

THE ATLATL



“Too Long Have I Hunted Mammoth Alone!” Rick McWhorter

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Atlatis and Darts of White Dog Cave, Arizona

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White Dog Cave, location in space, time, and history

It was the early 20th century, and the Southwest artifact mining boom was in full swing. Commercial excavations in the Grand Gulch country of southeastern Utah by the such as the Wetherill brothers and other professional agencies had generated a great interest in Southwestern relics in general, especially those of the so-called Cliffdwellers, whom we now know as the ancestral Puebloans. These uncontrolled, profit driven diggings had begun to notice significant differences in the material culture within dry cave sites, with deeper digging producing not typical Cliffdweller fare, but another sort of material entirely; the stuff of an earlier people, who came to be known as the Basketmakers for their lack of a well-defined ceramic tradition.



Figure 1. Pettigrew holding replica White Dog Cave atlatl equipment. In the background is Marsh Pass in northeastern Arizona.

Although the Wetherill diggings had recognized the distinctiveness of this early culture, their methods, while good for amateurs, were still lacking, and the race was on for archeological institutions to locate and excavate Basketmaker sites in controlled, scientific fashion. It was this race that brought a Harvard Peabody Museum excavation team, led by Alfred Vincent Kidder (later to develop the Pecos Classification Scheme of 1919, which formalized the Basketmaker designation) and Samuel James Guernsey to the Four Corners region. The summer of 1916 brought Kidder and Guernsey to the Marsh Pass region just east of Kayenta, Arizona (Figure 1). The Peabody team was impressed with the rugged, nearly impassable landscape of Marsh Pass, which runs between Black Mesa and Tyenda Mesa. Many blind curves and sudden drop-offs make the land treacherous, while high spires of stone stand in stark contrast to flat alluvial deposits. There were many caves in the Marsh Pass region that the team investigated, but none yielded so many well preserved artifacts as what they named White Dog Cave, after the hair color of a mummified Basketmaker dog that would be uncovered in association with a human burial within the cave.

White Dog Cave is unobtrusive, possible only because of the deep folding and gulying in the area, for the cave is of immense size, but one must approach closely to get any inkling it is there at all. The cave proper is found at the rear of a massive rock shelter, and is approximately 70 feet deep by 120 feet wide. As is typical of such caves, White Dog Cave is mostly filled with rubble from rockfalls from the ceiling, the remainder of the floor being composed of clean, wind borne sand. An ancestral Puebloan period kiva ruin was found against a wall of the cave, but the rest was devoid of signs of ancient Cliffdwellers. However, beneath the sands of the cave, test pits found basketry and human bones, and the cave was marked for excavation. The artifacts were of Basketmaker origin, and have been dated to approximately 2,000 B.P. (Coltrain et al. 2007). The artifacts from this site were extraordinary, well preserved, and revealed a rich cultural tradition of great complexity. The Peabody team had found an important site.

and atlatls are matched, since throwing the wrong darts with a replica atlatl—or vice versa—can seriously alter our interpretation. One gets the best understanding when all details of material, construction and dimensions are closely followed. Windows can exist in which slight variations in some of these parameters are acceptable, but it often takes experience to identify these windows.

Much of our experience in these matters has resulted from efforts to replicate the WDC artifacts. Pettigrew's first attempt at artifact replication was with the WDC darts. Initial attempts with river cane (*Arundinaria gigantea*) mainshafts failed. The shafts were too stiff and produced horrible flight. While Pettigrew knew better, frustration mounted and he couldn't help but consider the possibility that these ancient hunters had a poorly refined projectile kit! This of course is the worst possible result of an experimental approach to archaeology. We hope that our experiments will teach us something about



Figure 2. A replica of the cist 27 atlatl by Pettigrew.

Excavation revealed a large number of human burials in shallow stone lined graves known as cists. The atlatl gear with which we are concerned in this article were found in association with specific burials. A 24" long, triple weighted atlatl (Figures 1, 2 and 3) (Peabody # A2809) was recovered from Cist 27, in association with a male approximately 25 years of age. A shorter complete atlatl (Peabody # A2951) was found in Cist 24, in association with the burial of a female. Dart fragments, mainshaft fragments and foreshafts were found in various cists. Many other atlatl and dart fragments were also found, but can't be considered further in this article because their highly fragmentary nature prevents their replication.

Replicating the White Dog Cave atlatl and darts

In terms of the atlatl material alone the White Dog Cave (WDC) site is important. The discovery of two complete atlatls and three complete darts offers a rare glimpse at the specifics of an ancient Basketmaker atlatl hunting kit. In our experience, entire systems need to be replicated so that darts

ancient people, whose tools we try to replicate, but good insight can take long periods of trial and error, and often only result after adequate skill in constructing and using ancient tools has been developed. Later, reproducing the darts from wooden shoots revealed them to actually have excellent flight (Pettigrew 2008). The first throw in fact sent a fletcherless WDC dart sailing straight away with low oscillation and good trajectory. A subsequent effort to reproduce the Cist 27 atlatl and use it with the darts was also informative (Pettigrew 2009). Since then we have refined our replications further.

Anyone interested in these artifacts and the context of their discovery should seek the original report (Guernsey and Kidder 1921), which can be found online with a simple search. However, several details about the artifacts are missing or were not given an adequate description. Additionally, some of the original measurements are imprecise. Chuck LaRue examined the Cist 27 atlatl at the Peabody in 2006 and provided us with detailed measurements and color photos. Garnett also visited the Peabody

in 2010 and examined the Cist 24 atlatl and the darts. Their measurements are provided in Tables 1 and 2. Photos of the artifacts aren't published here due to copyright, but our replicas are pretty close, and should satisfy general interest.

Darts Close replicas are encouraging, because they show the WDC cist 27 atlatl paired with WDC willow darts to be an effective system, and one that was obviously refined by generations of people who relied on their weapons daily. A close inspection of the leaf scars on the original darts suggests to Garnett that they were made of coyote willow (*Salix exigua*) which is common in the Southwest, and works well at these dimensions (see Pettigrew 2013 for construction methods). Remnants of pigment indicate designs in red and black, with short spirals under the fletchings and broad bands along the shaft, or shafts painted entirely red. Sockets can be drilled out with stone drills and were often left with a narrow shoulder where the foreshaft connects, which leaves a stronger socket, but does not help with penetration. Foreshafts are constructed of oak, about 15 cm long, and given roughened spirals at their socket tangs to create friction for the joint. Wetting the tang and inserting the foreshaft into the socket with a twist produces a solid connection for a



Figure 3. An effective gripping method used with the cist 27 atlatl and WDC dart.

few throws, but the foreshafts can disengage fairly easily. This probably results in preservation of mainshafts when prey is struck and runs—the mainshaft will disengage before the animal dives through brush. A variety of foreshafts can also be used, and fewer mainshafts need to be carried by mobile hunters. One WDC dart still has a wooden blunt inserted in the socket, and blunts were found at other Basketmaker sites composed of the cut off distal ends of deer or sheep tibiae with wood inserts for socket tangs (Pepper 1902).

The method of fletching the mainshafts is confusing, and warrants better description. Splints of wood or yucca spines were inserted into the trimmed off, hollow quills of whole feathers and the quills were wrapped individually with sinew or gut before being lashed to the shaft. At their distal ends the feathers are simply attached with another wrapping over the untrimmed barbs and vane. Three feathers seem to have been lain along the shaft tangentially using this method (Figure 3). It's important when doing this that the feathers are of the right size, and the quills are properly aligned so that the feathers lay close to the shaft. On other dart shafts in the arid West a tuft of smaller feathers is attached above the distal wrapping. We think this curious fletching method was used to accommodate whole feathers that had symbolic significance. The method of inserting a spine or splint into a wrapped quill was also used in the attachment of feathers into hair



Figure 4. Depictions of atlatl darts in rock art in San Juan County, Utah. Left) an interior design that may depict the coloration of golden eagle tail feathers. Middle) a dart painted in white with tufts depicted in front of the fletches. Right) typical depictions of darts, with fletches indicated by simple circles. Photos by Chuck LaRue.

ornaments (Guernsey and Kidder 1921). In Basketmaker rock art we often see darts depicted with dramatically large fletchings; some even showing the distal tufts, and some with interior designs that appear to mimic the tail feather coloration of the golden eagle (*Aquila chrysaetos*) (Figure 4) (Chuck LaRue, personal communication, 2015). In short, fletchings probably meant more to Basketmaker people than simply functional additions to improve dart stability in flight.

Atlatl We have focused our efforts on what we initially saw as the nicer of the two WDC atlatls, the cist 27 atlatl with the three small weights attached. The weights are composed of swirly green and white rocks, worked down and polished, that have been described as the petrified teeth of some Triassic aged creature from the Chinle formation. A thin layer of black was lain down on the wood within



Figure 5. Close-up of the loops on the Cist 27 atlatl replica.

the section of the weights before they were attached, and then covered over some of the wrappings. Our best attempts to reproduce this have resulted from covering the shaft in pine resin, chipping off the resin, reheating the then tacky surface and rubbing in crushed charcoal; or rubbing the wood with a non-heated glob of resin to produce a coated surface, then heating it and rubbing in the pigment.

The wood of the atlatl is probably gambel oak (*Quercus gambelii*); also used for many other atlatls in the Southwest. This is a dense and tough, but

springy wood that is easily bent to a desired shape when heated, but can also warp with occasional exposure to moisture. Many atlatls found in the Southwest are highly warped. The shaft of the cist 27 atlatl was snapped above the distal most weight, perhaps to “kill” it before placing it in the grave. The loops were attached with a simple but effective method. A piece of buckskin was folded in half to increase its rigidity, then perforated in the center and slid over the handle to the proximal end of a shallow set of finger notches. The ends were brought above the notches, perforated with two holes in each side and “sewn” to the shaft (Figure 5). A lashing around the threaded portion between the wood and leather tightens this lashing (this method is also used to tighten down the lashings around the weights). A smaller set of notches creates lugs just above the finger notches to keep the loops from sliding down. Hide glue holds the sinew together, but does not keep it affixed to the shaft with extended use, so these lugs are necessary. The proximal end of the loops is retained with a “retention strap”, composed of a piece of leather threaded through the perforation on the underside and glued and lashed to the shaft above the loops.

The width of the loops and length of the handle works well for the authors when used with the grip shown in Figure 3. The fingers are inserted to the middle phalanges, right up to the middle knuckle, and the lower handle often “floats” above the palm. The atlatl balances well with the WDC darts right around the handle. We find this works well when used with a light grip on the dart and a flinging technique at the wrist and fingers. Some torque can also be introduced by the ring and index fingers on the lower handle. This can be a powerful and accurate method to launch the dart. Something we’ve found interesting to ponder over; using this grip we notice that the hand has a tendency to cant inwards in the holding position (Figure 1). This typically doesn’t affect the throw unless absolutely no attempt is made to correct it. It can be corrected more easily if the loops are twisted. On other Southwestern atlatls the loops are straight, but an original photo of the WDC cist 27 atlatl *in situ* (Guernsey and Kidder 1921:Plate 10e), shows that the loops may have been twisted around when it was uncovered. This could have also resulted from the excavation itself, or post-depositional settling, we can’t be sure, but it is possible to twist the loops a little on our replicas.

Conclusion Many artifacts associated with human remains in the Southwest are now being reburied, so this may be our last chance to study many of them. Replicating and testing them offers important insight on multiple levels. We gain insight into how they were used, but also the information that we need to gather from them to make accurate replicas. The White Dog Cave

artifacts offer a rare glimpse at a complete ancient atlatl kit from North America. Several aspects of the atlatls and darts are echoed in fragmentary and complete artifacts out West and even as far east as Arkansas and Missouri. By replicating and using these artifacts, modern atlatlists can develop a detailed understanding of the operational characteristics a specific atlatl system that was developed and relied on by ancient hunters. We hope others will find this article useful, and try their hand at replicating the WDC atlatl equipment.

