

HUMAN ADAPTATION TO COLD CLIMATE:
ARCHAEOLOGICAL EVIDENCE FOR MIGRATION TO AMERICA

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In a concise perceptive statement on the question of the original peopling of America, Francois Bordes (1978) questioned the validity of certain preconditions which had been set up by American archaeologists as hurdles which must have been surmounted by early man before he could possibly have entered America from northeast Asia. Irving (1971) previously referred to proponents of such hurdles as advocates of the "impossibilist" approach to prehistory. Bordes argued that the following assumptions cannot be used as logical postulates for excluding man from entering America before the end of the Pleistocene:

1. Man could have crossed from East Asia to America only during a period of low sea level, when Beringia was dry, probably following herds of animals;
2. that he was confined to Alaska until favorable times when a corridor opened between the eastern and western ice sheets, permitting a passage to the South;
3. that he could have done this only after developing a successful adaptation to life under very cold conditions;
4. that his adaptation could have happened only at a full Upper Paleolithic level of development.

New evidence has been found which refute these assumptions. We now know that people were in Australia before 30,000 B.P. and perhaps earlier. Therefore, ocean-going watercraft of some sort must have already been developed by that time. Fladmark (1978) has expanded upon this deduction to argue that theoretically people could have used watercraft to skirt the North Pacific littoral during Wisconsinan glacial maxima, more particularly during the main phase of the last glaciation.

As to the third condition, Bordes and Thibault (1977) have pointed out that people stayed in southern Europe during the Mindel Glaciation, and probably even during the Lower Pleistocene Günz glaciation. Some evidence for human occupation during the Middle Pleistocene Mindel glaciation is in Moravia, northeast of the Alps, and on the Massif Central in France, as well as in warmer environments. In northern Hungary we know that people were using fire during the Mindel Glacial. During the subsequent and apparently colder Riss glaciation, people stayed in southwestern France (Bordes & Thibault, 1977) and some may have been living in a true periglacial environment between the Alpine and Scandinavian ice sheets in eastern Germany (Grah-

mann, 1955). Likely people in central Europe were well adapted to such periglacial environments by the early Würm (Müller-Beck, 1967).

With the expanded temporal perspective for the presence of man in Africa by 2,000,000 years ago, all of this evidence can be interpreted to mean that people, presumably originally adapted to tropical and subtropical environments, expanded their hunting-gathering territories into temperate environments during non-glacial times and subsequently adapted themselves to the onset of increasingly colder climates during each of the major European glacial advances. Perhaps a few people moved south again to avoid periglacial climates, but increasing archaeological evidence suggests that some hardy souls chose to stay and adapt, mainly by cultural means.

Relevant to the third and fourth preconditions noted above, it has long been assumed that people could never live in arctic or subarctic environments until after they had developed tailored skin clothing. As the earliest indirect evidence for tailored skin clothing, in the form of eyed bone needles, occurs in the European Upper Paleolithic during later phases of the last Würm glaciation, the assumption has been accepted that people were unable to occupy arctic environments until after they had a well-developed Upper Paleolithic culture. By extension, then, people could not possibly have entered America via northeastern Siberia and Alaska until final Pleistocene times.

Although it is true that the archaeological evidence suggests that the initial occupation of arctic and subarctic Europe did not occur until the Mesolithic, the fact is that the Scandinavian ice sheet covered all of Europe north of about 53° latitude 20,000 years ago (Muller-Beck, 1967, fig. 12). It seems unlikely that no one ever penetrated northern Britain, northern Germany, Scandinavia, or northern Russia during warm interglacials, especially when we know they were living a few degrees farther south during glacials. Most likely, the earliest evidence for human occupation of subarctic and arctic Europe has been erased by glacial scouring action. We do not know at present when people first occupied arctic Europe, but logically it must have been before the scanty actual concrete evidence that we have. Also, using the model of northward expansion during interglacials and subsequent adaptation to the new territory after it became colder, it can be deduced that arctic or subarctic-adapted people were among the first to develop tailored skin clothing incorporating the significant principle of trapped body heat. These people may also have developed eyed bone needles, but simple sharp awls can perform the task of sewing skin, although less efficiently.

