches into their own version of ethnohistory.

None of these papers attempts to assess what specific contributions archeology may make to the study of native contacts with Europeans. Changes in demography, community distributions, land use, and household composition can be elucidated by settlement pattern studies. Burials and grave goods reveal changes and persistence in ritual behavior. Differential distributions within sites, such as those documented by Kathleen Deagan in Florida Indian communities of the mission period, indicate unequal access to rare goods. Yet, until more is known about how native peoples recycled, lost, and abandoned European goods, the full significance of the artifacts found in habitation sites will remain obscure. This is especially true of short-lived sites, such as the one Thomas examined in the Connecticut Valley. These are questions that must receive urgent attention if archeology is to play a more significant role in the study of native history.

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Social Structure in the Pleistocene

The Upper Paleolithic of the Central Russian Plain. OLGA SOFFER. Academic Press, Orlando, FL, 1985. xxiv, 539 pp., illus. $98.50; paper, $49.95. Studies in Archaeology.

Olga Soffer's study of the Upper Paleolithic of the central Russian Plain is an important work for several reasons. First, she provides in one volume comprehensive data concerning the geology, archeology, and natural resources underlying one of the most spectacular manifestations of late Pleistocene culture anywhere in the world. Heretofore, most of these data have been available only scattered among Russian-language sources. Second, she is able to work the disparate and often uneven data into a theoretical framework that reflects contemporary ecological and social structural concerns. Finally, she argues the case for a much richer and more complex level of social organization than heretofore has been recognized for this period among hunter-gatherers. What makes the book especially valuable is that the reader can utilize the data to explore a variety of questions not developed in the interpretative part of the text.

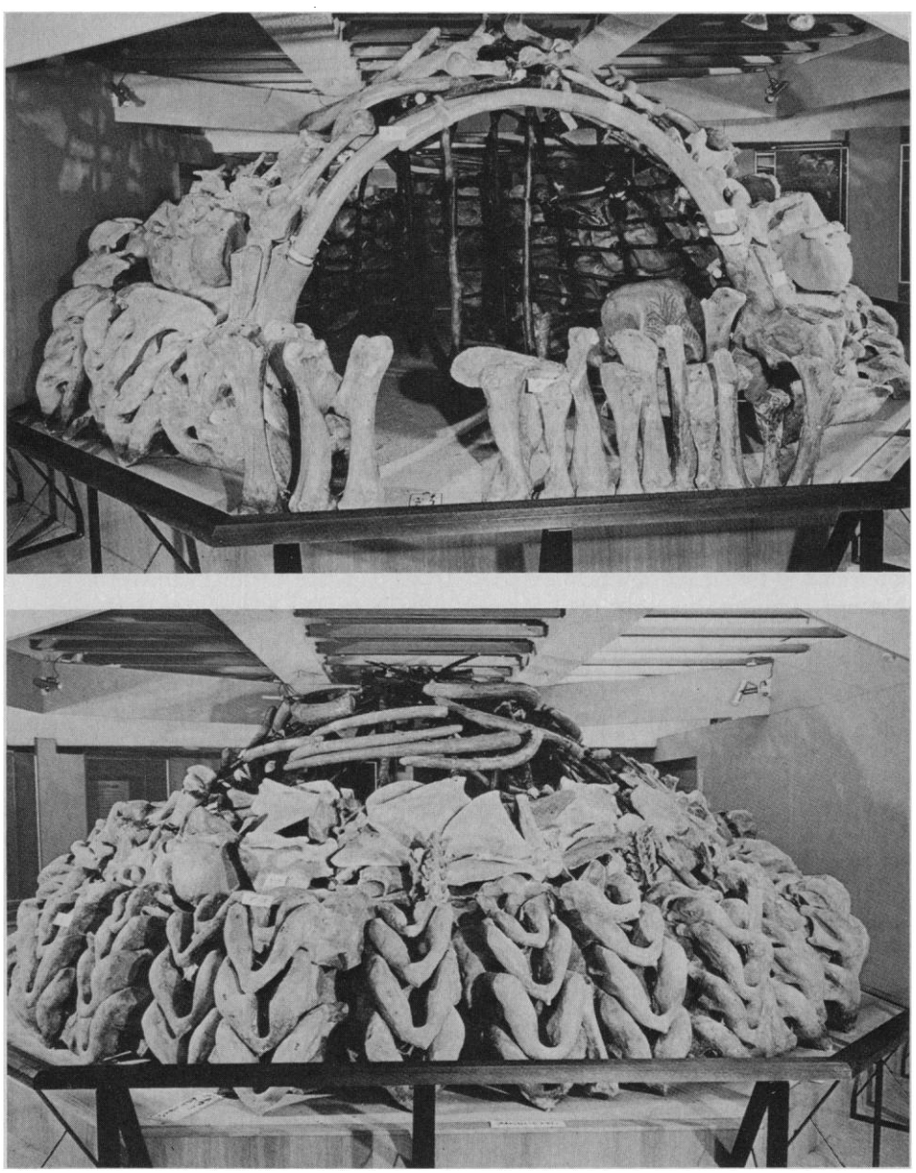
Conventionally, late Pleistocene hunter-gatherers are represented as small and low-density populations with relatively mobile settlement systems, egalitarian social structures, and a paucity of material possessions. It has been primarily in cases where they were able to sedentarize around abundant marine resources that more elaborated social behaviors are recognized. Inland groups, even those dependent on quite plentiful game animals such as bison, reindeer, or horse, are not usually ranked very high on the scale of social complexity. Soffer's exhaustive review of the Upper Paleolithic archeology of the central Russian Plain has led her to challenge the traditional view. What emerges from her study is a picture of growing status differentiation of populations in the period between 26,000 and 12,000 years ago. Terms such as "scalar stress," "labor control," "status hierarchization," and "secularization" are used to describe behavior and process on the basis of her reading of the archeological record.