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Table 1. Measurements of the Cist 27 atlatl taken by LaRue. An asterix indicates measurements from digital photos taken by LaRue, and scaled with his measurement of a nearby feature.

Length: of shaft overall	60.4 ⁱ (cm)
From spur tip to distal end	5
Of loading groove to spur tip	2.5
Of handle to center of finger notches	9.9
Of first weight from handle	2.55
Of second weight	3.12 ⁱⁱ
Of third weight	4.05
Of leather piece that forms the loops	12
Width: of shaft at distal end	2.32
At spur tip	2
At center of handle	1.5*
At center of finger notches	1.29
Of groove at spur tip	1.3*
Of first weight from handle	1.3
Of second weight	0.82
Of third weight	1.5
Of leather piece that forms the loops (after being folded in half)	1.5
Thickness: of shaft at center	0.7 ⁱⁱⁱ
Of shaft at distal end	1.1
Of first weight from handle	
Of second weight	0.7
Of third weight	0.9

Table 2. Measurements of dart shafts from White Dog Cave taken by Garnett.

	Complete	Fragmentary		
		Mean	S.E.	n
Length overall	1400 ^{iv} (mm)			
Distal diameter	14.83	14.86	0.29	12
Socket width	8.16	10	0.91	11
Socket depth	22.29	22.24	2.37	8
Proximal diameter	9.91	9.66	0.3	4
Noek depth	3.26	2.1	0.77	2

ⁱ This overall length is shorter than that of 25 inches given by Guernsey and Kidder (1921), but is closer to a length of 24 inches, which was provided on the Peabody Museum website. LaRue took this length by measuring along the wooden shaft, which was broken and bent.

ⁱⁱ This weight is chipped at its distal end. We are not sure if this occurred before or after it was lashed to the shaft. If after, an original length of 3.5 cm is estimated by LaRue.

ⁱⁱⁱ Unfortunately the shaft's thickness is only an approximation and is taken from the replica shown above. We have not seen a recorded thickness for the Cist 27 atlatl. The shaft is slightly thicker at the distal end where the spur sits at the head of a slight ridge. These measurements are close to the cist 24 atlatl, another fragment from WDC, and the Kinboko atlatl from a cave in the same area (see the resources section on Basketmakeratlatl.com for measurements).

^{iv} This length is an average from Guernsey and Kidder's (1921) measurements for three complete shafts of 52.5, 55, and 55.5 inches. The darts were originally in fragments but could be pieced back together. The rest of the measurements for the complete shaft belong to one of these three darts (Peabody # A2813). The others could not be located within the narrow time window available to Garnett.

THE REPLACEMENT OF THE ATLATL BY THE BOW & ARROW TOOL SYSTEM IN THE NORTHERN GREAT BASIN:

THE CASE OF THE MISSING EASTGATE PRECURSOR

By Lee Spencer

While I was an undergraduate at U. C. Berkeley I constructed an atlatl and darts using stone tools and carried out throwing experiments. After I got my Master's Degree in 1978 from the University of Oregon, I worked as a professional field archeologist for twenty-five years. This work was mostly in the western US with one brief sojourn in Texas and another in the highlands of Peru.

This article is about a research project I was never able to do. After most Great Basin archeologists accepted the conflation of the Rose Spring and Eastgate Types into what has been termed the Rosegate Style, this research became much more difficult. In case the situation is now changed, I offer this project gratis to anyone who would like it. I have not engaged in archeology for fifteen years.

Don't look for much specific data you can use in this discussion. I didn't have much to begin with and what I vaguely remember having is probably stored in a friend's barn in central Oregon. The research topic is important and, if you are someone who wants to try it out, do so.

*For the last fifteen years I have been sitting at a pool on a Western Cascades stream that is used as a refuge by populations of wild summer steelhead (*Oncorhynchus mykiss*). I am there to protect these steelhead from poachers. The whole stream has been closed to angling since 1932.*

The unique form of the "classic"ⁱ Eastgate arrow-point type has undoubtedly caught the attention of many archeologists. The attributes of the Eastgate Style that classically distinguish it from the Rose Spring Style in the Northern Great Basin are square barb ends, narrow parallel-sided basal notches that are parallel to the proximal and outer barb edges (as well as the side of the stem nearest to a given notch), concave blade edges, and they are thin if not extremely thin (often 2.5 mm or less). Rose Spring Style attributes are relatively broad convergent corner-notching, pointed barb ends, and convex blade edges [these type descriptions are purposely somewhat simplistic]. Please bear in mind that, herein, the terms Type and Style are used interchangeably.

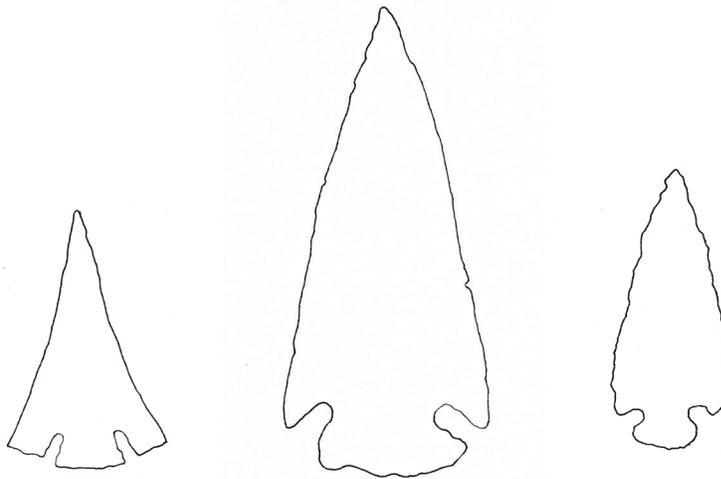


Figure 1. Northern Great Basin Projectile Point Styles
Left To Right: "Classic" Eastgate Arrow-Point Style, Elko Dart-Point Style, Rose Spring Corner-Notch Arrow-Point Style
(from Justice 2002) (1/1 scale)

As mentioned above, it has been generally accepted in the Great Basin for roughly two generations that these two arrow-point styles—the Eastgate and Rose Spring—were being manufactured and used at the same time. This led David Hurst Thomas to adopt the temporal-type name that was first coined by Bob Elston: *Rosegate*. While this conflation of the two style names is probably generally harmless, *Rosegate* is an unduly awkward type usage from a stylistic perspective.ⁱⁱ This latter perspective I believe requires us to explain both the stylistic uniqueness of the “classic” Eastgate Type as well as the obvious morphologic differences of the Eastgate and Rose Spring Styles as initially defined.

In the Northern Great Basin, the Elko was the final dart point that was in use at the time the atlatl was abandoned for the bow and arrow tool system. I am sure that many of us have observed that Elko dart points look like a large Rose Springs. While in graduate school, I was just as intrigued that there was no common named precursor dart-point style anywhere in the Great Basin that resembles the “classic” Eastgate. More than a unique style at the time of its appearance in the Great Basin, the Eastgate arrow-point style—with its squared barbs ends, narrow and parallel notches, and concave blade edges—was often the most carefully formed and exquisitely flaked style in the deposits and assemblages of the sites I have worked with in the Northern Great Basin. I have seen a few “classic” Eastgate points that had a maximum thickness of under two millimeters.

My interest in a dart-point precursor to the Eastgate Style remained with me throughout my graduate studies. Then one day it occurred to me to examine the identified dart-point styles from north of the Northern Great Basin in the Columbia Plateau Culture Area.

Low and behold, there was a Middle Archaic Columbia Plateau dart-point style that resembled the Eastgate Style, exhibiting squared-ended barbs, basal notching, and straight-to-concave blade edges . . . I think. Unfortunately, I came to this realization very shortly before driving out of Eugene with my Masters heading for Peru. I have forgotten what this Columbia Plateau dart-point style was called or for that matter what site report I saw it in. The existence of this dart-point type by itself suggested that the bow and arrow tool system was in fact introduced into the Great Basin from the north and that at least some of the Northern Great Basin folks adopted the arrow-point style—what we call the Eastgate Type—as an integral part of the bow and arrow tool system.ⁱⁱⁱ

Please bear in mind that classic Rose Spring Type projectile points are also found in the Northern Great Basin and their use certainly overlaps temporally with Eastgates. The issue of this research would be to assess whether the initial appearance of the Eastgate Style in the archeological record predates, co-occurs with, or postdates the Rose Spring Style temporally in at least certain portions of the Northern Great Basin.

From my examination of drawings and photos contained in site reports, something significant happens as we move south in Nevada, say to the Reno area. The type attributes of the Rose Springs and Eastgates seem to show a tendency to merge. This is close to 200 miles south from where, starting in 1973, I did two field seasons testing rockshelter sites—including Ezra’s Retreat^{iv}—and documenting extensive open sites in the basin of the North Fork of the Little Humboldt River. Virtually all of these sites contained components that spanned the time when the bow and arrow tool system was introduced into the Northern Great Basin.

If I have coherently presented this argument, you see how sweet a research project this would be. Again, the main reason why I didn’t pursue this research myself was that the work of David Hurst Thomas with Great Basin projectile point typology became very influential and most Great Basin archeologists chose to adopt *Rosegate* as a temporal-type name for what before were known as the Eastgate and the Rose Spring Styles. If these two arrow-point styles had not been joined into the *Rosegate* Type, this research project could probably have been done in a good library. After the use of the *Rosegate* Type name became common, pursuing this research would have necessitated going to universities and museums and reexamining projectile point assemblages from various sites.

As I have said above, this would be a nice, simple, yet important, bit of research to do and would be a case study in diffusion. It will be no surprise that the bow and arrow tool system was introduced from the north. This however is a hypothesis until it is proven and it is these small proofs form the woof of our archeological understanding.

SOME CONSIDERATIONS

Dating and other technical data

Dating techniques that include the law of stratigraphic super position, radiocarbon dating, and obsidian hydration, along with some other techniques, have validated the patterns of persistence and change within large portions of the various culture areas presently defined for at least the North American continent north of Mexico.

Unless dateable culturally associated carbon is found in direct association with either the Eastgate or the Rose Spring, I think the most useful temporal data may come from the existence of solely the Eastgate or solely the Rose Spring Styles within given strata or within the deposits of single component sites. If the Eastgate and Rose Spring Types are shown to co-occur in strata or site deposits, it would be important to this research project to determine when and where the “classic” Eastgates began to morph toward the Rose Spring Style.

Useful geographic data may be found in the sourcing of lithic raw materials [especially if the source of materials found in Northern Great Basin sites can be shown to come from a neighboring culture area].

If the Eastgate Style of projectile point was in fact introduced into the Northern Great Basin with the bow and arrow tool system, it is possible that it may predate the Rose Spring Type by no more than a hundred years or so. Note: the standard deviation on a decent 1,500 BP carbon date is likely to be near ± 50 years.

Typological Concepts

The archeology of the Great Basin and other cultural areas has shown that the morphology of projectile points—spear, atlatl dart, and arrow points made of conchoidally fracturing lithic materials—changes over time and distance. Projectile point types also persist for variable periods of time. Organizing and classifying the patterns of change and persistence for projectile points and other artifact types—and types of debitage too—is the task of typology.

Please bear in mind that being conservative in defining the attributes of the projectile points relating to this research project will make this test much more powerful. Doing this may mean that you will encounter a fair number of arrow points that will fit within the Rosegate Style, yet will not fit nicely into either the Eastgate or the Rose Spring Styles. For

instance, the Eastgate Style you are looking for is the “classic” style.

Flaking stone is a reductive process which means that any point type or type fragment that is large enough and of the right shape may be further flaked to form a smaller point type. Just because something can happen does not, however, mean that it does. Stratigraphic super position and various ways of dating artifacts and deposits have shown again and again and again that, so long as a typology has been adequately tested in the real world, common temporal and geographic patterns of change and persistence in projectile point styles are the rule.

