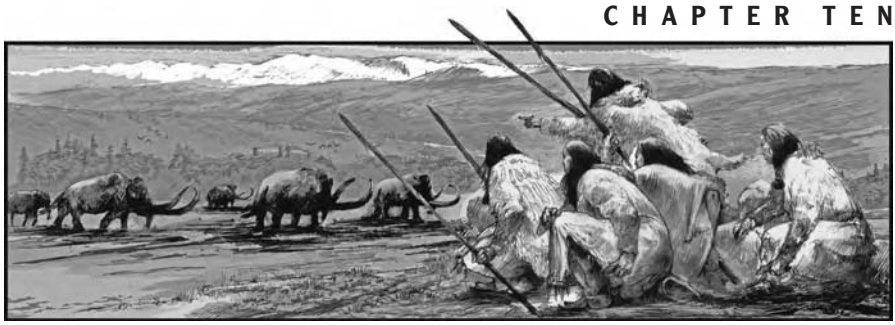
CHAPTER TEN



Bonnie L. Pitblado

Angostura, Jimmy Allen, Foothills-Mountain

Clarifying Terminology for Late Paleoindian Southern Rocky Mountain Spear Points

In 2003, I published a book on my research into late Paleoindian use of the southern Rocky Mountains. The research was based on detailed, hands-on analyses of 589 late Paleoindian spear points from 414 sites all over Colorado and Utah. The study area included the focal region of the southern Rockies that constitutes a substantial portion of the two states and, for comparative "big picture" purposes, the adjacent Plains and Far West (Colorado Plateau and Great Basin).

As I illustrated, photographed, and measured specimen after specimen, it quickly became clear that I would need to develop a projectile point typology that could capture the variability present in Rocky Mountain assemblages. That variability represented an obvious departure from the well-established Plains post-Folsom Paleoindian sequence (e.g., Frison 1991; Haynes 1992): Agate Basin, Hell Gap, Alberta, Scottsbluff, and Eden. Following Alex Krieger's (1944) approach,

I proposed two newly conceived (although not strictly new) types: "Angostura" and "Jimmy Allen/Frederick." Both, as elaborated later, came to play crucial roles in my characterization of late Paleoindian chronology and early human use of the southern Rocky Mountains.

Since I published my typology and conclusions, researchers have in at least two cases attempted to apply "Angostura" and "Jimmy Allen/Frederick" as I defined them to new projectile point data sets, only to produce results seemingly contradictory to mine (Brunswig, Chapter 9, this volume; Larson 2005). Other researchers, occasionally publicly (e.g., Jodry 2005) and sometimes in one-on-one conversation, have raised important questions both about my choice of terms and about how those terms relate to others invoked in the Rocky Mountain late Paleoindian literature—especially "Foothills-Mountain" (e.g., Frison 1991). This chapter's overarching goal is to address these issues and others in an effort to clarify how we all might fruitfully approach the southern Rocky Mountain Paleoindian record.

Chapter 10 will (1) define "Angostura" and what I will, as of this writing, call simply "Jimmy Allen" (rather than the longer "Jimmy Allen–Frederick") to give fieldworkers type descriptions they can apply to late Paleoindian finds in the southern Rockies and to give researchers terms with which to explore new analytical problems; (2) explain why I labeled the types as I did and offer retrospective thoughts about whether the terms are appropriate and, if not, how they should be modified; (3) demonstrate that the two types—however we label them—are morphologically and even mathematically quite different from one another; (4) present results that show why it matters that we distinguish between the two types in the southern Rocky Mountains; (5) compare my term "Angostura" with George Frison's "Foothills-Mountain" because some have used and continue to perceive them as synonymous when they are not; and (6) offer thoughts on seemingly contradictory results obtained by my colleague Robert Brunswig and reported in Chapter 9 of this volume for the late Paleoindian record in the north-central Colorado Rockies.

ANGOSTURA VERSUS JIMMY ALLEN

I want to be clear from the start that Angostura and Jimmy Allen are by no means the only two late Paleoindian point types found in the southern Rockies, nor is either of them found in the Rockies to their complete exclusion elsewhere. Other types that occur in the southern Rockies include components of the traditional Plains late Paleoindian sequence (e.g., Agate Basin, Hell Gap, Eden, and Scottsbluff) and its Great Basin counterpart (Great Basin Stemmed series). However, these point types (and a few others) are rarer in the southern Rockies than either of the two that are the focus of this manuscript, and they all play a comparatively minor role in my interpretation of what people were doing in those mountains ca. 10,000–7,500 radiocarbon years before present (RCYBP). For details on late Paleoindian projectile points from the southern Rockies other

than Angostura and Jimmy Allen, I refer readers to my dissertation (1999) and book (2003).

Both my proposed "Angostura" and "Jimmy Allen" late Paleoindian types describe specimens with a lanceolate form and a typically parallel-oblique (but sometimes collateral or irregular) flaking pattern. They are therefore as similar to one another as are, say, Clovis and Folsom points, which share a lanceolate form, concave base, parallel to collateral flaking patterns, and flutes up one or both faces. As with Clovis and Folsom, however, the differences between Angostura and Jimmy Allen projectile point forms, production strategies, and geographic distributions outweigh their similarities.

Because this is the case, lumping the two types together and considering them to be one—or failing to properly distinguish one from the other—could lead to interpretive problems. Although it is hard to predict the form those problems might take, I see potential for them to parallel misguided interpretations of fluted points from 1927 (when Folsom was recognized, named, and generalized to include all points with flutes) to 1938 (when excavators at Blackwater Draw recognized Clovis as chronologically and otherwise distinct from Folsom). For a decade or so, our archaeological forebears viewed Folsom and Clovis points—or, as they sometimes referred to them, "true Folsoms" and "generalized Folsoms"—as manifestations of a single, chronologically equivalent type (e.g., Dixon 1999; Meltzer 1993). I would like us to avoid such errors in the southern Rockies.

In making the decision to assign the mostly obliquely flaked lanceolate assemblage of late Paleoindian specimens to two types rather than one, or three, or eight, I followed as closely as I could Krieger's (1944) still generally accepted and often-quoted (although, I would argue, far less often followed) "typological method." Table 10.1 juxtaposes the six steps in Krieger's methodology (cited nearly verbatim) with my application thereof to (mostly) obliquely flaked lanceolate forms.

Literature searches conducted cursorily in step three and more thoroughly in step four of my typological adventure revealed nineteen published sites with secure radiocarbon dates associated with projectile points I call Angostura and six with specimens I classify as Jimmy Allen. The nineteen Angostura dates suggest a median age of 8,790 RCYBP and an age range of 9,700–7,550 RCYBP. Fourteen of the previously recorded sites (74 percent) are in the Rockies, three (16 percent) are on the Plains, and one—the Angostura type-site—is in the Black Hills, a dome mountain Plains "island" with a Rocky Mountain–like environment (Hunt 1967; Osborn and Kornfeld 2003). The six Jimmy Allen sites have a median age of 8,780 RCYBP (essentially identical to the median for Angostura) and a range of 9,350–7,900 RCYBP. Four of the six Jimmy Allen sites are in the mountains (a rather meaningless 66 percent, given the small sample size). Of those, two are in the highest Rockies and two in the low foothills. The remaining two Jimmy Allen sites, including the type-site, are on the Wyoming Plains.

Previously recorded data used to develop my "tentative types" did not and do not suggest that what I came to call Angostura and Jimmy Allen are chronologically

Table 10.1. Krieger's (1944) "Typological Method" Steps and Pitblado's (1999) Application of Those Steps to Lanceolate Late Paleoindian Projectile Points from Colorado and Utah.

