CHAPTER 8

EARLY PALEOINDIANS, FROM COLONIZATION TO FOLSOM

NICOLE WAGUESPACK

THE initial human colonization of North America presents a nagging archaeological mystery. The various issues of who, when, and how the process unfolded have been "solved" countless times, only to be refuted and discounted by the discovery of new sites, new dates, and theoretical developments. As a process, the peopling of a continent can perhaps be expected to leave a distinct archaeological signature. A population of incipient colonizers, a trajectory of movement, and an entrance and dispersal into new territories ideally result in a clear trail of sites, artifacts, dates, and genes with clear affinities. However, from currently available archaeological evidence, such is not the case. The earliest dates, sites, and recovered artifacts provide no clear spatiotemporal indications of the timing, route of entry, or dispersal patterns of the initial colonizers. Clovis undoubtedly represents the first continuous occupation of many North American regions, but it remains unclear if Clovis reveals the rise and spread of an in-situ cultural development by an existing North American population (or populations) or if Clovis peoples were truly the first to colonize the continent.

Identifying definitive evidence of the "first" peoples in the Americas, much like finding the first of any temporally distant phenomenon, is a difficult task. Because colonization is a process involving the spread, occupation, and growth of a population, multiple firsts must be identified. The earliest site, date, or artifact offers evidence merely of a human presence on a continent—but it does not necessarily indicate colonization. It is possible, if not probable, that multiple human groups

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ventured into North America without establishing a permanent presence. The archaeological signature of colonization then may not open an easily navigable spatiotemporal trail of artifacts but could involve a more complex record of human explorations prior to, concurrent with, and postdating actual colonization. Consequently, Early Paleoindian archaeology is fraught with contentious claims, debates, and theories regarding the expectations and interpretations of evidence concerning the timing of human presence versus colonization.

Scientific investigation of Early Paleoindian archaeology began with the 1927 discovery of the Folsom site in New Mexico. The first widely recognized evidence of artifacts in association with extinct Pleistocene bison, the Folsom site unequivocally established the Pleistocene presence of humans in North America (Meltzer 2006). Five years later, the discovery of artifacts associated with mammoth remains at the Dent site, followed by discoveries at Blackwater Draw, began to solidify the antiquity of human occupation and establish a uniquely American past typified by fluted projectile points. However, as important as these sites were and continue to be, many researchers immediately began to question the emerging view of Pleistocene history; concerns were raised regarding the possibility of erroneous dates, fortuitous associations between artifacts and extinct fauna, and claims of far greater antiquity. The original Folsom and Clovis site finds are rightfully accredited as establishing Paleoindian archaeology as a temporally and technologically distinct arena of study, but these sites also established an enduring legacy of debate. Though 80 years have passed since their discovery, a Pleistocene human presence in the America's remains the single point of agreement among contemporary researchers. Two associated assertions, an Asian origin and entry via Beringia, also remain tenable. Countless new sites have been found, analyzed, and described as well, but the accumulation of data has not substantially altered the key issues of debate sparked by these initial Pleistocene-age finds.

What Is Clovis?

Named after the town of Clovis, New Mexico, where extinct Pleistocene fauna were found in association with distinctive lanceolate projectile points at the Blackwater Draw site (Boldurian and Cotter 1999), Clovis became synonymous with North American colonizers by the 1940s. The repeated occurrence of Clovis projectile points and megafauna (most commonly mammoth) at sites across North America suggested rapid human dispersal. The unique morphology of Clovis points, characterized by basal thinning flakes removed from each surface of the bifacial projectile point base (referred to as "channel flakes" or "flutes"; see Anderson, this volume) further suggested that colonizers quickly established a technologically distinct toolkit for predation of megafauna during the Late Pleistocene. The Clovis archaeological record, coupled with longstanding geologic evidence of a Pleistocene land

bridge (i.e., Beringia) connecting Asia to Alaska and the presence of an unglaciated corridor cutting a swath through the Canadian plains, presented a cohesive, albeit simplistic, colonization scenario (Figure 8.1). The makers of Clovis points were thought to have crossed the land bridge, traversed the ice-free corridor, and spread throughout the continent. Early on in this process, Clovis points emerged as the primary weapon and were deposited throughout unglaciated North America. In this view, Clovis populations are thought to have undergone rapid population growth as they spread across a previously unpopulated continent.