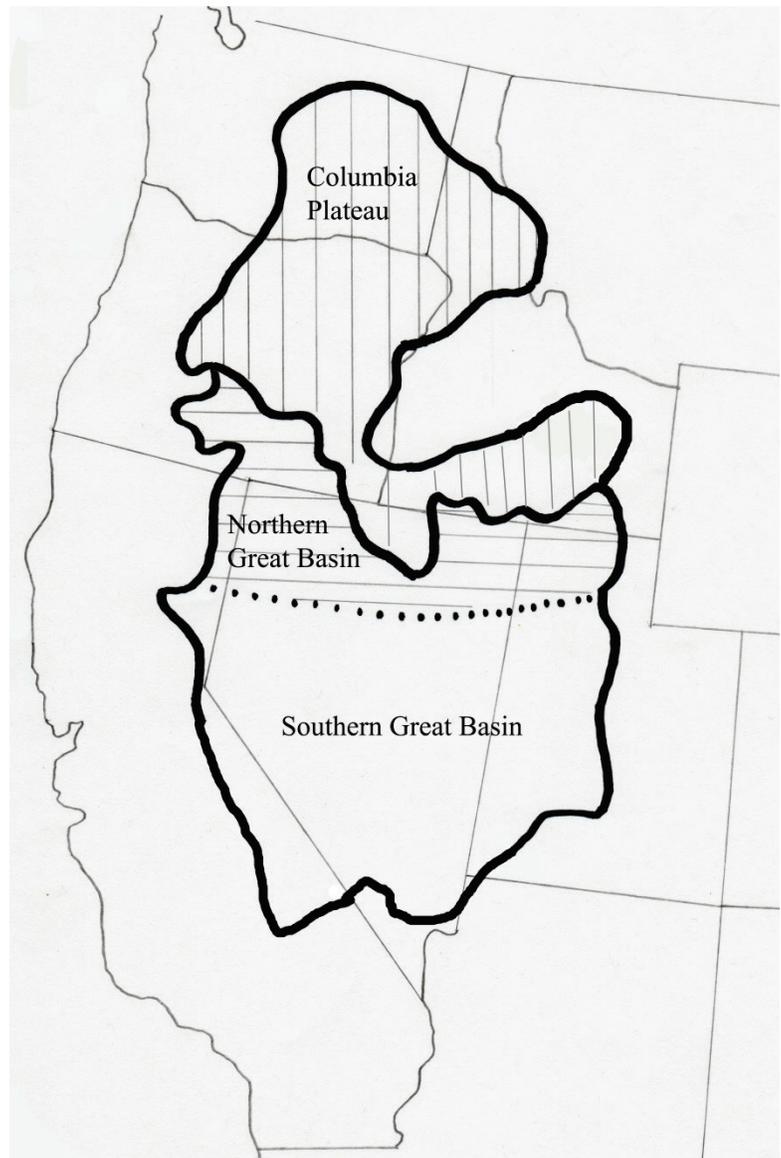


Figure 2. Generalized sketch map of the Great Basin and Columbia Plateau. L.S. 2015.

An example of keeping things simple is the very useful patterning of the neck-width data described by Dave Corliss (1972).

Table 1. Neck Widths Of Arrow And Dart Points From The Northern Great Basin And The Columbia Plateau Area (after Corliss 1972).

	Neck Width mm —Atlatl Dart Points—	Neck Width mm —Arrow Points—
<i>Northern Great Basin</i>		
<i>mean</i>	12.11 mm	6.7 mm
<i>standard deviation</i>	(2.3 mm)	(1.2 mm)
<i>sample size</i>	1,829	1,042
<i>Columbia Plateau</i>		
<i>mean</i>	9.7 mm	4.9 mm
<i>standard deviation</i>	(1.8 mm)	(0.5 mm)
<i>sample size</i>	940	876

Note: Dave discovered that the neck widths of Columbia Plateau Area dart and arrow points were consistently and significantly narrower than those of the Northern Great Basin. He was at a loss to explain this difference.

Two early arrow-point types—the Rose Spring Corner-Notched and the Eastgate Expanding Stem Types—are *stylistically* quite distinct from each other in at least the Northern Great Basin. These are what I am calling herein the Rose Spring and the Eastgate Styles. These two type names were initially coined in the middle to late 1960s by archeologists working through the Archeological Research Facility at the University of California, Berkeley. It is intriguing that the “*classic*” Eastgate Type is morphologically, or stylistically, completely unique to the Northern Great Basin.

In the Great Basin there is no named dart-point that even faintly resembles the Eastgate Type.

Through the comparison of projectile point types from the Middle Archaic through the Late Archaic in the Northern Great Basin and the surrounding Culture Areas: the Central Rocky Mountains, the Columbia Plateau, or the California Culture Areas, it may be possible to show how, when, and from where the bow and arrow tool system was diffused from one area to another.

If there is a dart-point type similar to the Eastgate in one or more of the neighboring culture areas, this would strongly suggest that the bow and arrow tool system was introduced from that culture area into at least part of the Northern Great Basin.

If Eastgate-like arrow points also occur in one or more of the other neighboring culture areas, this

would add strength to the supposition immediately above.

If Eastgate Style points can be shown to predate Rose Spring points—or vice versa—in at least part of the Northern Great Basin this would suggest that whichever was the earlier type was initially associated with the introduction of the bow and arrow tool system to that part of the Great Basin.

If the Rose Spring Type co-occurs with the Eastgate Type in the Northern Great Basin this will tend to show either that these two early arrow point types also co-occurred in the area of origin and diffused together or that there were meaningful differences in how these two types were viewed or functioned in the Northern Great Basin.

Where and when the discreteness of the type attributes of the two arrow-point types—Eastgate and Rose Spring—become muddled in the Great Basin could throw light on the nature of the spread of this particular technological innovation and might show the existence of cultural boundaries or the shifting of these boundaries during prehistoric times.

If **no** Eastgate-like dart-point type is found in California, the Columbia Plateau, or the Central Rocky Mountains Culture Areas, how strongly does this open the door to an in situ invention of the Eastgate Type within the Northern Great Basin?

Do the point (s) associated with the adoption of the bow and arrow tool system now and then represent the adaptation of bow and arrow tool system to changed environmental conditions from those of the area of immediate origin?

Does the shape of the “*classic*” Eastgate Style arrow point represent an enhanced ability to penetrate hair and hide and cause hemorrhaging when compared with the Rose Spring Style? Are Eastgate Style projectile points associated more commonly with bison hunting?^v

Northern Great Basin Culture Area

The Eastgate Type is stylistically unique in the Great Basin. There are no named precursor dart-point types for the Eastgate Type in this area.

California Culture Area

The California Culture Area borders the Northern Great Basin on the west. No Eastgate-like dart or arrow points are present in this area either.

Central Rocky Mountains Culture Area

The Central Rocky Mountains borders the Northern Great Basin on the east. I have not been able to examine the literature for the Central Rocky Mountains. It is therefore possible that both a

named dart-point type and a named arrow point style exist in this Culture Area that resemble the Eastgate Type.

Columbia Plateau Culture Area

The Columbia Plateau borders the Northern Great Basin on the north. Distribution maps for the Rose Spring Corner Notch Type and the Eastgate Expanding Stem Type (Maps 134 & 135, respectively (in Justice 2002)) show the Eastgate Type extending into the southern part of the Columbia Plateau near the Dalles and the mouth of the Deschutes River. This data is from Shenck *et al.* (1930) in Justice (*ibid*).

According to Justice (*ibid*), the Rose Spring Style stops on the northern edge of the Great Basin about 150 miles south of the Columbia River.

The presence of the Eastgate Type just over the Columbia River suggests the possibility that the bow and arrow could have diffused south from the Columbia Plateau into the Northern Great Basin. However, I have not been able to thoroughly examine the literature of this area for either the presence of a named precursor dart-point type to the Eastgate Type or the presence of the Eastgate Type further northward in the Columbia Plateau Culture Area.

In Situ Innovation of Eastgate Style in the Northern Great Basin

By now surely you are aware that the Eastgate and Rose Spring styles represent the early use of the bow and arrow in the Northern Great Basin and that the “*classic*” Eastgate is unique in the Great Basin. Perhaps because of the common conflation of the Eastgate and Rose Spring Types under the temporal umbrella of Rosegate in the Great Basin, to my knowledge no one has studied the Eastgate Type and its potential implications about the Culture Area responsible for introducing the bow and arrow to the Northern Great Basin . . . but then, I have been sitting with wild summer steelhead for the last fifteen years.

One of these implications is that if there does not exist a precursor dart-point style or, for that matter, if the Eastgate Type is not at least somewhat more ancient in a bordering culture area than it is in the Northern Great Basin, then there is a good possibility that the Eastgate Type may have been invented *in situ* in the Northern Great Basin.

If so, is the Eastgate Type may be a functional adaptation? In light of this, was there a change in the Northern Great Basin at about this time that can account for this invention?

Yes there was a significant change around 1,600 years ago give or take 150 years. This revolution was the replacement of the atlatl and dart with the bow and arrow hunting tool system.

Given that the Eastgate is a projectile point style that is completely unique to the Great Basin, does the shape of the Eastgate Style arrow point represent an cultural/functional adaptation of the bow and arrow to hunting large to very large animals—such as bison—when compared with the Rose Spring Style?

Are Eastgate Style projectile points associated more commonly with bison hunting? In this regard, it is worth observing that the American bison (*Bison bison*) was present for the most part in the Northern Great Basin and perhaps particularly in the valley of the Humboldt River. That said, however, undoubtedly bison never achieved anywhere near the numbers to the west of the Rockies that they did on the Great Plains.

When the attributes of the Eastgate Type are examined, they suggest the change from the standard straight-to-convex dart-point blades to the markedly concave Eastgate blade edges create a much narrower distal tip which would penetrate an animal’s hide much more easily. Penetrating hide more easily, these same concave blade edges would potentially conserve more energy—inertia—imparted by the propulsive force?

The flared outer barb corners would cut a wider slice through the hair, hide, and the insides of the hunted animal than would a similar length Rose Spring Type arrow point. Further, the fact that the “*classic*” Eastgate barbs have square ends may make them more resistant to breakage and the Eastgate’s narrow basal notching may have served the same purpose, that is, supporting the hide-penetration pressures on the barbs by allowing there to be a minimum of free space—and therefore a minimum of free play—within the notch. It is possible that the stem of the point might be protected from breakage for the same reason.

The ultimate Eastgate Type adaptation to hunting is the extreme slenderness of the “*classic*” Eastgate. Clearly, the thinner a point type is, the easier time this artifact will have cutting through the hair, hide, and flesh and slicing therefore more deeply more easily.

Perhaps one of the prime concerns of people who were in the process of adopting the bow and arrow and at the same time discarding the atlatl and dart hunting tool system was a concern that the energy stored in the flexed bow and imparted to the arrow shaft would be insufficient to kill a very large animal like a bison. Allow me to speculate—truly,

it is somewhat late now to deny me this option—that even if there was no inherent liability to hunting bison with a bow and arrow, a person might erroneously think that there was. And thinking so, this person may have been just as compelled to invent a near perfect projectile point than if the bow and arrow possessed no liability in this regard.

Without doubt, the “*classic*” Eastgate Type arrow point is an excellent hunting adaptation which enhances this point type’s ability to penetrate hair and hide and flesh deeply, causing hemorrhaging internally.

Even if the Eastgate Type came from/originated in a neighboring culture area, the comments and speculations documented just above about the Eastgate Style would hold true for the donor culture too.

Test: A simple test for these propositions would be to compare how many Eastgates versus how many Rose Springs can be shown to be directly associated with bison in archeological contexts.

Rose Spring Style In The Northern Great Basin

Contrary to the Eastgate Style, the Rose Spring Style is not morphologically distinct in the Great Basin. While smaller, the convergent corner notches and convex blade edges of the Rose Spring Type are identical to the final dart point in use when the atlatl disappeared: the Elko Type. If the bow and arrow and the atlatl were for a time both being used contemporaneously by Northern Great Basin people, the hunting point attached to the atlatl dart was an Elko.