In other words, the usual assumption that people could not have entered arctic areas until after they had eyed bone needles with which to make tailored skin clothing can be turned around to suggest that arctic-adapted people first fashioned tailored skin clothing as an adaptive means for staying in their chosen environment as it became colder, and that later they perfected eyed needles so that they could perform the task more efficiently.

But what is the relevance of European prehistory to the story of arctic adaptation and the consequent peopling of America? The major reason why a

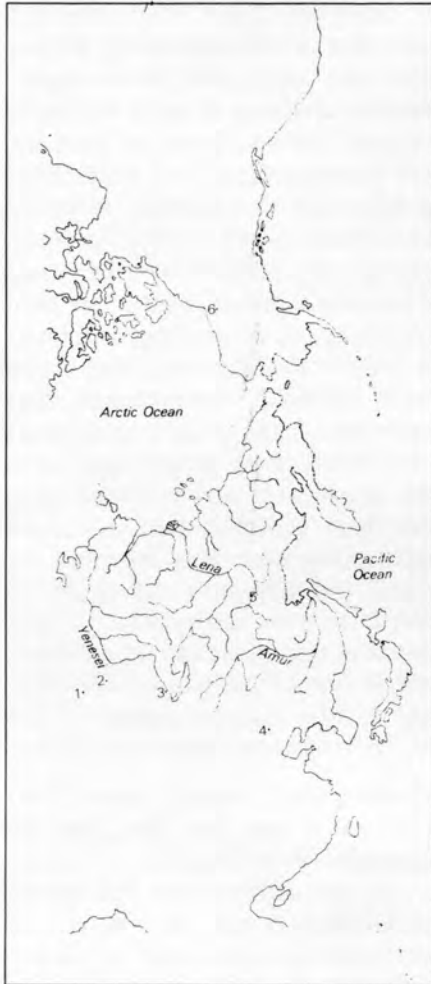


Fig. 52
 Legend for map: 1) Ust'-Kanskaiya Cave; 2) Afontova Gora; 3) Mal'ta; 4) Choukoutien; 5) Dyuktai Cave; 6) Old Crow Basin; 7) Clovis.

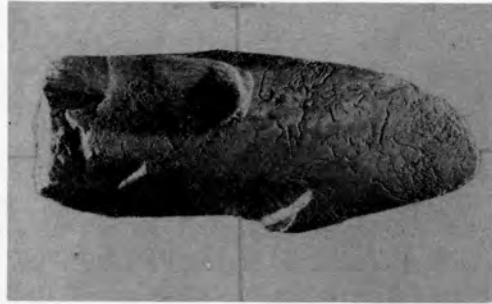


Fig. 53
 Permineralized bone and antler artifacts from Old Crow Basin localities (Courtesy R. Bonnichsen, W.N. Irving, and R.E. Morlan).
 a) One of several bevelled antler "wedges" (may have been used during butchering for removal of periosteum).
 b) Mammoth bone flake removed from prepared core. (Note that root etching continues from unaltered surface onto flaked surfaces, demonstrating that flaking occurred before burial and after mineralization).
 c) Caribou (*Rangifer*) tibia hide scraper, radiocarbon dated 27,000 years GX-1640.

Euro-centered model has developed amongst archaeologists concerned with the question of early man in America is because archaeologists naturally search for similarities between their new materials and evidence which has been reported in the literature. As more archaeology has been done and reported upon in Europe than anywhere else in the Old World, naturally the Americanists with new Paleo-Indian finds first looked for similarities in the well-known literature on the European Paleolithic.

Similarities are not hard to find between the European Upper Paleolithic and North American Paleo-Indian material culture. But as pointed out by Bordes (1978), these similarities are usually superficial and largely due to convergences in artifact forms because the hunter needed artifacts to serve the same functions, whether he lived in France, the upper Yenesei, Texas or Ecuador. It should be expected that some hunters of proboscideans and other large animals in all of these areas would develop bifacially flaked stone projectile points in order to penetrate the thick hides of their quarry more efficiently. It should also be expected that other contemporary hunters in other areas might use wooden or bone or simple flake projectile points. Still other hunters might rely on techniques of trapping, clubbing, or using slings and bolas stones. Each of these groups of hunters used the techniques that they knew worked for them. At the same time the most innovative members of their group experimented with improving those techniques, and if the experiments were successful in the practical world of the hunt, these innovations were adopted by the group. In many cases, the innovation was adopted from neighboring groups who had related to them how a certain new technique had made the job more efficient; new innovations were first invented by experimenters and these were later borrowed by neighbors during social contacts. Occasionally, of course, new techniques were introduced by new immigrants and invaders. None of these innovative processes can be excluded, but the general story throughout prehistory is one of multilineal development of similar artifact types as people adapted their material culture to the economic resources available to them in the environment where they lived.

