CLOVIS CACHES

RECENT DISCOVERIES & NEW RESEARCH

Edited by BRUCE B. HUCKELL and J. DAVID KILBY

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UNIVERSITY OF NEW MEXICO PRESS ≈ ALBUQUERQUE

Printed in the United States of America
19 18 17 16 15 14 1 2 3 4 5 6

Library of Congress Cataloging-in-Publication Data

Clovis caches : recent discoveries and new research / edited by Bruce B. Huckell and J. David Kilby.
pages cm
Includes bibliographical references and index.
ISBN 978-0-8263-5482-2 (cloth : alk. paper) — ISBN 978-0-8263-5483-9 (electronic)
1. Clovis points—West (U.S.) 2. Clovis culture—West (U.S.) 3. Paleo-Indians—West (U.S.)—Antiquities. 4. Tools, Prehistoric—West (U.S.) 5. Antiquities, Prehistoric—West (U.S.) 6. West (U.S.)—Antiquities. I. Huckell, Bruce B., editor, author. II. Kilby, J. David. (James David), editor, author.
E99.C832C59 2014
978'.01—dc23
2013045093

JACKET COVER PHOTOGRAPHS: Courtesy of the collections of Bruce B. Huckell and J. David Kilby
BOOK DESIGN: Catherine Leonardo
Composed in 10.25/13.5 Minion Pro Regular
Display type is Vendetta Medium and Cronos Pro

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Clovis Caches

DISCOVERIES, IDENTIFICATION, LITHIC TECHNOLOGY, AND LAND USE

Bruce B. Huckell and J. David Kilby

A man walks into your office with a box of flaked stone artifacts under his arm; as he unpacks them and spreads them out across your desk, he says that he found them all together 30 years ago, eroding out of a plowed field. That field, he mentions, is within an area of rolling prairie, not near any obvious landmarks. There are two dozen artifacts—none are finished projectile points. Half of them are bifaces, a few small ones plus a couple very large ones that all appear unfinished; the rest are flakes or blade-like flakes. They are made of high-quality lithic materials that are from at least three sources that you can recognize, two of which are more than 150 km away from where the artifacts were found. As you're handling them, he asks exactly the questions you're pondering: Who made them? How old are they? Why were they left out on the landscape in a pile? What does their presence "in the middle of nowhere" signify about the lifeways of the people who left them?

CACHES IN ANTHROPOLOGICAL PERSPECTIVE

Answering these questions begins with considering that this particular collection of artifacts represents a distinctive class of archaeological site—a cache. Caches differ from other kinds of sites in that they consist of artifacts or materials in useful condition and forms that appear to have been set aside for later use, rather than objects that were used, broken, or discarded at the place of their use (such as a camp site). The caching of flaked stone artifacts, other materials, or foodstuffs is a tactic that has been employed by hunter-gatherer groups for tens of thousands of years. At the most basic level, caches are typically viewed by archaeologists as the placement ("hiding") of various resources in anticipation of future need. Beyond this general definition, caches may in fact be made for a variety of reasons, ranging from utilitarian/secular to ceremonial or mortuary, with the latter suggesting that the "future need" may be in the next world. The tactic is most likely linked to environmental conditions, diet breadth/patch-choice decisions, lithic tool design requirements, lithic material source distribution, the nature and frequency of group movements across a landscape, and probably other factors less obvious (at least to us in the present), including ritual observances.

There have been attempts to systematize the study of caches using ethnological and archaeological data. Binford (1979, 1980), on the basis of his Eskimo ethnoarchaeological research, suggested two types of caching of materials in anticipation of future use. The first—passive gear caches—related to the storage of objects used in seasonally specific subsistence pursuits at particular locales near which they would be used in the future. A second type—insurance gear caches—consisted of more general objects that could be manipulated or modified to fit a range of possible needs but that were not specific to a season. Thomas (1985:29–38) expanded on Binford's treatment and considered variation in hunter-gatherer caching with an eye on prehistoric and recent Great Basin groups. He offered a suite of four cache types: the resource cache (foodstuffs, raw materials); the tool cache (personal gear or insurance gear, after Binford's terms); the communal cache (bulky, site-specific objects that "go with" a place); and the afterlife cache (grave goods). It is tempting to use these typologies when dealing with all prehistoric caches. However, Thomas (1985:30) made a valuable summary observation: "The intact cache has a high degree of archaeological visibility; its positioning and contents are directly conditioned by the role it played in the settlement strategy that created it." Thus, while we may be able to assign intact caches to particular types, it is important to bear in mind that caches reflect time- and place-specific decisions. Understanding and interpreting caches thus requires some different approaches than those typically employed for habitation sites, and this volume is a collection of papers that present a number of approaches to investigating and interpreting caches left by Clovis groups inhabiting western North America at the close of the Pleistocene.

DISCOVERING CLOVIS CACHES

Whether or not they ultimately prove to be the initial colonizers of North America, Clovis hunter-gatherers left in their wake a remarkable archaeological record, extending from the Atlantic to the Pacific and from southern Canada to the Isthmus of Panama (Haynes 1964). A consistently similar lithic tool assemblage and distinctive techniques for stone-tool manufacture are evident across this range, and it has been suggested that these are one key to their successful spread over North America south of the ice sheets (Kelly and Todd 1988). Remarkably, the time that it took Clovis people to spread across this area may have been as little as three centuries (Waters and Stafford 2007; but see G. Haynes et al. 2007). The record of their passing ranges from isolated projectile points to mammoth, mastodon, and bison kills, short-term camps and quarries, and isolated caches of flaked stone and bone artifacts that may contain from as few as 5 to more than 100 specimens. The first caches were reported in 1963, one in southern Idaho and one in eastern New Mexico. In the last two or three decades, it is likely true that caches left by Clovis hunter-gatherers across the central part of North America have achieved greater public and professional archaeological attention than caches from anywhere else in the world. Figure 1.1 presents the locations of those caches that have been reported, and Table 1.1 summarizes their contents. The caches presented in the various chapters of this volume are shown in bold on Figure 1.1.

The first recognized Clovis cache came to light 50 years ago (although it was initially interpreted as a camp), with the discovery and publication of the Simon cache in south central Idaho (Butler 1963; Butler and Fitzwater 1965; Woods and Titmus 1985). It is, as Butler (1963:22) described it, "an extraordinary collection of chipped stone artifacts," which is an apt description for most Clovis caches. In many ways Simon set the model for Clovis caches—five Clovis fluted points, including three very long, slender ones; 20 bifaces ("points" or "knives" of varying kinds, as they were termed by Butler); and four other items, including a side scraper, convex-end scraper, spokeshave, and unworked spall fragment. Later refitting of the side scraper, spokeshave, and one flake knife into a single artifact reduced the total to 27 (Butler and Fitzwater 1965).