For the sake of argument lets assume this overlap in the use of atlatls and bows happened for a human generation or two while the atlatl was variably slowly disappearing. The final disappearance of the spear thrower may have been due in part to the *in situ* invention of the “*classic*” Eastgate Type. Given this, could the Rose Spring Type have been used to point arrows used to hunt smaller or less challenging game, for instance deer or antelope?

I have been flaking stone since my junior year at U. C. Berkeley in 1972. This allows me to say with confidence that an advantage to using Rose Spring Type for hunting less challenging game would be that the Rose Spring Style is much easier to flake than the “*classic*” Eastgate point.

Test: Assuming that a regional frequency has been established for Eastgates versus Rose Springs, a test for this proposition could be to define where the large to very large animals would

be on the landscape and to see whether there are more Eastgates than Rose Springs associated with these areas.

Allow me to note that the purpose of the atlatl or bow is to propel a projectile point through the air and that this use readily breaks or loses the points. The principle of conservation of energy suggests that there was enough of difference in the ease with which the two point styles could be made that their co-occurrence makes good sense. This good sense is, of course, mostly speculative.

Obsidian is more easily workable than chert or the other cryptocrystalline silicates. Cherts on the other hand resist breakage more than obsidian does. The main reasons for this difference is that obsidian is non-crystalline—it’s a glass, or a semifluid solid—whereas all of the cherts are crystalline. This may suggest that a projectile point made of chert would resist breakage more than one made of obsidian would and thus the cherts would be a preferred material to construct projectile points from. In actuality, the velocity of a thrown point overwhelms the crystalline non-crystalline difference, i.e. when impacting with a thick bone or a stone, both glass or chert points will break. For this reason, the ease of flaking obsidian trumps the fact that it is not a crystalline material.

Test: If the propositions immediately above are valid, there should be more Eastgate points than Rose Spring points made from obsidian.

If Rose Springs saw a more mundane use, does that mean that more Rose Springs would be associated with larger social groups and their sites? The opposite might not be true because prehistoric hunters may have carried arrows pointed with both Eastgates and Rose Springs in their quivers. Were this the case, a hunter might chose to shoot a Rose Spring-tipped arrow at smaller or otherwise less-challenging game?

Diffusion

Diffusion Theory, insofar as I understand it, suggests that as the number and/or the complexity of nonessential elements contained in a newly adopted technology increases, the more likely it is that the invention reached a group through diffusion rather than being independently invented by that group.

If it bears out that the Eastgate Style is a completely unique shape and no Eastgate Style dart or arrow points are present in the surrounding culture areas, this would suggest that

the Eastgate Style is an *in situ* invention in the Northern Great Basin.

If the Eastgate Style were to prove an *in situ* development within the Northern Great Basin, this might suggest that the bow and arrow hunting tool system was more of an indirect than a direct borrowing.

Of course, much of what is presented in this paper is plain simple speculation.

References Cited

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1990 The Archeology of James Creek Shelter. *University of Utah Anthropological Papers* 115.

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2002 *Stone Age Spears and Arrow Points of California and the Great Basin*, Indiana University Press, Bloomington.

Strong, W. D., W. E. Shenck, & J. H. Steward
1930 *Archeology of the Dalles-Deschutes Region*, University of California Publications in Archeology and Ethnology 29 (1). Berkeley.

styles now exist in the literature as the Rosegate Style, the Eastgate type attributes have probably become muddled and this style also undergoes morphological change moving south from the Northern Great Basin. It is for this reason that the term “classic” Eastgate is used herein. The term “classic” represents those type attributes of the Eastgate Style that clearly distinguish it from the Rose Spring Style.

ⁱⁱ or morphologic, cultural, or functional perspective.

ⁱⁱⁱ I have wondered about this adoption of a nonessential (pointless?) part of the bow and arrow tool system—the Eastgate arrow point style. Is this similar to what happened with the introduction of metal axes as trade items into Southeast Asia? Early on, some of the indigenous people began to grind their stone axes so that they imitated the form of these new trade items, in some cases down to creating the seam formed by the edges of the molds used to cast the metal axes.

^{iv} When I discovered this site, I named it after the then infant son of my friends, John and Kathleen.

^v If my memory serves, I believe an Eastgate Style point was associated with a feature representing the butchery of a bison at James Creek Rockshelter near Carlin, Nevada (Elston and Budy (eds.) 1990).

end notes

ⁱ Because the Eastgate Style has been joined typologically with the Rose Spring Style and both

A new game in town: ATLATL POKER

By Bruce Weidman

It was just a few days out from one of our ISAC contests in 2014 when I realized that I was out of official targets. I was expecting some targets at any day now but I had to make plans just in case those targets didn't arrive*. Somehow, I began thinking about an Atlatl Poker game and how the game could be played. So I started laying out a target and brain storming the idea.

I wanted it to be challenging but still maintain some of the "poker" tradition. After all, five throws is the standard ISAC allotment per round and there are five cards in the traditional poker hand. The design of this target and rules of play forces people to throw away from the center and out of their comfort zone. Also, the higher the card value, the smaller its size. I added a Bull's Eye in the center as a Joker (wild card – choose what you want). A "Minus Two" shape was added to deter those desperate throwers trying to score another Ace or King.

FIVE THROWS ONLY. All throws are from 15 meters. Throw in rotating order.

SCORING: Keep score using the standard ISAC score sheet. Enter the insignia of the card you hit into box on score sheet. Place point value next to it as per example below.

			10 ₁	
Q ₃	J ₂	J ₂		J ₂

Even though the above poker hand is only three of a kind, it will beat five of a kind of 10's.

Bonus points are added to keep the scoring on a more even keel between novice and advanced throwers.

BONUS POINTS

Five 10's = 4 bonus points

Five Jacks = 3 bonus points

Five Queens = 2 bonus points

5 Kings = 1 bonus point

For example, hitting five 10's including bonus points equals 9 points which is one point more than hitting just 4 Jacks.

Hitting 5 Jacks gives you more points than hitting just 4 Queens, and so forth.

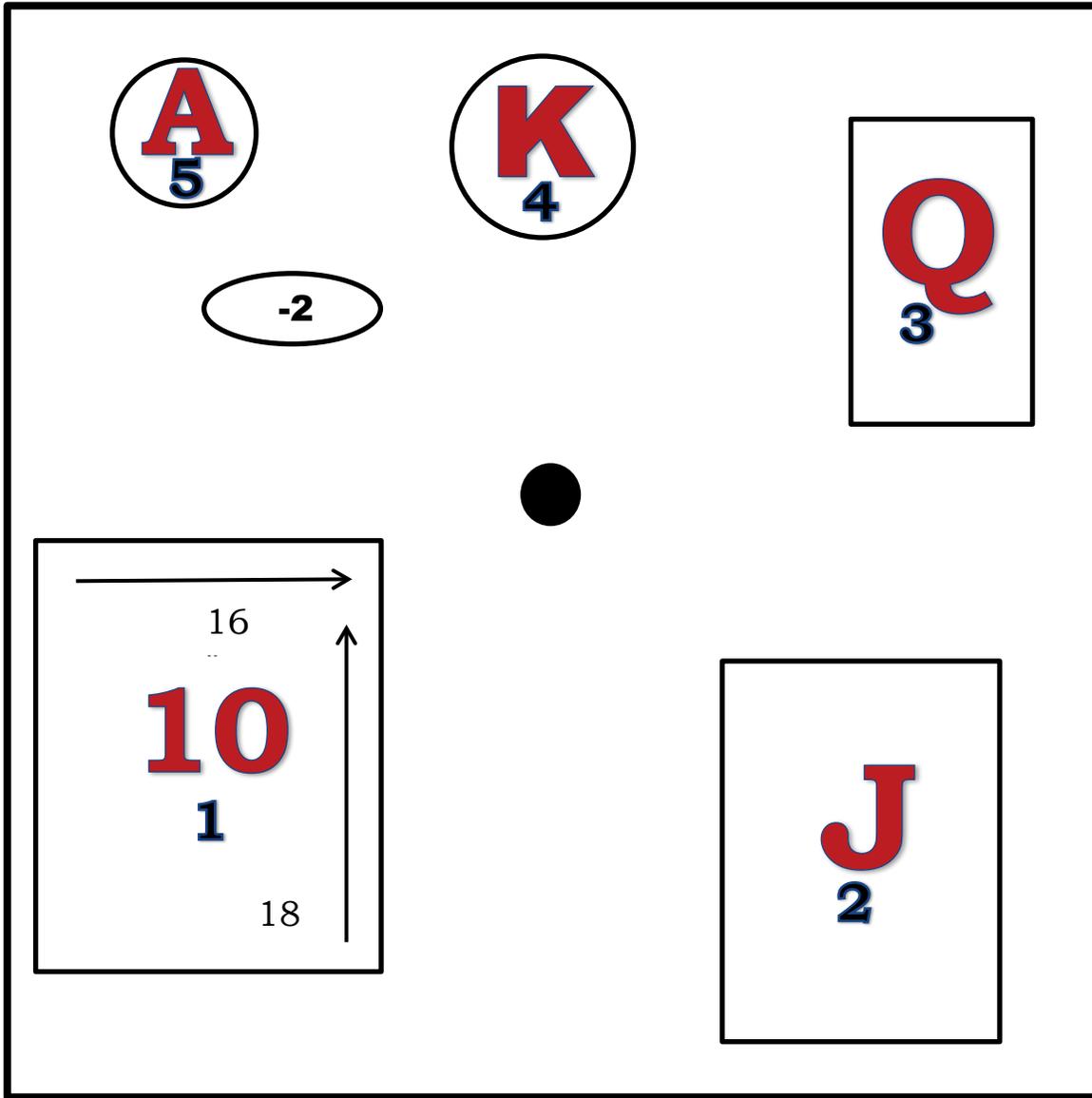
STRAIGHT: due to the difficulty with hitting all five cards, A straight (A, K, Q, J, 10) will beat any full house comprised of any combination of 10's, Jacks, and Queens.

* Jack Rowe saved the day. His shipment arrived in time for the ISAC contest.

Please let me know if you are interested in ordering these:
bweidman@comcast.net



ATLATL "POKER" TARGET
 Using standard 4 ft x 4 ft target size.
 By Bruce Weidman ©2014



DETAILS: 4ft x 4 ft square target

Placement and scale size of cards in the above schematic are guestimates. Refer to dimensions and placement measurements below.

10: 2 inches from left margin, 4 inches from bottom. BOX: 18" h, 16" wide

J: 2 inches from bottom, 4 inches from right margin. BOX: 16" h, 13" wide

Q: 4 inches from top, 2 inches from right margin. BOX: 14 ½" h, 10" wide

K: 9" dia circle, centered 7 ½ " from top, 22 ½" from left margin.

A: 6 ½" dia circle, centered 7" from top, 7" from left margin.

BULLSEYE: 2 ¼ " circle. Centered in middle of target

Minus Two: 7" by 3" oval. Centered 10 ½ " from left margin, 14" from top margin.

-Events-

Valley of Fire 2015

By Kevin Verhulst

We had a great time at the 24th annual Valley of Fire atlatl throw. The weather was perfect, it wasn't even windy. There was a great group of throwers from at least nine different states in attendance.

Valley of fire is Nevada's oldest state park founded in 1935. The desert scenery is absolutely beautiful. If you have never been to Valley of Fire it is well worth the trip. There are also hundreds of interesting pictographs etched into the sandstone by prehistoric people. Some of these pictographs seem to represent atlatls and spears.

The main event was Saturday. The park staff brought out 10 shiny new 3-D deer targets and spaced them out in the desert around atlatl rock. Two stakes were placed at each target for a long throw and a short throw. We put as many holes in the deer targets as we could.