Beringia, enabling terrestrial passage from Siberia into Alaska, resulted from the drop in sea level during glacial episodes. The land bridge was exposed numerous times throughout the Pleistocene, but it was not until after the Last Glacial Maximum (LGM), the height of glacial conditions, ca. 18000 cal BP, that a stable human presence in Siberia meant likely populations for dispersal into North America (Goebel et al. 2008). On arrival in North America, colonists would have been confronted with enormous ice masses. During the LGM two of them, the Laurentide and the Cordilleran, coalesced, covering much of present-day Alaska and Canada. As glacial conditions ameliorated, the ice mass diverged into two large ice sheets, the Cordilleran to the west and the Laurentide to the east. Cosmogenic dating of

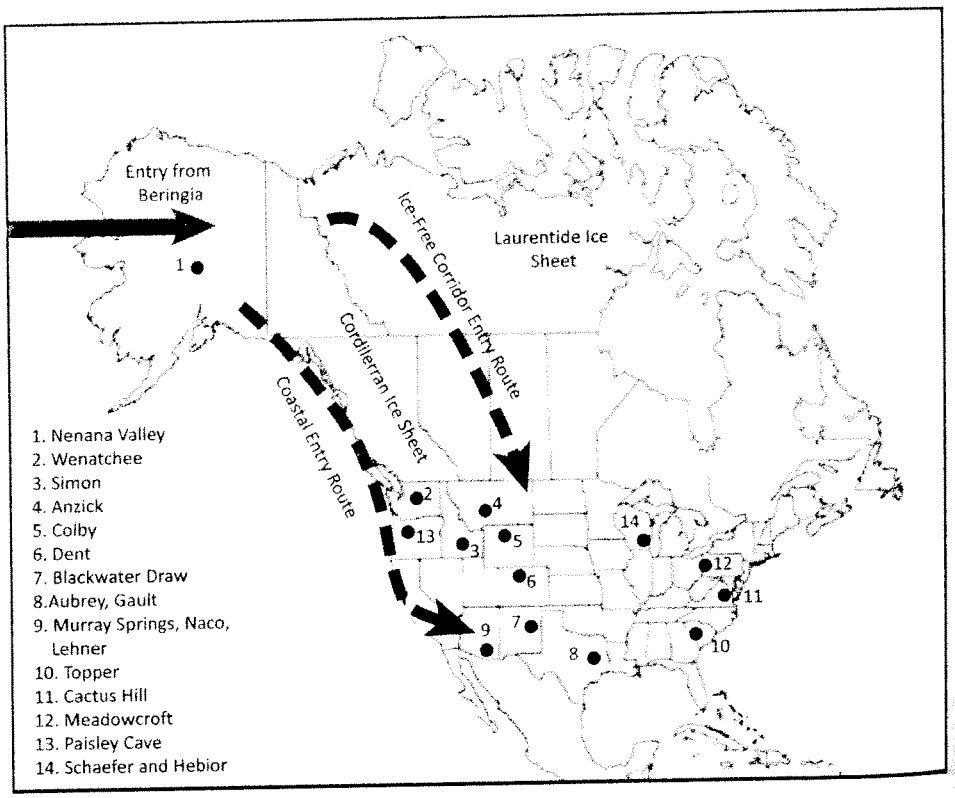

Figure 8.1 Locations of likely entry routes of North American colonizers, Pleistocene ice sheets, and key Clovis and related sites.

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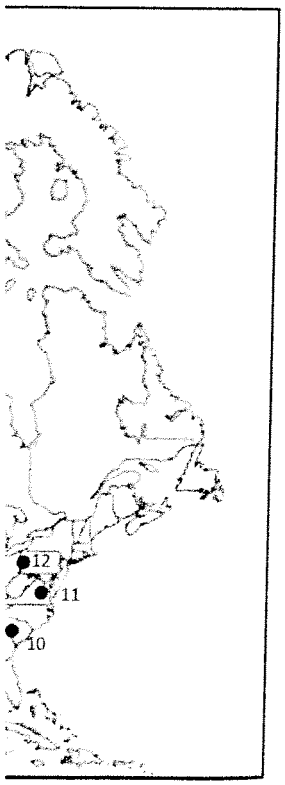