This same year was also when a second Clovis cache was reported from Blackwater Draw by Green (1963); it consisted of 17 complete and partial prismatic blades. Although lacking diagnostic Clovis points, the cache was convincingly attributed to Clovis by Green's detailed stratigraphic study and identification of sediment adhering to the blades as "gray sand," the unit known at the time to contain only Clovis artifacts (Green 1963); this unit is now designated the "speckled sand" (Unit B of Holliday 1997:Figure 3.11; Units B_1-B_3 of Haynes 1995).

Interestingly, these two caches established something of a pattern, whereby subsequently discovered caches dominated by bifaces were more common on the central and northern Plains/Columbia Plateau and those dominated by blades were more common on the southern Plains. Also, both the Green and Simon caches were exposed and scattered by heavy equipment during the course of sand and gravel quarrying at Blackwater Draw and the construction of a road at Simon. The frequency with which caches are brought to light by earth moving has been, regrettably, another repeated pattern.

Since the 1960s, caches compositionally similar to Simon have been found on the central and northern Plains, including Anzick, south central Montana (Lahren 2001; Owsley and Hunt 2001; Wilke et al. 1991); Drake, northeastern Colorado (Stanford and Jodry 1988); East Wenatchee (also known as the Richey or Richey-Roberts cache) in central Washington (Gramly 1993; Mehringer 1988; Mehringer and Foit 1990); Fenn, probably from the Wyoming-Idaho-Utah border region (Frison and Bradley 1999); de Graffenried, from the southeastern part of Texas (Collins et al. 2007); and Crook County, in northeastern Wyoming (Tankersley 1998, 2002:104–134). To the list can be added Rummells-Maske (Anderson and Tiffany 1972; Morrow and Morrow 2002), which was recovered in eastern Iowa. Like Simon, these were easily attributable to Clovis because they included Clovis fluted points.

Since the Blackwater Draw Green cache was brought to professional attention, other caches consisting largely of Upper Paleolithic–type prismatic blades and in some cases flakes were discovered, including the Franey cache in northwestern Nebraska (Grange 1964) and Pelland in northern Minnesota (Stoltman 1971). Both of these caches have been interpreted as Clovis, although it has been stated that the Pelland site would have been under the waters of glacial Lake Agassiz during Clovis time (Pettipas 2011:114). More recently discovered blade caches include Keven Davis in east central Texas (Collins 1999b:75–144) and the Dickenson cache (also known as the 1990 Blackwater Draw blade or West Bank cache) from Blackwater Draw (Montgomery and Dickenson 1992a). Lacking associated projectile points, these caches proved more challenging to attribute to Clovis or any other particular culture-historical entity, although Green used the properties of sediments adhering to the blades in his Blackwater Draw cache to argue that they were derived from the Clovis-bearing gray sand stratum. Michael Collins and his colleagues (Bradley et al. 2010:10–55; Collins 1999a, b; Collins and Lohse 2004; Collins et al. 2003)—working with the Keven Davis cache and the Clovis assemblages from the Pavo Real and Gault quarry/camp/workshop sites—have demonstrated that prismatic blades are a common feature of the Clovis technological repertoire on the southern High Plains/Llano Estacado and elsewhere in the western United States (Huckell 2007) but are absent in Folsom and younger Paleoindian cultural complexes. Collins has shown that Clovis blade manufacture was technologically consistent and produced distinctive features of core morphology, preparation, and rejuvenation as well as striking platform construction, curvature, and technological details such as the preparation and straightening of exterior ridges (Collins 1999b:51–71; also see Bradley et al. 2010:10–55). Blades have come to be strongly associated with Clovis, and although occasionally blades are found in younger cultural contexts they tend to differ in technological details (Kilby 2008:38).

Over the past four decades additional caches of flaked stone artifacts have come to light that are more challenging to assign to a particular culture or time period. These consist of bifaces, blades and/or blade-like flakes, unifacially retouched tools, and occasionally cores, but no Clovis points. Examples include Anadarko, in southwestern Oklahoma (Hammatt 1970); Busse, in northwestern Kansas (Hofman 1995; Kilby 2008:75–78); and Sailor-Helton, in southwestern Kansas (Mallouf 1994), all of which were originally discovered in the 1950s or 1960s. Kilby (2008) has studied these collections in the last few years and finds them credible as Clovis caches. If blades or bifaces are present, it is possible to make technological assessments of possible age and cultural affinity of these caches, but often these caches are challenging to interpret.

Another challenge is that caches are rarely recovered from their original stratigraphic contexts by archaeologists. Commonly caches are wrested from the earth by heavy equipment operators, stunned landscapers using Bobcats, ecstatic collectors, or curious ranchers and farmers with shovels, trowels, or bayonets. The result is that stratigraphic information is typically poor or lacking. Further, caches may have been discovered decades ago, and the person(s) involved in the discovery may no longer be available to interview. An extreme example is the Fenn cache (Frison and Bradley 1999), which was perhaps found near the beginning of the twentieth century and can only be approximately placed in the area where Utah, Idaho, and Wyoming meet. Additionally, in the absence of clearly diagnostic artifacts, and with the knowledge that later hunter-gatherers also used the tactic of lithic artifact caching, we are faced with trying to determine whether a given cache lacking fluted points is or is not Clovis. The importance of this challenge goes significantly further, directly to reconstructing Clovis lithic technological organization, including strategies of raw material procurement, transport, and reduction; patterns of mobility and land use; and ultimately questions about the process by which the New World was peopled.

ISSUES IN THE STUDY OF CLOVIS CACHES

It seems that almost every year for the past decade or so at least one new cache of definite or possible Clovis origin has come to the attention of archaeologists. As they do, it is increasingly apparent that caching of stone and bone artifacts was a common practice of these earliest successful colonizers of the New World and that the contents of caches offer archaeologists an unparalleled source of information to complement the assemblages from kill and camp sites. In 2010 we organized a session at the Society for American Archaeology meetings in St. Louis to bring together researchers to discuss Clovis caches. The symposium had three principal goals: (1) to share information about recently discovered or recently recognized caches; (2) to investigate ways in which caches, particularly those without diagnostic Clovis fluted points, could be reliably identified as Clovis; and (3) to consider the role(s) of caches within Clovis technology, mobility, and land use. This volume contains papers presented at that symposium along with additional invited papers from those who were unable to attend it. In publishing these papers, we hope not only to provide new descriptions and interpretations of Clovis caching but to stimulate thinking about the challenges we face in making interpretive sense of this phenomenon.