Most archaeologists agree that the first colonists into America came from northeastern Asia. Despite tremendous local variations, the fact that all American Indians are obviously more Mongoloid than Negroid or Caucasoid supports the conclusion that Asians and not Africans or Europeans first entered America. The fact that Eskimo-Aleut is the only American linguistic stock found in Asia, combined with the fact that there is no evidence that American civilizations were precipitated in the first place by any Old World influences supports the conclusion that the original colonization occurred a long time ago.

Clearly, European archaeology, despite the relative abundance for comparative purposes of similar artifact types and hunting techniques, is not really directly relevant to the question of the peopling of America. Let us now look at the relatively sparse but increasing body of archaeological evidence from the eastern portion of the Eurasian continent. In outline the story appears to be quite similar to what we know about western Eurasia, except

that the ameliorating influences of the Mediterranean Sea and the Gulf Current on the European climate means that climatic conditions in east Asia at comparable latitudes are generally more severe than in Europe.

A *Ramapithecus* skull has recently been found in mountainous Yunnan Province, southwest China. These early hominoid predecessors of man were evidently widely distributed across southern Eurasia by about 10,000,000 B.P. By 2,000,000 B.P. we know that hominids were living in Java as well as in Africa. The often expressed assumption, based upon the more abundant evidence for hominoids and early hominids in Africa, that man originated in Africa must be seriously questioned in the light of the evidence from east Asia. Man may well have appeared just as early in Southeast Asia as in Africa or Southwest Asia.

Evidently man had adapted himself to temperate climatic conditions in northern China north of the Tsingling Mountains by early Middle Pleistocene times, correlative with the Günz-Mindel Interglacial (Aigner, 1978). Evidence for bifacial flaking is present at the early sites of Lantian and Choukoutien Locality 13, correlatable with the Mindel glaciation, but was not reported from later Locality 1 deposits at Choukoutien. Several later Middle and early Upper Pleistocene sites also contain bifaces (Laritchev, 1976), and the technological tradition appears not to have culminated in Japan until after 40,000 B.P.

Because North American archaeology, beginning with the Paleo-Indian period, is characterized by bifacial flaking, American archaeologists have been forced to search beyond the Far East all the way to eastern Europe to find typologically similar flaked stone artifacts to compare with their Paleo-Indian artifacts. In fact, the use of bifacially flaked stone projectile points by Upper Paleolithic mammoth hunters in the Ukraine is the most compelling reason why most archaeologists would consider that the origins of early Paleo-Indian (Clovis) mammoth hunters in North America must somehow be related back to eastern Europe, either by migration or diffusion. And by extension, despite the evidence that people lived at the same latitudes west of the Carpathians during the preceding two glacials, the apparent fact that there is no evidence that cold-adapted people lived in the Ukraine until after 35,000 - 40,000 years ago led Klein (1975) to conclude that people could not have moved on into America until after 30,000 B.P.

Furthermore, the satisfyingly successful search for typologically similar artifacts, as if they were "type fossils", used by mammoth hunters on the eastern European plains environments as well as by mammoth hunters on the Great Plains of central North America has strengthened the general resistance by most American archaeologists to considering the idea that there may be early simple flake and core assemblages with only the occasional bifacially flaked implement in America as there are in eastern Asia. So again, in a circular way, archaeology students in America are generally not trained in how to recognize simple flake and core industries. If an artifact assemblage lacks bifacial flaking, particularly bifacial projectile points, it is explained away as being somehow an incomplete assemblage and therefore of no signi-

ficance.