Krieger (1944:279–282) Step	*Pitblado's (1999) Application*
1. Sort specimens into major groups that look as though they were made with the same or similar structural patterns in mind. Create groups that contrast strongly.	Initial sort reveals two groups of lanceolate points: (1) thick, narrow specimens that converge to a slightly concave base, and (2) thin, wide specimens with parallel to divergent bases that show marked concavity.
2. Break down working patterns further according to differences consistent within some, but not all, like specimens in each pattern.	Conduct further sorts on the basis of flaking pattern (e.g., parallel-oblique, collateral), and the corner form (rounded vs. sharp), and basal side outline.
3. Recombine groups obtained in step two based on a study of distributions, taking into account geographic, temporal, and associational occurrence of the groups. Create "tentative types" that show "cohesiveness of elements proven through the use of archaeological data rather than simply supposed."	Use literature to roughly evaluate known occurrences of points similar to those represented in the study assemblage. Finding: if grouped by the initial sort (step one)—but not the more extensive sort (step two)—there appears to be chronological overlap between (1) and (2) but likely differences in geographic distribution and "associational occurrences."
4. Test "tentative types" using whatever further information is available. Check persistency with which elements of proposed types occur again and again, in the same essential pattern with the same variations.	Closely examine differences between "tentative types" (1) and (2). Examine all published radiocarbon dates and locations of known occurrences, and begin experimenting with research database to see if differences in the latter are consistent with the former. Persistency appears to hold.
5. Name and describe types based on a site or locative term; supply line drawings and photographs to make variations clear.	Name types "Angostura" (1) and "Jimmy Allen/ Frederick" (2) on the basis of their original type-sites; publish type names and detailed descriptions, drawings, and photo graphs (Pitblado 1999, 2003). As of this chapter, drop the "Frederick" but keep the type.
6. Employ typological knowledge in the reconstruction of cultural relationships. When sufficient data are available, the plotting of type distributions in space, time, and association may reveal consistency in the way certain types tend to fall together in site after site.	Use the new types to draw conclusions about the behavior of late Paleoindians who used the southern Rockies, where the two types occur so frequently.

distinct, like Folsom and Clovis. On the contrary, the data suggest these types were made and used contemporaneously. On the other hand, the extant data did hint at differences in geographic distribution. Thick, narrow lanceolate points appeared to occur commonly in Rocky Mountain settings and only occasionally on the Plains. Thinner, wider specimens were a little more common on the

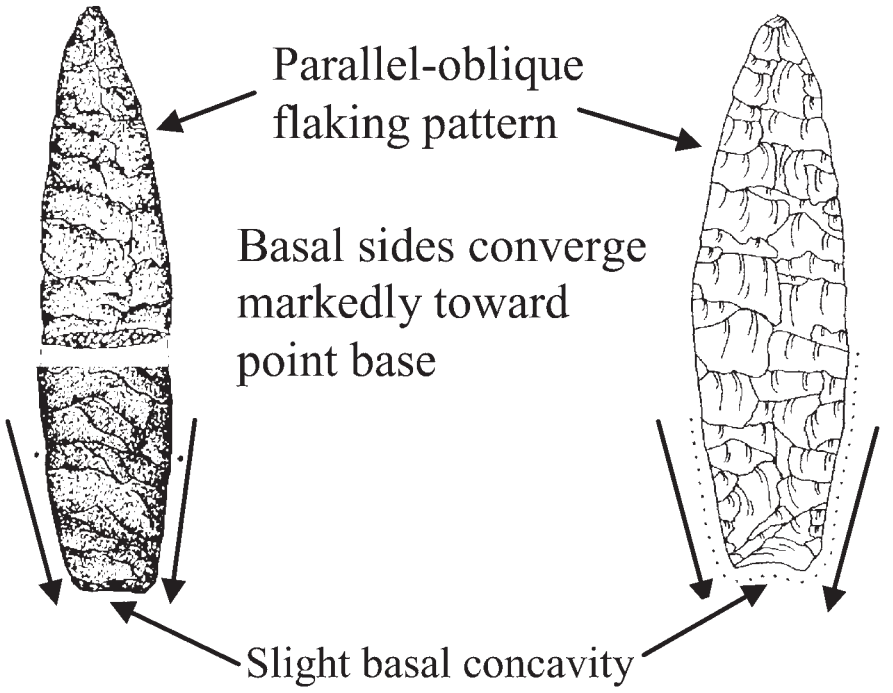
Plains and were characterized in Frison's (1991:38–79) often-quoted, often-photocopied Paleoindian cultural chronology as a terminal Plains Paleoindian manifestation called the "Frederick Complex" (originally defined at the Hell Gap site [Irwin 1968]). Frison (1991:66) characterized points of the "Frederick Complex" as (1) younger than and technologically distinct from Cody, (2) bearing a "close similarity to specimens known as James Allen," and (3) distinct from but contemporary with points made by members of "Foothills-Mountain Paleoindian Groups."

In addition to helping me ascertain the likelihood that my two groups of lanceolate late Paleoindian points might reflect real variability in geographic space, Frison (1991; also see Frison 1973, 1976, 1983, 1988, 1992, 1998) also provided support for the notion that the two types might differ in terms of their "associations" (Krieger 1944:280). Frison perceives his "Foothills-Mountain Groups," a concept that, as I explain later, encompasses—but exceeds the scope of—my "Angostura," as representing a unique and mutually exclusive adaptive trajectory vis-à-vis that unfolding on the Plains at the same time and represented at its terminus by what Frison calls the "Frederick Complex." Frison's "Foothills-Mountain Paleoindians" were generalized hunter-gatherers; their Plains contemporaries were bison hunters—and, as he views them, ne'er the two did meet. The "associational" differences that support Frison's contention include differences in both faunal and non–projectile point artifact assemblages at Foothills-Mountain (including what I call Angostura) and Plains (including what I call Jimmy Allen) sites.

In short, what few published, relevant data were available in the mid-1990s, when I undertook my study of late Paleoindian points in the southern Rocky Mountains, revealed likely and rather provocative differences in two of the three dimensions that Krieger argued may—indeed must—bolster an argument for labeling a group of similar artifacts as a "type" proper. They likewise helped fulfill Krieger's (1944:281) requirement that types reflect a "cohesiveness of elements" not "simply supposed through a set of assumptions" but shown through the use of "archaeological data." This accomplished, I felt justified in offering the type descriptions that appear in my dissertation and book, which I present here as a foundation for the discussion that follows and which I maintain—à la Krieger—not only look different but are different.

Angostura

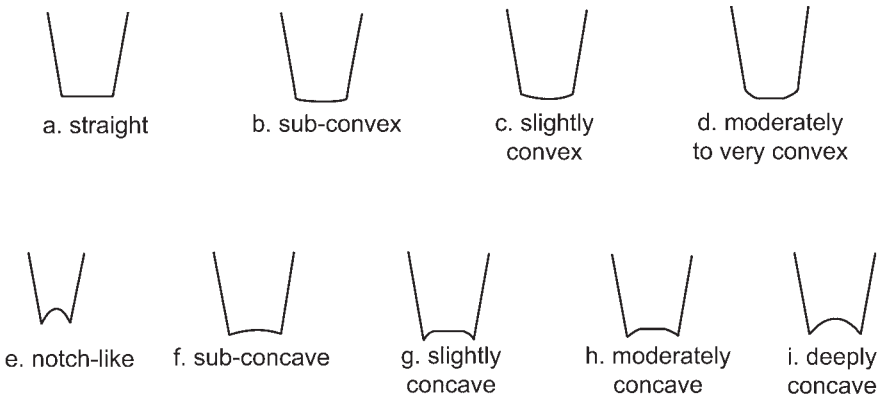
Angostura projectile points as I define them are lanceolate bifaces with flaking patterns that range from, most typically, parallel-oblique to collateral to irregular and very rarely, horizontal, with some specimens showing different patterns on opposite faces (Figure 10.1). The basal sides of the points converge toward the base, which is usually slightly concave in outline (Figure 10.2). As with virtually all Paleoindian spear points, the basal edges of finished Angostura points are ground. In longitudinal cross-section, Angostura points are usually



10.1. Left, *Angostura point tip and base from the type (Ray Long) site, Angostura Reservoir, Black Hills, South Dakota.* Right, *Angostura projectile point from 5MF625, Moffat County, Colorado (illustrated by the author; courtesy, Henderson Museum, University of Colorado, Boulder). Key diagnostic features are indicated with arrows. Dots/stippling delineate the extent of basal grinding. Ray Long specimens are reprinted from the Bureau of Reclamation–sponsored publication* Archaeological Investigations in Three Reservoir Areas in South Dakota and Wyoming, Part I, Angostura Reservoir, *by Richard Page Wheeler, 380, figure 47 b (point tip) and l (point base).*

symmetrical but are not uncommonly "D-shaped," "twisted," or otherwise asymmetrical.