Another fun event that we did was the Moche Toss. A bundle of feathers is wrapped around a spear, the spear is thrown up into the air, and after the feather bundle detaches from the spear, you try to hit the feathers out of the sky with a spear. It is kind of like skeet shooting with an atlatl and spears. It is a very challenging and fun atlatl game.

This year's Valley of Fire throw was another great event. Thanks to everyone that participated and watched. Thank you to the Valley of Fire park staff for helping to put on a great event and allowing us to use the group camp. I can't wait to go back and throw spears in the desert next year.



Above) Marlin Basset receives an award for placing first in the 3d shoot—his pick of an atlatl made by Chris Henry. Left) faded rock art on the hike to Mouse's Tank. Can you see the atlatl with finger loops on the far left?

Wintercount 2015

By Carol Seizmore

Of course the weather was great. The best ever, I think. We had highs in the low 80's and almost no wind. It made for an ideal Atlatl week that lead to several personal best scores. We had record attendance with nearly 400 students and almost 100 instructors. Among the attendees were Bob and Gail Kitch, Russell Richard, Ron Mertz, Douglas Bassett, Sue Mercer and Glenn Purpura and many other fine atlatlists. We also have a high school group from Durango, Co that is making this a regular school event. They are allowed to practice the atlatl at school and it shows in their scores. With youth scores in the 70's and 80's, and their adult teachers with scores in the 80's and 90's. It's great to see these kids preform and to know that they will carry the atlatl torch into the future.

A special thanks to Russell Richard from the Wyoming Atlatl Society for his help with this year's program, and for bringing his full size mammoth target with him. It was a huge attraction, keeping the youth in camp occupied all week.

If you've never been to Wintercount I encourage you to put this on your calendar for next year. There is no fee for the atlatl activities and there is dry camping available. You will have a great time.

Statistics: With 8 days of ISAC's we had 45 separate flights with 56 people throwing at least one ISAC.

Personal Best Scores: Bob Kitch - 96XXX, James Turner - 90, Jim Hughes - 87X, Allen Turner - 82X,
YOUTH: Will Klumpenhower, age 14 - 88.

Distance: Men: Douglas Bassett: 581 ft. Women: Kathy Collicott 229 ft. Youth: Chad Winkler 216 ft.

Field Round: Atlatl, Men - Glen Purpura, 76. Douglas Bassett, 75, James Turner, 58.

Women - Sue Mercer, 43, Cheri Hughes, 29 Kathy Collicott 27.

Youth - Chad Winkler, 63 Cable Gates IV, 47 Peter Oles, 44.

Juniors - Issac Holiday, 43 Eled Winkler, 31 Mitch Hartman, 16

ARCHERY: Men - Russell Sparks, 91 Brooks Hybertson, 81 Tobias Corwin, 81

Women - Ann Rosenquist, 43 Bonnie Schofield, 38 Judy Shannon, 28

Youth - Hawk Fugalli, 97 Cannon Castaldi, 63 Sierria Shannon, 63

Juniors: Colon Castler, 81 Issac Holliday, 77 Mica Hartman, 77

Images from Wintercount:



-UPCOMING EVENTS-

The Missouri Atlatl Association cordially invites everyone to attend the first annual

CENTRAL STATES ATLATL CHAMPIONSHIPS which will be held on Saturday May 16th near Boonville, MO at exit 111 off of I-70. We are introducing an annual competition and wish to extend an invitation to all Central states and everyone else who wants to join us for some friendly, fun competition. Camping available. This will be held in conjunction with the Osage Knapping which begins Wednesday afternoon. We will have an ISAC on Thursday and Friday evening at 6pm. ISAC and championship competition will be held during the day on Saturday. A fourth ISAC will be thrown early Sunday morning. For more info contact Jon Wood jswood429@gmail.com or Ron Mertz at devoemertz@sbcglobal.net

Chimney Point State Historic Site
8149 VT Route 17W
Addison, VT 05491
[\(802\) 759-2412](tel:(802)759-2412)

Email: elsa.gilbertson@state.vt.us for competition details, including fees.

September 18: Atlatl Workshop

Atlatl experts Bob and Cheryl Berg of Thunderbird Atlatl teach traditional and modern techniques of atlatl and dart construction, flint knapping, hafting stone points, and cordage making. Enjoy atlatl lore and coaching on the use of your new atlatl. Bob's been here each of the 20 years of this event! \$65 includes instruction and materials. Pre-registration required. Vermont Archaeology Month program. Noon – 5:00 PM

September 19: 20th Annual Northeastern Open Atlatl Championship

Participate in or watch this annual championship, in its 20th year. ISAC, distance, and accuracy competitions. The sport of using the atlatl to throw darts is based on the ancient hunting technique. Demonstrations and workshops on flint knapping, Woodland pottery, and other crafts and skills. Vermont Archaeology Month program. 10:30 – 4:30 PM

September 20: 2nd ISAC Competition

Second morning of atlatl International Standard Accuracy Competition. 10:00 AM

28TH ANNUAL WAA MEETING

CAHOKIA MOUNDS

September 10-13

Missouri Atlatl Association members are looking forward to hosting the WAA's 28th Annual Meeting the second weekend of September at the Cahokia Mounds World Heritage Site. The meeting will be held Saturday evening after pizza and competition awards, and will be followed by a guest speaker. There will be a \$5.00/person registration fee for the event and \$5.00/person for pizza. There will be an additional \$5.00 entry fee for the US Open.

On Thursday and Friday afternoons, the ISAC and US Open (conducted by Douglas Bassett) will be thrown. Starting at 9:00 a.m. Saturday, the major competitions (European Round and Hunters' Challenge) will be held as well as the ISAC and US Open. On Sunday morning, there will be a final ISAC.

For anyone not already familiar with Cahokia Mounds, it is the largest North American archaeological site north of Mexico. In recognition of its importance, it has been designated as a World Heritage Site by UNESCO. It is a premier example of a Chiefdom level society and was part of what is known as the Mississippian Culture. Although Mississippian level societies still existed in the American Southeast, Cahokia had been abandoned before the arrival of Europeans. The outstanding museum/interpretive center provides detailed information about the site and there are several miles of trails that allow the visitor to see many of the most important mounds.

If you have time, you might be interested in visiting one or more attractions in or near St. Louis, MO. Most are 10 to 15 miles west of Cahokia Mounds. The **Gateway Arch** is located on the Mississippi River front (the museum under the arch has been closed for remodeling). Next to the Arch grounds is the **Old Cathedral** (Basilica of St. Louis, King of France). A few miles west of the Arch is Forest Park, established for the 1904 World's Fair. Some major attractions in **Forest Park** are the **St. Louis Zoo**, the **St. Louis Art Museum** (which includes art objects from the Ancient Americas), the **Missouri History Museum**, and the **St. Louis Science Center**. Admission to all of the sites in Forest Park is free (there might be charges for special exhibits.) A few miles south of Forest Park is the **Missouri Botanical Gardens**, considered one of the top gardens in the US (admission: \$8:00/adult). About 15 miles south of St. Louis is **Mastodon State Historic Site** in Imperial MO where a Clovis point was found embedded in a Mastodon bone. There is a small museum (admission: \$4.00/adult). If you visit St. Louis, you might want to explore some dining opportunities on The HILL. **The Hill** is an historic residential area a couple of miles west of the Botanical Gardens that is predominantly Italian. A favorite sandwich shop is Amigetti's Bakery, but there are many more as well as a number of fine restaurants on The Hill. South Grand Avenue also offers a variety of ethnic dining opportunities.

There are many **motels** in **Collinsville, IL** which you will find on the internet. Collinsville also has a large number of restaurants. If you plan to **camp**, you might consider **Horseshoe Lake State Park**, about 4.5 miles from Cahokia Mounds.

We hope this information is helpful in planning your trip. For additional information contact: Ron Mertz, devoemertz@sbcglobal.net (314) 680-3596 or Jon Wood, jswood429@gmail.com (573) 881-6622.

-NEWS-

Call for Nominations

The WAA is looking for nominations for the positions of Vice President, Treasurer, and one Board position. Please send nominations to Regina Dodson by **May 15**.

Regina Dodson 611 Broken Wheel Court, Cheyenne, WY 82007 [\(307\) 421-0834](tel:3074210834)
regina.dodson@wyo.gov

Online Payment of Dues and Membership Application

Thanks to the hard work of our Treasurer, Justin Garnett, members can now renew their dues and new folks can join the association online! This is a big step forward for an organization whose focus is on ancient technology. The link to renew can be found on the WAA website (Worldatlatl.org) and requires one to open a Paypal account, which is a quick and easy process (I personally find it easier than hitting the X from 20 meters).

Currently the board of directors is also working to make membership renewal occur at the same time for all members—the start of the New Year. We will keep you posted, but you should all expect to need to renew in January, and please pay your previous dues if you haven't already.

---We still do not have working email addresses for many members! If you are still receiving *The Atlatl* through "snail mail", and did not request the mailed hard copy specifically, please send your working email address to theatlatl@gmail.com

The World Atlatl Association, Inc.

International Standard Accuracy Contest (ISAC)

2-Apr-15

2014 ISAC Results for Men (70 and above)

Place	* Tie Placement	Score	Name	Home	St	Date	Contest
1		96xxx	Bob Kitch	Husum	WA	2/15/2015	Wintercount, Maricopa, AZ
2		96	Douglas Bassett	Warsaw	NY	2/18/2015	Wintercount, Maricopa, AZ
3		92	Jon Wood	Madison	MO	1/4/2015	Columbia, MO
4		90	James Turner	Durango	CO	2/18/2015	Wintercount, Maricopa, AZ
5		87xx	David Sheppard	Cheyenne	WY	1/1/2015	Trail's End, Cheyenne, WY
6		87x	Jim Hughes	Durango	CO	2/20/2015	Wintercount, Maricopa, AZ
7		86	Ryan Grohsmeyer	Rolla	MO	2/1/2015	Columbia, MO
8		85	Cyrille Huc	Seysse	FRANCE	3/8/2015	Bruniquel, France
9		84	Russell Richard	Cheyenne	WY	2/18/2015	Wintercount, Maricopa, AZ
10		82x	Allan Turner	Scottsbluff	NE	2/20/2015	Wintercount, Maricopa, AZ
11		81	Kevin DeChant	Jefferson City	MO	3/1/2015	Columbia, MO
12	*	80	Jerry Nevins	Jefferson City	MO	2/1/2015	Columbia, MO
13	*	80	Glenn Purpura	Moab	UT	2/19/2015	Wintercount, Maricopa, AZ
14	*	80	Bernard Bouffier	Bruniquel	FRANCE	3/8/2015	Bruniquel, France
15		79	Eric Botte	Druelle	FRANCE	3/7/2015	Bruniquel, France
16		78x	Christophe Jamon	Ceyssac	FRANCE	3/8/2015	Bruniquel, France
17		74	Clancy Collins	Durango	CO	2/20/2015	Wintercount, Maricopa, AZ
18		73x	Claude Castan	Toulouse	FRANCE	3/8/2015	Bruniquel, France
19		73	Brian Wagner	Truxton	MO	2/8/2015	Columbia, MO
20		72x	Christian Carrière	Montauban	FRANCE	3/8/2015	Bruniquel, France
21		72	Dave Patterson	Ashland	MO	1/18/2015	Columbia, MO
22		71	Roger Granneman	Ottumwa	IA	3/7/2015	Columbia, MO
23		71	Matthieu Lacoste	Toulouse	FRANCE	3/7/2015	Bruniquel, France

2014 ISAC Results for Women (50 and above)

Place	* Tie Placement	Score	Name	Home	St	Date	Contest
1		75	Dawn Wagner	Truxton	MO	2/8/2015	Columbia, MO
2		74	Sue Mercer	Attica	NY	2/21/2015	Wintercount, Maricopa, AZ
3		58	Regina Dodson	Cheyenne	WY	1/1/2015	Trail's End, Cheyenne, WY
4		56	Priscille Lacoste	Toulouse	FRANCE	3/8/2015	Bruniquel, France
5		54	Françoise Agneray	Montauban	FRANCE	3/8/2015	Bruniquel, France
6		53	Andy Held	Hermann	MO	3/7/2015	Columbia, MO
7		52	Mariah Sheppard	Cheyenne	WY	1/1/2015	Trail's End, Cheyenne, WY

