The Folsom Mystery

Its Solution is Largely Contingent on the Solution of Another Mystery

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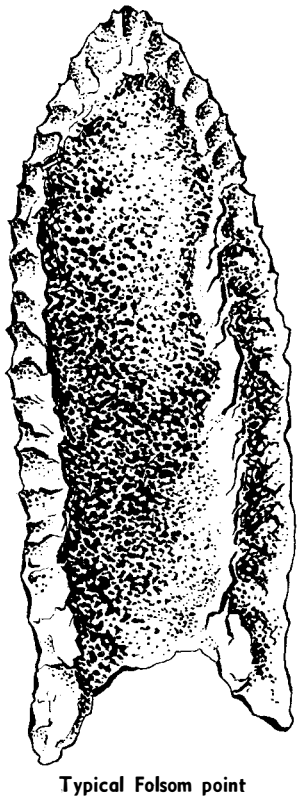
No mystery in American archeology has been more fascinating than that of the Folsom culture. In the 15 years that have elapsed since the original site was excavated at Folsom, New Mexico, archeologists have diligently pursued every clue that might shed a ray of light on the shadowy "first" Americans. Their subsequently discovered sites, scattered over a wide area in the High Plains region of the United States, reveal little about them except that they were hunters of animals long since vanished: extinct American camels, bison larger than the historic variety, strange South American sloths, and even the huge American elephants, the mammoths. Their characteristic hunting tool, a grooved, exquisitely fashioned "point," superior in workmanship to any other variety of point known from the New World, speaks eloquently of their artistry and skill. But, so far, there is little else except these peculiarly shaped, beautifully made "Folsom" points to speak for the intrepid hunters who made them. Tantalizingly, his unmistakable weapon, but not Folsom Man himself, appears in site after site associated with the now-extinct animals which he hunted.

Although geology has brought corroborative evidence to bear on the antiquity of Folsom Man, it is paleontology, the study of fossil animals, that has so far offered the most revealing clues. There is no longer any doubt that the association of the Folsom point with the bones of extinct animals is real and not accidental. The first discovery, in 1927 at Folsom, New Mexico, of peculiarly shaped implements of human manufacture associated with the bones of a species of bison supposedly extinct since the closing period of the Ice Age, has since been duplicated in other regions by scientists whose investigations were conducted under conditions imposing the strictest control. But the question of the exact age of the Folsom culture is still a controversial subject *revolving largely around the question of when these large Ice Age animals actually disappeared.*

Most of the geologists and students of fossil animal life who have attempted to aid in dating the remains take the view that the last of these animals perished in the closing period of the last glacial retreat some 15,000 to 25,000 years ago. Some, however,



Typical Folsom point

express the belief that many of these archaic beasts lingered down into a period perhaps as late as 5000 B.C.

The animal most commonly hunted by Folsom Man, and hence most commonly used for dating purposes, seems to have been a species of buffalo slightly larger than the existing species and somewhat more powerfully horned. It is commonly termed *Bison taylori* by scientists, in contrast to the term *Bison bison* applied to the living form. Beyond size distinctions the animal's skeleton is not markedly distinct from the living bison which, as a matter of fact, may be its direct descendant. At all events, *Bison bison,* the living form, seems clearly to succeed the older Ice Age bison, probably at the termination of the last glacial withdrawal. The larger form was doubtless adapted to enduring greater extremes of cold, and may have failed to hold its range as the post-glacial climate began to swing toward a warmth maximum to which the animal was ill adapted. Instead, a new and smaller bison, perhaps developed from the bigger species in more southern areas, flows in over its receding range. Whatever the cause, *Bison taylori* vanishes from the High Plains and the historic (living) buffalo succeeds him.

Whether the larger animal followed the ice back northward and lingered there beyond its survival in the United States is a problem which has received little consideration. No data have been available, and both paleontologists and archeologists have concentrated their attention upon the problems of the more immediate area. Hidden away in old books, however, discussed by naturalists interested only in existing animals, a curious broken thread of clues winds backward into the days of the first voyageurs who explored the Great Northwest. If these clues are comprehended in relation to the archeological picture which we have just discussed, they take on a strange and almost startling significance.

As the first explorers and hunters drifted into the region around Great Slave Lake and wandered through the valley of the McKenzie River, they found bison to be present in large numbers, even in this far northern area. As acquaintance with these animals was extended, hunters began to comment that these northern buffalo were larger and differed somewhat in habits and appearance from their southern relatives of the Great Plains. Though difficult of access and hence viewed by few scholars, these distinctions were eventually accepted as valid and the big northern bison came to be regarded as a more rugged variety of the southern animal.

Eventually, in 1897, a naturalist named Samuel Rhoads undertook to describe the type and establish its scientific validity by giving it a varietal name. As a consequence, the animal has since been known as *Bison bison athabascae.* Unfortunately, most of the measurements which exist are hunters' measurements upon the body and are of little value in making comparisons with the skulls of extinct

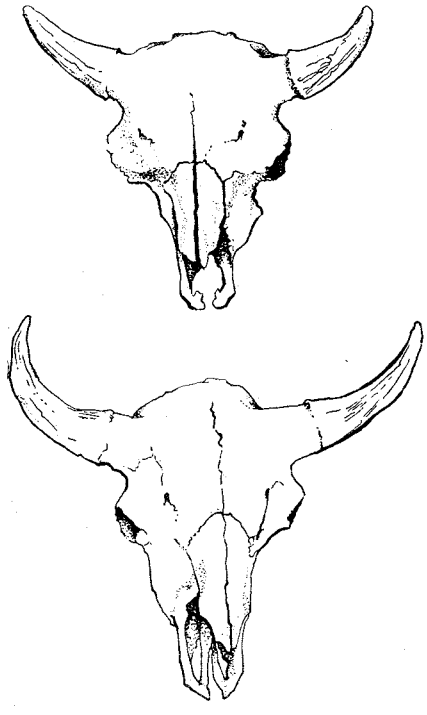
animals found in the form of fossils.

