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Paleoindian Archaeology in Florida and Panama

Two Circumgulf Regions Exhibiting Waisted Lanceolate Projectile Points

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This chapter compares the Paleoindian and Early Archaic records of Florida and Panama, two regions with waisted lanceolate Paleoindian projectile points. Clearly the early chipped stone industries in Florida (and the greater southeastern United States) and Panama (and greater Central America) are derived from the North American fluted point tradition. But are the similarities attributable to contemporaneous related groups, diffused styles shared by visiting wanderers, convergent behaviors shared by technological or economic needs, or some combination of these factors? To address these complicated questions, we need accurate chronologies and appropriate theory about the relationships of artifact attributes. In both regions, there is evidence for arrival by Clovis peoples at the beginning of the Younger Dryas climatic episode (YD) and lasting into the early Holocene. However, the magnitude of occupations in each region—based on numbers of artifacts, findspots, and sites—is dramatically different. Another finding of this research is that several attributes of artifacts found at sites in Central America are similar to Folsom points from the Great Plains of North America.

Hypotheses about ancestor/descendant relationships based on technological and stylistic attributes of chipped stone artifacts, while at times controversial, are necessary to ascertain and reconstruct human adaptations to changing natural and social environments. In theory, similarities between artifacts derive from a shared cultural-historical heritage, borrowed attributes resulting from interactions between groups, convergent behaviors, or combinations of the three. Two factors constrain our ability to adequately interpret archaeological data, however: one is accurate control of temporal occurrences, and the other is adequate theory about how artifact characteristics inform about changing functions and social-group affiliation.

Projectile points and chipped stone assemblages in Panama (and greater Central America) and in Florida (and the greater southeastern United States)

share characteristics of fabrication and form that indicate fluted point ancestry for both (Faught n.d.b; Ranere and Cooke 1996). But how, when, and from where these people came are new kinds of questions being asked with increasing frequency (Bradley and Stanford 2004; Dixon 2001; Meltzer 2001). I begin this chapter by pointing out that the earliest fluted point sites have been found near the Gulf of Mexico, possibly indicating that populations occurred along the submerged coasts of that paleo-feature. I then describe, briefly, the archaeological records of Florida and Panama: artifacts, sites, site distributions, and temporal controls to investigate possible historical connections. I compare the shapes of points found in both regions by an overlay illustration technique, and I suggest explanations for similarities between artifacts in these two places, including the possibilities of both early and later occurrences of fluted point–related people.

Precise chronology for late Pleistocene, Clovis, and Late Paleoindian material is lacking in the Southeast and in Central America (Haynes 1984, 1992; Taylor et al. 1996). Furthermore, the radiocarbon time frame in which items do begin to show up in dated stratigraphic situations in both regions is difficult to interpret because 500 years of radiocarbon time, from 10,000 BP to 10,500 BP, represents 1,240 years of calibrated time (that is, calibrates to approximately 11,179 cal BP to 12,419 cal BP [Stuiver et al. 1998; Fiedel, this volume]). Consequently, and understandably, researchers in both regions use available ^{14}C data, stratigraphic positioning, and assumptions about biface stylistic evolution (that is, shape and manufacturing sequence) to reconstruct how the artifacts might be related to each other in time.

A Circumgulf Paleoindian Interaction Sphere

Our understanding of diversity and demography in the New World has undergone some dramatic changes over the past ten years. Some of the earliest sites in the New World are known from South America, at the opposite extreme from where such sites would be expected. Fluted points and fluted point sites are much more prevalent in eastern North America than in the far North and Northwest (Anderson and Faught 2000; Dillehay 2000; Faught 1996; G. Haynes 2002). The well-respected and logical ice-free corridor model has not proven to be the pathway for the earliest sites, and thus coastal migration models are logical and have become more popular (Anderson and Gillam 2000; Dixon 1993, 2001; Erlandson 2001; Fladmark 1979; Josenhans et al. 1997). Finally, the diversity and distribution of early artifact assemblages and early skeletal remains indicate that fluted point–related people were not the only ones expanding across the late Pleistocene landscape of the western hemisphere (Dillehay 2000; Faught 1996; Roosevelt et al. 2002).

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Table 9.1. Pooled Mean Averages of Fluted Point Sites with Multiple Radiocarbon Determinations Older than 11,000 BP

Site	Averaged date	Reference
Aubrey, Texas	11,565±70 (average of 2)	Ferring 1995
Blackwater Draw, New Mexico	11,301±236 (average of 3)	Holliday 2000
Lubbock Lake, Texas	11,100±60 (average of 2)	Johnson 1991b
Domebo, Oklahoma	11,040±250 (average of 3)	Haynes 1993
Colby, Wyoming	11,030±120 (average of 2)	Haynes 1992
Hiscock, New York	11,022±39 (average of 4)	Laub et al. 1996; Laub and Haynes 1998

The origin point of the fluted point tradition and technology, the most prolific of Paleoindian groups, remains clouded. The earliest fluted point sites are from the southern plains and Llano Estacado of New Mexico, Texas, and Oklahoma. The three earliest sites with fluted points (or related assemblages) and multiple ^{14}C determinations to average from reliable stratigraphic context include Aubrey and Lubbock Lake in Texas, Blackwater Draw in New Mexico, and Domebo in Oklahoma (table 9.1; Faught 1996, n.d.a). Blackwater Draw is the type-site for Clovis points, and it remains one of the earlier sites, even though it has a large margin of error (Holliday 2000; Roosevelt et al. 2002; Sellards 1952).

The rapid or explosive expansion of Clovis sites is indicated because of the number of sites with ages between 10,900 and 11,000 BP, synchronous with the Younger Dryas climatic reversal described in more detail by Stuart Fiedel in this volume (compare Bonnichsen et al. 1987). Numerous well-dated fluted point sites occur with distance from the southern plains "core" in North and South America (if Magellan is included). Early outliers include Colby in Wyoming and Hiscock in New York, then Lehner Ranch and Murray Springs in Arizona (Haynes et al. 1992), Indian Creek (an early Folsom representative) in Montana (Taylor et al. 1996), Paleo Crossing in Ohio (Brose 1994), Shawnee Minisink in Pennsylvania (Dent 1999), and Fell's Cave in Chile (Bird 1988a; Politis 1991). The latest of the well-dated fluted point sites—those with averaged ages after 10,800 BP—are in far northeastern North America (Anderson and Faught 1998; Ellis et al. 1998; Faught n.d.a).