I labeled this class of projectile points "Angostura" because the term is the chronologically earliest moniker I could find in the literature describing specimens that fit the description given here. Richard Wheeler (1995 [reprinted from 1954]:449) showed photographs and line drawings (e.g., Figure 10.1) of specimens he characterized as "distinctive, slender, lanceolate, diagonally rippled flaked dart-points with narrow and slightly concave or straight base and ground lateral edges." He noted further that "Angostura points have been reported from Texas, Nebraska, Wyoming, Montana, Idaho, Saskatchewan, and the Northwest Territories . . . and are similar to, but separable from, Agate Basin points" (Wheeler 1995 [1954]:450). He also cited radiocarbon dates bracketed by those I noted previously for the type.



10.2. Qualitative variants of basal convexity/concavity as expressed in specimens with convergent basal sides (Pitblado 1999). Absolute basal convexity or concavity of each specimen in the study assemblage was also recorded (in mm).

Other projectile point labels floating around out there describe apparently similar projectile points, including Lusk (Greene 1967, 1968; Irwin 1968), Alder-Ruby Valley (Davis, Aaberg, and Greiser 1988; Davis et al. 1989), and Barton Gulch–Hardinger-Metzal (Davis, Aaberg, and Greiser 1988). All of these labels, however, were introduced after Wheeler proposed the term "Angostura," and none has yet been sufficiently described and illustrated in the literature that I could make a determination of whether one or more of them could be appropriately applied to my southern Rocky Mountain material. They were all, therefore, poor contenders to fulfill my labeling needs. "Foothills-Mountain" (sensu Frison 1991) is also an ill-advised choice of terms for reasons I explain later in this chapter.

The reason some have questioned my use of the term Angostura is that it has been argued to represent a "wastebasket" typological class. Marie Wormington (1957:140) noted this—and, in fact, perpetuated the problem—in her still relevant typological opus, saying, "This term [Angostura] is rapidly, and most unfortunately, replacing Yuma as a name to be applied indiscriminately to all lanceolate points." She perpetuated the problem by publishing a photo of a specimen not from the type-site but instead from Nebraska, while at the same time expressly accepting Wheeler's classification as appropriate. She concluded, almost rightly (Wormington 1957:140–141), that the term Angostura "should be applied only to points that have the same shape and general thickness and the parallel flaking that characterizes those from the type station." To have been entirely correct, she should have said "parallel-oblique flaking" rather than "parallel flaking," given her recognition that most of the points from the Ray Long "type station" exhibit this trait. I think she simply forgot the "oblique" in that sentence, an omission that may have further confused those looking to her for typological guidance.

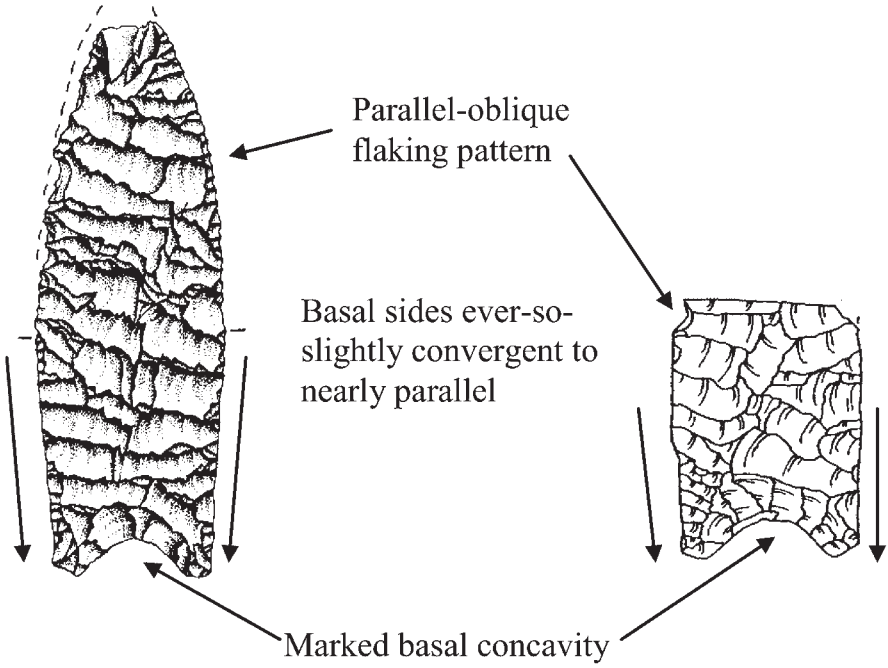
My view is that it is not Wheeler's fault if his rather carefully conceived type has been misconstrued by other workers. Researchers have argued for years about whether "x" specimen is "really Clovis" (often in the case of specimens found ten states away from the Clovis type-site in New Mexico). Terms like "Plainview" and "Midland" have caused even more consternation among workers looking to place their finds in an appropriate chronological and geographic context. Yet Paleoindian archaeologists continue to use those terms because we understand their referents and can effectively employ them as foundations for discussions all can follow.

I believe it is more productive to reclaim a perfectly good old label and clarify its usage than to choose the only other course of action available: proposing yet another label for my colleagues to wrap their minds around—with no guarantee they would do a better job of it than they did with the "old" Angostura. In the final analysis, it does not make a lot of difference whether we call convergent-base, obliquely flaked, lanceolate points "Angostura," "Type X," "Sue," or "convergent-base, obliquely flaked lanceolate points" (CBOFLP for short). What does matter is that when we invoke the label (any label) as a Kriegerian type, we do so understanding that we are referring to a particular point form that has been convincingly associated with a particular time frame, geographic distribution, and set of material cultural associations. I will continue working on the "convincingly" part of that sentence throughout the rest of this chapter.

Jimmy Allen

Jimmy Allen points are lanceolate in form and typically show a well-executed parallel-oblique flaking pattern. Whereas Angostura points converge toward the base, Jimmy Allen points almost always show ever-so-slightly convergent to more typically parallel, or slightly converging, or even flaring (slightly concave) basal sides. Their bases proper also tend to show a more pronounced basal concavity than Angostura (Figure 10.2), although some share Angostura's less markedly concave base. Whereas Angostura specimens are narrow and relatively thick, Jimmy Allen specimens are wide and thin (Figure 10.3).

This description nicely captures the type descriptions for both Jimmy (James) Allen (Mulloy 1959) and Frederick (Irwin 1968; Irwin-Williams et al. 1973). Most who have weighed in on the issue consider the two so similar as to represent one and the same type, including Frison (1991:66). I concur, given that there are no demonstrable differences in geographic distribution or time frame between the two and that morphological differences mentioned by Irwin (1968:215) are clearly "minor" ones (sensu Bamforth 1991). Because I see them as so similar, in my 1999 and 2003 publications I juxtaposed the terms to label the type "Jimmy Allen/Frederick." As much as I still embrace my term "Angostura," however, I now regret assigning its wider, thinner, parallel-based counterparts an unduly cumbersome name. To recognize Mulloy's (1959) earlier contribution of the term Jimmy Allen to the literature, as well as the term's greater familiarity to most



10.3. Left, *Jimmy Allen projectile point from the type-site, Laramie Basin, southern Wyoming.* Right, *Jimmy Allen point from Rocky Mountain National Park (specimen 14232), Larimer County, Colorado (illustrated by the author; courtesy, Rocky Mountain National Park, Estes Park, Colorado). Both specimens are ground along their basal sides. Type-site sketch reprinted from George C. Frison's* Prehistoric Hunters of the High Plains, *2nd ed. (1991), 63, with permission from Elsevier Press and George Frison.*

archaeologists, I hereby drop "Frederick" from my type label (although not the description), leaving it as simply "Jimmy Allen."