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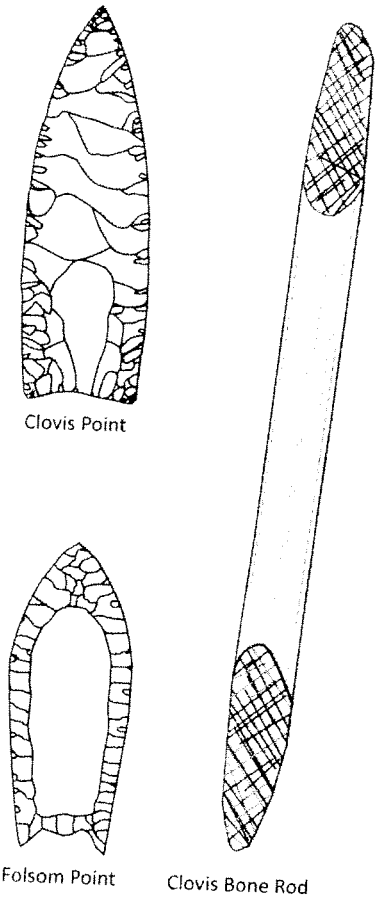
glacial erratics and other geologic evidence indicate that an ice-free corridor located in the Yukon and McKenzie River Valleys, separating the two ice masses, was not accessible until after 14000 cal BP (Jackson and Wilson 2004; Figure 8.1). On the basis of the opening of Beringia and subsequently the ice-free corridor, many archaeologists believe that colonization necessarily postdates 14000 cal BP. Passage through the corridor implies that it afforded a suitable habitat for human occupation, or viable enough, in minimally ecological terms, to allow humans to traverse it. How viable a human habitat the corridor presented remains debated, and no sites have been identified within the corridor that predate 13000 cal BP. Because the ice-free corridor was a transient feature resulting from glacial retreat, it temporally limits the earliest possible colonization date. Therefore proponents of the route interpret colonization as an extremely rapid event.

After crossing Beringia, an alternate route into the unglaciated regions of North America is along the Pacific coastline. Coastal models have been favored by some researchers since the 1960s (Mandryke et al. 2001), and they present a cogent alternative to the ice-free corridor. The outermost regions of the northwestern coastline of North America accumulated ice intermittently throughout the Pleistocene but were likely relatively ice-free by at least 15000 cal BP. It is suggested that the initial colonizers followed the coast from an initial Beringian entry into North America all the way down into South America. Movement inland occurred only after significant population growth and dispersion along coastal habitats. This scenario implies that coastally adapted foragers colonized both North and South America and that this was followed by an eventual migration inland. The coastal option permits greater temporal flexibility for a colonization date since the coasts were ice-free long prior to the emergence of the ice-free corridor. Unfortunately, when the ice masses melted at the onset of the Holocene and sea level rose, much of the continental shelf exposed during the Pleistocene was inundated with water. The sites potentially situated on them are now submerged, and no sites predating 13000 cal BP have been found on the North American Pacific coast (an important South American exception is the Monte Verde site). So even though an inland route, in contrast to a coastal entry route, should be detectable from the location and dates of early sites, differential preservation of coastal sites may obscure the record.

Dated Clovis deposits are thus congruent with both an ice-free corridor entry and a coastal entry. For much of the 20th century, Clovis was not thought to be any older than approximately 12000 cal BP. As radiocarbon calibration curves have become more accurate, Clovis materials are now known to date between approximately 13340 and 12830 cal BP (for reference, the Pleistocene-Holocene boundary dates to approximately 11500 BP; Fiedel 2002). Persisting for approximately 600 years, Clovis projectile points have been found from Canada to Mexico (see Anderson, this volume). Clovis sites are generally open-air and often associated with water sources such as springs, streams, and lakes. Clovis technology includes large bifaces; finely retouched flake tools such as scrapers, gravers, and knives; and beveled bone and ivory rods. Nonbifacial tools are frequently manufactured on flakes derived through core reduction and, particularly in the Southern Plains states of the United States, on

large prismatic blades derived from conical blade cores (Collins 1999). Fluted Clovis projectile points, and to a limited extent blade production and bone or ivory rods, are the only diagnostic artifacts associated with Clovis (Figure 8.2). Cylindrical bone and ivory rods are often beveled at one or both ends, and their function remains unknown.