The chapters making up the volume contribute to the study of Clovis caches in three general realms, and most chapters address two or more of them. First, new caches are presented for which descriptions have not been previously published or have been published only in part. These include seven from places as far apart as Texas (the Hogeye cache, Lohse et al., Chapter 9), Oklahoma (the JS cache, Bement, Chapter 5), New Mexico (the Dickenson cache, Condon et al., Chapter 3), Iowa (the Carlisle cache, Hill et al., Chapter 6), Colorado (the Mahaffy cache, Bamforth, Chapter 4, and the CW cache, Muñiz, Chapter 7), and North Dakota (the Beach cache, Huckell, Chapter 8). In addition, another look at the contents of the cache that started it all, Simon, is provided (Santarone, Chapter 2). These chapters expand information about the range of variation in cache contents, thus enhancing knowledge of the kinds of products that Clovis hunter-gatherers chose to manufacture, transport, and ultimately place in the ground as part of a wide-ranging pattern of population movement and land use. Further, several authors address the critical question of how a cache assemblage that lacks fluted points or other diagnostic artifacts can be reliably assigned to Clovis. Two chapters are focused primarily on issues of land use and lithic material exploitation and transport. In addition to Bamforth's consideration of the Mahaffy cache in Chapter 4, Holen (Chapter 10) and Kilby (Chapter 11) look more broadly at the value of caches as a means of understanding Clovis mobility strategies. The next few paragraphs address these themes in greater detail.

NEWLY DISCOVERED AND RECENTLY RECOGNIZED CACHES

Figure 1.1 shows the locations of Clovis caches, with the names of those discussed in this volume set in boldface. Three—the Mahaffy (Bamforth, Chapter 4), JS (Bement, Chapter 5) and CW (Muñiz, Chapter 7) caches—were discovered in the past few years and are good representatives of numerically large caches that lack Clovis points. Two more are caches that were unearthed in the 1970s but went unrecognized as Clovis until the first decade of the twenty-first century: the Carlisle (Hill et al., Chapter 6) and Beach (Huckell, Chapter 8) caches. Like Mahaffy, JS, and CW, no Clovis points were present with either of these. Another cache found in the past few years, in southern Texas, the Hogeye cache (Lohse et al., Chapter 9), contains both generalized bifaces and nearly completed Clovis points. These caches expand the geographical distribution of caches to the north and east and suggest that Colorado is something of an epicenter for Clovis caches. The Dickenson blade cache has been described briefly in prior publications but receives expanded treatment here (Condon et al., Chapter 3). Finally, new artifacts are reported from the granddaddy of them all, the Simon cache (Santarone, Chapter 2). Chapter 2 provides a new perspective on the range of artifacts that were originally present in the cache as well as offering a cautionary tale about whether all artifacts pertaining to the cache were completely recovered by the discoverer or fully shared between discoverer and researcher.

These caches also reflect the various ways—both direct and circuitous—by which caches come to professional attention. All but two of the caches (the Dickenson and Carlisle caches) were found by members of the public, who usually accomplished recovery of the caches themselves. Ones that came to light recently, such as the Mahaffy, JS, and CW caches, happened to reach archaeologists who were aware of the Clovis caching phenomenon and could take quick action to examine them and document the circumstances of their contexts. However, it is important to note that caches discovered prior to 1975 or 1980 had a much lower probability of being recognized or even considered as possible Clovis caches if they lacked points. The Carlisle and Beach caches are good examples; the former was recovered during a contract archaeological

Figure 1.1 The distribution of Clovis caches in the western United States. Names in bold are caches treated in this volume. The dashed line marks the eastern limit of the Great Plains (map created by Matthew G. Hill).

project investigating a much younger site while the latter was exposed by cultivation. Even though specimens from the Beach cache were sent to major western universities or examined by professional archaeologists, they were not thought to be Clovis. The Carlisle cache came to light during cultural resource–management investigations at a late prehistoric site in 1968, and although its discovery was noteworthy from the perspective of investigators, it was presumed to be part of the late prehistoric occupation. From the benefit of knowledge developed since 1980 about the distinctive aspects of Clovis technology, such as blade manufacture and overshot flaking of bifaces, it is now more likely that a cache will be recognized quickly as Clovis. Further, Clovis caches are now more likely to achieve public exposure through various media, including the Internet. A small handful of potentially Clovis caches have been publicized on the web.

Nevertheless, it is highly probable that both museums and private individuals have unrecognized caches of potential Clovis origin in their collections or households and that these will continue to come to the attention of professional archaeologists. At the same time, it is worth recalling that there can be instances in which a putative Clovis cache is presented to an institution or a collector, as with the infamous "Woody's Dream" cache (Preston 1999). In that case, the artifacts were manufactured by a talented contemporary knapper, artificially aged, and packaged with a fictitious historical pedigree. We can take some comfort from the ultimate failure of the cache to pass the professional vetting process, but it was accepted as genuine for a time. Such instances are reasons to retain a healthy skepticism about caches that show up on one's doorstep.

CLOVIS LITHIC TECHNOLOGY

One of the consistent threads that runs through the chapters in this book is a focus on the importance of understanding how cached artifact assemblages fit into the larger patterns of Clovis lithic technology. Whether a chapter is centered on a single cache assemblage or takes a comparative perspective through the use of multiple caches, the role of technology is highlighted. At the most basic level, technology forms a critical, and in some cases the only, means to determine whether a given cache can be confidently attributed to Clovis, particularly in cases where fluted points or other diagnostic artifacts are absent. Several publications (Bradley 2010; Bradley et al. 2010; Collins 1999a, 1999b; Huckell 2007; and Waters, Pevny, and Carlson 2011, among them) on Clovis lithic technology are available, and they form a solid foundation upon which to base initial assessments of the age and affiliation of cache artifacts. However, it is also the case that cached assemblages that are demonstrably Clovis can contribute much to resolving questions about Clovis technology that remain unapproachable from assemblages that are derived from kill or camp sites. This is because cached assemblages are more likely to consist of objects that were removed from the technological system early in the manufacturing process and that retain much of their potential utility for performing a variety of tasks. Kill and particularly camp sites typically contain artifacts that were lost or intentionally discarded at more advanced stages in their trajectory of use, breakage, and resharpening. Caches therefore are more likely to contain objects manufactured at quarry sites and then transported, possibly used to a degree during transport, and then placed into what was, in most cases, likely viewed by their makers/users as temporary storage (Kilby 2008).