Such a situation is not peculiar to America. If the artifacts recovered from Choukoutien Locality 1 had not been found in contexts with human bones, numerous hearths and other living debris, the simple flake artifacts would probably have been overlooked. Recognition of the evidence for the presence of man in the absence of his bones or of well-shaped tools takes special training, including experimentation with flaking stone and bone, to be able to differentiate the effects of natural processes from the results of human alteration. Not many archaeologists have tackled these problems systematically. As long as this situation prevails, there always will be resistance to the acceptance of simple flake and core industries. In the Far East, Serizawa has encountered considerable resistance to acceptance of his pre-biface industries in early Upper Pleistocene Contexts (Ikawa-Smith, 1978). Similarly, Derevianko's (1978) non-bifacial industries from Last Interglacial contexts in the Altai and Amur Regions have not been generally accepted.

Evidently the collagen-rich split bones from Ust-Kanskaia Cave in the Altai Mountains just north of 50° N have still never been radiocarbon dated. A warm steppe environment preceding the last glaciation of the Altai is inferred from the faunal assemblage, which includes several extinct species. The artifacts consist mainly of steeply retouched flake tools, large side scrapers (*skreblo*), flake blades, and discoidal cores, but also two burins, one laurel leaf-shaped bifacial knife with use-polished faces, several bone perforators, and a perforated bone pendant. Evidently bone working technology was well developed. However the overall artifact assemblage is less developed than that used by the Late Paleolithic (Afontova-Mal'ta) mammoth hunters farther north in the Ob-Yenesei region during the final phases of the Last Glacial.

The "Afontova-Mal'ta" mammoth hunters occupied a cold steppe environment near 55° N by at least 20,000 B.P. and for about 8,000 years after (Mochanov, 1978, p. 64). The likelihood that the Afontova-Mal'ta industry developed from something like that found at Ust'-Kanskaiya is suggested by the characteristic discoidal cores, flake tools, irregular macroblades, graters, piercers, and burins, plus abundant pebble tools; and a well-developed bone industry, notably figurines and ornaments, slotted projectile points with microblade inserts and harpoons (Chard, 1974). Linkages with the European Upper Paleolithic have been suggested mainly because of the bone industry. Only one broad bifacial point, from the Irkutsk Hospital site, is known from the area (*Ibid.*, p. 20). Eyed bone needles are also known, but the idea need not have come from Europe. An eyed bone needle was found in the Upper Cave at Choukoutien, which now has a radiocarbon date of 18,000 B.P. As the needle and drilled beads are associated with a "warm" fauna, Aigner (1978, p. 28) considers this as a minimum date.

Although it did not commence until about 35,000 B.P., the Dyuktai Culture of the Aldan Basin is relevant to the peopling of America more because of its strategic location than its artifact content. The Aldan Basin, straddling 60° N latitude, is near the "cold pole" of the northern hemisphere where the

January mean temperature is below -40° C. The January mean at Aldan is not so extreme, however, and it should be remembered that the region is also characterized by clear skies, calm winds, and a low absolute humidity during winter, so furs protect the body adequately (Kendrew, 1942, pp. 199-201). Presumably similar climatic conditions prevailed during the last glacial maximum, except that it was a more open "forest tundra" environment (Mochanov, 1978) and therefore was probably windier as well as colder than now. Evidently the Dyuktai people were well adapted to an environment with colder winters than anywhere in arctic Europe at the same time that their contemporaries in eastern and central Europe were adapted to the relatively warm climates prevailing between 40° and 50° N. Clearly, Klein's argument from the Ukrainian Upper Paleolithic is not directly relevant to the question of when man first became adapted to arctic climates and thereby was first able to enter America. Using the model that people expanded northward during interglacials, presumably the ancestors of the Dyuktai people had moved into subarctic regions of Siberia during a warmer climatic interval, and subsequently adapted themselves to a somewhat colder winter climate, probably with the assistance of tailored fur clothing incorporating the principle of trapped body heat.