Distinguishing Angostura from Jimmy Allen in the Southern Rocky Mountains

To this point, I have explained the differences in geographic distribution of Angostura and Jimmy Allen sites recorded prior to my work and overviewed the major distinctions between the shapes and dimensions of Angostura and Jimmy Allen points. I also offered illustrations intended to visually convey key morphological differences. Here I delve back into a subset (just the Angostura and Jimmy Allen points) of my original Colorado-Utah database to demonstrate just how different the two types are in practice. In the paragraphs that follow, I overview qualitative and quantitative variables that clearly distinguish a population of sixty-five Angostura points from forty-nine Jimmy Allen points and offer a mathematical function that can discriminate between the two types with up to 98 percent accuracy.

Beginning with three key qualitative differences between the two types, I note first that Jimmy Allen points in my sample are more likely than Angostura to express the parallel-oblique flaking pattern—and Angostura is highly likely to show the pattern. Eighty-two percent of Jimmy Allen points from the entire study region of Colorado and Utah are obliquely flaked, compared with 57 percent of the Angostura points. Angostura, for its part, is more likely than Jimmy Allen to express a collateral flaking pattern (18 percent of specimens do) or an irregular one (12 percent). The difference in flaking patterns is statistically significant (Pearson chi-square = 10.960, df = 3, p = 0.012) and undoubtedly underlies the characterization of Jimmy Allen (by me and others) as possessing "well-executed flaking" when compared with some Angostura specimens.

Another clear vector of variability between Angostura and Jimmy Allen specimens from the project area is their basal outline (Figure 10.2). In my sample, 60 percent of Angostura points exhibit a sub- or slightly concave base, 22 percent a moderately or deeply concave base, and 18 percent straight bases. Jimmy Allen specimens have moderately or deeply concave bases 58 percent of the time and sub- to slightly concave bases in 40 percent of cases, and only 1 specimen of 114 has a base best characterized as straight (often, anomalous base shapes are the result of reworking, captured in other observations). Again, the difference in the two populations is statistically significant (Pearson chi-square = 17.628; df = 2; p = 0.000), reinforcing just how strong a predictor an obliquely flaked lanceolate projectile point's basal outline is of its type affiliation.

A final qualitative observation that clearly distinguishes our two classes of obliquely flaked lanceolate points from one another is basal side outline, a characterization of whether basal sides converge toward the base proper, diverge, are straight, or flare. Ninety-eight percent of points I categorized as Angostura converge toward their base; the other 2 percent (a single specimen) show basal sides closer to parallel. In stark contrast, Jimmy Allen points have convergent basal sides 14 percent of the time (and in those few instances the convergence is much less pronounced than in the typical Angostura artifact), parallel basal sides in 55 percent of cases, divergent basal sides with 18 percent frequency, and flared basal sides 12 percent of the time. Although the cross-tabulation that produces these results yields a number of cells with small frequencies, there is no doubt that in this case the chi-square significance test results are valid (Pearson's chi-square = 84.319; df = 3; p = 0.000). Angostura and Jimmy Allen bases differ dramatically from one another, both in the type description and in my Colorado-Utah sample.

Measurements, too, reveal stark differences between the Angostura and Jimmy Allen points I examined. Table 10.2 compares mean values for three key quantitative observations: basal width (distance from basal corner to corner), maximum width, and maximum thickness.

In each case, a t-test shows the apparent difference in central tendency to be statistically significant ($p < 0.01$). This demonstrates quantitatively what the type

Table 10.2. Mean Values (mm), Basal Width, Maximum Width, and Maximum Thickness.*

Type	*Basal Width*	*Maximum Width*	*Maximum Thickness*
Angostura (n = 65)	14.09	20.77	6.57
Jimmy Allen (n = 49)	21.35	22.46	5.85

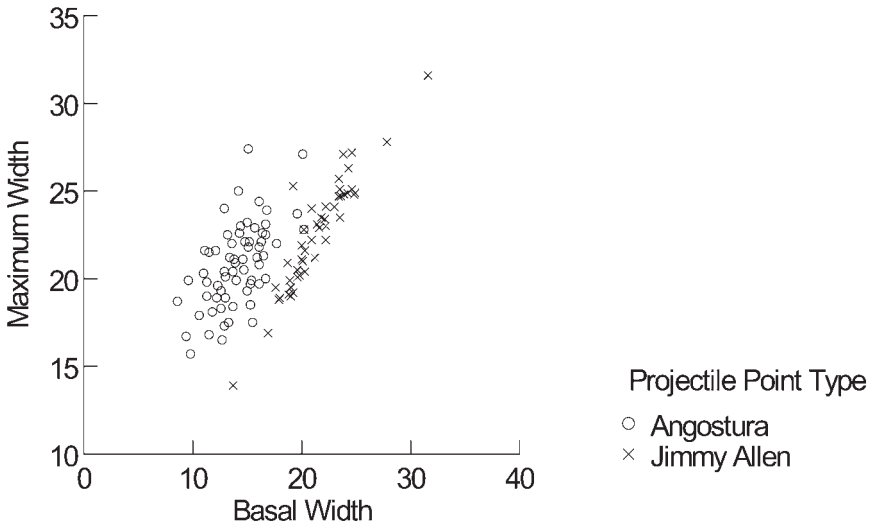
* To be included in my 589-point sample, a specimen had to have a complete base and a maximum length at least equal to three-quarters of its basal width. Thus, a specimen did not have to be complete to be sampled, but it did have to have a sufficiently large basal fragment that a suite of measurements (Pitblado 2003, chapter 4) could be taken.

descriptions suggest verbally: that Angostura points are narrower and thicker overall than their Jimmy Allen counterparts and that their widths decrease markedly toward their bases (i.e., "converge").

In an effort to explore whether there might be an easy way for fieldworkers to objectively classify lanceolate points they can narrow down to the Angostura or Jimmy Allen types (i.e., lanceolate points with parallel-oblique flaking, basal grinding, and so forth), I conducted a discriminant function analysis (DFA) of the quantitative variables I measured for all the points of these two types in my Colorado-Utah sample. While the statistics and qualitative findings presented earlier show numerous differences between Angostura and Jimmy Allen points that register as statistically significant, the DFA shows that just *two* simple measurements—basal width and maximum width—can predict the type of any Angostura or Jimmy Allen point in my sample with 97–98 percent accuracy (assuming one is trying to discriminate only between those two types and is not evaluating, say, an Eden point). Figure 10.4 is a scatterplot of the basal width (x-axis) and maximum width (y-axis) of all 114 Angostura and Jimmy Allen points in my sample.

Visually, it is evident that basal and maximum width alone separate points of the two types with little discernible overlap. The DFA yields the algebraic function that mathematically best distinguishes the two clusters. Here, that function can be expressed as $L = -1.816 + 0.584(BW) - 0.383(MW)$, with L an object's discriminant score. The discriminant scores of the 114 specimens subjected to the DFA (the "developmental sample") range from –3.953 to 4.532. Specimens with $L < 0.53$ are classified as Angostura; where $L > 0.53$, the function predicts a specimen is Jimmy Allen. Applying this formula and a cutoff value of 0.53 results in the classification of two (of 65) points that I called Angostura as Jimmy Allen (an accuracy rate of 97 percent) and one (of 49) points that I called Jimmy Allen as Angostura (98 percent accuracy).