Several of the chapters in this volume devote attention to technological matters, first as a means of evaluating the age and possible attribution of a cache to Clovis, and second as a means of developing further insights into Clovis technology. For those caches where stratigraphic context and radiometric dating are not options, technological analysis is often the only means to determine whether or not they are Clovis. Chapters discussing the Dickenson cache at Blackwater Draw (Condon et al., Chapter 3), the Mahaffy cache (Bamforth, Chapter 4), the JS cache (Bement, Chapter 5), the Carlisle cache (Hill et al., Chapter 6), the CW cache (Muñiz, Chapter 7), and the Beach cache (Huckell, Chapter 8) highlight this approach. The importance of overshot flaking as a Clovis technological signature receives attention, as do matters of biface morphology and size, the presence of fluting or end thinning, and aspects of blade-manufacturing technology and morphology. At the same time, caution is urged against assuming too much about the unique association of certain aspects of artifact manufacturing technology and morphology with Clovis. Do we know with sufficient certainty that overshot flaking is unique to Clovis or, more to the point, that in its absence we can reliably say that a biface is/isn't Clovis? The same holds for blades, and in that case there is clear evidence that at least some later groups also manufactured blades. How can we isolate and use distinctive features of Clovis blade manufacture to separate Clovis blades from the products of later blade-making groups? Traveling a bit further down this increasingly murky path, what (if anything) can be said of the culturally/temporally diagnostic technological aspects of caches that are dominated by flakes and blade-like flakes? There are no simple answers, and the authors in these chapters present cautious objective analyses of the artifacts as a means of assigning particular caches to the Clovis technological tradition.

The use of technological analysis can be greatly aided in those rare situations in which it is possible to put a Clovis cache back into its original stratigraphic context, as related for the Dickenson cache (Condon et al., Chapter 3), the Mahaffy cache (Bamforth, Chapter 4), the JS cache (Bement, Chapter 5), the Carlisle cache (Hill et al., Chapter 6), and the Beach cache (Huckell, Chapter 8). In some of these cases the stratigraphic setting of the original cache was clarified by new fieldwork or careful study of exposed sediments shortly after the discovery or excavation of the cache. An appropriate cautionary case in which stratigraphic context was key goes back to the geological studies of Sheldon Judson in the vicinity of the San Jon site in the 1940s. Judson discovered a cache eroding out of an arroyo wall that consisted of 44 artifacts, including five large bifaces ("blades," in his terms) and an assortment of what were identified as end scrapers, side scrapers, and flake knives (Roberts 1942:22–23). Photographs of a sample of the artifacts were also provided by Roberts (1942:Plates 8 and 9), and from those one gains an initial impression that the cache might well be Clovis. The five large bifaces range from 18 cm to 24.5 cm in length and from 10 cm to 13 cm in width (as measured to the nearest 5 mm using the scale in Roberts's Plate 8). Twenty tools presented in Roberts's Plate 9 are all made on what appear to be blades or blade-like flakes. If this cache were to be presented to an archaeologist today, without any depositional context, he or she could have a challenging time determining its age from artifact technology and morphology alone. However, Judson discovered this cache in very young sediments, some 2 ft (0.61 m) below the former land surface, and was able to assign the deposit to his third period of alluviation, which he dated to no older than the late A.D. 1400s. A fire pit adjacent to the cache produced charred pronghorn bones and charcoal, and a second, "nearby" pit yielded modern bison bones (Roberts 1942:23). The bifaces are likely preforms for large knives of the late prehistoric period. As a concluding observation, detailed technological analysis of cache assemblages such as this one can be quite important and help isolate the cultural/temporal diagnostic value of particular technological features of late prehistoric versus Clovis caches. To the best of our knowledge, this cache has never been reanalyzed since its discovery 60 years ago.

Other aspects of Clovis technological organization may also be reflected by caches, and one of these is the organization of lithic artifact production—who made these technically challenging bifaces and other artifacts, and were there flint-knapping specialists during Clovis times? Lohse and colleagues (Chapter 9) take up this question using the Hogeye, de Graffenried, and Fenn caches. In their estimation, part-time specialists were most likely the ones responsible for the manufacture of the most technologically sophisticated bifacial artifacts represented in the caches, as reflected by patterns of flake removal and standardization of products. Thus the work of these skilled knappers is disproportionately represented in caches, although multiple knappers may have contributed to a given cache.

CLOVIS LAND USE

The value of these caches for understanding Clovis land-use strategies as well as technological organization is difficult to overstate. First, the caches reveal directly what Clovis foragers identified as the most important forms of lithic artifacts to transport. As such they provide insights into the sorts of products created at lithic quarry sites and the forms in which they were transported. They thus afford a sense of Clovis decision making and planning as the products were selected and carried away from quarries into the biotic foraging environment, where the opportunities for easy resupply of lithic material might be infrequent or lacking altogether. Several of the caches discussed in this volume speak to the diversity of lithic artifact forms that were transported and cached. It appears to be the case that bifaces are the most frequently represented artifacts across the present sample of caches, showing up in all but one of the caches treated herein (Table 1.1). The importance of bifacially flaked artifacts in the Clovis technological system has been stressed by several previous workers (Bamforth 2002; Bradley et al. 2010; Wilke et al. 1991), a fact reflected not just by caches but also by assemblages of debitage from kill/camp sites such as the Sheaman site on the Wyoming–South Dakota border (Frison 1982c) and the Murray Springs site in southeastern Arizona (Huckell 2007). Larger bifaces may have served as cores for flake production and, through a process of parsimonious reduction over an extended period of time, as knives and ultimately as projectile points. Finished projectile points can be included in this general category as well, as shown at the Drake (Stanford and Jodry 1988) and Rummells-Maske (Anderson and Tiffany 1972; Morrow and Morrow 2002) caches. Blades also appear to have been frequently transported, as suggested by caches such as the Green and Dickenson caches at Blackwater Draw (Condon et al., Chapter 3) and the Keven Davis cache in Texas (Collins 1999b) and by blades as elements in such other caches as East Wenatchee (Gramly 1993), Beach (Huckell et al. 2011), Pelland (Stoltman 1971), Franey (Grange 1964), and Anadarko (Hammatt 1970). However, simple flakes and blade-like flakes are also present in several caches, as noted above and as described herein for the Mahaffy (Bamforth, Chapter 4), JS (Bement, Chapter 5), and Carlisle (Hill et al., Chapter 6) caches. Other lithic forms less commonly observed in caches are cores for the production of flakes or blades, hammerstones, and small pieces of debitage. Bone or proboscidean ivory rods (Bradley 1996) were also present in the Anzick (Lahren and Bonnichsen 1974) and East Wenatchee (Gramly 1993:52–60) caches and possibly in the Drake cache (Stanford and Jodry 1988). It is certainly possible that other organic materials—perhaps including leather or fiber bags that contained cached artifacts—were originally included in caches but have left no trace. In summary, it appears that virtually everything that could conceivably be needed in material-poor foraging environments could be and was transported and cached. Whether there is any patterned variation in the nature of products carried and cached across particular portions of the Clovis range is open to discussion; present evidence suggests that caches with blades are more common on the southern Plains than on the northern Plains, but it remains to be determined whether this is more apparent than real, perhaps a product of the current sample of cached assemblages.