Clovis "kill sites" are the most widely known in western North America. Sites such as Blackwater Draw, Colby, Dent, and Naco, where Clovis points are found in direct association with extinct Pleistocene megafauna, have been identified throughout the American Plains. These sites most commonly contain mammoth or mastodon skeletal material with small assemblages of projectile points and butchery tools. Residential sites, such as Aubrey, Gault, and Murray Springs, generally contain more diverse technological and faunal assemblages and are often situated near lithic raw material or kill sites. Clovis caches—small, discrete deposits of Clovis tools—have also been found. Caches may represent implements truly "cached" for later retrieval, ritual offerings, or burials (e.g., the Anzick site in Montana). Well-known caches such as Wenatchee and Simon contain a mix of finished and unfinished tools and often yield extremely large bifaces (bifacial Clovis points are



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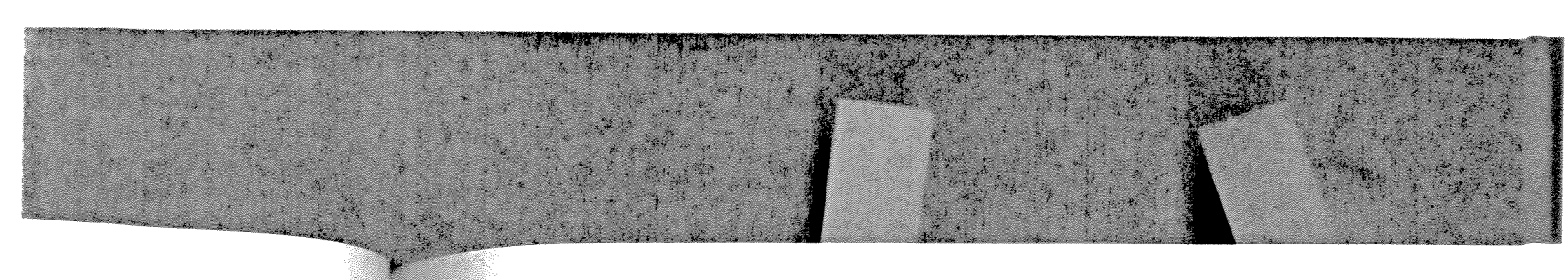

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generally about 10 cm long; cached Clovis bifaces are upwards of 20 cm long; Dixon 1999). Lithic raw materials from Clovis assemblages indicate that high-quality cryptocrystalline cherts were frequently used and transported great distances. Clovis technology, site distribution, and associated faunal records are interpreted to represent a highly mobile population of foragers living in small groups and subsisting primarily on terrestrial prey (Kelly and Todd 1988). The extent to which Pleistocene megafauna contributed to the Clovis diet remains contested. Some archaeologists argue that Clovis megafauna sites are highly visible components of the record but that species such as mammoth and mastodon contributed only minimally to the everyday diet of Clovis peoples (Grayson and Meltzer 2002). Others interpret Clovis peoples as specialized hunters of Pleistocene prey (Waguespack and Surovell 2003) whose efforts likely contributed to megafauna extinction (Haynes 2002).

Whereas regionally distinct variants of Clovis point morphology are known (Morrow and Morrow 1999), the Clovis point and its associated toolkit undeniably constitutes the first widespread, technologically consistent, material cultural record present in unglaciated regions of North America. However, the relationship between Clovis technology and the earliest assemblages from Alaska is not straightforward. If colonists entered the Americas through Beringia, the Pleistocene archaeological record of Alaska should be the oldest and display the strongest cultural affinities to contemporaneous Siberian populations. Fluted points have been found in Alaska. They are primarily surface finds and comparatively rare and younger than Clovis points from the continental United States (Bever 2001). The Nenana complex, the oldest known lithic tradition from Alaska, may date to as early as 13400–13900 BP (most Nenana sites are coeval with, if not younger than, Clovis). Known from sites in the Nenana and Tanana valleys, the Nenana complex is predominantly characterized as a flake and blade industry. Large bifacial knives, retouched blade tools, endscrapers, pièces esquilles, and diagnostic teardrop-to-triangular-shaped projectile points (i.e., Chindadn points) are characteristic of the complex. It has been argued that the nonpoint components of Nenana and Clovis assemblages, particularly blade and scraper morphology, share distinct morphological attributes (Goebel 2004). Similarities between Clovis and Nenana can then be construed as reflecting an ancestral relationship, implying a general trend of increasing reliance on bifacial reduction as colonists dispersed, which culminated in Clovis projectile point technology. This trend may have its origins in the blade-dominated industries of Upper Paleolithic Siberia; but the relationship between Clovis and Nenana remains tentative.