To be invoked as an effective predictive tool *outside* of the test assemblage, it is important to validate a function's discriminatory power on a new sample of Angostura, Jimmy Allen, or both, projectile points—one not included in the calculation of the function in the first place. I do not have access to as many specimens as I would like to test the function as rigorously as would be ideal. However, I do have available an assemblage of 21 projectile points that I classify



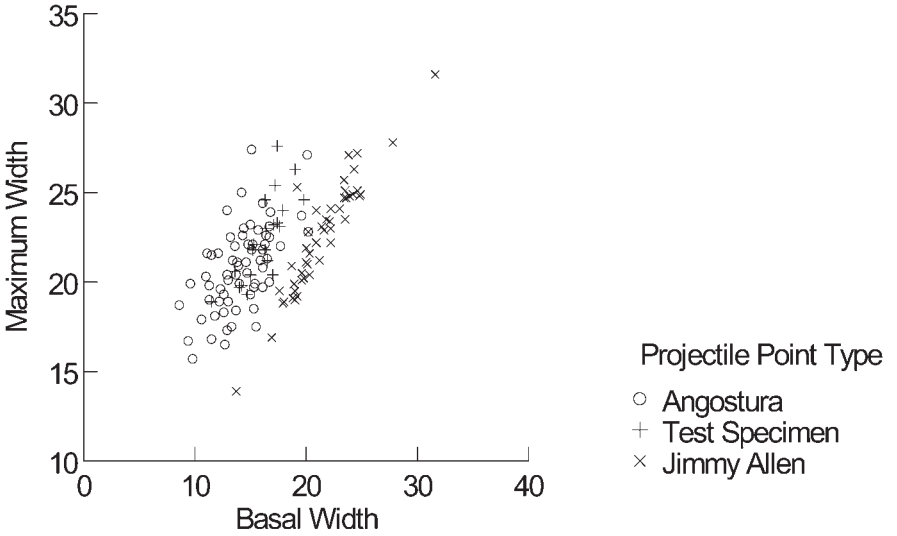
10.4. Scatterplot of basal and maximum widths (in mm) of Angostura and Jimmy Allen points in the Colorado-Utah sample. Note the lack of overlap between the two populations.

as Angostura from both excavated and surface contexts of the Chance Gulch late Paleoindian site, located in the Gunnison Basin of Colorado (e.g., Pitblado 2002). A suite of radiocarbon dates indicates an age for the Angostura component of the site of 8,000 RCYBP, well within the range I indicated earlier for the type (e.g., Stamm, Pitblado, and Camp 2004).

I began my test by measuring the basal and maximum widths of the 21 test specimens. I then plotted them, along with the 114 original specimens, on a second scatterplot (Figure 10.5). Visually, the graph suggests that the points I called Angostura based on their apparent conformance with the type description also cluster this way on the basis of their basal and maximum widths. To confirm what the graph suggests, I plugged the basal and maximum width values of the test specimens into the function calculated from the 114-point developmental sample: $L = -1.816 + 0.584(BW) - 0.383(MW)$. This yielded discriminant scores for the test assemblage ranging from –2.339 to 0.325. All twenty-one scores are lower than the 0.53 cutoff value of the developmental sample and thus represent—according to the DFA function—"Angostura" points.

Why We Should Care about Differentiating Angostura and Jimmy Allen Sites

All right, so Angostura and Jimmy Allen are really different from one another morphologically, and locations of previously known sites with these point types suggest there may be important differences in the physical distribution of the specimens across the Intermountain West and High Plains. Here I briefly overview what I argued in much more depth in my 1999 and 2003 publi-



10.5. Scatterplot showing the basal width (BW) and maximum width (MW) (in mm) of Angostura and Jimmy Allen points in the original 114-point sample and the test assemblage of 21 points assigned to "Angostura" from the Chance Gulch site (5GN817), Gunnison Basin, Colorado. Note that the test specimens cluster visually with the Angostura points from the original sample.

cations: Angostura and Jimmy Allen are very differently distributed across the Plains and southern Rocky Mountains of my study area.

In short, Angostura points proved the consummate late Paleoindian point type represented in the southern Rockies within my sample assemblage. Of all the sites in my 414-site database that produced one or more Angostura points, 67 percent were recovered in the southern Rockies and only 5 percent on the Plains (and a very few others in the Far West). Jimmy Allen was the second-most-common point type in the southern Rockies, although they were found at only half as many Colorado Rocky Mountain sites as were their Angostura counterparts (15 Jimmy Allen sites versus 28 Angostura) (Table 10.3). In a clear departure from Angostura's distribution, sites with Jimmy Allen points were also common on the Colorado Plains—as common, in fact, as sites we might expect to dominate Plains late Paleoindian assemblages: Eden. In the Colorado Plains portion of my study assemblage, 20 sites each produced Jimmy Allen and Eden projectile points (compared with just 5 Plains localities that yielded a single Angostura point apiece).

Also of interest are different distributions of Angostura and Jimmy Allen sites within the southern Rocky Mountains, although sample sizes are small and these findings must be considered tentative until substantiated with more data. Of the twenty-eight Rocky Mountain sites that yielded Angostura points, all environmental zones were represented. The specimens occurred most commonly

Table 10.3. Angostura (Ang) and Jimmy Allen (JA) Projectile Points from the Rocky Mountains and Plains of Colorado.

Site No.	*Site Name*	*Elevation (meters)*	*Rockies/ Plains*	*Point Type*	*No. of Points*	*Published References*[*]
5ST87		3,597	Rockies	JA	1	Marcotte and Mayo 1978
5BL161		3,499	Rockies	Ang	1	
RMNP 6205		3,477	Rockies	Ang	1	
5LR6		3,463	Rockies	JA	1	Benedict 1996; Brunswig 2002
5BL80		3,455	Rockies	JA	1	
5GA22	Caribou Lake	3,444	Rockies	JA	3	Benedict 1974, 1985; Pitblado 2000
5HN154		3,420	Rockies	Ang	1	
5BL120	Fourth of July	3,415	Rockies	Ang	4	Benedict 1981, 2005
5BL120	Fourth of July	3,415	Rockies	JA	1	Benedict 1981, 2005
5GA56		3,415	Rockies	Ang	1	
5LR1733		3,398	Rockies	JA	1	
5LR230	Carey Lake	3,371	Rockies	JA	3	Morris and Metcalf 1993
5LR2		3,347	Rockies	Ang	2	Brunswig 2001
5LR2		3,347	Rockies	JA	1	Brunswig 2001
LM IF 94-1		3,338	Rockies	JA	1	
RMNP 169		2,972	Rockies	Ang	1	
5GN2151		2,606	Rockies	Ang	1	
5SM1456		2,548	Rockies	Ang	1	
5DL201		2,524	Rockies	Ang	1	
5GA1384		2,511	Rockies	JA	1	
5JA405		2,486	Rockies	Ang	1	
5DL691		2,445	Rockies	Ang	1	
5GN2133		2,414	Rockies	Ang	1	
5GN1835	Tenderfoot	2,340	Rockies	Ang	1	Stiger 2001
SD SZ	private collection	2,338	Rockies	JA	1	
SD M1	private collection	2,332	Rockies	Ang	2	
5DL775		2,322	Rockies	Ang	2	
5MT6660		2,283	Rockies	Ang	1	
McC 21	private collection	2,274	Rockies	Ang	2	
5MT7013		2,237	Rockies	Ang	1	
5MT5353		2,234	Rockies	Ang	1	
McC 20	private collection	2,204	Rockies	Ang	1	
McC 20	private collection	2,204	Rockies	JA	1	
5MT6468		2,121	Rockies	Ang	1	
5MT4690		2,091	Rockies	Ang	1	
5MF625	Cathedral Butte	2,076	Rockies	Ang	8	Stucky 1977
5MF633	Badger Skull	2,057	Rockies	Ang	1	Stucky 1977
MF 15M		2,057	Rockies	Ang	1	
McC 86	private collection	1,951	Rockies	JA	1	
McC 32	private collection	1,933	Rockies	Ang	1	
BT 1	private collection	1,911	Plains	JA	1	
5MF2918		1,836	Rockies	JA	1	