The other critical aspect of Clovis land use that can be approached using caches is the distance, direction, and nature of group movements, as discussed by Bamforth in Chapter 4, Kilby in Chapter 11, and Holen in Chapter 10. It has been proposed (Meltzer 2004) that caches are related to the initial colonization of the North American continent and reflect the landscape learning process as opposed to a strategy associated with the patterned seasonal movements of groups who already had command of the distribution of both lithic and biotic resources. Kilby suggests that the latter is a more likely explanation for most, but perhaps not all, caches, a conclusion reached by Bamforth as well (Chapter 4). Kilby documents a recurrent pattern of the movement of flaked stone products northward and eastward from known source areas, prior to their deposition in caches. In some situations these movements reflect

TABLE 1.1. Clovis Caches And Their Contents

CACHE	ARTIFACT CLASS							TOTAL
	Points	Bifaces	Cores	Blades	Flakes	Bone Rods	Other	
Anadarko		2	4	26				32
Anzick	8	62		1	9	6		86
Beach[a]		99		2				101
Busse		13	1	33	30		1	78
Carlisle[a]		25			18			43
Crook County	1	8						9
CW[a]		11			3			14
de Graffenried		5						5
Dickenson[a]				4	1			5
Drake	13						1	14
East Wenatchee	14	20		4	8	12		58
Fenn	20	35		1				56
Franey		1	1	35	36		1	74
Green				17				17
Hogeye[a]	13	39						52
JS[a]		13		30	69			112
Keven Davis				14				14
Mahaffy[a]		11		7	62		1	82
Pelland				9				9
Rummells-Maske	22				1			23
Sailor-Helton			10	40	115			165
Simon[a]	8	40			14		1	63
Watts		6						6

Source: Modified from Kilby (2008:Table 11) and updated as of 2013.
[a] *Caches presented in this volume.*

scales of hundreds of kilometers (such as the Drake cache) but in others the distance of transport may be less than 20 km (Huckell et al. 2011). Holen (Chapter 10) emphasizes that the nature of the grassland ecosystem in the central Plains features localized sources of knappable stone separated by large areas devoid of lithic resources. He suggests that caching is intimately related to mobility structured by mobile prey resources, including bison, as well as the end-Pleistocene megafaunal extinction.

Finally, as shown in Figure 1.1, caches are found only within a limited portion of the known Clovis range, largely corresponding with the Great Plains biome. Despite the fact that fluted points (Clovis and later types) reach their greatest densities in the eastern United States, Clovis caches are not known from that portion of the country, with two possible exceptions in the central eastern Great Lakes region: a group of 33 artifacts found together at the Sugarloaf site (a habitation site) in Massachusetts (Gramly 1998:33–35, Plate 10) and a possible cache of 17 artifacts (8 of them finished Vail/Debert fluted points; Bradley et al. 2008:130–136) scattered by cultivation from one locus of the Lamb site (also a habitation site) in far western New York (Gramly 1999). Both sites may be either coeval with or slightly later than Clovis. The Thedford II site in southwestern Ontario produced a disturbed but probable cache of at least 8 and possibly 13 artifacts, all either finished ("mint") Barnes (post-Clovis) points or point preforms (Deller and Ellis 1992:99–100). There are, in addition, probable mortuary offerings that accompany a cremation at the post-Clovis Crowfield site in southwestern Ontario (Deller and Ellis 1984; Deller et al. 2009). One feature that distinguishes these Great Lakes–area caches is that they are associated with residential sites rather than being isolated, as are nearly all caches from the western United States. This absence or paucity of eastern Clovis caches, if not the product of sample bias, may be a reflection of differing subsistence/settlement systems or mobility organization, or perhaps a consequence of lithic material distribution and accessibility in the region. Further, if caches (either ritual or utilitarian) were placed at residential sites in the eastern United States, a different organizational system may be reflected, one that was predicated on the return to specific habitable places rather than larger patches or regions, as seems to be the case in the West. Given the discovery of large numbers of fluted points from plowed fields, lack of exposure probably cannot explain the lack of caches.

Clovis caches are a critical source of information in continuing efforts to understand the ways in which these ancient hunter-gatherers exploited the late Pleistocene landscape. The chapters in this volume are designed to augment knowledge of the phenomenon by bringing new caches to the attention of archaeological researchers, exploring ways to use lithic technological signatures to identify caches that are potentially Clovis, using cache assemblages to understand Clovis organization and production of technology, and considering what caches may tell us about patterns of movement in the course of subsistence. We hope that the individual contributions will stimulate thinking about Clovis and provide some investigative pathways forward as new Clovis caches come to light.

ACKNOWLEDGMENTS

First and foremost, thanks to our collaborators for the excellent studies they have contributed to this volume. It is always challenging to keep current in research environments as dynamic and diverse as those concerning caches, Clovis, and the peopling of North America. Both of us have learned a great deal from them, and we are honored to include their work in this volume. Thanks as well to Fred Sellet and one anonymous colleague who reviewed the draft volume and offered many helpful suggestions for its improvement. We are very grateful to John Byram and the staff of the University of New Mexico Press for all their hard work in bringing this volume to completion.