The Dyuktai complex contains discoidal cores, oval bifaces and, after about 18,000 B.P., a few willow leaf-shaped projectile points; but it is characterized throughout time from 35,000 B.P. by wedge-shaped cores prepared for the manufacture of microblades. Mochanov (1978) argues that the Dyuktai was replaced about 11,000 B.P. by the Afontova-Mal'ta culture from the Yenesei region, while the Dyuktai people moved on into Alaska, precipitating the first use of bifacial projectile points in America. Indeed, the Wedge-shaped Core/Microblade Tradition does appear in Alaska sometime after 11,000 B.P. (Bryan, Jelinek & Rouse, 1981); but this is too late to explain the use of Clovis Fluted points on the Great Plains for hunting mammoths by 11,500 B.P. (Haynes, 1980), or the use of nearly cylindrical lanceolate points in northern Venezuela for hunting mastodons by 13,000 B.P. (Bryan, *et al.*, 1978). Rather, the evidence suggests that the Dyuktai people, or perhaps only influences from their culture, first had an effect in Alaska in early post-glacial times long after other people had adapted their economies and material culture to environmental possibilities throughout North and South America. The clear implication is that earlier people had moved through northeast Asia, although not necessarily the Aldan Basin, and expanded their hunting territory, probably during an interglacial, to the place where they could have entered what is now America with no particular handicap. The initial entry could have occurred across a land bridge during the onset of a glacial period as the Bering land bridge appeared, or it could have occurred during glacial times when people could either walk across on the winter ice, or skirt the southern margins of Beringia on a boat. The main point is that without artificially imposed handicaps, the evidence from east Asia suggests that people could have expanded their hunting-gathering territories into subarctic and arctic environments much earlier than the available evidence from Europe indicates.

The evidence indicates that early people were not deterred by cold weather as long as they had enough meat to eat. The fact that people were adjusted to periglacial climates in Europe by Riss, if not Mindel times, and to cold winter climates in north China by Mindel times suggests that people were able to and actually did adapt to climatic conditions equivalent to at least subarctic, if not some arctic, environments long before the Last Interglacial. By the time of the main phase of the Last Glacial, which presumably produced the most severe climatic conditions ever known, people were living in what is now the coldest part of the northern hemisphere. It seems reasonable from this fact that some people had previously expanded northward along the northern shores of the Pacific with its relatively moderate climate, around the Sea of Okhotsk, across the base of the Kamchatka Peninsula and onto the extreme portions of northeastern Siberia, where they were poised for entry into what is now America, either eastward by boat or across the ice, or southeastward following a land bridge.

But when did the initial entry actually occur? We may not know for a long time. Until recently, there was no generally accepted evidence for man in America before about 12,000 years ago. However, there is now well-dated evidence that people had adapted themselves by developing quite discrete technologies in all the major environmental regions of South America by 12,000 B.P. (Bryan n.d.). The clear implications from the fact that there are now many sites throughout that continent well dated to 11,000 or more years old implies that people had entered South America long before then in order to account for the demonstrated technological diversity. As the earliest South Americans must have entered that continent from the north, people must have adapted themselves long before then to the many North American environmental regions available for exploitation, as well as to the tropical forest that always existed in the Isthmus of Panama.

What seems to be a simultaneous emergence throughout the western hemisphere about 11,000 - 12,000 years ago of readily detectable and undisputable evidence for man is probably due largely to the fact that population density had by that time increased to the point where people were leaving more material evidence of their occupations at more sites. Another important factor, however, is that people before that time had not yet developed their latent bifacial technology, especially for flaking projectile points. This fact is of much more significance to the modern archaeologist than it was to the prehistoric hunter, who readily sufficed with unifacial flake or bone and wooden projectile points. Other kinds of missiles, including sling and bolas stones, plus traps and snares, were also employed. All of these methods are well recorded in the ethnographic literature on South America, where these methods continued in use until recent times. Many of these efficient hunting techniques are difficult and sometimes impossible to discern archaeologically.

At present, if a site is reported in North America which lacks bifacially flaked stone projectile points but is in an apparently early geological context or yields a radiocarbon date older than 12,000 B.P., invariably the reported evidence is challenged in some way. The challenge usually takes the form

of suggesting some alternative hypothesis which might possibly explain the absence of certain artifacts. Either the dating or the artifactual status of the material present is questioned because the reported evidence does not conform to the generally accepted model that the first people were specialized big game hunters who entered America with a standardized flaked stone technology, including bifacially flaked stone projectile points.

By now enough evidence has been discussed from Eurasia and South America to indicate that this long maintained model simply does not fit the archaeological evidence. It is time to consider alternative models which may better fit the evidence from North America as well as from neighboring continents. It is still essential, of course, to be critical of the standards for reporting archaeological evidence, but it should no longer be necessary to arbitrarily challenge the validity of every report and by implication the veracity of the reporter of any evidence that suggests the presence of man in America before 12,000 B.P.