2014 ISAC Results for Youth (40 and above)

Place	* Tie Placement	Score	Name	Home	St	Date	Contest	AGE
1		88	Chad Winkler	Bayfield	CO	2/17/2015	Wintercount, Maricopa, AZ	15
2		83x	Fanny Jamon	Ceyssac	FRANCE	3/7/2015	Bruniquel, France	15
3		82x	Will Klumpenhower	Durango	CO	2/19/2015	Wintercount, Maricopa, AZ	14
4		79x	Marlin Bassett	Warsaw	NY	1/17/2015	Jim's Pro Shop, Shortsville, NY	12
5		75	Peter Oles	Durango	CO	2/19/2015	Wintercount, Maricopa, AZ	14
6		72x	Caleb Gates IV	Durango	CO	2/18/2015	Wintercount, Maricopa, AZ	12
7		71	Lucie Jamon	Ceyssac	FRANCE	3/7/2015	Bruniquel, France	15
8		53	Makenna Coleman	Durango	CO	2/15/2015	Wintercount, Maricopa, AZ	13
9		45x	Julian Tillotson	Durango	CO	2/19/2015	Wintercount, Maricopa, AZ	13
10		43	Quin Crist	Durango	CO	2/19/2015	Wintercount, Maricopa, AZ	13

*indicates ties which have been placed in their proper order, using the tie breaker rule

2015 US ATLATL EVENTS

April 23	Durango Atlatl Club Event begins at 3:30 p.m. at the Columbine Christine School, 1775 Florida Road, Durango, Colorado For more information contact: James Turner (970) 946-2096 Email: el_lobo_solo@hotmail.com Jim Hughes (970) 769-7463
April 24-26	Earthday Gathering and Mastodon Open / 389 Simkin Road, Elmira, New York ISAC and NYAA events (Team Individual, Hunter, Distance and European) A New York Atlatl Association, Inc. sponsored and insured event. Contact Jack at 570-888-8258 rjrowe93@gmail.com or Tom Goble at 607-215-9405
April 24-26	Granneman field Ottumwa, Iowa / 4 miles west of Ottumwa. 19505 87th. st. ISAC Fri 5 pm. Sat. 10 am. ISAC, Full European, 3d targets. Sunday ISAC 9:00am. Roger Granneman (641) 799-1219 Mary Granneman (641) 799-8600 E-mail mrgranneman@pcsia.net / Primitive camping on site.
April 25 - May 1	Buckeye Gathering, Lake Concow, California / Open target and ISAC daily. Trophies awarded at the end of the week. Equipment and instructions provided. Contact Ranger Bruce Weidman at 943-5899 x2665 or weidman@walnut-creek.org
April 25	Leo Petroglyph Rendezvous at the Rock / Ray, OH 45672 / Exhibits and entertainment. OAA will provide instruction and conduct atlatl accuracy contests, ISAC, and Ohio locals. For further information please contact Ray Strischek, (740-331-1435) U.S. Route 35 to County Rd. 28, left in Leo on Township Rd. 224. ohioatlatl@hotmail.com
May 1-3	Horse Arena Atlatl Shoot - Sortore Farm - Friendship, New York ISAC and NYAA events (Team, Individual, Hunter, Distance and European). A New York Atlatl Association, Inc. sponsored and insured event (4 pm Fri - noon Sun.) The site has heated kitchen, shower, toilet, running water, electric outlets and plenty of camping room. One mile south of Interstate I-86 (Southern Tier Expressway, Route 17). Friendship Exit (29) on the east side of Route 275 (on your left coming from the expressway.) Note this is an active horse farm - no dogs please. For more information contact Bonnie Sortore at 716-307-4449 or Douglas Bassett at 585-493-3625 Douglas.Bassett@parks.ny.gov .
May 1-3	Old Stone Fort State Archaeological Park, Tennessee ISACs on the 1 st at 3:00 p.m., 2 nd at 3:00 p.m., and the 3 rd time T.B.A. Atlatl trail challenge on the 2 nd the time T.B.A. For any further questions please contact Ranger Jamie Hambrook at jamie.hambrook@tn.gov or call park office at (931) 723-5073: Old Stone Fort State Archaeological Park, 732 Stone Fort Drive, Manchester TN 37355.
May 1-3	Wausau School Forest, Mosinee, Wisconsin May 1 - ISAC (evening only) May 2 - ISAC, Atlatl Building Workshop for registered participants May 3 - ISAC (A.M. only) Contact Lenny (920) 917-0335. Can also call (920) 528-7454 or e-mail at lenmaryr@excel.net or wisatlatl@gmail.com
May 2-3	POMME DE TERRE Rendezvous Pomme De Terre Lake Outlet Park, below the Dam at Carson's Corner, Missouri (3 miles South of Hermitage MO). ISAC each day. Starting around noon to shortly after. \$2 fee for the rendezvous, waived if you tell them at the gate you're only there for the ISAC For information about the atlatl competition contact David Lohr at Kosh Trading Post (417) 280-6304, or for the rendezvous event Ed at (417) 998-6005 or Facebook Pomme De Terre Rendezvous.
May 9	Atlatl, ISAC, and Rabbit Stick Throw Sugarloaf Open Space, Walnut Creek, California Saturday, Open target at 2:00 P.M. ISAC at 3:00 P.M. Equipment and instructions provided. Contact Ranger Bruce Weidman at 943-5899 x2665 or weidman@walnut-creek.org
May 14-16	Central States Atlatl Championships Held in conjunction with the Osage Knap-In. Near Boonville, Missouri . Exit 111 off of I-70. ISAC Thursday & Friday at 6:00 pm. ISAC and additional competitions on Saturday. ISAC Sunday am possible. Show up for the Midwest Atlatl Showdown! Camping available. Contact Jon Wood, jswood429@gmail.com , (573) 881-6622, Ron Mertz, devoemertz@sbcglobal.net , Jerry Nevins, wdhd@aol.com , (573) 353-5313
May 15 - 17	Jersey Rock and Shoot / 88 Angen Road, Washington, New Jersey / ISAC, locals and NYAA events, Team, Individual, Hunter and European). Camping available on site. Bring a dish to pass for Saturday evening. A New

	York Atlatl Association, Inc. sponsored and insured event. Contact Bob Bronish at bbronish@yahoo.com or Erich Zeh at Eandnzeh@aol.com .
May 16-17	Green Blanket atlatl throw & ISAC. Cheyenne, Wyoming Open to all, equipment and instruction cheerfully provided. Sponsored by the Wyoming Atlatl and Social Club. Contact: Russell Richard coyoteclownd@aol.com (307) 772-0550 for location and time.
May 16-17	Cedar Lakes, Ripley, WV / May 16th from 9:00 a.m. - 3:00 p.m. ATLATL throw and ISAC, then on to Hoka Hey farm for overnight camping and ATLATL throw and ISAC May 17th. Contact Randy Whaley at (307) 812-0599 or Nisa Holbrook nisaholbrook@aim.com .
May 21	Durango Atlatl Club Event begins at 3:30 p.m. at the Columbine Christine School, 1775 Florida Road, Durango, Colorado For more information contact: James Turner (970) 946-2096 Email: el-lobo-solo@hotmail.com Jim Hughes (070) 769-7463
May 22 - 24	Letchworth State Park -- Castile, New York / ISAC (Friday 4pm - Sunday 4pm), New York Atlatl Association, Inc. events (Team, Individual, Hunter and European) except during picnic time noted below. NYAA fully insured event. "Learn to Catch a Fish Family Picnic" 11am - 4p.m. on Saturday with no fishing license required at a stocked trout pond, free picnic and door prizes. "Spear-fishing" Carp Target Derby and a variety of learning stations. "Red, White and Blue Balloon Rally" with massed balloon flights at 6:30 pm Friday through Monday, weather permitting. Nearby camping, cabins and lodging available. For information contact Douglas Bassett at 585-493-3625 Douglas.Bassett@parks.ny.gov .
May 23-24	Marshall Primitive Archery Rendezvous at Wilder Creek Conservation Club in Marshall, Michigan . Memorial Weekend, May 23-24. Atlatl demonstrations, ISAC competitions, traditional archer and more. ISAC will be held Saturday, May 23, at 4:00 p.m. and Sunday, May 24th, at 9:00 a.m. 3-D targets and much more. For further information contact Bob and Cheryl Berg at contact@thunderbirdatlatl.com or 800-836-4520.
May 29	Durango Atlatl Club Event begins at 3:30 p.m. at the Columbine Christine School, 1775 Florida Road, Durango, Colorado For more information contact: James Turner (970) 946-2096 Email: el-lobo-solo@hotmail.com Jim Hughes (070) 769-7463
June 6	World Atlatl Day at Graham Cave State Park, MO . / WAD Competition, ISAC, and demonstrations. 10:00 am - 3:00pm. For information regarding the park's archeological significance read about it in Wikipedia. For information regarding location and camping visit mostateparks.com ; or contact: Ron Mertz. devoemertz@sbcglobal.net (314)680-3596 or Jon Wood, jswood429@gmail.com (573-881-6622).
June 6	World Atlatl Day Competition and ISAC Sugarloaf Open Space, Walnut Creek, California / Saturday, 10:00 A.M. Trophies for winners. Equipment and instructions provided. Contact Ranger Bruce Weidman at 943-5899 x2665 or weidman@walnut-creek.org
June 5-7	World Atlatl Day Granneman field 19505 87th. St. 4 miles west of Ottumwa, Iowa Fri. ISAC 5pm. Sat. ISAC 10 am. team competition Sun. ISAC 9 am. Primitive camping on site. Roger Granneman (641) 799-1219 Mary (641) 799-8600 E-mail mrgranneman@pcsia.net
June 6	ISAC and World Atlatl Day to be held at George Millers Farm, 3168 Horizon Drive, Brockway PA 15824 from 9:00 a.m.-5:00 p.m. The location is 15 miles north off route 80 on route 28 and 219. Equipment for beginners will be provided. Contact George Miller at gmmiller@brockwaytv.com or phone 814-590-6462.
June 6	World Atlatl Day Competition and ISAC Glen Oechsner's Residence, Campbellsport, Wisconsin Contact Glen (920) 533-5039 . Can also call (920) 528-7454 or e-mail at lenmaryr@excel.net or wisatlatl@gmail.com
June 6	Athens Public Library OAA will host atlatl accuracy contests – Ohio locals, ISAC, IASAC, World Atlatl Day team contests. 10:00 am – 5:00pm. Contact Ray Strischek for more information, (ohioatlatl@hotmail.com) 740-331-4351 Home Street / Athens, OH 45701
June 6-7	World Atlatl Day and Fat Blanket atlatl throw & ISAC. Cheyenne, Wyoming Open to all, equipment and instruction cheerfully provided. Sponsored by the Wyoming Atlatl and Social Club. Contact: Russell Richard coyoteclownd@aol.com (307) 772-0550 for location and time.
June 7	Henschel's Indian Museum, New Holstein, Wisconsin (Badger State Artifact Show)