Chapter 2

New Insights into the Simon Clovis Cache

Paul Santarone

When I began my research on the Simon Clovis cache in 2005, I thought that I was undertaking a straightforward project. However, while reading the published reports on the cache I was struck by discrepancies in the information reported. Careful examination showed that artifact inventories and descriptions did not agree between publications. As a result I undertook to determine how and why these discrepancies came about and to attempt to create a complete inventory of the documentable artifact assemblage. This chapter reports what I discovered about the history of the Simon site and the artifact inventory of the Simon cache. I also discuss how "changes" to the assemblage call into question popular inferences concerning the contents and nature of Clovis mixed biface caches. I use the term cache throughout this chapter, consistent with established practice. The use of this term is not intended to imply any particular function.

Since some readers may not be familiar with the Simon cache, I begin by providing contextual background on the site and the assemblage. Following the contextual information I discuss what I have called "assemblage drift"—unreported changes in an archaeological assemblage since initial recovery (Santarone 2007). I next present the methods I used to document that previously unreported artifacts were part of the Simon cache assemblage, and then I describe the known cache assemblage. Finally, I discuss how the addition of previously unknown (and/or unreported) artifacts changes which inferences about the cache can be supported. Clearly my research provides a cautionary tale, but it also adds further insights into the roles of caches in Clovis lifeways.

DISCOVERY OF THE CACHE

The Simon cache site is located several kilometers east of the rural town of Fairfield in Camas County, south central Idaho. The larger landform on which the site lies is known as the Big Camas Prairie. The Snake River Plain is situated to the south of the Big Camas Prairie and the Soldier, Smoky, and Sawtooth Mountains are to the north. The Big Camas Prairie is separated from the Snake River Plain by inhospitable lava flows and rugged hills.

Although specific details vary between witnesses, it is clear that heavy-equipment disturbance of the surface of a cultivated field led to the initial discovery of cache artifacts. Heavy equipment may have also been used in the recovery of artifacts (Bill Simon, personal communication 2008). Although the artifacts were discovered in the late summer or early fall of 1961, the collection was not brought to the attention of archaeologists until later that year (Butler 1963). The first archaeologists to visit the site arrived in early August 1962. During this visit it was determined that “nothing of archaeological value remained at the site” (Butler 1963:22).

Butler (1963:23) reported the find as a collection of “29 chipped stone implements and an unworked spall fragment.” Butler noted that a large portion of the artifacts was broken prior to his examination. However, he attributed essentially all the breakage to contact with the heavy equipment that exposed the cache. Butler described 23 of the artifacts as points, although from his usage it is clear that he does not mean projectile points; this is likely a source of some confusion. Six of these 23 points were described as edge-ground lanceolate points with fluting or basal thinning. The remaining 17 are bifaces of various shapes and sizes with pointed distal ends. The six remaining artifacts were described as a pair of discoid knives, a large flake knife, a spokeshave, a unifacial side scraper, and a bifacial end scraper. Two years later Butler and Fitzwater (1965) reported that three artifacts described by Butler (1963) conjoin into a single artifact. Using Butler’s (1963) illustrations and descriptions it is possible to document which artifacts were present when the cache was initially reported. Table 2.1 presents a summary of Butler’s descriptions and correlates his figure numbers with the current accession numbers of the artifacts.

Thus far, what I have described substantially agrees with the published information on the discovery of the cache. But after the initial publication of the find neither the site nor the assemblage remained static. Few archaeologists realize that professional archaeological investigations at the site have been conducted at intervals since 1963. Further, additional artifacts have been recovered and artifacts have been separated into multiple collections. For clarity the history of the artifacts is discussed separately from the history of investigations at the site.

FIELDWORK

The most extensive work conducted at the site are professional excavations performed in 1967, 1968, and 1969 under the direction of Dr. Earl Swanson. A manuscript concerning this work was drafted for publication; however, it was never published. Excavations consisted of hand-dug trenches near the find site and a series of backhoe trenches for stratigraphic analysis (Swanson et al. n.d.). The 1967–1969 fieldwork did result in the recovery of additional Clovis artifacts. Artifacts recovered during Swanson’s fieldwork are curated at the Idaho Museum of Natural History (IMNH) in Pocatello. Since 1969 the site has been visited by archaeologists and some additional fieldwork has been conducted (Bill Simon, personal communication 2008). Recent fieldwork was conducted by the Archaeo-Imaging Lab and Idaho State University, under the sponsorship of the Idaho Heritage Trust. This fieldwork was conducted in 2008 and included extensive remote-sensing investigations. The testing of geophysical anomalies identified by remote sensing was conducted in 2008 and 2010. Remote-sensing investigations and site testing have helped to clarify previous work conducted at the site but no additional Clovis materials have been recovered from subsurface deposits. A report on this research is in preparation (E. S. Lohse, personal communication 2010).

ARTIFACTS

Division of the Simon cache assemblage had begun by the time the 1969 excavations were complete. The artifacts recovered by Idaho State University archaeologists at the site from 1967 to 1969 are curated at the IMNH. There are eight formal Simon cache artifacts in the collections of the IMNH. This collection includes some artifacts from the initial cache discovery that apparently were donated by the Simon family to the IMNH. Specifically, the Simon family donated the artifacts that make up the large conjoinable biface (Figure 2.1) discussed by Butler and Fitzwater (1965). Based on archival photographs of the artifacts in the possession of the Simon family at the time, it appears that this donation occurred prior to 1969. The remaining artifacts originally reported by Butler (1963) were kept by the Simon family. It is now apparent that family members (and quite possibly others) occasionally recovered additional artifacts from the area of the find in the years following the initial discovery. The 32 cache artifacts possessed by the Simon family were donated to the Herrett Center in 1997 (Phyllis Oppenheim, personal communication 2008). To complicate matters further, two biface fragments have been recovered since 1997. The first was recovered in 2007 by Steve Kohntopp during a site visit to arrange future fieldwork. The second was recovered in 2008 by Dr. Ken Kvamme during remote-sensing research on the site. Both biface fragments were subsequently donated to the Herrett Center by the Simon family.