What is it in the archeology of the central Russian Plain that leads to this revised view?

Soffer begins by reviewing a series of 29 sites located along several tributaries of the Dnepr River. In doing so she presents in total some 186 figures and 134 tables, an unparalleled mine of information for the archeologist. Attention has been drawn to these sites as well as many others along the Desna and the Don since before the Revolution because of the enormous quantity of mammoth bones found associated with them. Mammoth bones number in the tens of thousands at sites like Eliseevichi and Pushkari II. After years of excavation beginning in the 1870's, archeologists recognized by the late 1920's that some of the huge heaps of mammoth bone were remains of dwellings. Soon Paleolithic archeologists worldwide became acquainted with the Soviets' success in uncovering domestic arrangements that reflected social behavior. The large-scale excavations on the Russian Plain today are in the vanguard of Soviet Paleolithic archeology. The study area encompasses some 180,000 square kilometers and today is characterized by a mixed forest in the north that grades into a forest-steppe and then a steppe zone in the south. During the Pleistocene at the time of the last glacial maximum the environment was quite different, with the northernmost Upper Paleolithic sites located only 150 to 200 kilometers from the front of the continental ice sheet. In fact during the time of the Valdai glacial maximum (20,000 to 18,000 years ago) the environmental conditions had greatly deteriorated, and no archeological sites are assigned to that period by Soffer.

Frequently it is assumed that developments in social complexity are built around an increasingly productive and reliable resource base. Initially it was assumed by Soviet investigators that the huge quantities of mammoth bone represented a major part of the late Pleistocene diet. Soffer, however, concludes from a number of lines of evidence that mammoth did not play a major role in subsistence. Instead, bones may have been gathered from spots where mammoth died of natural causes for use as construction materials, fuel, and material for the fabrication of tools. How much mammoth were used for food, however, remains a critical and unsolved problem. Estimates for total kilocalories available at the sites differ by an order of magnitude if meat represented by mammoth bone is included in the calculations. Unfortunately, for mammoth as for other economically important species such as woolly rhinoceros, horse, bison, and reindeer very little exists in the way of faunal element lists. It is, therefore, difficult to get a very precise picture of butchering and faunal utilization at most of the sites on the basis of the Soviet data.