Proposals of earlier fluted point sites at Topper and Cactus Hill in the eastern United States may change the apparent early cluster of fluted point sites (Ellis et al. 1998), but they will need to be dated with multiple ^{14}C-age precision in reliable stratigraphic context to compare with those presented here. Whether the southern portions of North America turn out to be the "found land" of migrating Clovis groups or just good places to end up remains to be determined (Stanford 1991; Steele et al. 1998). Elsewhere, I have hypothesized

that earlier fluted point–related sites will be found on the continental shelves of the Gulf of Mexico or along the Eastern Seaboard and that those sites might better inform about fluted point origins (Faught 1996).

Neither Florida (or the greater Southeast) nor Panama (or greater Central America) has sites with multiple ^{14}C ages in reliable stratigraphic context to compare with these Clovis sites, but both exhibit sites and artifacts with technological and stylistic attributes to compare, and the growing number of ^{14}C ages allows for theorizing about how fluted point–related peoples arrived and survived in both areas.

A Brief Summary of the Panamanian and Greater Central American Record

Paleoindian presence in greater Central America is known from diagnostic artifacts, debitage from bifacial reduction, and diagnostic tools recovered as isolated specimens or from surface expressions and excavated deposits (figure 9.1). Los Grifos, Los Tapiales, and nearby findspots in Guatemala and Belize represent a northern cluster of related sites; while Turrialba, Nieto, Cueva de los Vampiros, and La Mula West and nearby findspots make a southern cluster (Pearson 2002; Pearson and Cooke 2003; Ranere and Cooke 1996; Snarskis 1979).

Three diagnostic lanceolate projectile point types have been described from Panama and greater Central America (Bird and Cooke 1978; Gruhn et al. 1977; Mayer-Oakes 1986b; Ranere and Cooke 1991, 1996; Snarskis 1979). Two are Clovis-like and fluted (one is straight sided and the other is "waisted," or concave sided); the third type is called "Fishtail," as its blade and stem resemble points from sites in South America such as Fell's Cave in Chile, Los Toldos in Argentina, and El Inga in Ecuador (Bird 1988a; Bird and Cooke 1978; Mayer-Oakes 1986b; Politis 1991). Fishtails in Central America are fluted. The Clovis-like points are considered to be earlier than the Fishtail points (Pearson 2002; Ranere and Cooke 1996).

More diagnostic Paleoindian points (Clovis-like and Fishtail) have been found in southern Central America (n = 22) than in the north (n = 14), and of "possibly earlier" Clovis-like varieties, more are straight-sided (n = 11) and more likely to be in the south (n = 8). Only three waisted Clovis-like varieties have been found in the northern cluster of sites, while five have been found in the south. The ratio of Clovis-like (both waisted and straight sided) to Fishtail points in all of Central America is nearly even (19 versus 17), and the number of Fishtail points in the northern cluster of sites (n = 8) is just about equivalent to the number of Fishtail points found in the southern cluster (n = 9). One possible implication of these numbers, combined with the magnitude of oc-

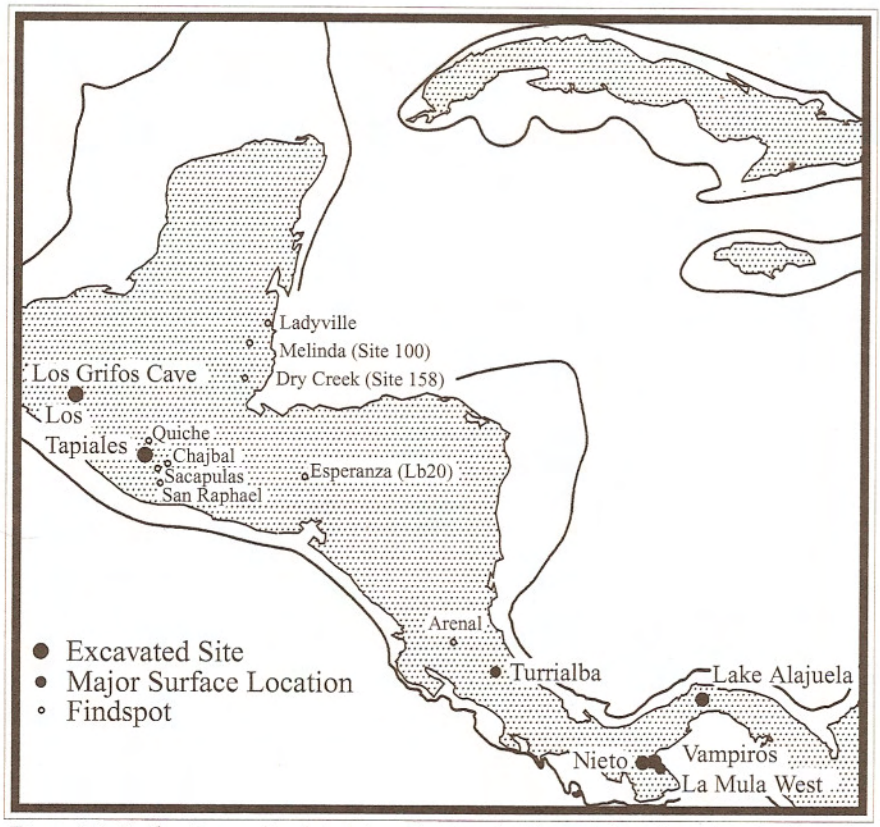

Figure 9.1. Early sites and isolated fluted points in Central America discussed in text (continental shelf estimated from various sources).

cupation apparent in both clusters, is that Panama and the southern cluster were occupied earlier and longer.