TABLE 2.1. Inventory of Butler (1963) Cache Artifacts and Descriptions

LOCATION	ACCESSION NUMBER	BUTLER FIGURE NUMBER	BUTLER DESCRIPTION
Herrett	97-1-25	3a	Edge-ground lanceolate point
Herrett	97-1-26	3b	Edge-ground lanceolate point
Herrett	97-1-27	3c	Edge-ground lanceolate point
Herrett	97-1-28	3d	Edge-ground lanceolate point
Herrett	97-1-29	3e	Edge-ground lanceolate point
Herrett	97-1-18	3f	Oval point
Herrett	97-1-19	3g	Oval point
Herrett	97-1-22	3h	Oval point
Herrett	97-1-21	3i	Oval point
Herrett	97-1-10	4a	Oval point
Herrett	97-1-8	4b	Oval point
Herrett	97-1-1	4c	Oval point
Herrett	97-1-2	5a	Oval point
Herrett	97-1-7	5b	Oval point
Herrett	97-1-4	5c	Lanceolate point
Herrett	97-1-17	5d	Oval point
Herrett	97-1-15	5e	Oval point
Herrett	97-1-5	5f	Lanceolate point
Herrett	97-1-9	6a	Discoid knife
Herrett	97-1-11	6b	Discoid knife
Herrett	97-1-14	6c	Lanceolate point
IMNH	18-A-21	6d	Side scraper
IMNH	1529-25[a]	6e	End scraper
IMNH	1529-25[a]	6f	Unworked spall
Herrett	97-1-3	7a	Shouldered point
Herrett	97-1-12	7b	Oval point
IMNH	18-A-21	7c	Spokeshave
IMNH	18-A-21	7d	Flake knife
Herrett	97-1-16[b]	Not shown	Edge-ground lanceolate point
Herrett	97-1-23[b]	Not shown	Oval point

Note: Herrett = Herrett Center for Arts and Science, College of Southern Idaho, Twin Falls; IMNH = Idaho Museum of Natural History, Idaho State University, Pocatello.

[a] *The location of the artifact is unknown; the accession number refers to an archival photograph.*

[b] *The artifact listed is the most likely candidate for being the one that Butler (1963) describes, based on form, material description, and dimensions.*

METHOD

Creating a timeline marking the major events in the history of the Simon cache since discovery illustrates the opportunities that were present for assemblage drift (Figure 2.2). There are five major potential sources for assemblage drift: first, the length of time that has elapsed since the initial discovery; second, a history of changing investigators and institutions; third, the assemblage being shown, moved, donated, and so on; fourth, continued observation and investigation of the site locale; and finally, differential curation of artifacts.

These are the factors that have contributed to the addition and subtraction of artifacts from the known cache assemblage since its discovery in 1961.

An examination of the discrepancies in the published descriptions made it clear that the entire known assemblage had never been documented or discussed. This presented me with a problem. It is clearly possible that the additional artifacts may have come into the collection from outside the cache context. There are two potential possibilities for introducing noncache artifacts into the cache assemblage. The first is a mixing of collections from a variety of sites in uncontrolled curation. The second is a mixing of artifacts from different site components present at the cache location. The first possibility was eliminated by communication with the Simon family. Even though they retained the cache of artifacts for many years, members of the Simon family are not artifact collectors. Also, archaeologists had made the importance of the cache very clear to the Simons, so they took care not to add any artifacts that they encountered while farming to the collection unless they were discovered near the original find spot. Therefore, admixture from outside sources is very unlikely. The second potential source of admixture was evaluated by visiting the site to verify the absence of

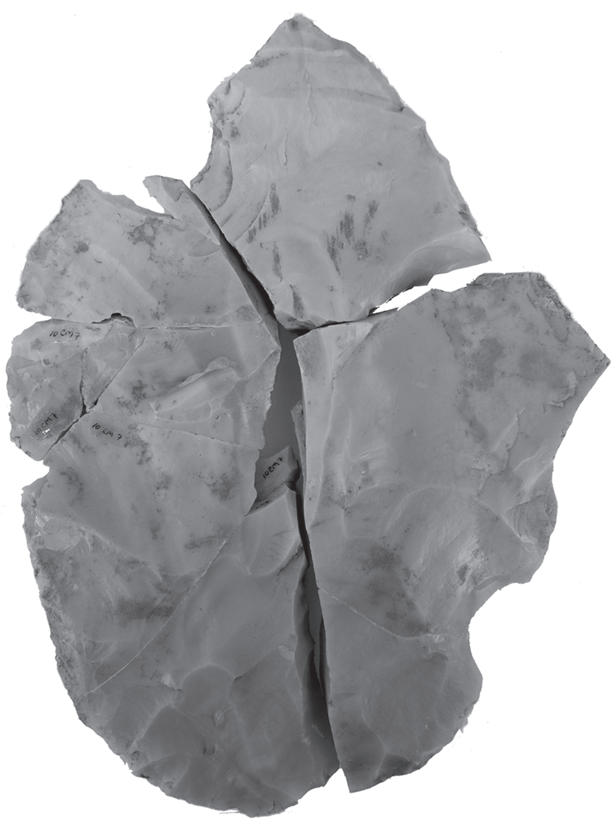

Figure 2.1 Conjoined biface (IMNH 18-A-21) (288 mm long)

unrelated archaeological materials in the area of the find. I found that the site area does contain *minimal* archaeological materials that appear unrelated to the Clovis component. This archaeological material consists of a sparse (less than 10 pieces per 100 m^2) scatter of small volcanic glass flakes. The source of this volcanic glass is likely the small (less than 5 cm) volcanic glass nodules native to the location. Because of this I accepted any technologically compatible artifacts recovered from the site area as part of the cache assemblage. Artifacts that could be inspected directly were also verified as part of the cache by the presence of red ochre on the artifact.

How could I establish whether or not a particular artifact should be included in the cache assemblage? The histories of the individual artifacts determined how they were verified. The artifacts that were simplest to verify were those that appeared in the Butler (1963) and Butler and Fitzwater (1965) publications. These artifacts are clearly associated with the discovery of the cache. What about artifacts added in the approximately 50 years since? Artifacts from the 1967–1969 site investigations were easy to verify since these were documented to have been recovered from the site by professional archaeologists. Additional artifacts described in Woods and Titmus (1985) are technologically consistent with Clovis and show traces of red ochre, as do the previously undocumented artifacts included in the donation by the Simon family in 1997. The recoveries of two artifacts at the site since 1997 were both witnessed by archaeologists, and both artifacts are technologically consistent with the other cache materials. I conclude that all the artifacts now in the collections of the IMNH and the Herrett Center attributed to the Simon Clovis cache are indeed part of the cache.