continued on next page

Table 10.3—*continued*

Site No.	*Site Name*	*Elevation (meters)*	*Rockies/ Plains*	*Point Type*	*No. of Points*	*Published References**
McC 41	private collection	1,829	Rockies	Ang	2	
5MF3687	KibRidge-Yampa	1,780	Rockies	JA	1	Hauck and Hauck 2002
RL H	private collection	1,737	Plains	JA	1	
RL V	private collection	1,737	Plains	JA	1	
RL Russell	private collection	1,725	Plains	JA	1	
BF 10	private collection	1,672	Plains	JA	1	
BF 11	private collection	1,615	Plains	JA	3	
RL Pritchett	private collection	1,469	Plains	JA	1	
MT 193C	private collection	1,379	Plains	Ang	1	
MT 206D	private collection	1,379	Plains	JA	1	
TP 33755	private collection	1,372	Plains	JA	1	
TP 34/27	private collection	1,290	Plains	JA	1	
TP 27/18P	private collection	1,288	Plains	JA	1	
TP 75435	private collection	1,280	Plains	JA	1	
TP 9534	private collection	1,250	Plains	Ang	1	
TP 85335	private collection	1,231	Plains	Ang	1	
TP 1653	private collection	1,219	Plains	Ang	1	
TP 25753	private collection	1,219	Plains	Ang	1	
TP 7528	private collection	1,219	Plains	JA	1	
TP 75325	private collection	1,219	Plains	JA	1	
TP 95119	private collection	1,219	Plains	JA	1	
TP R+4	private collection	1,219	Plains	JA	1	
TP R-17	private collection	1,219	Plains	JA	1	
TP R-18	private collection	1,219	Plains	JA	1	
TP R-4	private collection	1,219	Plains	JA	1	
MT 48.16	private collection	1,097	Plains	JA	2	

* Artifacts in private collections do not have published references. Unless otherwise noted, sites with Smithsonian trinomial designations are either not fully reported (but are instead simply documented on site forms in Colorado Office of Archaeology and Historic Preservation [OAHP] files in Denver) or are reported in unpublished CRM (cultural resource management) reports on file at OAHP. Report titles can be accessed via OAHP's online COMPASS database (access can be arranged through OAHP personnel).

Note: Point types per Pitblado (1999, 2003) and assigned by Pitblado. Type assignments may or may not differ from other published references. This table does not include the few Jimmy Allen and Angostura specimens from the far western parts of the Colorado-Utah study area. Sites are listed by elevation, from highest to lowest.

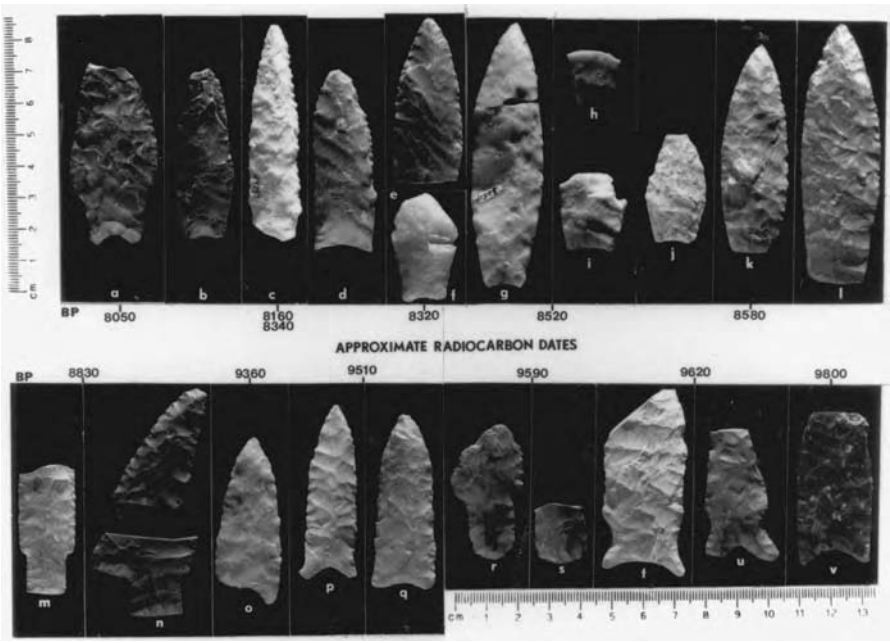
(n = 11) in parklands (settings like those of Middle Park or the San Luis Valley). The low foothills yielded the next-greatest number of Angostura-producing sites (n = 7). The montane, subalpine, and alpine zones each contributed three sites to the Angostura database, and one was in an unknown environmental zone. The fifteen Jimmy Allen sites in the Colorado Rocky Mountain database, however, were best represented in the high subalpine zone (n = 6) and were not documented in the foothills. Three Jimmy Allen sites were located in parks, two in the highest alpine zone, one in the moderately high montane belt, and three in unknown environmental zones.

These data suggest a tendency for Jimmy Allen sites to be found (1) most commonly in the very high reaches of the Rocky Mountains (the subalpine and alpine zones) and (2) infrequently in the lowest mountain zone, the foothills. Angostura sites, on the other hand, according to these limited data, are found (1) most often in low, open settings but (2) throughout all the zones of the Rockies at least some of the time (a scan of the "elevation" column of Table 10.3 from top to bottom reinforces visually that Angostura occurs from high to low elevations of the Colorado Rockies). A check of absolute elevations of Rocky Mountain sites yielding projectile points of the two types shows a mean value of 2,484 m for Angostura and 2,915 m for Jimmy Allen. The difference is statistically significant at the 95 percent confidence level (pooled-variance $t = -2.142$, $df = 39$, $p = 0.038$) and confirms a tendency within the sample data set for Jimmy Allen sites to occur at higher elevations than Angostura.

This makes it all the more interesting that Jimmy Allen sites *also* occur with significant frequency on the Colorado Plains, while Angostura specimens do not. An interpretation I have posed as a hypothesis for testing is that Angostura projectile points index late Paleoindian groups who had made a full-time commitment to the Rocky Mountains, spending the entire year moving from environmental zone to environmental zone. With an adaptation like the historic Ute (including the pre-horse Ute), they would have occupied lower elevations of the foothills (and perhaps parks) during cold months and higher zones—in smaller groups—in milder months (e.g., Simmons 2000). If this reconstruction is accurate, then makers of Angostura points are virtually, by definition, a particular manifestation of the "Foothills-Mountain groups" Frison has long argued occupied the Rockies after 10,000 RCYBP.

Jimmy Allen points, with their dual occurrence on the Plains and in the Rockies—together with what appears to be an emphasis on the very highest Rockies—perhaps index late Paleoindian groups who migrated seasonally *between* the two regions. If that is the case, they must have used the Rockies primarily in the summer months, when the highest elevations would have been accessible. If we eventually learn that Jimmy Allen occurs equally often in lower mountain settings, we need not conclude that the very same groups migrated from region to region but rather that members of some cohesive unit occupied the Rockies and Plains and were sufficiently culturally united that they shared a projectile point technology.

This sort of adaptation would hardly be unprecedented: Folsom bison hunters used both the Plains and the Rockies extensively (even, as Jodry [e.g., 1999] has shown at the Black Mountain Folsom site, the very high southern Rockies). Additional data should help clarify which mountain zones Jimmy Allen point makers occupied, when, and what they were doing there. I suspect we will eventually find that like Folsom before them and some Shoshone much later (Trenholm and Carley 1964), Jimmy Allen folk were big-game hunters who pursued bison on the plains, bison in mountain parks, and bison, elk, and mountain sheep at very high elevations when conditions permitted.



10.6. Diagnostic artifacts from the Medicine Lodge Creek site, Bighorn Basin, Wyoming. Photo reprinted from George C. Frison's Prehistoric Hunters of the High Plains, *2nd ed. (1991), 70 (fig. 2.33), with permission from Elsevier Press and George Frison. Original photo caption: "Foothill-Mountain Paleoindian points (a–l, o–v), and a Cody point (m), and Cody knife (n) from the Medicine Lodge Creek site."*

ANGOSTURA VERSUS "FOOTHILLS-MOUNTAIN PALEOINDIAN GROUPS"

Two paragraphs ago, I said that if my interpretation of the distribution of Angostura projectile points in the southern Rocky Mountains is correct, then makers of Angostura points must be a particular manifestation of the "Foothills-Mountain groups" Frison has long argued occupied the Rockies after 10,000 years ago. This statement captures the difference between Frison's "Foothills-Mountain" concept and my term "Angostura": his phrase describes an adaptation that he notes is characterized by many projectile point types; my term describes a particular projectile point type that I believe represents an adaptation akin to that Frison is trying to capture. A glance at figure 2.33 of Frison's 1991 volume (my Figure 10.6) helps clarify why our two terms are not equivalent.