Turrialba in eastern Costa Rica is the largest Paleoindian fluted point site in Central America, and it is in the southern cluster (Pearson 2002; Snarskis 1979) (figure 9.1). All three point types were identified from this collection: straight-sided Clovis-like, waisted Clovis-like, and Fishtail. Michael Snarskis proposed a sequence of point styles at Turrialba by noting that Clovis points were found on the older (upper) terraces of the Reventazon River, while Fishtail points were found on lower and more recent terraces (Snarskis 1979). In Panama, two prolific findspots and surface expressions with bifacial flaking, spurred scrapers, and fluted points and fluted point fragments are La Mula West and Madden Lake (also known as Lago Alajuela) (figures 9.1 and 9.2; see also Ranere, this volume). In addition, the Nieto site produced debitage and

Figure 9.2. Fluted points from Madden Lake (Lago Alajuela), Panama. Basal ears are broken off the point 2nd from left. The Macapale Island point, 3rd from the left, has a Folsom-like base.

tool fragments that inform on the sequence of reduction produced by fluted point–related people, and Cueva de los Vampiros has produced stratified deposits in a cave inhabited by fluted point–related knappers (Pearson 2002; Pearson and Cooke 2003).

Radiocarbon ages for fluted points (or fragments) in stratigraphic settings occur at Los Grifos in Mexico, Los Tapiales in Guatemala, and Los Vampiros in Panama. At Los Grifos, a waisted Clovis point and two Fishtail points were found in a layer with two ages of 8930 ± 150 (I-10760) and 9460 ± 150 (I-10761) (Garcia-Barcena 1979, 1982; Ranere and Cooke 1991: 240). Other artifacts found in association with the fluted points at Los Grifos were simple-edged, retouched cutting and scraping tools, but evidently no bifacial debitage, blades, spurred end scrapers, or other artifacts that might better implicate Clovis-related groups were present.

Multiple activities are indicated at Los Tapiales through the presence of one fluted biface (preform?), spurred scrapers and other tools, debitage, and three kinds of stone. Ruth Gruhn and colleagues (1977) have proposed that occupation of Los Tapiales took place at 10,710 ± 170; this conclusion is based on one of three ages derived from charcoal from the lower portions of the sediment matrix (Tx-1631), extracted from 10–20 centimeters above bedrock. The other two ages are also potential associates with the occupation: 11,170 ± 200 (GAK-4889) taken from bedrock and 9,860 ± 185 (GAK-4890) taken from 15–25 centimeters above the bedrock. According to the excavators, there was no evidence for layering or discrete occupation surfaces in this volcanic ash unit; it could, therefore, be a palimpsest of numerous occupations or a biotur-

bated, disarticulated, single occupation. The excavators do not report where, in this sequence, the fluted point fragment was found. An argument could be made that the *terminus post quem* date of 9860 BP is equally plausible as being representative of the actual age of the artifact assemblage and in agreement with dates obtained from Los Grifos.

In Panama, at Los Vampiros a very early age bulk sample determination of 11,550 ± 140 BP (Beta 167520) came from a "thin occupation floor" below a discrete zone with an age of 8970 ± 40 (Pearson 2002). At La Mula West, Donald Crusoe and J.L. Felton (1974) reported an exposed prepared fire pit producing an age of 11,300 ± 250 BP (FSU-300); at Lake La Yeguada, increased charcoal fragments and pollens from pioneer species plants from sediment cores have led Dolores Piperno to propose that humans had been altering the forests circa 11,050 BP. Anthony Ranere and Richard Cooke report bifacial chipping debris around the lake (Pearson 2002; Piperno et al. 1991). At Aguadulce Rockshelter, biface debitage was associated with ages of 10,725 ± 80 BP (NZA-10930) and 10,529 ± 184 BP (NZA-9622) on phytoliths (Pearson 2002), and at La Corona Rockshelter, biface debitage was associated with a single ^{14}C determination of 10,440 ± 650 BP (Beta-19105) (Cooke and Ranere 1992a).

Ranere and Cooke (1996) show that stemmed bifacial points of early Holocene age and bifacial reduction strategies occur only at sites older than 7,000 years old in Panama, especially in the central region (compare Cooke and Ranere 1992a; Pearson and Cooke 2003; Ranere and Cooke 1996). There is no evidence for bifacial reduction strategies in post-7,000-year-old cultural deposits. This apparent rejection or abandonment of a useful strategy for reducing chipped stone assemblages contrasts with archaeological assemblages in Florida and in most areas of eastern North America, where the production of bifacial objects continued to the time of European contact.

A Brief Summary of the Floridian Paleoindian Record

As in Panama, diagnostic artifacts in Florida are found as isolated finds, as surface expressions with abundance of debris, and from excavations in sealed deposits (figure 9.3). Page-Ladson (and surrounding findspots and surface expressions) is a well-known locality in the northernmost of three large clusters of sites and findspots in Florida, known as the Aucilla region (Faught n.d.b). In addition to having a high frequency of isolated artifacts and surface expressions, the Suwannee region includes stratified sites such as Darby and Hornsby Springs on the Santa Fe River, the Bolen Bluff site, and Silver Springs south of Gainesville. The Tampa Bay region includes one of the largest Late Paleoindian and Early Archaic sites in Florida, Harney Flats (Daniel and Wisenbaker 1987), as well as numerous findspots and surface expressions.

