In a sense, archaeological research is similar to a three-dimensional jigsaw puzzle without all of its pieces. Only partial reconstruction is possible, and there can be discontiguous pieces that may or may not be related. The older the site, the more difficult it is to establish contexts due to a number of factors including preservation. And it should be no surprise that the oldest sites, Paleoindian sites, present the foremost challenge. Paleoindian sites are highly variable in depth of burial, stratigraphic integrity, the potential for providing radiometric age, and other contextual qualities.

One site may have acceptable stratigraphic contexts with older occupation levels below progressively younger ones. Another site may have a component capable of being radiometrically dated, thereby setting its temporal context. Yet another may yield preserved faunal bone as a means of interpreting dietary patterns or pollen and botanical remains as a means of interpreting past vegetation patterns and environments. For too many decades, identifying Paleoindian sites east of the Mississippi River with multisource contexts has been problematic—a problem that is now beginning to be resolved.

To study the late Pleistocene peopling of the Americas entails understanding the traditions inherited from nineteenth-century researchers who first considered the question substantively. Their approach was not archaeological; rather it was a peculiar philosophical and theoretical framework dedicated to the notion that the first Americans arrived relatively recently, in the Holocene. For its protagonists this approach comprised a set of theories, laws, and generalizations with sufficient power to support itself. For its
antagonists it was an obstacle that demonstrated that researchers on both sides of the argument did not know what they were looking for.

Paradigm Stasis and Punctuated Equilibrium

Six decades passed (1875–1935 CE) from the time of the first reports that “Pleistocene man” occupied places in North America until the contention was proven to be true. It took another seven decades (1935–2005 CE) to determine that archaeological sites older than Clovis do exist in the Americas. Considering the history of these paradigm shifts, one realizes the dogmatism behind them and how begrudgingly they were relinquished when they finally collapsed. We have inherited a legacy that by any measure was time consuming and, in that sense, unproductive.

In archaeology and topics related to prehistoric America, late nineteenth to early twentieth century scholars aligned themselves on two sides of a debate regarding the peopling of the Americas: the view that humans occupied the Americas during the late Pleistocene (Abbott 1872, 1876, 1881, 1892a, 1892b; Wright 1912; Sellards 1916a, 1936; Gidley 1926) and the view that they did not (Chamberlin 1892, 1903; Holmes 1893a, 1893b, 1897, 1918; Hrdlicka 1902, 1907, 1917, 1918). Often associated with northeastern museums, these scholars published their works in prestigious journals with descriptions of places explored and artifacts found, copiously illustrated by lithographs and photographs. Though it is not my intent to compile a comprehensive account of the debate about the initial peopling of the Americas, I suggest that this beginning laid the foundations for a corporate culture rooted in nineteenth-century values.

During the quest to determine whether Pleistocene human populations occupied the Americas some discoveries seem to have slipped past scrutiny or, worse, to have been outright ignored. A case in point is the 12 Mile Creek site in Kansas, excavated in 1895 and 1896 by Samuel Williston, Handel Martin, and Thomas Overton (Williston 1896, 1902a). Williston was a professor at Kansas State University and a graduate of Yale, where he had been a student of Charles Marsh of the similarly infamous dinosaur “Bone Wars” (a competition to collect the next big find for this or that museum to display). Martin and Overton also had worked for Marsh at the U.S. Geological Survey. They knew how to excavate, and both men were seasoned veterans accustomed to meticulous work on fragile bone sites. Their excavation of the 12 Mile Creek site uncovered the remains of an
extinct Pleistocene bison and a lanceolate projectile point with an unusual feature, basal fluting (Williston 1896, 1902a; Rogers and Martin 1984; Hawley 2009). The 1902 site report by Williston identified the bison remains as an extinct *Bison occidentalis*, an intermediary between *Bison antiquus* and *Bison bison*. More recent paleontological studies of bison communities in the Americas suggest that this identification is questionable and that late Pleistocene bison species south of the Cordilleran and Laurentide ice barrier are more likely *Bison antiquus* (Wilson et al. 2008; Burns 2010). But the main point here is that a Paleoindian fluted point, a Folsom point, was discovered and went largely unrecognized or ignored until the acceptance of the first “legitimate” Paleoindian sites by 1935. Antagonists such as Ales Hrdlicka never accepted the mounting evidence that Paleoindians occupied the Americas in the Pleistocene.

