

**THE ARCHAEOLOGY OF BERINGIA.** By FREDERICK HADLEIGH WEST. New York: Columbia University Press, 1981. 268 p., 40 figs., 10 tables, bib., author and subject indices. US\$30.00.

This is the first archeological monograph devoted to a synthesis of the late Pleistocene-early Holocene prehistory of Beringia, the vast region including the Bering Land Bridge which once linked Asia and the Americas. It is written from the valuable perspective of a researcher who has spent winters as well as summers in eastern Beringia. Although eastern Siberian data are utilized, emphasis is on the late Pleistocene and early Holocene prehistory of interior Alaska. While there is some discussion of West's own work in the Tangle Lakes region of central Alaska, the monograph is not, even incidentally, a site report. The ultimate objective is "a contribution toward a comprehensive theory on the peopling of Beringia and the New World" (p. 163). As such it invites the attention of most Americanist archaeologists as well as northern specialists.

Chapter One is an excellent synthesis of contemporary environments in northeastern Siberia and Alaska, one which I suspect will contribute to a number of lectures in the next few years. Chapter Two reconstructs Beringia between 25 000 and 8000 B.C. as a unique, now-extinct, cold dry steppe tundra capable of supporting a diverse fauna including many large herbivores. The serious reader will have to integrate this familiar reconstruction with the various views expressed in the recently published *Paleoecology of Beringia* (Academic Press, 1982), a work unavailable to West.

Chapter Three introduces the heroes of the book, the Beringians. Although the author appears reluctant to provide a full-face characterization, these are eventually revealed to be terrestrial arctic hunters adapted to the exploitation of large herbivores of the arctic steppe Beringian biome. The hallmark of their technology is sharp-edged parallel-sided flakes (blades, more commonly microblades) struck from specially prepared cores or microcores. Some regional variation is noted in Beringian tool inventories with varying emphasis on retouched flake tools, burins, and large lenticular bifaces which are thought to have functioned as knives. Blades and microblades, while often broken, are seldom shaped or retouched. Absence of obvious stone weapon tips leads to the plausible inference that seldom-preserved tools of antler, bone, and ivory were significant. The Beringians are reasonably viewed as a late Pleistocene eastern extension of a widespread Eurasian Upper Paleolithic technology. A close historical relationship between eastern Siberian and Alaskan final Pleistocene technologies is indicated. The term "Dyuktai culture" includes most pertinent Siberian assemblages, and the term "Denali culture" most (not all) Alaskan Beringian assemblages. More technological diversity is seen in Siberia than in Alaska and a key role is postulated (plausibly but on minimal evidence) for the now-drowned heartland of central Beringia. The coming of man to eastern Beringia is seen as late, perhaps not much earlier than 11 000 years ago. Candidates for an earlier human presence in far northwestern North America are dismissed. One major exception is made to the simple formula that northern core and blade technology equals Beringian. Quite reasonably excluded is the Arctic Small Tool tradition which appeared on the tundras and coasts of arctic America between 4000 and 5000 years ago.

Core and blade technology is thus basic to the concept of a Beringian tradition. The author presents a rough form categorization (misleadingly termed a *formal classification*) of cores. As is true of other illustrations in this book, the core drawings are so reduced in size that they almost require study under magnification. Nineteen pages of tables provide a summary of over 165 microblade sites (ca. 137 from eastern Beringia and 28 from western Beringia) known up to 1980 with references, dating, inventory description, and comments. Any specialist can find something to complain about in tabulations of this kind. I merely note that more detailed published descriptions than those utilized here are available for sites on the Alaska Peninsula, Anangula Island, and the southwest Yukon Territory of Canada. Also, some unlikely candidates (for example, Tuku in Anaktuvuk Pass) are incorporated in the Beringian tradition by mechanical equation of early microblades with this entity. Tuku is later explained (p. 226) as a contact phenomenon between relict Beringians and Northern Archaic (West terms them "Boreal Archaic") users of side-notched projectile points, but since the Tuku inventory is dominated by Northern Archaic forms its inclusion in the Beringian tradition on the basis of the presence of a microblade industry seems dubious taxonomic procedure.