In short, a case cannot be made that the exploitation of an unusually rich fauna led to the development of social complexity on the Russian plain. Nothing analogous to the riches available to coastal populations in the form of anadromous fish and marine mammals is postulated. Instead Soffer seems to favor resource stress in the post-Valdai environment as an important causal element resulting in "groups who had some degree of status hierarchization associated with ritual roles." This stress was induced by a number of major climatic fluctuations of relatively short duration (100 to 200 years) according to Soffer's reconstruction. These oscillations may have had significant effects on animal population sizes and distributions. Soffer identifies a variety of indicators of status differentiation including beads, bone jewelry, and ivory ornaments in pre-Valdai burials, and exotic materials such as amber, shell, and furs in post-Valdai contexts. Beyond that she points to some differences in the number of storage pits associated with individual dwellings to indicate possible economic differentiation within local populations. Control of labor is argued with reference both to production of burial goods and to construction of mammoth-bone dwellings (referred to repeatedly as "monumental architecture"). One wonders whether, if as Soffer estimates *all* of the mammoth-bone dwellings at even the biggest sites could be constructed by ten work-



Reconstructed mammoth-bone dwelling from Mezhirich, "the latest spectacular Upper Paleolithic site to be discovered on the central Russian Plain." Reconstruction by I. G. Pidoplichko, on display at the Museum of Paleontology, Kiev. *Top*, front view, showing painted mammoth skull at right; *bottom*, rear view. [From *The Upper Paleolithic of the Central Russian Plain*]

ers laboring for a little over two weeks, the results should be described as monumental. It is more reasonable to conclude, as Soffer ultimately does, that the archeological remains reflect a level of social-political integration somewhere between simple egalitarian bands and ranked societies. In any case Soffer is correct that good ethnographic analogues do not exist for these Russian Plain sites and that fluctuations in social complexity and levels of integration must be expected over the long course of late Pleistocene times. After more than a century of excavation it is clear that many challenges await archeological investigation on the central Russian Plain. Soffer has clearly delineated many of the problems, and her work will surely influence the direction of investigation for years to come.

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Paleoanthropology Today

Hominid Evolution. Past, Present and Future. PHILLIP V. TOBIAS, Ed. Liss, New York, 1985. xx, 499 pp., illus. $38. From a symposium, Johannesburg and Mmabatho, South Africa, 1985.

Ancestors. The Hard Evidence. ERIC DELSON, Ed. Liss, New York, 1985. xii, 366 pp., illus. $49.50. From a symposium, New York, April 1984.

These volumes are composed of papers presented at two major research symposia, the first commemorating the 60th anniversary of the publication of Dart's description of the Taung Child and the other the "Ancestors Exhibit" of original fossil specimens held at the American Museum of Natural History during 1984. They share a concern with the general subject of hominid evolution and a significant proportion of contributors. They differ primarily by constitution: *Hominid Evolution* contains more numerous but far briefer contributions, amounting in a majority of cases to lengthy abstracts: *Ancestors* is composed of more complete papers. The volumes are otherwise similar and provide an opportunity to "feel the pulse" of paleoanthropology in the 1980's.

Paleoanthropology has always been a composite discipline. This has become accentuated by the multidisciplinary nature of fieldwork adopted during the last two decades. A large proportion of the contributions are by scientists in supporting disciplines and concern the taphonomic, geological, archeological, and paleoecological contexts of major sites. In fact, one can easily subdivide contributions to these volumes into two categories, those that improve our understanding of geochronology and site ecology, and those that are *prima facie* studies of the fossils themselves.