Even after most scholars recognized that Paleoindians coexisted with late Pleistocene megafauna, Ales Hrdlicka did not. A year before his death Hrdlicka spelled out his cautions to the archaeological community, which are worth reviewing here:

The Paleolithic cultures of northern Asia are characterized by well-defined stone tools and by the presences of peculiar little ivory figurines, the so-called “Venuses.” Nothing of this sort is found in America. Instead there is already highly differentiated Neolithic “Folsom” point, which moreover in isolated specimens and more or less superficially is found widely scattered over the United States, has in places associated with it commonplace objects of American stonework, does not apparently extend into Mexico and the rest of America, and whose main character, the vertical groove (for firmer hefting doubtless) along the middle of each surface, has many parallels in the bifluted ivory and slate points of Alaska.

The mainstay of all the claims for man’s antiquity in America is the association of the Folsom points and a few other objects with the bones of extinct mammals. But this is an Achilles heel of American archaeology, for many conditions indicate that such animals have not been extinct very long; besides which the associations occur almost wholly in the southwest States, where great washes and sand storms often play havoc with the poorly protected surface and loose deposits; and the associated animal parts are generally but fragments, the original location of which is entirely uncertain. Secondary deposition
and secondary stratification are the rule in that region rather than exception. Geology is a living and very active something in such parts, which is often forgotten. . . .

It may be well, however, to conclude this abstract with a brief marshaling of the conditions that have to be fulfilled if the presence of early man in America is to be accepted. They are:

1. It must be shown where the man could have come from, and how, in the then climatic conditions, he could have reached here.
2. It must be shown that at that time in the region from which supposedly the migrants came, there were already people from whom they could be derived.
3. It must be shown how, while the Paleolithic times existed everywhere yet in the Old World, a man could have reached America without any of the essentials of the Paleolithic industry, but with the Neolithic in its stead.
4. It will be imperative to show sites of the early man and their accumulations, such as exist wherever early man lived in the Old World.
5. It will be necessary to show skeletal remains that differ, in the directions of primitiveness and racial differences, from those of the Indian or Eskimo.
6. It will be incumbent to show and explain the geographic extension and limitation of the old timers on the American continent.
7. It will be necessary to show in general at least how long the early comers existed here and why they disappeared.
8. There must be shown other distinctive items of their material culture than just one or two forms of highly differentiated stone points.
9. The void between the disappearance of the supposed early people and the coming of the Indian and Eskimo must be filled in with sufficient geological accumulations to cover that period.

No serious attempts have yet been made on the part of the claimants of ancient man in America to comply with these necessities. But until these demands be duly satisfied it is legitimate, it seems, to hold
the question of the presence of early man in America in abeyance.
(Hrdlicka 1942:54–55)

Hrdlicka had used the same logic as Charles Abbott with only one difference. Hrdlicka felt that Folsom points were too well made to be Paleolithic, whereas Abbott believed that crude, unfinished preforms from the Trenton Gravels site in New Jersey were very old because they looked so crude. To Hrdlicka, Folsom points were so elegantly made that they had to be young; so, in his mind, it was “Neolithic First.” Allied with Hrdlicka, Herbert Spinden developed a time scale for the peopling of the New World based on the Mayan astronomical calendar. Spinden, even though he acknowledged tree ring and varve clay chronometric techniques, chose to ignore them and placed New World human entry at 752 BC or about 2,700 years ago, at the beginnings of Mayan time (Spinden 1942). Although the belief in Neolithic First was already passé by the beginning of World War II when Hrdlicka and Spinden published their works, it was established fact to them. Theirs was the type of dogmatic paradigm that Thomas Chamberlin (1890) had warned scholars to avoid.

Paradigm breaking part one took place once the notion of Neolithic First was disproved. The discovery of Folsom and Clovis sites in New Mexico was the paradigm buster. The discovery of *Bison antiquus* remains associated with Folsom points at Lindenmeier near Folsom, New Mexico (Cook 1927; Figgins 1927) and Clovis points with *Mammuthus columbi* remains at Blackwater Draw near Clovis, New Mexico (Howard 1936; Cotter 1937) represent the most important breakthrough sites. At both sites the skeletal remains of extinct Pleistocene mammals were found in unquestioned association with artifacts. Not only did Pleistocene human populations co-exist with extinct Pleistocene animals, but spear points from megafauna carcasses meant that Paleoindians hunted them! Recognition that Paleoindians were in the Americas, incredibly, was achieved without first having to establish their Old World origins. It seems significant in this case that archaeological field evidence trumped intransigent nineteenth-century dogma.

After World War II, the investigation of western Paleoindian sites pushed forward, making progress unmatched elsewhere in the Americas. For better or worse, Paleoindian research began to assume a decidedly southwestern regional posture. At first, many of the researchers were pre–World War II veterans of Paleoindian archaeology (for example, Antevs 1936, 1954;