About 30 pages are devoted to a general discussion of the author's work in the Tangle Lakes. Twenty Beringian tradition sites are known here, but none is described in detail. Those interested in using this material for comparative purposes will be frustrated by failure to provide site provenience for the majority of the illustrated specimens and confused by the transposition of most text references to Figures 14 and 15, an unfortunate editorial lapse. There are also 15 figures of diagnostic artifacts from other Beringian sites. Unfortunately, references to Figures 29 and 30 have also been transposed.

In the final three chapters the author turns to his primary purpose, a discussion of the origin, history and fate of the Beringians. Maintaining that central Beringia was environmentally the richest subprovince, West postulates a dense population buildup there between 22 000 and 10 000 B.P. This plausible but undocumented position is subjected to unintentional parody by use of a purely hypothetical curve (Fig. 37), complete with an uncalibrated population axis. Rising sea levels submerged ca. 1 million km<sup>2</sup> of central Beringia by 10 000 years ago. West suggests that dislocations associated with this event led to the first significant population of eastern Beringia only after 12 000 years ago, as well as to the severing of connections between eastern and western Beringia. The eastern Beringians held out in isolated patches of upland steppe tundra until postglacial warming eliminated their ecniche by ca. 7000 B.P., whereupon they passed from the scene with minimal contribution to later cultures of the area. Abetted by another unlabelled population graph (Fig. 38), West makes the doubtful assertion that the early Holocene human population of interior Alaska was greater than at any later time. Indeed, while a number of authors have invoked the impact of population dislocation associated with rising sea levels in final Pleistocene times, we must admit that in Beringia this remains undemonstrated. While the thin factual base is easy to criticize, there is much in West's argument that is plausible and provocative.

This is also true of his discussion of the relationships between Beringian prehistory and the southward movement of Clovis culture, which he sees as the first proven human occupation of southern North America. In his view, buttressed by only casually described comparisons, Clovis technology is essentially a Beringian technology in which stone projectile points have been substituted for organic points. In this view the Clovis movement south was a rapid long-range migration through difficult terrain indirectly caused by the drowning of central Beringia. This leads to the logical but arresting claim that the peopling of the New World was an accidental byproduct of the drowning of central Beringia. Fluted points were invented on the way south, perhaps when Beringian-Clovis peoples ran out of caribou antler for organic weapon heads. The scattered finds of fluted points in eastern Beringia are seen, implausibly in my view, as unrelated independent inventions. The correctness of West's scenario depends, among other things, on acceptance of the conservative view that the Western Hemisphere was not successfully entered by humans until final Pleistocene times, a position that can neither be proven nor disproven with the data at hand. A more systematic and detailed demonstration of substantial similarity in inventory between Clovis and Beringian technologies would have strengthened the author's case.

This is an attractive book, although its small (octavo) size results in many maps and illustrations being too small for convenient use. For example, the Tangle Lakes artifacts are presented with unusual sophistication in both photographs and line drawings, but certain referencing errors and inappropriately small size of the illustrations render this treatment less valuable than it might have been. In addition to a detailed subject index there is an author index, allowing those with tunnel vision to determine rapidly which of their favorite oxen have been gored (or ignored). The extensive bibliography serves as a useful guide to a diffuse literature. The many provocative, and upon occasion controversial, points clearly outlined in this work require the attention of serious students of northern prehistory and early man in the Western Hemisphere.

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**ARCTIC ARTHROPODS: A REVIEW OF SYSTEMATICS AND ECOLOGY WITH PARTICULAR REFERENCE TO THE NORTH AMERICAN FAUNA.** By H.V. DANKS. Ottawa: Entomological Society of Canada, 1981. 608 p., 114 figs., 109 tables, references. Can\$37.00 (\$26.50 to members of the Entomological Society of Canada). (Order from ESC, 1320 Carling Avenue, Ottawa, Ontario, Canada K1Z 7K9.)

Non-entomologists, read on! This excellent book will be useful to all those