Rhoads published a few figures, however, and the writer has had access to a few others. These figures tend to bear out a very interesting point which even Rhoads saw fit to hint at in a tentative way: namely, that these big northern bison in certain measurements fell within the size range generally regarded in the United States as representing only the fossil forms of the closing Ice Age. Though, as one might expect, there are contradictions and discrepancies in the various accounts, the earlier literature, in particular, is emphatic upon the subject of large size and greater length of horn. The measurements across the forehead from the base of one horn core to the other are much greater than in the southern bison and as large as in the fossil forms found associated with man.

At this point a question must inevitably occur to the reader. These northern bison, whether or not we attempt to relate them to the fossil bison found associated with early man in the Plains region, are a cold-loving form. Where were they when the ice sheets lay across Canada? Obviously it would seem that their range must have been pushed much farther south. How, then, can we ignore the fact that this big animal may also have been hunted by early man in the High Plains region, or even the suspicion—call it no more than that—that *Bison bison athabascae,* at least in a reduced and mixed fashion, bears some intimate relationship to the big Middlewestern bison of the closing Ice Age? Even if, like some scholars, we merely regard the present northern bison as a climatic phase of the ordinary Plains bison, the question might still arise whether the fossil bison species known as *taylori* could not then be viewed as a similar and even more vigorous reaction to glacial conditions.

Since the surviving northern bison now inhabit a Woods bison preserve in Northern Alberta, it would seem at first glance a very easy matter to settle some of these problematic relationships by a more extended study devoted to detailed comparisons of the skeleton of this bison with that of the fossil forms hunted by the Folsom people. Here again, however, the problem is much more complicated than it appears.

The number of Woods bison declined greatly during the 19th Century and at one time was estimated to be as low as 50 head. In 1893 the Canadian government passed the first laws attempting to protect them. A slight upswing in numbers took place. Then, in 1925, the Canadian government carried out a policy which the American Society of Mammalogists vigorously but fruitlessly protested. Large shipments of Plains bison were introduced into Woods Buffalo Park and a large-scale intermingling of the two types took place. Clearly it is now impossible to be sure of the strain represented by an individual bison. The number of unmixed animals must now constitute a very minute, if existing, fraction of the herd.



Skulls of *Bison bison* and *Bison taylori,* showing comparative sizes of skulls. Drawings by the author, from specimens in Nebraska State Museum

In drawing attention to the tantalizing similarities between descriptions of the fossil species and that of *athabascae,* the existing northern form, it must be remembered that no really thorough comparison is possible in the present state of our knowledge. Nevertheless, the implications of similar body size make it impossible to ignore the fact that the northern bison, at least as it existed in early historic time, may have actually represented a type somewhat more archaic than the Plains bison. If, as seems likely, the fossil bison pursued by the post-glacial hunters of the Middlewestern United States was a form adapted to colder winters, it may have lingered for a time in the Canadian areas, perhaps being slowly bred out as a pure type. If the animal survived in this form, it is unlikely, in spite of its temporary isolation during the 19th Century, and its preference for a forest habitat, that it escaped contact with its southern relative during the days of the great herds.

Evidence is not lacking that a gradual increase in horn size and ruggedness extended from the south to the north in geographic sequence. Such a sequence may suggest that the transition from the fossil to the living form was progressive in both area and time. Only the onset of post-glacial warmth would seem to suggest an adequate causative factor.

In the light of the evidence we have here summarized it would seem that a reasonable possibility exists that this inadequately known phase of the living bison represents, at least in a mixed and dying way, the blood strain of the cold-loving bisons of the late Ice Age.

Whether or not this interpretation is correct, the southward extension of the range of this species during the last ice advance cannot be ignored as a possible confusing element in the study of bison remains from archeological sites where complete skulls are missing. In the size of leg bones the living *Bison bison athabascae* could not be distinguished from the fossil form. Inadequate study of both animals, as well as a dearth of fossil evidence from the Canadian areas, has shrouded in mystery both the disappearance of the fossil species and the appearance of its successor, the existing Plains bison.

Where the big northern woodland bison belongs in this succession of forms can be revealed only by much more thorough research than has as yet been attempted. In so far as evidence exists, however, it is not adverse to the view that these bison may represent an archaic form existing only as a marginal remnant, now fast disappearing.

Nevertheless, even if we could prove that the northern bison bore a very close relationship to the fossil type, we could not, on that basis alone, argue that man's occupation of the Great Plains was extremely recent. Only the last great ice withdrawal seems adequately to explain the change in the type of bison in the western United States.

Undoubtedly the relationship between the big woodland bison and the fossil species hunted by Folsom Man demands clarification. When this is successfully accomplished, we may be much farther along the road toward dating those mysterious forerunners of the American Indian in the Great Plains.