The Pre-Clovis Archaeological Record

Proponents of the "pre-Clovis" position of New World colonization believe not only that human populations were present in the Americas prior to 13500 cal BP but that colonization occurred, or at least a significant human population was present, prior

to Clovis. In this view, Clovis is not representative of the initial colonization event but of a later cultural development or adaptation. Many claims of pre-Clovis-aged sites lack chronological control, are found in disturbed contexts, contain equivocal artifacts, and have struggled to gain widespread professional acceptance. However, with the discovery of the Monte Verde site in Chile, pre-Clovis occupation gained considerable support if not outright acceptance by many archaeologists. Monte Verde component II, dated to between 14650 and 15600 cal BP, remains controversial, but it has supplied the first distinct non-Clovis evidence of human occupation in the Americas (Dillehay 1997). Its location in South America, well over a thousand miles from Beringia, has led many to speculate that colonization necessarily occurred hundreds if not thousands of years prior to Clovis. Sites such as Meadowcroft, Cactus Hill, and Topper all contain potentially pre-Clovis-aged artifacts (Bonnichsen et al. 2006; Figure 8.1).

Meadowcroft, long a debated "contender" for pre-Clovis evidence, is a multicomponent rockshelter in Pennsylvania where non-Clovis artifacts in its lower levels potentially predate 14000 cal BP. The Cactus Hill site in Virginia contains a lithic assemblage found below a Clovis component in a dune adjacent to the Nottaway River and may date to 15000 cal BP. At the Topper site, an assemblage of more than a thousand small flakes and microblades has been excavated in a terrace of the Savannah River in Georgia. Like Cactus Hill, the early material was found below a Clovis occupation level, and tentative estimates suggest the material may be as old as (or older than) 16000 cal BP. Pre-Clovis-aged dates have also been obtained on human coprolites at Paisley Cave and are associated with butchered mammoths at Schaefer and Hebior (Overstreet and Kolb 2003). It is unclear what these sites may represent. Found in diverse geographic contexts with disparate artifacts and dates, the pre-Clovis record currently presents no clear interpretation of when and how colonization unfolded. Assuming the dates are accurate, pre-Clovis-aged deposits could record an initial human dispersal event of a population antecedent to Clovis, or an initial human dispersal unrelated to Clovis, or they may be wholly unrelated to colonization and reflect transient excursions into the Americas. If colonization proceeded considerably prior to 14000 cal BP, then the ice-free corridor was not an available option for entry. Consequently, researchers favoring a pre-Clovis colonization date generally favor a Pacific coastal route.

Folsom

Immediately following Clovis throughout the longitudinal center of North America is Folsom. First identified near the town of Folsom, New Mexico, in 1927 the complex is best known for its distinctive projectile points and association with an extinct bison species, *Bison antiquus*. Sites are mainly located in the Rocky Mountains and Great Plains that were prime grassland habitat for bison (Figure 8.3). Dated from ca. 12800 to

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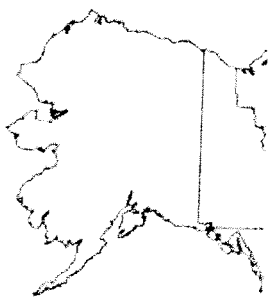

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2. Cooper
3. Lindenmeier
4. Barger Gulch
5. Stewart's Cattle Guard
6. Hanson

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11900 cal BP, the Folsom period corresponds with the Younger Dryas, a 1,200-year-long climatic event marking the return to glacial conditions across the Northern Hemisphere. Folsom technology is known for a unique style of projectile point that is notoriously difficult to manufacture. Akin to Clovis points, Folsom points are fluted; however, the resulting flake scar channels often extend along the entire length of the point (Figure 8.2). The removal of such long channel flakes requires extensive platform preparation and a high degree of knapping skill. Unfinished Folsom points (called performs), channel flakes, and finished points are diagnostic artifacts of the period. Ultrathin bifaces (with width-to-thickness ratios of 10:1 or greater), a wide array of unifacially retouched flake tools, and morphologically distinct spurred endscrapers and delicate gravers (Amick 1999) are also common in Folsom assemblages.

