

On the significance of modified mammoth bones from eastern Beringia

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SUMMARY: Focusing on Late Pleistocene evidence obtained from the Old Crow Flats and the Bluefish Caves (northern Yukon Territory) and relying on finds made elsewhere, in both Eurasia and North America, this paper will examine, in a historical perspective, the nature, significance and implications of modified mammoth bone assemblages from eastern Beringia.

Nearly 30 years ago, it was announced that evidence had been discovered, in the Northern Yukon, in support of a pre-Late Glacial Maximum (Wisconsinan maximum) human occupation of easternmost Beringia (Irving & Harington 1973). The evidence in question consisted of an indubitable skin processing tool, called a "flesher" found together with numerous Late Pleistocene

mammoth bone fragments that were described as having been intentionally modified. Recovered from one of the many fossiliferous (secondary) deposits located along the banks of the Old Crow River (Old Crow Flats) (Fig. 1) the specimens (the "flesher" itself and a few of the "modified" mammoth bones) yielded ¹⁴C ages in the range of about 26,000 - 27,000 BP.

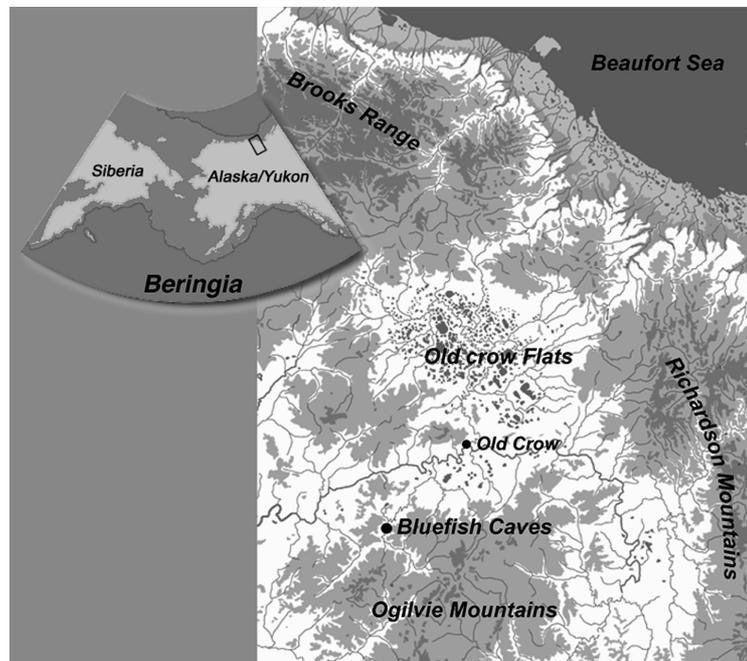


Fig.1 - Map showing the location of the Old Crow Flats and the Bluefish Caves, in the Upper Porcupine Basin (northern Yukon), as well as in the larger Beringian context.

Flying in the face of the established “Clovis First” model (Haynes 1987; Martin 1984), and referring, in part, to a technological category (flaked mammoth bones) that was essentially foreign to the interpretive repertoire of most American archaeologists involved in the initial “Peopling of the New World” question, the report was received with much skepticism and triggered an intense, interdisciplinary debate that was, over the next twenty years or so, to play itself out both in the field and in the literature.

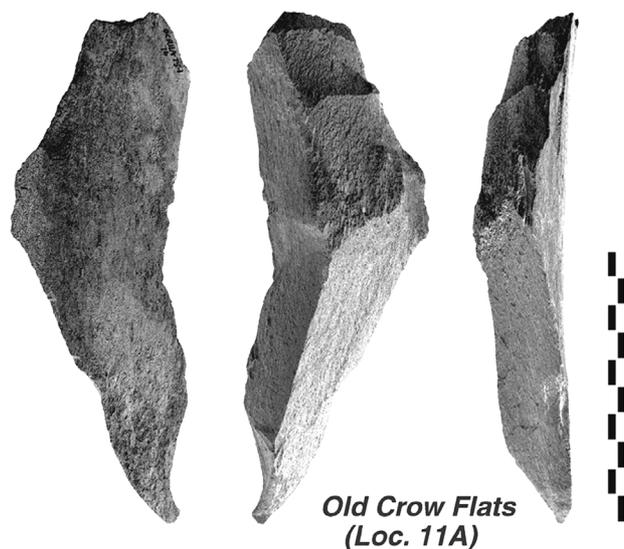
Central to the controversy were issues concerning the nature and significance of the “modified” mammoth bones as well as questions pertaining to the validity of the age of the “flesher” and of its association with the modified mammoth remains. Relying on results obtained from both taphonomic and experimental studies, a number of workers (Bonnichsen 1979, Irving *et al.* 1989, Morlan 1980) concluded that many of the traits or attributes exhibited by some of the mammoth bone specimens in question were indeed culturally induced and, as such, telling of a human presence in the northern Yukon prior to the LGM (Fig. 2). Others, however, also making use of various taphonomic arguments, countered that much of the material under consider-

ation could be better attributed to natural causes such as, for example, “animal trampling” (Agenbroad 1989; Haynes 1988), “animal gnawing” (Guthrie 1988), and “fluvial/river ice transport” (Thorson & Guthrie 1984).