One series of localities is directly relevant to the theme of the role of the environment in the evolution of the prehistoric way of life in arctic environments. Although the Dyuktai people lived near the coldest area in the northern hemisphere, the Old Crow Basin in the northern Yukon, at 68° N, now has a very cold climate with a January mean temperature of about -30° c. It must have been colder during the Last Glacial. New evidence suggests that the 27,000 year old apatite date on the shaped caribou tibia end scraper is too young (Morlan, 1980); also recent materials obtained from datable stratigraphic contexts suggests that people were living in the Old Crow Basin before 50,000 B.P. If the latter date is confirmed, people were in the Yukon long before the Dyuktai people are known to have occupied the Aldan Basin. In fact, the worked bone artifacts collected from the Old Crow Basin apparently represent the earliest truly arctic adaptation known anywhere. The fact that this early adaptation was to a periglacial open steppe tundra environment has been a factor causing considerable resistance to acceptance of the evidence. The main resistance, however, is because no actual living floor or shaped artifacts have been found in original stratigraphic position. Nevertheless, bones with patterned breaks have been located lying on an erosional unconformity bracketed in age by an overlying peat dated 50,000 B.P. and above an 80,000 year old volcanic ash (Morlan, 1980). The possibility that carnivores broke the bones was considered, but the lack of evidence for chewing combined with the presence of three green-fractures proboscidean long bones, plus six bones with butchering cuts that evidently were made with sharp stones (*Ibid.*, pl. 7.1-7.8) supports the hypothesis that man was there. No carnivores, even hyaenas, are capable of flaking adult elephant long bones. In the total collection from all Old Crow localities, there are many cut, grooved, faceted, ground, and scraped bones, in addition to thousands of flaked bones and several shaped artifacts. The evidence seems quite clear that many bones had been deliberately flaked by percussion and pressure and altered in various ways by sharp stone edges before the bones became fossilized (Bonnichsen, 1979; Morlan, 1980).

More work must be done in the Old Crow Basin as well as at other localities in Alaska and the Yukon where similar finds have been reported in order to look for definitely shaped artifacts in datable stratigraphic position. Nevertheless, the implication seems clear that people lived somewhere in Beringia and had adapted themselves to subarctic and arctic environments before the onset of the Wisconsinan (Last) Glacial when they had to adapt to full glacial environments. If people entered Beringia that long ago, it is implicit that the biological variety was something other than *Homo sapiens sapiens*.

Experimental man is an especially adaptable animal. People who now live in the arctic do not fear the elements. Rather, they have a healthy respect for what extreme cold temperatures can do, so they survive quite well. It is the majority who live in temperate climates, where the occasional cold spell wreaks havoc, who have fearfully set arbitrary limits beyond which man should not have ventured until final Pleistocene times.

It is time to lift the psychological barriers that have been erected to make it "impossible" for people to have entered subglacial America before the end of the Pleistocene, and to actively search for and carefully examine all evidence that may be relevant for the presence of man contained in American Late Pleistocene geological contexts objectively and without bias.

NOTE: An earlier version of this paper was published in the proceedings of the Union Internacional de Ciencias Prehistoricas y Protobistoricas, X Congreso, Miscelanea, compilado y organizado por Joaquin Garcia-Barcena y Fernando Sanchez Martinez, pp. 44-62, Mexico City, 1981.

Riassunto: Un modello per il popolamento iniziale della Beringia (Siberia orientale, istmo di Beringia ed estremo nord-ovest americano) è basato sull'assunto che gruppi umani avrebbero naturalmente espanso il loro territorio verso nord, dall'area della Cina odierna, durante interstadi temperati del Pleistocene e successivamente si sarebbero adattati per mezzo di efficaci innovazioni culturali alle crescenti condizioni climatiche fredde durante i periodi glaciali. L'alternativo, e oggi più generalmente accettato, modello Eurocentrico sostiene che i più antichi abitanti della Beringia e quindi della vera e propria America si sarebbero espansi verso nord-est dalle aperte steppe dell'Europa sud-orientale soltanto durante l'ultima progressione glaciale a partire da 30.000 anni fa, quando la maggior parte della Siberia e della Beringia erano presumibilmente una tundra aperta a radura. In un ambiente così aperto, cacciatori specializzati in grandi animali avrebbero potuto inseguire rapidamente prede come i mammut verso il continente americano. Tale ricostruzione dei fatti era sembrata allettante non solo perchè pare adattarsi alla ricostruzione paleoecologica, ma anche a causa dell'immagine accolta così favorevolmente dal grande pubblico, dei cacciatori di animali da pelliccia che inseguono mammut. Il più prosaico modello qui presentato è forse meno suggestivo, ma ciò malgrado pare adattarsi più ragionevolmente all'attuale evidenza archeologica.