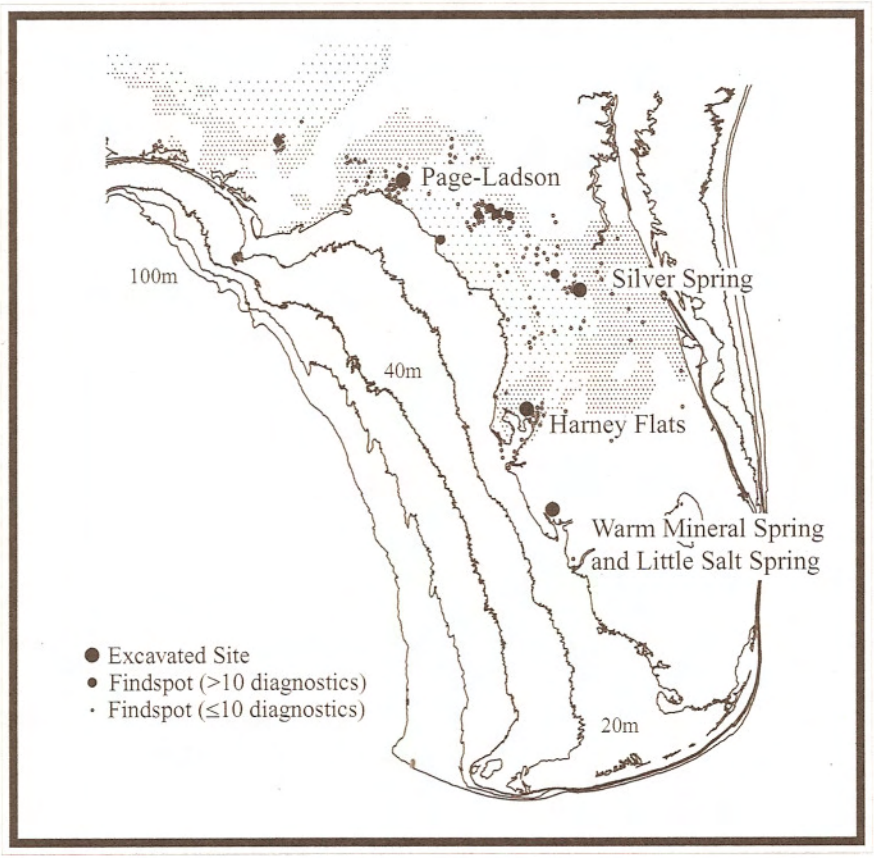

Figure 9.3. Paleoindian and Early Archaic sites and findspots in Florida.

Three kinds of lanceolate Paleoindian projectile points are known from Florida, including fluted points and two kinds of unfluted, waisted lanceolates. In Florida, fluted points are universally classified as Clovis, regardless of whether the base is straight or waisted, or what the basal shape is. The other two waisted lanceolates are classified as Suwannee and Simpson (figure 9.4; Anderson and Sassaman 1996; Bullen 1975; Cambron and Hulse 1964; Justice 1987; Milanich 1994). The emphasis on bifacial reduction along with formal unifacial chipped stone tools of large and small size indicates a fluted point–related heritage (Faught n.d.b; Hemmings 2004).

Isolated finds of Paleoindian points have been inventoried by James Dunbar of Florida's Bureau of Archaeological Research in Tallahassee and by the late Ben Waller of Ocala, Florida, an early avocational diver and collector (Dunbar 1991; Dunbar and Waller 1983). This sample ($N = 543$) was compiled from both private and institutional collections. Suwannee points are by far the most fre-

Figure 9.4. Selected Paleoindian points from Florida. The point in the center is fluted and similar to specimens in Central America; points on the right and left are classified as Suwannee.

quent projectile point type recorded (81 percent); Clovis projectile points are the second most frequently recorded (approximately 14 percent); and Simpson projectile points are the rarest type recorded (5 percent).

Fluted points are frequent in the Suwannee and Aucilla River areas but less so in the Tampa Bay region. Suwannee points occur in each of the three aforementioned clusters in Florida, but they are most frequent in the Santa Fe and Itchetucknee River valleys of north-central Florida. Simpson projectile points are localized in northern Florida around the Chippola River in the panhandle (Chason 1987). The increased sample of Late Paleoindian points (Suwannee) over early points (fluted) indicates evidence of increasing resource catchment range and likely increasing populations.

Remains of late Pleistocene fauna are frequent in Florida in the rivers and other karst features of the northern and western portions of the peninsula (Webb 1974). This fauna comprises larger extinct mammals of genera including *Mamut, Mammuthus, Equus, Bison, Camelops,* and *Eremotherium,* as well as a plethora of smaller animals. Some of the specimens of faunal bone from extinct species have possible butchery cut marks and other evidence for human alteration, but later inhabitants may have altered the old bones well after the animals went extinct (Dunbar and Webb 1996). Some artifacts, however,

seem to have unambiguous associations. For instance, foreshafts of ivory have been found in Florida, one of the few places in the New World where such artifacts are found (Dunbar and Webb 1996; Hemmings 1998, 2004).

Although Florida has a rich array of early artifact types and an impressive number of findspots, ^{14}C dates for diagnostic Paleoindian points in sealed stratigraphic contexts remain elusive. A three-part arrangement of Early, Middle, and Late Paleoindian periods has been constructed for the greater Southeast from stratigraphic data, models of stylistic evolution, and limited ^{14}C control (compare Anderson and Sassaman 1996; Dunbar 2002; Ellis et al. 1998). At Little Salt Springs, a "wooden spear" ^{14}C-dated to 12,030 ± 200 BP (TX-2636) and found with "burnt" remains of extinct tortoise dated to 13,450 ± 190 BP (TX-2335) was proposed as the result of human activities (Clausen et al. 1979). However, the ages of these items are not overlapping; the "spear" is more likely a stick, and the tortoise is stained but not burned (Dunbar 2002; Purdy 1991: 146).

At the Page-Ladson site in the Aucilla region, proboscidean digesta, extinct bone specimens, and abundant numbers of Paleoindian and Early Archaic artifacts from several time periods have been found in a thirty-foot-deep sinkhole. The digesta and animal remains indicate that animals were rummaging in the karst depression features when water levels were lower. Sedimentation of proboscidean digesta and faunal bone clusters around 12,300 BP (Dunbar et al. 1988; Webb 2006). Single-blow conchoidal flakes of coarse chert and possible cut marks on a mammoth tusk from this late Pleistocene deposit led David Webb (2006) and James Dunbar (2002) to propose human presence at Page-Ladson before circa 12,000 BP. The working hypothesis is that these features were important locations for fluted point–related Paleoindians and their progeny to find water, chert, wood, and animals (Dunbar 1991; Neill 1964; Watts and Hansen 1988; Watts et al. 1992).

Near Page-Ladson, in a tributary of the Aucilla River, a *Bison antiquus* skull was found with a piece of chert imbedded in the frontal that has been referred to as a projectile point tip until further investigation with X-ray (Mihlbachler et al. 2000; Webb et al. 1984). Other fragments of *Bison* humerus and skull found in the same deposit as the skull returned discrepant ^{14}C ages of 11,170 ± 130 BP (Beta-5942) and 9990 ± 200 BP (Beta-5941), respectively. One of several ivory foreshafts found at Sloth Hole, a site downstream on the Aucilla, near its modern mouth, was dated at 11,050 ± 50 BP (SL2850) (Hemmings 1998, 2004), confirming a Clovis age frame for fluted point diagnostics found at this site.

At Darby Springs, on the Santa Fe River, a Suwannee point was found with mastodon teeth in a calcitic mud in a karst void feature. Radiocarbon assay of

this mud indicates an age of 9880 ± 270 BP (no lab number; Dolan and Allen 1961: 35).