By the late 1980's, the situation had reached a stalemate and this, despite mounting evidence, from elsewhere in North America (e.g., Hannus 1989; Miller 1989) as well as in Europe (Villa 1991) that certain types of modified proboscidean bones could indeed be viewed as representing a formal technological category worthy of analysis.

The debate came to a somewhat abrupt end in 1990 when it was reported (Morlan *et al.* 1990) that the “flesher” dated to no earlier than the beginning of the last millennium. Since the object was, in the eyes of many, the only “real” Old Crow artefact, its rejuvenation was received by most North American archaeologists as marking the end of a long controversy and resulted in the baby (the modified mammoth bones) being thrown away with the bathwater (the “flesher”).

For example, no attention was given to Morlan's intriguing chronological/taphonomic argument (Morlan *et al.* 1990; Cinq-Mars & Morlan 1999) pointing to the fact that in the



**Old Crow Flats
(Loc. 11A)**

Fig. 2 - An example of a culturally modified mammoth bone object from the Old Crow Flats: it consists of a laminar splinter exhibiting bifacial trimming or reduction running perpendicular to the proximal end of the support.

Old Crow River deposits and derived fossil assemblages (which span much of the Pleistocene), mammoth bone specimens exhibiting modifications that can be interpreted as “intentional”, are not known to occur prior to about 40,000 years ago. This, in our view, marks the appearance, in eastern Beringia, of a new (taphonomic) agent that is best interpreted as indicative of human presence at a very early (Interpleniglacial) time.

Nor was there much consideration given to evidence obtained from the Bluefish Caves in the mid-1980’s. Located about 75 km southwest of the Old Crow Flats (Fig. 1), these three small shelters and their faunal-rich loess deposits have yielded a range of cultural indi-

cators, including stone tools, and butchered or otherwise modified bones that suggest sporadic use of the caves between 15,000 and 10,000 years ago. Particularly interesting are a mammoth bone flake and its parent core which, taken together, can be shown to exhibit a complex sequence of reduction by percussion: first, of the core from which three flakes were detached and, subsequently, of one of the flakes which was reduced to about a third of its original size by bifacial trimming (Cinq-Mars 1990; Cinq-Mars & Morlan 1999 (Fig. 3).

These objects, which have been dated at about 23,500 years ago (Cinq-Mars & Morlan 1999) resemble in many ways - especially with regards to the reduction sequence - some of the

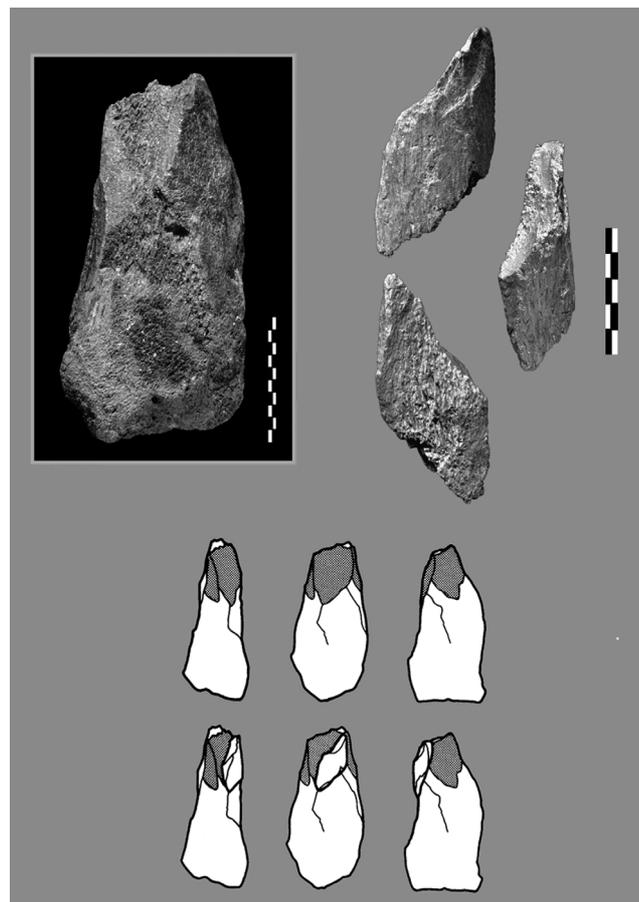


Fig.3 - Photographic montage showing the Bluefish Caves mammoth bone core (upper left) and the bifacially trimmed flake (upper right) mentioned in the text. The schematic drawings serve to illustrate the position of the three flake scars exhibited by the core (upper row) as well as the “refit” of the central flake on its parent core (lower row).

aforementioned Old Crow River specimens and, because of their upland, *in situ* context, can be used, parsimoniously, to reinforce the notion that the latter are more likely to have been produced by a cultural taphonomic agency than by natural causes. This becomes even more evident when the eastern Beringian material is compared (favourably) with that which has been recovered from other sites such as, for example, La Polledrara, in Italy (Anzidei *et al.* 1989) and the Lange/Ferguson and Owl Cave sites, in the United States (Hannus 1989; Miller 1989).

Despite their separation in space and in time, the assemblages recovered from these and a number of other localities can be used to demonstrate (1) that a technology making use of mammoth bone as raw material was indeed present in eastern Beringia during the Late Pleistocene and this, as early as 40,000 years ago, and (2), that the chronology of human dispersals into the New World is in need of re-examination.

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