Folsom peoples are interpreted to have led highly nomadic lives. Lithic raw materials in Folsom assemblages are often diverse and derived from sources hundreds of kilometers away. *Bison antiquus*, an extinct species larger than modern bison, were the focus of the subsistence economy. Folsom bison kill sites, such as Folsom and Cooper, involve small numbers of animals (usually 15 or fewer). In contrast to Archaic and later-aged bison kills, where large numbers were seasonally killed and processed for eventual consumption, Folsom hunters are thought to have made multiple small bison kills, often lightly butchering their prey, throughout the year. Residential sites are frequently associated with bison kills or located in close proximity to lithic raw material

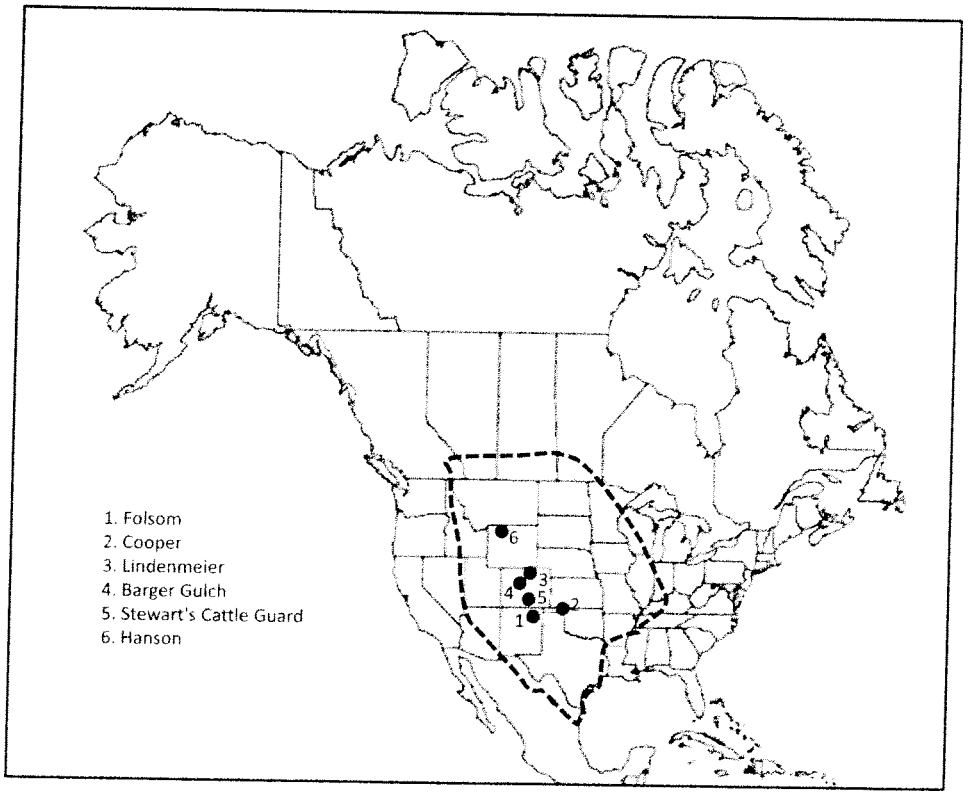

Figure 8.3 Location and spatial extent of key Folsom sites.

sources (e.g., the Hanson Site). A few residential sites with a large number of artifacts (more than a thousand) such as Lindenmeier, Stewarts Cattle Guard, and Barger Gulch preserve nonchipped stone tools such as bone needles and small sandstone abraders.

Early Paleoindians

Collectively, Clovis and Folsom represent a widespread cultural phenomenon during the Late Pleistocene of North America. Continuities between Clovis and Folsom include fluting of projectile points, a process exclusive to Early Paleoindians, and a highly nomadic lifestyle associated with pursuit of terrestrial prey. The distribution of Folsom sites is circumscribed by that of Clovis, and Clovis is often immediately preceded by Folsom in multicomponent sites.

Possibly intermediate between Clovis and Folsom, or at least coeval with Folsom, is Goshen. Goshen points resemble unfluted Folsom points and have been found at a handful of sites in the Northern Plains (e.g., the Mill Iron site; Frison 1996). The difficulty of establishing how colonization proceeded highlights the dichotomy between the current empirical record and the increasingly complex expectations of colonization that are theoretically derived.

For instance, which components of Clovis technology (if any) were imported into the Americas as part of the initial dispersal event and which represent unique technological adaptations to Pleistocene North America is difficult to discern. Depending on which sites and dates one accepts, colonization may have occurred quickly or slowly, via the ice-free corridor or the coast, and be associated with or distinct from Clovis. Since any single site or artifact cannot elucidate the cultural and demographic process of colonization, our understanding of the process is likely to become even more contentious and uncertain as the complex relationships among migration of people, culture, and biology are refined and as archaeological evidence is found. An ever more accurate portrayal of the Pleistocene occupation of the Americas is sure to emerge, but it will necessarily require greater understanding of how humans colonized new lands.

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