Warm Mineral Springs is a well-known site because of the skeletal remains found on a submerged ledge and in a cavern there (Cockrell and Murphy 1978). The earliest ^{14}C determinations in the underwater deposits suggest sedimentation after 10,630 BP, but the majority of ages occur between 10,000 BP and 9000 BP (Clausen et al. 1975; Faught and Carter 1998). The skeletal material from Warm Mineral Springs may be even younger, of middle Holocene age, and therefore these are not necessarily Clovis fluted point–related skeletal remains (Susan Anton, personal communication 2001).

The only occurrence of Clovis artifacts in stratigraphic context in Florida is at Silver Springs in central Florida (Hemmings 1975; Neill 1958). Fluted point fragments were found at the base of a deep sequence of dune deposits. There are no recorded stratigraphic occurrences of fluted points with Suwannee points to securely place them within a specific time period. There are, however, several examples of Suwannee points occurring immediately below Early Archaic Bolen diagnostic artifacts (and related tool kits) in stratified settings, including the Bolen Bluff site, Hornsby Springs, and Harney Flats (Bullen 1958; Daniel and Wisenbaker 1987; Dolan and Allen 1961; Neill 1958). Suwannee projectile points also co-occur with Early Archaic notched points in surface contexts, both terrestrially and underwater. Suwannee lanceolates and notched points commonly co-occur in local collections. This evidence suggests that Suwannee is closer in time to early Holocene Bolen than to late Pleistocene Clovis. Perhaps the more important implication is that co-occurrences of these diagnostic projectile point/knife types, and the stratigraphic record, represent strong evidence for survival from fluted point–related Paleoindians to Early Archaic cultures in Florida.

Lanceolate points undergo extreme waisting and other morphological changes resulting in side- and corner-notched points in the greater Southeast. In addition to Suwannees in Florida, Paleoindian waisted lanceolate projectile points known from the greater Southeast include Dalton and Greenbriar (Anderson and Sassaman 1996). These waisted lanceolate varieties occur slightly lower stratigraphically than the fully notched points such as Bolen, Big Sandy, and Taylor, which show up with dates at and after 10,000 BP (Bullen 1975; Cambron and Hulse 1964; Coe 1964; Driskell 1996; Faught et al. 2003; Justice 1987). In Florida and the greater Southeast, notched projectile points mark the transition from Late Paleoindian to Early Archaic adaptations, but the tool kit retains the fluted point characteristics of bifacial reduction (including use of fluted preforms) and formal unifacial tools that indicate technological and stylistic continuity with fluted point Paleoindian technology (Faught n.d.b).

Currently, the most stratigraphically secure ^{14}C control for stylistic diagnos-

tic artifacts of early human occupation of northwestern Florida comes from the "Bolen surface" at Page-Ladson. At this site, Early Archaic Bolen diagnostics were found in sealed stratigraphic contexts from which six ^{14}C determinations have been made, averaging 9958 ± 40 BP (Dunbar et al. 1988, 1989; Faught 1996: 248; Faught et al. 2003). The artifacts include side- and corner-notched beveled projectile points, antler and bone tools, and other biface tool fragments (possible adze bits, but not use-worn). Confirmation of the early date of notched points also comes from ^{14}C determinations in stratigraphic contexts at LE2105 near Tallahassee, with an average of three points at 9870 ± 40 BP (Faught et al. 2003); the association includes both side- and corner-notched points, unifacial tools including Hendrix scrapers, unifacial adzes, and fluted preforms. Dust Cave in Alabama confirms this age with notched points dating to circa 9900 BP (Driskell 1996).

Projectile Points, Tools, and Reduction Strategies

Figures 9.5 and 9.6 compare and present a selection of projectile points from Florida and Panama. In figure 9.5, the points are shown separately and the provenience of individual artifacts is presented. Figure 9.6 shows the types superimposed. The regularities and variance of the formal categories are obvious. Of course, evaluating the shape of an artifact alone does not allow consideration of the fabrication characteristics of the artifact, which I discuss below.

North American Clovis points were prepared from biface preforms, using both overshot and collateral flaking, with flutes driven off well before the end of the fabrication process (Morrow 1995; also see Ranere, this volume). These are characteristic indicators of Clovis technology in North America. Classic examples of Clovis points are carefully shaped and do not have extreme basal concavities (Morrow and Morrow 1999). The two type specimens are straight and slightly excurvate (Hester 1972), but points from other Clovis sites include waisted and straight-sided varieties (see Anderson and Faught 1998; Bradley 1993; Freeman et al. 1996; Howard 1990; Morrow 1995; Morrow and Morrow 1999; Sellards 1952 for various descriptions).

The fragments of fluted point bases from La Mula West have straight sides and flutes driven off well before the end of the fabrication process. These items were made from a white, fine-grained, crypto-crystalline agate, which would be expected for Clovis points. These characteristics support the interpretations of Ranere and Cooke (1996: 58) for Clovis-age occupation or possible early exploration of Central America by early fluted point–making people. By contrast, Michael Snarskis has proposed that some of the straight-sided fluted points from Los Tapiales may be fluted preforms (1979: 129). Fluted biface preforms are also known from sites in North America, including Kentucky