Finding that additional artifacts belong to the assemblage raises the question of whether artifacts have also gone missing. To determine whether this had occurred, I used a series of photographs that were taken circa 1969 as part of investigations at the site. These photos are curated in the site archives of the IMNH. The photographs document the artifacts that were in the possession of the Simon family at the time (Figure 2.3). By comparing archival photographs with the artifacts present in IMNH and Herrett Center collections I was able to document additional artifacts from the cache present with the collection around 1969. Initially I discovered six artifacts that are now known only in photographs. Using photos of the missing artifacts as verification, one has since been rediscovered in the collections of the Herrett Center.

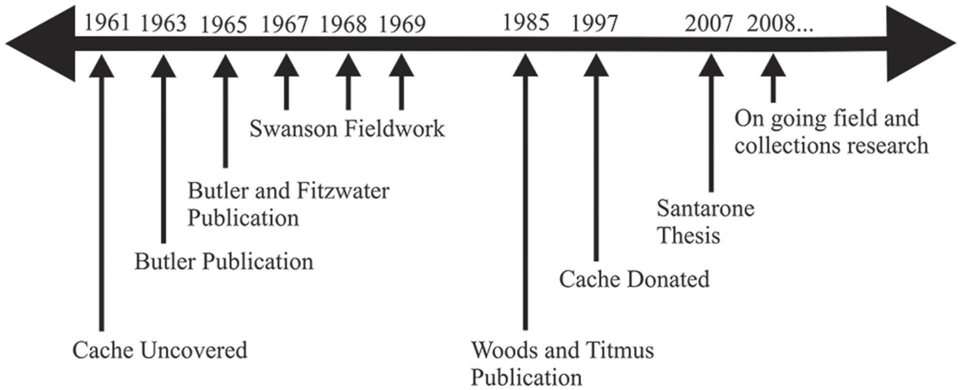

Figure 2.2. Timeline of important events in the history of the Simon cache

DISCUSSION

Using the documents and resources available, I was able to establish the known cache assemblage at five different points of time (Figure 2.4): 1963, circa 1969, 1985, 1997, and post-1997. When the artifacts are aligned in terms of time two important points can be noted. First, it appears that generally the size of the artifacts recovered from the site diminished through time. This suggests that the majority of any large artifacts or artifact fragments have likely been recovered. Any artifacts that remain at the site are likely to be small and more difficult to locate. Second, based on the attributes of the artifacts that have "dropped out" of the collection, it appears that the most complete artifacts were preferentially curated. That is, the artifacts that were kept together and have been published are generally those artifacts that are most complete and visually impressive. This select sample of the assemblage came to be identified as the Simon cache, and it is this not fully representative sample that contributed to inferences concerning the nature of Clovis caches. This raises the question of how we can make valid comparisons between caches if the samples of the assemblages we are using are potentially not representative and if the composition of

Figure 2.3. Archival photograph (IMNH 1529-25) showing artifacts currently missing from the Simon cache

the actual assemblage is unknown. Documenting additional artifacts provides an opportunity to examine how the inclusion of these artifacts changes the assemblage character and the interpretation of the cache as a whole.

Unchanged by the addition of artifacts are the cultural-historical designation of the cache and the basic technological description. In categories such as raw material diversity, tool class inventory and diversity, character of workmanship, and evidence of use, the changes are dramatic. I describe these changes below.

INVENTORY

One problem with compiling an inventory of artifacts present in the Simon cache is the extensive breakage and fragmentation of the artifacts. Clearly some of the breakage is the result of contact with agricultural equipment (as evidenced by metallic marks). Equally clearly, some of the breakage was present prior to the deposition of the cache. For this inventory I took a conservative approach. Only those conjoinable artifacts that were definitively fragmented prior to deposition were counted as multiple artifacts. Predepositional breakage was definitively established by the presence of reworking on conjoinable artifact surfaces. All other conjoinable artifact fragments were counted as single artifacts. It should be noted that since most conjoinable artifacts have been glued back together inspection of break surfaces was often impossible. This adds to the conservative nature of this inventory. Using this approach the Simon cache consists of at least 63 artifacts, including 48 bifaces or biface fragments, 5 flake tools, 9 pieces of debitage, and 1 nodule of red ochre. Of this inventory, 58 are currently in museum collections and 5 are known only from photographs (whereabouts are unknown). Table 2.2 provides an inventory of bifaces with artifact and raw material classifications. The order of artifacts in this table reflects Figure 2.4.

RAW MATERIAL

I created two schemes for categorizing the raw materials used in the cache. One scheme was very general and the other specific. The general scheme consisted of broad material categories. In the most general division three categories of raw material occur in the cache—cryptocrystalline silicates, quartz crystal, and quartzite. All but one artifact fell into either the cryptocrystalline silicate or quartz-crystal category. The remaining artifact was classified as quartzite because of its fine granular appearance and matte surface luster. The absence of volcanic glass is curious given that at least three high-quality volcanic glass sources (Bear Gulch, Browns Bench, and Malad) exist within approximately 150 to 375 km of the site. All three of these volcanic glass sources are known to have been used by Clovis peoples (E. S. Lohse, personal communication 2009).

To establish the raw material categories for my more specific categorization, I used a version of the minimum analytical nodule analysis technique (Andrefsky 2005; Larson 1994; Larson and Kornfeld 1997). For the designation of individual raw materials, I focused on primary and secondary coloration. I also used the color, shape, and texture of any inclusions as part of my classification. I paid attention to gradients in color that could indicate the range of variation within a raw material and therefore help to unify some raw material types. I did not use exposure to ultraviolet light. Other researchers have used different methods and come up with slightly differing results (i.e., Kilby 2008). To my mind the differences in designations can be accounted for by the classic lumper vs. splitter dichotomy on the part of individual analysts. While on the subject of raw material, it should be noted that there is evidence in the collection for the use of heat treatment (Kilby 2008; Santarone 2007). This evidence includes greasy surface luster, pot-lidding, crazing, and differences in color and texture between interior and exterior portions of artifacts. Because of this, changes in material appearance that resulted from heat treatment could also be operating to increase the number of material categories (although I think that this is unlikely).

The investigation of the raw materials present in the Simon cache was not designed to attempt to identify actual raw material sources. Instead my categories were constructed to more closely identify nodules of raw material (similar to Hall 2004). There are two reasons for this approach. First, crypto- or microcrystalline silicate toolstone sources in the region are both extensive and poorly documented. The other reason to focus on nodules is that a single source area may display a range of material colors and inclusions. Although investigators have attributed some artifacts to particular raw material sources (Kilby 2008; Kohntopp 2010), these investigators have tended to come