Una precedente versione di questa teoria era stata pubblicata negli Atti de l'Union Internacional de Ciencias Prehistoricas y Protobistoricas, X Congreso, compilato ed organizzato da J. Garcia Barcena e F. Sanchez Martinez, pp. 44-62, Città del Messico, 1981.

Résumé: Un modèle pour le peuplement initial de Beringia (Sibérie orientale, isthme de Bering et extrême nord-ouest américain) est basé sur la théorie que groupes humains auraient naturellement étendu leur territoire vers nord, de la zone de l'actuelle Chine; pendant des interstades tempérés du Pleistocène supérieur et, ensuite, ils se seraient adaptés aux conditions climatiques froides pendant les périodes glaciales, par des efficaces innovations culturelles. L'alternatif et aujourd'hui généralement accepté modèle eurocentrique soutiens que les plus anciens habitants de Beringia et de toute l'Amérique, se seraient étendus vers nord-ouest à partir des steppes de l'Europe sud-orientale, seulement pendant la dernière progression glaciale, à partir de 30.000, quand la plupart de la Sibérie et de la Beringia était présumiblement toundra.

Dans un milieu aussi ouvert, chasseurs spécialisés en grands animaux auraient pu poursuivre rapidement proies comme les mammoths vers le continent Américain. Cette reconstruction des événements paraissait séduisante soit parce que elle s'adapte à la reconstruction paléocologique, soit à cause de l'image accueillie favorablement par le public, des chasseurs d'animaux à fourrure poursuivant mammoths.

Le modèle ici, présenté prosaïque et peut-être moins suggestif, semble mieux s'adapter à l'actuelle évidence archéologique.

Une précédente version de cette théorie a été publiée dans les Actes de l'Union Internationale de Ciencias Prehistoricas y Protohistoricas, X Congrès, compilé et organisé par J. Garcia Barcena et F. Sanchez Martinez, pp. 44-62, Mexico City, 1981.

Resumen: Un modelo de la población inicial de la región de Bering (Siberia oriental, zona del estrecho de Bering y extremo noroccidental de América) se basa en la suposición de que, partiendo de territorios de la actual China, unos grupos humanos desplazaron su hábitat hacia el norte durante los periodos templados del Pleistoceno y se adaptaron más tarde a las condiciones climáticas cada vez más frías de los periodos glaciales por medio de eficaces innovaciones culturales. El otro modelo, eurocéntrico y generalmente más aceptado en la actualidad, sostiene que los primeros habitantes de la región de Bering, y por consiguiente de la propia América, eran oriundos de las estepas abiertas de Europa oriental e iniciaron su migración hacia el nordeste sólo en el curso de la última progresión glacial hace 30.000 años, época en que la mayor parte de Siberia y la región de Bering eran una tundra abierta, sin árboles. Es posible que en un medio tan abierto, los cazadores hayan podido seguir rápidamente a las grandes presas, como el mamut, en su desplazamiento hacia el continente americano. Esta reconstrucción de los hechos resulta atractiva no sólo porque se adapta a la reconstrucción paleoecológica, sino también porque coincide con una imagen que el gran público ha hecho suya, la de los cazadores, buscadores de pieles, que persiguen el mamut. El prosaico modelo que presentamos aquí es tal vez menos sugestivo, pero parece adaptarse en forma más justa a los datos arqueológicos de que se dispone en la actualidad.

Una versión anterior de esta teoría fue publicada en las Actas del X Congreso de la Unión Internacional de Ciencias Prehistóricas y Protohistóricas, a cargo de J. García Barcena y F. Sánchez Martínez. México DF, 1981, págs. 44-62.

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