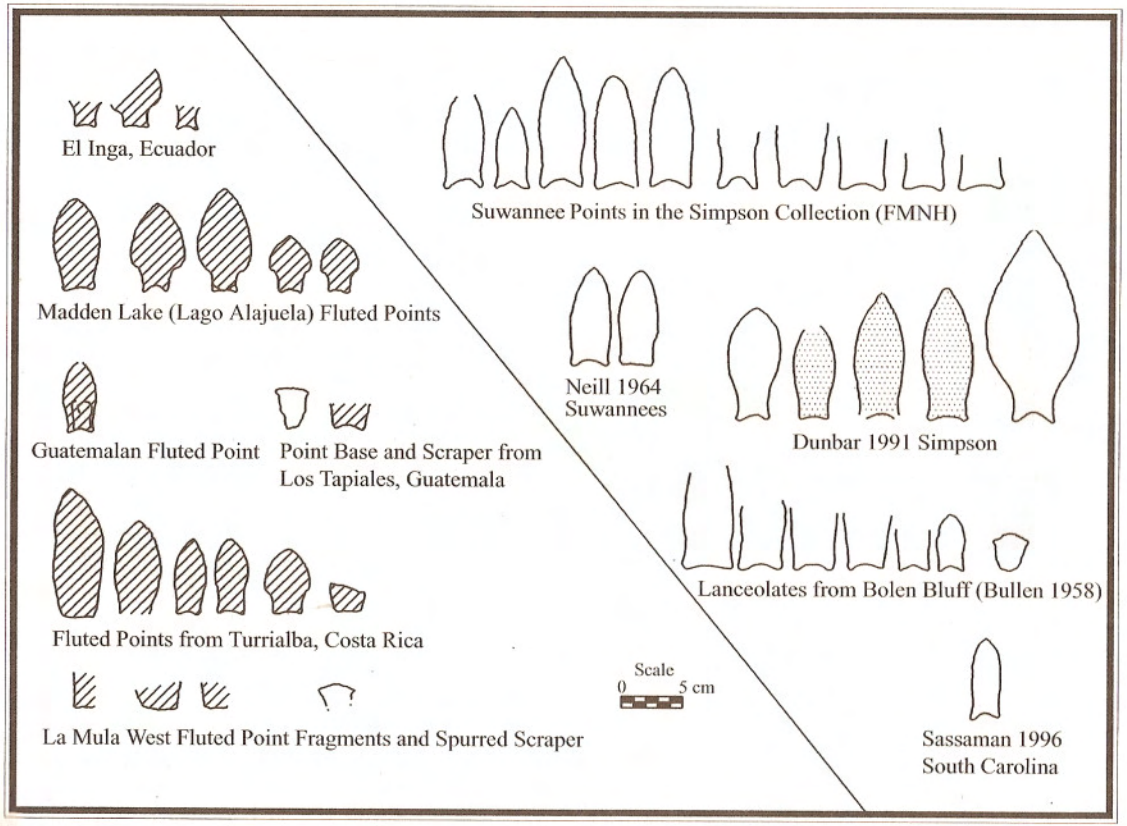

Figure 9.5. Comparison of silhouettes of selected projectile points found in Central America (*left*) and Florida (*right*) (compiled from Bullen 1958, p. 39 plate 1; Neill 1964, p. 22 figure 1; Dunbar 1991, p. 187 figures 1 and 2; Sassaman 1996, p. 79 figure 4).

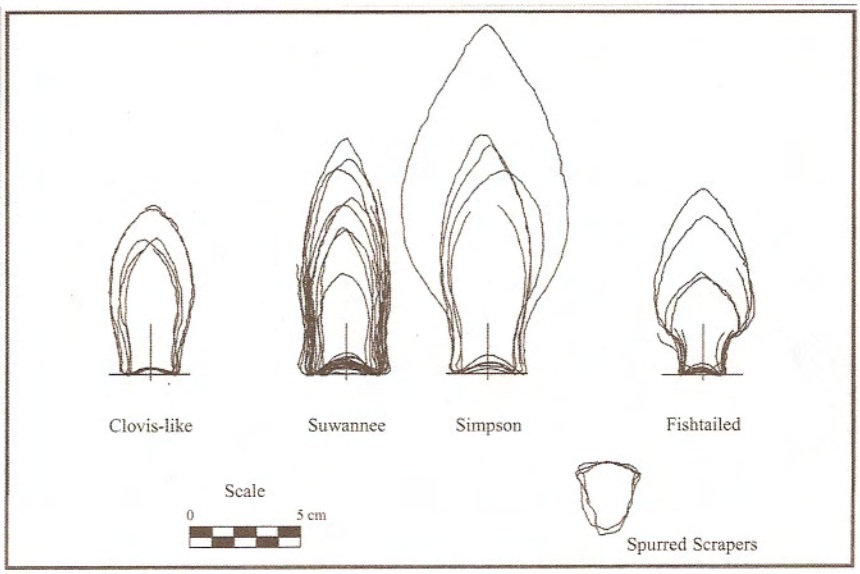

Figure 9.6. Overlay comparison of silhouettes of projectile points from figure 9.5 and spurred end scrapers from Los Tapiales and La Mula West. The outlines were digitized at scale from various publications, and drawings were made in AutoCAD.

(Freeman et al. 1996) and Missouri (Martens et al. 2004; Morrow 1995). Some Central and South American fluted "points" may be products of this reduction stage and not finished points, possibly representing later-age occurrences rather than early-end Clovis.

Waisted fluted points in greater Central America include the San Rafael point (Coe 1960), three points from Turrialba (Snarskis 1979: 128–29, figures 2 and 3b), the Ladyville fluted point (Kelly 1993: 212; figure 5), the Arenal fluted point (Sheets 1994), and the Macapale Island fluted point from Madden Lake (figure 9.2 and 9.5) (Bird and Cooke 1978: 265). Interestingly, the Arenal, Ladyville, and Turrialba fluted points are virtually identical in fabrication and detailed morphology to fluted points from Florida, one of which is illustrated here (figure 9.4, center). The waisted nature of the stem and the radial pattern of light, soft hammer percussion (or possibly pressure) retouch around the margins of these points are distinctive. Determining the significance of these shared attributes depends on a more precise understanding of the age of these specimens, but they may represent contemporaneous occurrences and evidence for low-scale circumgulf interactions.

Fishtail points in Central America were made differently than the fluted points (Bird and Cooke 1978; Ranere and Cooke 1996). The Fishtail points of Central America were made on large thin flakes, or thin biface preforms,

with shaping flake scars that tend to meet in the middle of the biface. Pressure flaking or very light, soft hammer percussion was used to shape margins. The "flute" can be the concave portion of the original flake surface (on the exterior, dorsal side of the preform flake) or a basal flake taken off before final finishing. The resultant basal shapes are identical to bases of some Folsom points, and the stem widths maintain a uniform size, as do Folsom points.[1] The technology of shaping around flutes taken off during preform shaping is similar to Folsom technology as well. The "Hartman" fluted point from Costa Rica, reported by James Swauger and William Mayer-Oakes in 1952, is one of these technologically distinctive types, as are two points from Turrialba (Snarskis 1979: figs. 2a and 2b) and the majority of points found in the Chagres River valley at Madden Lake (Lago Alajuela), including some of the most aesthetic (figure 9.2). These all share technological characteristics with Folsom and other Late Paleoindian projectile points, such as Cumberland, Barnes, and Redstone in North America (Justice 1987); the Fishtail types known from Fell's Cave (Bird 1988a); and the points from El Inga in Equador (Mayer-Oakes 1986). Point styles similar to these do not occur in Florida.