	Demo, ISAC, Hunter's Round Contact Lenny (920) 917-0335. Can also call (920) 528-7454 or e-mail at lenmaryr@excel.net or wisatlatl@gmail.com
June 12-14	Fort Firelands RV Park OAA will provide instruction and conduct atlatl accuracy contests. IASAC, ISAC, and Ohio locals, Friday afternoon to Sunday afternoon. Contact Ray Striscek for more information, (ohioatlatl@hotmail.com) 740-331-4351 5859 E. Harbor Rd. / Marblehead, OH 43440
June 12-14	OAA will provide instruction and conduct atlatl accuracy contests. IASAC, ISAC, and Ohio locals, Friday afternoon to Sunday afternoon. Fort Firelands RV Park / 5859 E. Harbor Rd. / Marblehead, OH 43440 Contact Ray Striscek for more information, (ohioatlatl@hotmail.com) 740-331-4351
June 19-21	Joe's N9430 Cty E, Ogdensburg, WI . ~ISAC Contact Joe: (920) 244-7401 or (920) 538-3895
June 19-21	Meadowcroft, Avella PA Starting Friday @ noon to Sunday @ 1:00 Primitive camping onsite. Potluck Saturday eve. ISACs and local throws all weekend. Saturday will have Trophy contest awarded by Meadowcroft. Call Margie and Frank @ 740.264.1755 or email margieandfrank@Hotmail.com
June 19-21	Gooseberry Festival ISAC Tournament held at the Grundy County Fair Grounds, Trenton, MO . For times and location contact Steve Spencer at 660-359-3635 or 660-654-3904 or email barbspencer@cebridge.net . Camping available at Crowder State Park.
June 27	Atlatl Educational Day Camp. OAA will provide instruction and conduct atlatl accuracy contests. IASAC, ISAC, and Ohio locals. 9:00 – 5:00. Athens Public Library / Home Street / Athens, Ohio 45701 Contact Ray Striscek for more information, (ohioatlatl@hotmail.com) 740-331-4351.
June 27	Holly-Frontier Superday Public event, largest free event in Cheyenne. ISAC throughout day. Lions Park, Cheyenne, Wyoming . 10 a.m. Sponsored by the Wyoming Atlatl and Social Club. Contact: Russell Richard coyotecdown@aol.com (307) 772-0550
June 27	Athens Public Library Atlatl Educational Day Camp. OAA will provide instruction and conduct atlatl accuracy contests. IASAC, ISAC, and Ohio locals. 9:00 – 5:00. Home Street / Athens, OH 45701 Contact Ray Striscek for more information, (ohioatlatl@hotmail.com) 740-331-4351.
June 27-28	Richard Lyons Memorial Atlatl Throw Falls of Ohio State Park in Clarksville Indiana . ISAC and knapin. This event will be held during the park's Clark days at the George Rogers Clark cabin and will include re-enactors and vendors. Primitive camping only. Contact Danny Carlton at 502-930-1941 for more information.
July 3-5	17th Annual Foothill-Mountain Atlatl and Bow Open Cheyenne, Wyoming Open to all, equipment and instruction cheerfully provided. Sponsored by the Wyoming Atlatl and Social Club. Contact: Russell Richard coyotecdown@aol.com (307) 772-0550 for location and time.
July 5	Azatlan State Park, Azatlan, Wisconsin Demo, ISAC Contact Glen (920) 533-5039 or Gordy (262) 334-5099 Can also call (920) 528-7454 or e-mail at lenmaryr@excel.net or wisatlatl@gmail.com
July 10-12	OAA will provide instruction and conduct atlatl accuracy contests. IASAC, ISAC, and Ohio locals. Friday afternoon to Sunday afternoon. Flint Ridge State Park \ Brownsville, OH Contact Ray Striscek for more information, (ohioatlatl@hotmail.com) 740-331-4351.
July 10-12	Flint Ridge State Park OAA will provide instruction and conduct atlatl accuracy contests. IASAC, ISAC, and Ohio locals. Friday afternoon to Sunday afternoon. Brownsville, OH Contact Ray Striscek for more information, (ohioatlatl@hotmail.com) 740-331-4351.
July 17-19	Smoky Hollow Rendezvous, Cascade, Wisconsin July 17 - ISAC (evening only) July 18 - Demo, ISAC, Hunter's Round July 19 - ISAC (A.M. only)

	Contact Lenny (920) 917-0335 / Can also call (920) 528-7454 or e-mail at lenmaryr@excel.net or wisatlatl@gmail.com
July 17-19	MOJAM (Missouri Traditional Archery Jamboree), Marshall, Missouri . ISAC Friday evening and Sunday morning. ISAC, 3-D, and other on Saturday. Jon Wood, jswood429@gmail.com , (573) 881-6622 or Ron Mertz, devoemertz@sbcglobal.net (314) 680-3596
July 23 - 26	Atlatl Rattle at Green Flats - Hancock, New York ISAC, locals and NYAA events (Individuals, Hunters & European). A New York Atlatl Association, Inc. sponsored and insured event. Final Team Championships held on the grounds of Ray Turner's Casa de Fumo. For more information contact Douglas Bassett at (585) 493-3625 or Douglas.Bassett@parks.ny.gov .
July 25-26	Hell Gap Mammoth Hunt atlatl throw & ISAC Hell Gap Site, Wyoming Open to all, equipment and instruction cheerfully provided. Sponsored by the Wyoming Atlatl and Social Club. Contact: Russell Richard coyoteclownd@aol.com (307) 772-0550 for location and time.
Aug. 7	That Dam ISAC - IASAC, ISAC, and Ohio locals. 5:00 pm - dark (or thereabouts). Steve Barnett's House near Albany, Ohio Contact Ray Strischek (ohioatlatl@hotmail.com) 740-331-4351 or Steve Barnett (barnz@juno.com) 740-698-6553 more information.
Aug. 7	15th Annual 'That Dam ISAC', Albany Ohio Friday evening on pond dam at Steve's house near Albany. Contact Steve Barnett barnz@juno.com (740) 698-6553 or Ray Strischek ohioatlatl@hotmail.com (740)331-4351
Aug. 8-9	OAA will provide instruction and conduct atlatl accuracy contests. IASAC, ISAC, and Ohio locals. Saturday morning to Sunday afternoon. Albany Riding Club / Albany, OH 45710 Contact Ray Strischek for more information, (ohioatlatl@hotmail.com) 740-331-4351 or Steve Barnett (barnz@juno.com) 740-698-6553.
Aug. 8-9	16th Annual Albany Ohio Atlatl Contests, Albany Riding Club, corner of Ohio State Route's 32 and 681. ISAC and Ohio Atlatl Association local events. Contact Steve Barnett barnz@juno.com (740) 698-6553 or Ray Strischek ohioatlatl@hotmail.com (740)331-4351
Aug. 8-9	Summer break ISAC throw at Trenton, MO the home of Steve Spencer 3840 Oklahoma Ave beginning at 6:30 p.m. Contact person Steve Spencer 660-359-3635, 660-654-3904 or email barbspencer@cebridge.net . Camping available at Crowder State Park.
August 9	Durango Atlatl Club Event begins at 3:30 p.m. at the Columbine Christine School, 1775 Florida Road, Durango, Colorado For more information contact: James Turner (970) 946-2096 Email: el-lobo-solo@hotmail.com Jim Hughes (070) 769-7463
Aug. 15-16	Hot Blanket atlatl throw & ISAC. Cheyenne, Wyoming Open to all, equipment and instruction cheerfully provided. Sponsored by the Wyoming Atlatl and Social Club. Contact: Russell Richard coyoteclownd@aol.com (307) 772-0550 for location and time.
Aug. 27 -30	Stone Tool Craftsman Show (Aug 28, 29, & 30 from 10:00 am - 5:00 pm) Highbanks Recreation Area, north end of Letchworth State Park - Castile, New York . 27th Annual Eastern Seaboard Atlatl Competition (State Round, Closest-to-Pin, Distance) August 21, 22, 23. ISAC, Hoop Toss, New York Atlatl Association Contests (National & International), Throw Over the Gorge Qualifiers & wooded Animal Round all for days. Handicapped Mammoth Hunt (Saturday); Long Distance Accuracy and atlatl Battle (Sunday). New York Atlatl Association, Inc. insured event Stone Tool Show contact: Dana & Kay Klein at 585-968-1577. For the Atlatl Competition contact Douglas Bassett 585-493-3625 or Douglas.Bassett@parks.ny.gov .
Aug. 23	Durango Atlatl Club Event begins at 3:30 p.m. at the Columbine Christine School, 1775 Florida Road, Durango, Colorado For more information contact: James Turner (970) 946-2096 Email: el-lobo-solo@hotmail.com Jim Hughes (070) 769-7463
Sept. 4-6	Flint Ridge Lithic Society Knap-in, Flint Ridge State Park Brownsville Ohio . ISAC and Ohio Atlatl Association local events. Lots of booths, flint-knapping and crafts. Contact Steve Barnett barnz@juno.com (740) 698-6553 or Ray Strischek ohioatlatl@hotmail.com (740)331-4351
Sept. 4-6	Flint Ridge Lithic Society Knap-In. - OAA will provide instruction and conduct atlatl accuracy contests. IASAC, ISAC, and Ohio locals. Lots of booths, flintknapping, crafts, etc. Friday afternoon through Sunday afternoon. Flint Ridge State Park Brownsville, OH Contact Ray Strischek for more information, (ohioatlatl@hotmail.com) 740-331-4351 or Steve Barnett (barnz@juno.com) 740-698-6553.

Sept. 4-7	Mattoon Rendezvous, Mattoon, Wisconsin Sept. 4-6 - various competitions, ISAC / Sept. 7 - ISAC (A.M. only) Contact Gordy Behrendt (262) 334-5099 Can also call (920) 528-7454 or e-mail at lenmaryr@excel.net or wisatlatl@gmail.com
Sept. 5-6	Cool Blanket atlatl throw & ISAC. Cheyenne, Wyoming Open to all, equipment and instruction cheerfully provided. Sponsored by the Wyoming Atlatl and Social Club. Contact: Russell Richard coyotecdown@aol.com (307) 772-0550 for location and time.
Sept. 10 - 13	28th ANNUAL MEETING OF THE WORLD ATLATL ASSOCIATION Cahokia Mounds World Heritage Site, Collinsville, Illinois . ISAC and US Open on Thursday and Friday afternoons (after 2:00 PM). On Saturday there will be the two main competitions - European Round and Hunter's Challenge as well as the ISAC and US Open. On Sunday morning there will be a final ISAC. On Saturday evening, starting around 5:00 p.m.: Pizza, Awards, WAA Meeting and Speaker. Registration will be \$5.00/per son; and pizza for Saturday evening will be \$5:00/person. There will be an additional \$5.00 entry fee for those who want to compete in the US Open. Contact: Ron Mertz, devoemertz@sbcglobal.net (314) 680-3596 or Jon Wood, jswood429@gmail.com (573) 881-6622. See the April 2015 ATLATL for additional information.
Sept. 11-13	17th Annual Ohio Pawpaw Festival., Lake Snowden, St. Rt. 32 Albany Ohio . www.ohiopawpawfest.com ISAC and Ohio Atlatl Association local events. Contact Steve Barnett barnz@juno.com (740)698-6553 or Ray Strischek ohioatlatl@hotmail.com (740)331-4351
Sept. 12	Wyoming Archaeology Awareness celebration and ISAC Laramie, Wyoming Open to all, equipment and instruction cheerfully provided. Sponsored by the Wyoming Atlatl and Social Club. Contact: Russell Richard coyotecdown@aol.com (307) 772-0550 for location and time.
Sept. 12-19	Rexburg, Idaho , Rabbit Stick Primitive Skills Gathering Will throw ISAC each morning for eight (8) days. Contact Bob Kitch for more information at: backtracks.net or (541) 806-4771.
Sept. 18 - 20	Letchworth State Park - Castile, New York ISAC (Friday 4pm - Sunday 4pm) and local events except during Heritage Day noted below. NYAA fully insured event "Native American Heritage Day" 10 am - 4 pm on Saturday September 19, with Native American Dance, Crafts and Food. Nearby camping, cabins and lodging available. For information contact Douglas Bassett at 585-493-3625 or Douglas.Bassett@parks.ny.gov .
Sept. 18	<i>Atlatl Workshop</i> Chimney Point State Historic Site 8149 VT Route 17 W Addison, VT 05491 Contact Elsa Gilbertson at (802) 759-2412 Email: elsa.gilbertson@state.vt.us for competition details, including fees. Atlatl experts Bob and Cheryl Berg of Thunderbird Atlatl teach traditional and modern techniques of atlatl and dart construction, flint knapping, hafting stone points, and cordage making. Enjoy atlatl lore and coaching on the use of your new atlatl. Bob's been here each of the 20 years of this event! \$65 includes instruction and materials. Pre-registration required. Vermont Archaeology Month program. Noon – 5:00 PM
Sept. 19 - 20	Chimney Point State Historic Site / 8149 VT Route 17W Addison, VT 05491 Contact: Elsa Gilbertson at (802)759-2412 Email: elsa.gilbertson@state.vt.us for competition details including fees. Atlatl and ISAC Competition, 20th Annual Northeastern Open Atlatl Championship On Saturday, Sept. 19th participate in or watch this annual championship, in its 20 th year. ISAC, distance, and accuracy competitions. The sport of using the atlatl to throw darts is based on the ancient hunting technique. Demonstrations and workshops on flint knapping, Woodland pottery, and other crafts and skills. Vermont Archaeology Month program. 10:30 – 4:30 PM. On Sunday, Sept. 20th, participate in the second morning of the Atlatl International Standard Accuracy Competition (ISAC).
Sept. 19	Graham Cave State Park, Danville, Missouri . Archaeology Day. We will teach and demonstrate from 10:30am until 1:30pm. ISAC at 2:00pm Contact Jon Wood jswood429@gmail.com (573)881-6622, Ron Mertz devoemertz@sbcglobal.net (314)680-3596
Sept.20	Durango Atlatl Club Event begins at 3:30 p.m. at the Columbine Christine School, 1775 Florida Road, Durango, Colorado For more information contact: James Turner (970) 946-2096 Email: el-lobo-solo@hotmail.com Jim Hughes (070) 769-7463
Sept.	The 18th. annual Bois D' Arc Primitive Skills Camp & Knap-In