As Frison sees it, all but the two Cody points from Medicine Lodge Creek are "Foothills-Mountain Points." That includes quite a few specimens (b, c, e, f, g, h, i, j, and k) that conform to my Angostura type, as well as a number that clearly do not. Those that do not include two stemmed specimens (r, s) that would be lost at a Great Basin Stemmed site, a specimen that could be justifiably classified as Jimmy Allen (v) (I have seen this specimen, and the flaking pattern is more parallel-

oblique than parallel-horizontal), and a few other miscellaneous specimens. A "Foothills-Mountain Point," by this conception, can be defined as any diagnostic late Paleoindian projectile point except Cody found at a Rocky Mountain site, including points of types associated with the Far West and the Plains.

As long as we understand that this is what we mean when we use the term "Foothills-Mountain Points," we are on safe—if not particularly useful—ground. However, I have observed a tendency for archaeologists working in the southern Rocky Mountains to use the term "Foothills-Mountain Point" as if it were a true projectile point type (the term appears frequently on Colorado site forms in the "diagnostic artifacts" field). When archaeologists do that, all they can be safely assumed to be communicating is that they found a point they know *is* late Paleoindian, *is not* Cody—and that is it. In many cases, especially in southern Colorado—where we have few, if any, sites with the highly variable array of diagnostic late Paleoindian projectile points of Medicine Lodge Creek—they are really talking about an Angostura point. For reasons that should now be abundantly clear, by saying they found an *Angostura* point (or, if it sits better, "a point that nut-case Pitblado would call Angostura—but I hate the term"), they are communicating something more specific and meaningful.

Frison's "Foothills-Mountain" concept, I believe, accurately describes an *adaptation* some late Paleoindian people made to year-round life in the Rocky Mountains. In the southern Rocky Mountains, those people made Angostura points. The fact that a hefty percentage of the points at Medicine Lodge Creek (and other sites in Wyoming and Montana) are Angostura suggests that the type is probably a good index of a true, year-round adaptation there as well. Frison (1991) knows perfectly well that the Cody points at Medicine Lodge Creek are not "Foothills-Mountain" (i.e., they do not index occupation of that foothills site by mountain-adapted people), which is why he set them aside in his figure caption (see his quoted caption in Figure 10.6).

But we can go further employing the same logic: the two Great Basin Stemmed points and the Jimmy Allen point also are not "Foothills-Mountain Points"—they are Great Basin Stemmed and Jimmy Allen points. As Cody is to the plains, Great Basin Stemmed is to, well, the Great Basin. And as Cody is to the plains, Jimmy Allen is to the plains *and* the mountains, as I have tried to show in this chapter. To me, Medicine Lodge Creek is a fascinating site precisely because of the phenomenal variability in the projectile point assemblage. Cramming all that variability into any one type label—"Foothills-Mountain Point" or any other—is unhelpful, almost certainly not a reflection of how Frison himself views the assemblage, and not a convention we should adopt in the southern Rocky Mountains. So, friends, in the same way you resist the urge to record a gorgeous Eden point's type as "Plains late Paleoindian," when you find an Angostura point, why not label it as such rather than the more generic, less informative, never-intended-to-be-a-Kriegerian-point-type "Foothills-Mountain"?

EVALUATING BRUNSWIG'S EVALUATION OF ANGOSTURA AND JIMMY ALLEN IN THE NORTH-CENTRAL COLORADO ROCKIES

In Chapter 9 of this book, Bob Brunswig presents an excellent and exhaustive study of Paleoindian projectile points from north-central Colorado. This is precisely the sort of work I hoped would follow publication of the data in my dissertation and book because it independently tests the ideas and models I offered therein. For his study, Brunswig created a database of Paleoindian projectile points by compiling existing paper and electronic resources for sites with Paleoindian components within the study area. He started with the Colorado Office of Archaeology and Historic Preservation's COMPASS computerized site database and then added data derived from other databases, publications of the University of Northern Colorado's Systemwide Archeological Inventory Program, "gray literature" CRM reports, and published manuscripts.

Brunswig reports data summarized from these sources according to Paleoindian projectile point type(s) present. Of greatest interest to me and of greatest relevance to this chapter, of course, are his late Paleoindian findings, especially those of Angostura and Jimmy Allen points. In contrast to what my research and results would predict, Brunswig observes that in his study area—geographically a subset of mine—sites yielding Jimmy Allen points were more common than sites yielding Angostura points (37 to 19). In my study, the ratio in the Colorado Rockies was almost precisely the opposite (28 sites with Angostura points, 15 with Jimmy Allen). In terms of the presence of *individual* specimens—data I did not report in my 1999 and 2003 publications to avoid biasing interpretations of type distributions across the landscape by including sites with widely disparate numbers of projectile points (but see Table 10.3)—Brunswig records for his project area a very high absolute number of Jimmy Allen points (67). This total is far higher than the 19 individual Angostura specimens (exactly 1 Angostura spear point per Angostura component) he reports for his project area. These results again appear to run counter to my own, which suggest that Angostura, numerically and in other respects, is the consummate southern Rocky Mountain late Paleoindian point type.

Examining next the distribution of Jimmy Allen and Angostura components across the various environmental zones of his project area, Brunswig reports that 57 percent of Jimmy Allen points occur in "higher-elevation zones" and the remaining 43 percent in "lower-elevation" zones. Sites with Angostura specimens are similarly distributed in his study area, he notes, with 63 percent in "high-elevation" zones and 37 percent at "lower elevations." In my study, readers will recall from my earlier discussion, Angostura points were most common in mountain parks, second-most-common in foothills settings, and present in smaller and roughly equal percentages in the montane, subalpine, and alpine zones. Jimmy Allen points occurred by far most frequently in the subalpine zone, never in the foothills, and infrequently in mid-altitude parks and montane settings. In my sample, Jimmy Allen is tightly (although not exclusively) associated with the

high Rockies, Angostura with all Rocky Mountain environmental zones—from lowest to highest.

So what is going on here? Why the apparent discrepancies in Brunswig's findings versus mine in geographically overlapping areas? In addressing that question, we must first and foremost explore how comparable the two investigations really are. In short, it appears from Brunswig's description of his study area that, environmentally, it is not strictly comparable to mine and that this structural difference could, in fact, account for much (maybe even all) of the variability in our results. Mountain environmental zones in Brunswig's study area include alpine tundra, the alpine-subalpine ecotone, subalpine, montane (upper and lower), and sagebrush steppe parkland (see his Chapter 9 discussion of "Environmental and Ecological Contexts"). This list encompasses all of the zones I delineated for the "southern Rockies" portion of my study area except one: the foothills—the lowest of the major Rocky Mountain environmental zones. Additionally, Brunswig classifies his montane zone as a "lower-elevation" zone, whereas in my study area I considered this zone of ponderosa pines, Douglas firs, and aspens to be "high elevation."

In a related vein, Brunswig's various map figures reflect a study region that includes a much greater ratio of higher-elevation mountain settings to lower than did mine, which encompassed *all* of the southern Rocky Mountains of Colorado, from the tops of the state's many "fourteeners" (mountains greater than 14,000 feet in elevation) to the lowest Foothills-Plains and Foothills–Colorado Plateau ecotones (and, indeed, eastward across the plains to the state's modern physiographic border). This means that in Brunswig's study area, relative to mine, there was an inherently much greater chance that projectile points of any type, from any time period, would derive from higher-elevation zones than from lower zones, simply because the project area was so heavily biased in this direction as to entirely preclude the inclusion of piñon-juniper woodlands.