The occurrence of spurred scrapers (figure 9.7) in Panama (and greater Central America) is also congruent with Folsom diagnostics. These scrapers have come from La Mula West (Cooke and Ranere 1992a: 255) (figure 9.7), Los Tapiales (Gruhn and Bryan 1977: 274, fig. 12), and Turrialba (Snarskis 1979: 132). Together, these Folsom-like characteristics suggest interaction, reticulation, or both.

Suwannee points do not resemble any of the Central American points in published accounts, except perhaps in the continuation of waisted stems and basal concavities. Ripley Bullen has described the points as "unusually large and fairly heavy, lanceolate shaped, slightly waisted . . . with concave base, basal ears, and basal grinding" (Bullen 1975: 55). However, Albert Goodyear and colleagues (1983) and Randy Daniel and Michael Wisenbaker (1987) have detailed one production sequence of these points that were made on bladelike flakes, with the bases thinned laterally in many cases. It is my impression that Suwannee points were made from biface preforms *and* large bladelike flakes, but no data have been compiled to confirm this hypothesis.

While some Simpson shapes do resemble the Fishtail varieties in Central America by having constricted waists and broad blades, the method of manufacture is different. Simpson points are "wide bladed, relatively narrow waisted, fairly thin, concave based, medium to large sized points with grinding apparent in the haft area, basal ears, but not as developed as in the Suwannee point, and basal thinning occurs but is also not as well developed as the Suwannee" (Bullen 1975: 56). Some Simpson projectile points are extremely waisted and

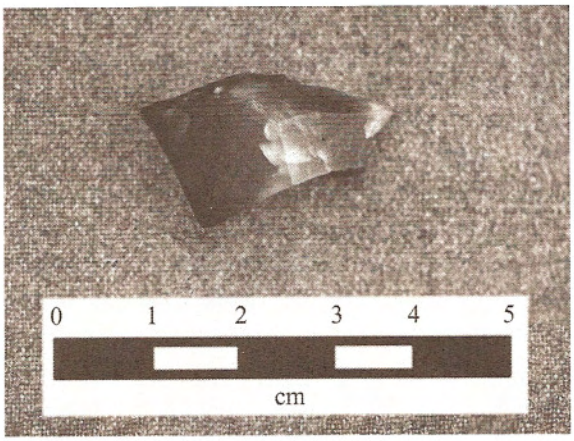

Figure 9.7. Spurred end scraper from La Mula West, Panama.

broad bladed—unequivocally "Simpson." Other examples, however, tend toward shapes that might as well be described as Suwannee points with broad blades. The concentration of these point forms in the Chippola River in the panhandle of Florida distinguishes them from other point forms.

A functional characteristic of both Suwannee from Florida and Fishtail points from Central America is that they are worked down by resharpening, often resulting in an ever-reduced appearance (figure 9.6). This seems to be a frequent characteristic in Late Paleoindian and Early Archaic assemblages in the circumgulf region in the early Holocene, with such points as San Patrice, Dalton, and Greenbriar (Justice 1987). The similarity of tool maintenance and reduction strategies may imply a knifelike function for these implements, as well as similar manipulation strategies for local resources. Large unifacial scrapers are also characteristic of early Holocene circumgulf resource manipulation activities occurring in Dalton, Suwannee, and other Late Paleoindian assemblages. These artifacts are known variously as Clear Fork gouges, Dalton adzes, and Aucilla adzes (Gerrell et al. 1991; Morse and Goodyear 1973). These indicate early Holocene manipulation of wood resources, although what items were being made of the wood is unknown. Large scrapers or scraper-planes are also known from Central America, including the Lago Alajuela collections, Turrialba (Snarskis 1979: figs. 9.6–9.8), and Los Tapiales (Gruhn and Bryan 1977: figs. 19 and 20). Specimens in Panama exhibit step fractures diagnostic of woodworking use-wear (Keeley 1980). These tools support Piperno's hypothesis that human manipulation of plants was earlier and more complex than previously thought (Piperno and Pearsall 1998).

Conclusions

I began this chapter with the observation that the earliest fluted point sites occur near the Gulf of Mexico, indicating where populations may have been along the now-submerged paleo-gulf coastline. These now-inundated paleo-landscapes were utilized by early peoples, and today they can be considered and sampled by underwater archaeologists (Faught 1996, 2004). The extent of the continental shelves of Central America and Florida is shown in figures 9.1 and 9.3, respectively. Florida is well known for underwater Paleoindian and Early Archaic sites, and my underwater research on the western continental shelf of Florida has produced sites of Late Paleoindian and Early Archaic age, as well as Middle Archaic materials reflecting later coastal occupations (Faught 1988, 1996, 2004). Artifacts are also known from underwater contexts in Panama. Junius Bird and Richard Cooke (1977) reported that materials were dredged from forty- to fifty-foot depths off Balboa from a "muck" layer that yielded a temporally mixed assemblage of pieces of chipped agate, a biface, and a polished stone adze. This discovery substantiates the idea that some of the early archaeological record is obscured by Holocene sea level rise in Panama, just as it is in Florida. Known sites in Panama are concentrated near drainages that go to Pacific, into Parita Bay, rather than to the Gulf of Mexico.

In both regions, isolated projectile points are found in surface and shallow buried contexts, and stratigraphic and ^{14}C control associated with diagnostic artifacts in secure contexts is weak. However, Paleoindian and Early Archaic artifacts and sites are significantly more abundant in Florida than in Panama. This is true in agency-curated collections (such as the Smithsonian Tropical Research Institute, the Florida Museum of Natural History, and so forth) as well as in private collections. So, what are the reasons for these differences? There are obvious differences in the amount of academic interest and research attention over the years (that is, more attention has been focused on Florida than Panama). There are also differences in geologic preservation potentials of both regions. Florida's karst geology is one of the primary reasons for the numerous discoveries of Paleoindian and Early Archaic remains because of both abundant natural resources and preservation potentials.