Many of the papers in the first of these categories are significant and useful. A number of contributions to *Hominid Evolution* add to our understanding of the contextual evidence from the South African caves. Maguire presents the interesting observation that at least portions of Members 1 through 4 at Magapansgat may have accumulated simultaneously. Though only one taxon is generally recognized at this site, her paper points to the generally complex nature of these caves and to the great difficulty of sorting their contents chronologically. Despite application of a variety of novel methods, it would appear that faunal correlation (see the contribution by Vrba) is still the most reliable. Brain, as usual, presents (in both volumes) intriguing results from his ongoing work at Swartkrans, pointing out that though bone refuse is abundant in Members 1 and 2 (around 100,000 pieces), no cut marks have yet been identified on any of the material, which is associated with *Australopithecus robustus*, *Homo erectus*, stone artifacts, and 25 to 30 bone artifacts that he concludes (on the basis of scanning electron microscopy) were used as digging tools. In the overlying "Early Stone Age member" an Acheulean horizon is accompanied by clear evidence of cut marks. Careful analysis of the contents of these special-nature sites continues to be highly rewarding.

In *Ancestors* Brown *et al.* provide a very useful update of radiometric chronology of the major East African sites, including their work on tuff signatures and correlations to Indian Ocean deep sea cores, and de Vos provides a useful brief review of faunal stratigraphy and correlation of the Indonesian *H. erectus* sites. A number of papers in both volumes deal with specific details concerning middle and upper Pleistocene specimens, usually single finds. We are thus provided updates on work at Heidelberg and Cueva Mayor (*Hominid Evolution*) and at Steinheim (*Ancestors*) and on the middle Pleistocene of Morocco and Algeria, Florisbad, and Zhoukoudian (*Ancestors*), as well as a preliminary report on the first *H. erectus* (Narmada Valley) from the Indian subcontinent (*Ancestors*).

The majority of contributions devoted strictly to the fossils themselves are, as usual, craniodental in subject matter and taxonomic in orientation. The former is not surprising, since the known hominid postcranium exhibits considerably more Plio-Pleistocene stasis, and the latter is not striking because of the preoccupation with "objective" classification that has plagued recent paleoanthropology. As it is reasonable to suppose that virtually no two morphological criteria can either have identical genetic background or be subject to exactly the same selective intensity, all must differ in taxonomic valence. Taxonomic statements will therefore always be subjective and require attendance by logicodeductive, functional arguments. Many of the papers in these volumes continue to reflect a stubborn refusal to face this difficult reality. There are no shortcuts to meaningful taxonomic statements; detailed, analytical study of phenotypic plasticity must always precede classification, but few papers in either volume actually present such an analytical context. Significantly, moreover, there appears to have been an almost wholesale abandonment of one (formally popular) typological method for another; a decade ago, one would open similar volumes to see the specimens in question perning in multivariately dimensioned gyres. Such presentations have been replaced by a plethora of homoplastic autoapomorphemes and phenograms forged from dimensionless traits ("premaxilla less expanded," "radial head rounded," "variable sized second lingual cusp"). This trend was noticed by several participants in the symposia, including Alan Walker, who in response to a cladistic query replied that "he understood this method of analysis" but preferred to "think of things as animals, not as traits" (quoted in *Ancestors*, p. 11).

Phenograms are simplified, linear clusters turned 90 degrees. In attempts to address relational problems of the middle and upper Pleistocene, the matter becomes truly serious, since such methods are a priori inconsistent with multilineal evolution as a hypothesis (one that has substantial support from available data). Fortunately a strong minority of authors in both volumes have allowed biological relevance to supersede classificatory pedantry. A strong sign of maturity in any scientific discipline is ability to replace a preoccupation with jargon and continual redefinition of data by the postulation of novel relational and causal mechanisms, and the latter are what evolutionary theory is all about. Wolpoff and Nkini reach the same conclusion and provide a succinct observation on the effects of typology on paleoanthropology: "Popper wrote, after all, that without theory there are no data. If the superstructure of theory is lifted away, there is no answer to the question of what 'the hard evidence' is evidence for" (*Ancestors*, p. 204).

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