Yet, in my study the foothills contributed the second-greatest number of Angostura sites to the total documented (mountain parks were first), and they were the *only* zone not to contribute even a single site to the Jimmy Allen site total. The foothills, then, played—and play—a pivotal role in distinguishing the distributions of the two projectile point types in the context of my study; yet this zone is not part of Brunswig's project area. Because this critical environment is missing, there is simply no basis for comparing the distribution of point types in Brunswig's project area and the Rocky Mountain portion of mine. As well, Brunswig's study cannot speak to what I see as the most noteworthy difference between Angostura and Jimmy Allen: Jimmy Allen occurs with equally high frequency in the Colorado Rockies and on the Colorado Plains, whereas Angostura occurs only in the mountains and almost never on the plains.

Although the structure of the two studies renders it essentially impossible to know if they do or do not support different interpretations of late Paleoindian use of the southern Rocky Mountains in all their variable-elevation glory, Brunswig

(p. 284) makes an extremely important observation relevant to the framing of future studies when he points out that there could be a "tendency of some mountain archaeologists to type artifacts as JAF [Jimmy Allen–Frederick] because they are more familiar with that type than with Angostura." Close morphological similarity of the two types, particularly aggravated when dealing with fragmented tools, tends to render their identification as one or the other type problematic.

I am confident that Brunswig is correct in suggesting that there has been a bias on the part of mountain fieldworkers to call any specimen with parallel-oblique flaking "Jimmy Allen." When I began my collections research a decade ago, I quickly learned that what site forms and reports referred to as late Paleoindian specimens from mountain contexts often bore little relationship to what I saw when I actually tracked down projectile points for examination—if, in fact, I could track them down, something that was distressingly frequently impossible. To illustrate the extent of the problem, in early 2006 I obtained from OAHP an electronic database (derived from the same master COMPASS site database that provided much of Brunswig's data) of all Paleoindian localities in Colorado. Using the "find" feature in Microsoft Excel™, I determined that those records mention "Jimmy Allen or "James Allen" points twenty-one times. The term "Frederick" is used twice, "Foothills-Mountain" or "Foothill-Mountain" twice (both for sites recorded by one firm in 2002), and "Angostura" in zero cases.

Of these twenty-six late Paleoindian sites with specifically mentioned obliquely flaked, lanceolate point types, eighteen were recorded sufficiently long ago that they were contenders for my original study—which began the same way, with Colorado OAHP site files (then available only in paper format). Each of those eighteen had been designated either Jimmy Allen or Frederick. Of the eighteen, however, only six found their way into my final database, which means that in fully two-thirds of cases, projectile points were not collected at the time they were found, had been lost and could not be examined, or were not—in my eyes—late Paleoindian at all. Of the six I did include in my database, I only agreed with the "Jimmy Allen" designation in three cases. In two cases I called the points Angostura, and one was of an indeterminate type.

The conclusion I draw from this exercise is that while state site files and other secondary reports of finds (e.g., "gray literature") include a plethora of important information, references to point types (especially when lacking associated high-quality artifact photographs or illustrations) must be viewed—and used in analytical studies—extremely critically. Sites recorded prior to publication of my work are, as Brunswig suspected and my brief examination suggests, highly likely (100 percent likely!) to use the term "Jimmy Allen" to describe finds of obliquely flaked lanceolate points, if such specimens are given a name at all. But those type affiliations are in most cases unsupportable, either because the evidence is now unavailable for reevaluation or because they were assigned as a default to specimens a hands-on evaluation and a larger frame of reference indicate may be better classified as Angostura.

As for Brunswig's suggestion that "close morphological similarity" exists between Jimmy Allen and Angostura, exacerbated when points are fragmentary, I hope this chapter has helped show what my previous publications may not have stressed strongly enough: this is simply not the case. Even very small basal fragments almost always possess the key diagnostic features that will support a designation of Jimmy Allen or Angostura—they are either thin, wide, and nearly parallel-based; or they are thick, narrow, and convergent-based. If a fieldworker doubts an assessment, measuring basal width and maximum width and plugging them into the function I presented previously should resolve the matter. If a base is not present, a projectile point tip or blade is almost never diagnostic anyway.

CONCLUSIONS

I wrote this chapter with a number of goals in mind, among them to clarify differences among the terms Angostura, Jimmy Allen, and Foothills-Mountain and explore reasons why studies attempting to apply my terms have produced seemingly different results than mine. To summarize without belaboring the point, I adopted the type labels "Angostura" and "Jimmy Allen" according to Krieger's (1944) classical typological method, not according to arbitrary differences in projectile point morphology or technology. At the same time, however, the morphological and technological differences between the two types *are* quantifiable, statistically significant, and easily recognizable—even in two dimensions (basal and maximum width can be measured from a typical plan view line drawing or photograph). I chose the labels I did to respect and honor their earliest scientifically supportable use in the archaeological literature.

Application of the type labels to my 114-specimen assemblage from the southern Rocky Mountains suggests that their geographic distributions differ in two respects—one I consider very well supported, the other more limited by sample size and thus a more tentative conclusion. Angostura points are to me as clear a manifestation of Frison's "Foothills-Mountain" adaptation as we could hope to see. Their disproportionately high presence in the mountains and not in adjacent lowland regions suggests that their makers lived in the southern Rockies on a sustained, year-round basis, subsisting through generalized hunting and gathering. Jimmy Allen, in rather stark contrast, occurred almost equally frequently in my sample assemblage in the mountains and on the plains and appears to represent—in a pattern akin to Folsom, for example—a more specialized big-game hunting adaptation than does Angostura.

In my sample (and here is where sample size issues render the following conclusion more tentative), Jimmy Allen occurred more often at high elevations—where elk and bighorn sheep are common in summer and early fall—than in the foothills, indicating that makers of Jimmy Allen points may have used the mountains on a seasonal basis, spending cooler months hunting on the High Plains. It seems prudent to leave open the possibility that as more Jimmy Allen sites are definitively recognized, we may also document a significant presence in

parklands (as Brunswig's data suggest and mine do not contradict), which could mean that some groups wintered there. Parks are, after all, as the distribution of Folsom in Colorado attests, a good choice for big-game hunters targeting the bison and elk that sometimes congregate there.

Relevant to this issue may be Brunswig's finding that the Jimmy Allen sites in his largely high-altitude project area yielded significantly more projectile point specimens per site than did Angostura sites (67 Jimmy Allen specimens from 37 sites, 19 Angostura points from as many localities). This archaeological signature—although not particularly reflected in my data (see Table 10.3)—could be taken as support for the view that Jimmy Allen hunters in the north-central Colorado Rockies were using the sorts of communal big-game hunting strategies typically associated with Plains Paleoindians (and most Plains people thereafter), a hunting strategy that requires and leaves behind multiple weapons at single sites. The solitary nature of all of Brunswig's Angostura point finds, on the other hand, is more consistent with a scenario of opportunistic hunting by smaller groups of people—and perhaps of game less likely to congregate in large herds.

Attempts to apply my terms, I suspect, have been hampered by problems related to interpretation of what I meant by them—the inspiration for this chapter, which attempts to clarify what may not have been clear in previous publications. One good example: my term Angostura is not equivalent to Frison's "Foothills-Mountain," which upon close inspection can be shown to be a terrific description of a very real late Paleoindian adaptation but a very poor choice of label for a projectile point type (an application I am certain Frison did not intend but that has proliferated anyway). There are also problems related to comparability of data sets. In Brunswig's case, the lowest mountain elevations so crucial to demonstrating differences between Angostura and Jimmy Allen are not present for assessment. Without low-elevation mountain settings, the distributional distinction I observed between Angostura and Jimmy Allen in the southern Rockies not only will not but structurally *cannot* be replicated.

I believe that with my (re)introduction of the term "Angostura," we now have a typological toolkit available that, if used in the sense in which it is proffered, can help us learn more about late Paleoindian use of the southern Rocky Mountains than we know today. I have offered a broad-brush interpretation of how makers of Angostura and Jimmy Allen points, respectively, used the southern Rocky Mountains during the same era in prehistory. However, I would certainly like to develop a more detailed understanding of what, in each case, an annual trek across the landscape entailed. Assigning sites to the appropriate class provides some basis for framing appropriate research questions. Old-fashioned analyses of stone raw material sources, seasonality, subsistence remains, and intra-site use of space will help provide the answers.

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