In the end, however, the differences in magnitude are most likely the result of differences in population size at the end of the Pleistocene and in the early Holocene. In Central America, a lower population density probably produced a sparse archaeological record, as Ranere and Cooke have noted (1996). In Florida, there are both high population and apparent long-term occupation in Late Paleoindian and Early Archaic times.

Gordon R. Willey proposed a model of Clovis origins that described the

southward proliferation of fluted point makers from northeast Asia, out of the ice-free corridor, through Central America, and into South America—first to El Inga and then to the Straits of Magellan (Willey 1966). This scenario is untenable today because the progressive distributions of Clovis sites do not come through the ice-free corridor (Dillehay 2000; Faught n.d.a; Meltzer 2001). The earliest Clovis sites discovered so far are in the southern plains, and there are sites in many places in the western hemisphere after that. One alternative model that may have merit, if sites of appropriate age accrue, is that the earliest fluted point–related people came along a western coastal route by way of Panama into the Gulf of Mexico across the isthmus (Faught and Anderson 1996). The possibility that Los Vampiros at 11,550 BP or Los Tapiales at 11,170 BP dates the initial occupation of the region may also support this hypothesis, but not by any unambiguous contextual associations or multiple ^{14}C estimates or through artifact abundance indicating population concentrations.

I agree with Cooke and Ranere's proposal of a sequence of stylistic developments in which waisted Clovis fluted points occurred after the straight-sided Clovis fluted points and were followed by Fishtails (Ranere and Cooke 1991: 241). Their sequential model views both waisted and lanceolate fluted point forms (those made from biface preforms) as earlier than the Fishtails (often made on flakes).

Willey also had ideas with regard to the origins of the Fishtail point style. One is that Fishtail points derived from the Clovis (Llano) tradition of North America and diffused south, while the other suggests that these were derived from El Jobo or Lerma convex-based (stemmed) point assemblages in South America and diffused north (Willey 1966: 68). Lynch proposed a similar scenario suggesting that the Fishtail point series—in which he included Magellan, Toldense, and El Inga—had ancestor/descendant relationships with stemmed point traditions such as Ayamptin, Paijan, and Chobshi (Lynch 1983). Fishtail points and other Magellan industry artifacts in southern South America are as early as Folsom at Fell's Cave at 10,840 ± 100 BP (average of three dates) and Cerro la China at 10,760 ± 100 BP (average of two dates) (Faught 1996; Politis 1991: 290). These dates put the South American sites in the early centuries of fluted point colonization in North America and contemporaneous with Folsom in the plains. The Fishtail point shape in Central America may best be explained as a result of reticulation (sharing, interacting) between different populations, but more temporal control and studied collections are needed to address these proposals more definitely. Similarities between Folsom and Fishtail in Central America imply at least contact between individuals, if not contacts between demes. These similarities include bifacial reduction strategies for the manufacture of projectile points, stem morphology and size, and the

presence of spurred end scrapers and other flake tools with spurs like Folsom in the plains. Reticulation is indicated again because these similarities include a crossing over of traditional and technological attributes.

The evidence for the Paleoindian to Early Archaic period transition in Florida is unequivocal—stratigraphically, technologically, and by reoccupation of the same locations. However, occupation of the Floridian peninsula by fluted point progeny is continuous only to the end of the early Holocene, perhaps around 9000 BP, based on stratigraphic lacunae above and low frequencies of later (Kirk) diagnostic artifacts and sites in Florida (Faught n.d.b; Faught and Carter 1998). Reappearance of sites and artifacts indicates growing populations after 8500 BP with changes in settlement pattern and in artifact technology and style, and with new burial practices, calling into question any attribution of later populations having direct ancestry to fluted point–related Paleoindians.

In Panama, Piperno's evidence for human interference in plant distributions at Lake La Yeguada is well argued, and because the evidence is continuous throughout the early Holocene sediment column, continuity of occupation by active human beings is logical. However, bifacial reduction strategies were replaced by unifacial and expedient tool reduction strategies, apparently without a clear sequence of evolving behaviors through the intervening time, as might be expected. Replacement groups may have come in from South America later and subsumed (or never saw) the previous fluted point–related people (Cooke and Ranere 1992a: 263). Based strictly on the differences in the two chipped stone assemblages, replacement seems a more parsimonious alternative.

It is important to address these issues of continuity and relationship. Cooke and Ranere have shown that the people who made post–7,000 BP unifacial and other expedient chipped stone tools and edge-ground cobbles were the ancestors of the Chibchan-speaking social groups encountered at contact (Cooke and Ranere 1992a: 262; Greenberg 1987). If the hypothesis of early Holocene to middle Holocene continuity is correct, then their language and biology would have evolved from those of the people who made fluted points. Elsewhere, and on the basis of different archaeological and linguistic data, I have proposed that fluted point–related Paleoindians of the East (particularly the far Northeast) spoke a proto Macro-Algonquin language that is a pre-Penutian or pre-Gulf language stock (Faught 1996; see also Greenberg 1987; Haas 1958; Willey 1958). Chibchan and Algonquian are not even distant relatives in any linguistic models (Greenberg 1987). So Cooke and Ranere's (1992a) proposal that Clovis people settled in Central America and evolved into Chibchan speakers known at contact creates alternative models, lively debate, and the need for continued research into these details. The same kind of problem arises if the Warm Mineral Springs people are assumed to be Clovis related

because of their supposed early age. If they are representatives of middle Holocene replacement populations, then assumption of fluted point affiliation would be wrong. These issues must be addressed to accurately interpret New World microevolution.

Determining ancestor/descendant relationships with enough detail to make accurate historical reconstructions at scales appropriate to discern the evolution of social groups, from Paleoindian to contact and throughout the continents, is a vital part of explaining the process of their adaptations. Most of the proposals expressed in this chapter can best be addressed when the chronology of the colonization process becomes more clear and as our ability to assign cultural, ethnic, and demic identities, in principled ways, to archaeological assemblages increases.

Acknowledgments

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Notes

1. The mean variation of width of the projectile point base for the Central American sample is 1.89 centimeters. Folsom stem-width variation is narrowly focused. Dan Amick reports a mean of 1.81 centimeters and a median of 1.83 centimeters from a sample of 391 New Mexico Folsom points (Amick 1994: 23). The range for South American examples has not been determined, but no such restriction applies to the Late Paleoindian Suwannee points as seen in figure 9.5.