25-27	at Hulston Mill Historic Park near Greenfield, MO . ISAC's to start after lunch on Friday the 25th. and throughout the day on Saturday the 26th. Instructions and equipment will be available for anyone wanting to try using this ancient hunting method. For more info: www.boisdarc.info Contact: Jerry Nevins @ 573-353-5313 or wdhd@aol.com
Sept. 25-27	Smoky Hollow , Cascade, Wi. ISAC, & Atlatl and Archery events Contact: (920) 917-0335
Oct. 1	Durango Atlatl Club Event begins at 3:30 p.m. at the Columbine Christine School, 1775 Florida Road, Durango, Colorado For more information contact: James Turner (970) 946-2096 Email: el-lobo-solo@hotmail.com Jim Hughes (070) 769-7463
Oct. 2- 4	Old Stone Fort State Archaeological Park, Tennessee ISACs during the Fall Knap-In: on the 2 nd at 3:00 p.m. , 3 rd at 3:00 p.m. , and the 4 th time T.B.A. Atlatl trail challenge on the 3 rd time T.B.A. For any further questions please contact Ranger Jamie Hambrock at jamie.hambrock@tn.gov or call park office at (931) 723-5073: Old Stone Fort State Archaeological Park, 732 Stone Fort Drive, Manchester TN 37355.
Oct. 2- 4	28th Annual The Plains Indian Mound Festival, The Plains Ohio . ISAC and Ohio Atlatl Association local events. Contact Steve Barnett barnz@juno.com (740) 698-6553 or Ray Strischek ohioatlatl@hotmail.com (740)331-4351
Oct. 2- 4	Indian Mounds Festival, across the street from The Plains Elementary School. OAA will provide instruction and conduct atlatl accuracy contests. IASAC, ISAC, and Ohio locals. Friday afternoon to Sunday afternoon. Indian Mounds Festival / Connett Rd. / The Plains, OH Contact Ray Strischek (ohioatlatl@hotmail.com) 740-331-4351, or Steve Barnett (barnz@juno.com) 740-698-6553 for more information.
Oct. 3- 4	Falling Blanket atlatl throw & ISAC. Cheyenne, Wyoming Open to all, equipment and instruction cheerfully provided. Sponsored by the Wyoming Atlatl and Social Club. Contact: Russell Richard coyotecdown@aol.com (307) 772-0550 for location and time.
Oct. 10-11	Horicon Marsh, Horicon, Wisconsin Demo and ISAC Contact Glen Oechsner (920) 533-5039 / Can also call (920) 528-7454 or e-mail at lenmaryr@excel.net or wisatlatl@gmail.com
Oct. 10-11	Candor Fall Festival, October 10, Side Hill Acres Goat Farm, State Route 96, Candor, New York . Atlatl contests, events, flea market, baked good, crafts and more. ISACs set for Saturday, Oct. 10 throughout day and Sunday, October 11, at 10 a.m. For further information contact: Robert and Cheryl Berg at contact@thunderbirdatlatl.com or 800-836-4520
Oct. 16-18	Missouri Days Atlatl Throw at Trenton Missouri fairgrounds. ISAC and Semi- 3-D Targets featuring extinct animals-Mammoth, Saber-Tooth, Dire-Wolf will be used during the throws on Friday evening at 6:00 p.m. and Saturday & Sunday around 10:00 a.m. Thousands attend Trenton's Missouri Days Festival which includes a 50 school band competition, Arts, Crafts, Flea market, Food vendors and now , an Atlatl competition. Come join the fun. For added information contact Scott Rorebeck 660-654-1741 srorebeck@yahoo.com or Steve Spencer 660-654-3904, 660-359-3635 barbspencer@cebridge.net Camping available at Crowder State Park.
Oct. 18-19	Inaugural Earthskills Reviv-All in northern Athens County. OAA will provide instruction and conduct atlatl accuracy contests. ISAC, and Ohio locals. Earthskills Reviv-ALL Currents Community / 13177 Concord Church Road / Glouster, OH 45732 Contact Ray Strischek for more information, (ohioatlatl@hotmail.com) 740-331-4351. For event information, see earthskillsrevivall.com
Oct. 22	Durango Atlatl Club Event begins at 3:30 p.m. at the Columbine Christine School, 1775 Florida Road, Durango, Colorado For more information contact: James Turner (970) 946-2096 Email: el-lobo-solo@hotmail.com Jim Hughes (070) 769-7463
Oct. 24	Dundee Sportsman's Club, Dundee, Wisconsin ISAC, European Round, 3-D targets, Running Pig Contact Lenny (920) 917-0335 / Can also call (920) 528-7454 or e-mail at lenmaryr@excel.net or wisatlatl@gmail.com
Oct. 30-31	Zaleski State Forest, Lake Hope State Park ROAR days. ISAC and Ohio Atlatl Association local events. Contact Steve Barnett barnz@juno.com (740) 698-6553 or Ray Strischek ohioatlatl@hotmail.com (740)331-4351
Oct.	Ohio ROAR Days - OAA will provide instruction and conduct atlatl accuracy contests. IASAC, ISAC, and Ohio

30-31	locals. Friday evening (4:00) for atlatl, all day Saturday. Camping available. Zaleski State Forest, Lake Hope State Park, Zaleski, Ohio Contact Ray Strischek for more information, (ohioatlatl@hotmail.com) 740-331-4351 or Steve Barnett (barnz@juno.com) 740-698-6553.
Nov. 1	Durango Atlatl Club Event begins at 3:30 p.m. at the Columbine Christine School, 1775 Florida Road, Durango, Colorado For more information contact: James Turner (970) 946-2096 Email: el-lobo-solo@hotmail.com Jim Hughes (070) 769-7463
Nov. 7-8	Frosty Blanket atlatl throw & ISAC. Cheyenne, Wyoming Open to all, equipment and instruction cheerfully provided. Sponsored by the Wyoming Atlatl and Social Club. Contact: Russell Richard coyotecdown@aol.com (307) 772-0550 for location and time.
Nov. 28-29	Desperate Man throw. Cheyenne, Wyoming Open to all, equipment and instruction cheerfully provided. Sponsored by the Wyoming Atlatl and Social Club. Contact: Russell Richard coyotecdown@aol.com (307) 772-0550 for location and time.

European Atlatl Competition Events for 2015
CHAMPIONNAT D'EUROPE DE TIR AUX ARMES PREHISTORIQUE 2015

date	site	département/ province	pays	contact nom	prénom	adresse mail	
25-26 avril	Benahadux		Espana	Salas B aron	Manuel	manolosalasbaron@gmail.com	
02-03 mai	Crepy-en- Valois	Oise	France	Roux	Marion	musee@crepyenvalois.fr	
02-03 mai	Montcada I Reixac	Barcelona	Espana	de la Llave	Ángel	allave_@hotmail.com	isac Saturda y
23-24 mai	Val de Poix st Hubert	Luxembourg	Belgiqu e	Michel	Laurent	michel.laurent@saint-hubert.be ; info@WhiteBuffalo.be	isac Sunday
30-31 mai	Nemours	Seine et Marne	France	Rieu	Jean-Luc	jean-luc.rieu@cg77.fr	isac Saturda y and Sunday
06-07 juin	Haute-Île		France	De Mira nda	Isabelle	arkeomedia@gmail.com	isac Saturday
13-14 juin	Saint Paulien	Hte Loire	France	Jamon	Christoph e	jamon.peet@orange.fr	isac Saturda y
20-21 juin	Parque Cultural del Rio Martin		Espana	Latore	Eva Gil	eva@birrus.com	
20-21 juin	Paleosite st Cesaire	Charente maritime	France	Roussel	Valerie	v.roussel@paleosite.fr	isac Saturday
04-05 juillet	Vence	Alpes de haute Provence	France	Yahemdi	Ismaël	prehistotir@gmail.com ; ismael136@hotmail.com	isac Saturda y
11-12 juillet	Saulge	Mayenne	France	Guillon et	Philippe	philippe.quillonnet@hotmail.fr	isac Saturday
01-02 août	Santa Maria Maggiore		Italia	Silvera	Davide	zirbi2000@yahoo.it	isac Sunday

01-02 août	La chapelle aux Saints	Corrèze	France	Mons	Roselyne	rose.mons@neandertal-musee.org	isac Saturday
08-09 août	Archéopark / Boario Terme	Brescia	Italia			direzione@archeopark.net ; christian.foppa@hispeed.ch	isac Sunday
08-09 août	Mas d'Azil	Ariège	France	Sauer	Claus	claus.sauer@wanadoo.fr	isac Saturday
15-16 août	Bruniquel	Tarn et Garonne	France	Bouffier	Bernard	mere.terre@wanadoo.fr	isac Saturday
22-23 août	Historial de Vendée	Vendée	France	Pouessel	Yannick	Arcbillebaude@aol.com	isac Saturday
29-30 août	Teverga		Espagne	GARCIA	Clara	parquedelaprehistoria@princast.es ; praquedelaprehistoria@recrea.asturias.e	
05-06 sept	Gletterens	Fribourg	Suisse	Aeberhard	Doris	daeberhard@village-lacustre.ch	
05-06 sept	Monte Castillo	Cantabria	ESPANA	García Munúa	José Aurelio	jagmunua@hotmail.com	
12-13 sept	Samara	Somme	France	Marchand	Patricia	p.marchand@somme.fr	
12-13 sept	Arudy	Pyrénées Atlantiques	France	Doux	Francis	office.de.tourisme.darudy@wanadoo.fr	isac Saturday
19-20 sept	Bad-Buchau		Deutschland	FOPPA	Christian	christian.foppa@hispeed.ch	isac Sunday
19-20 sept	Zonhoven	Limburg	Belgie	Pirotte	Guido	guido.pirotte@zonhoven.be	isac Sunday
26-27 sept	ArcheoParc Val Senales		Italia	Niederkofer	Johanna	info@archeoparc.it	
26-27 sept	Riosta	Almeria Andalousie	Espana	Juna Miguel	Gonzalez Esteban	juanmiguelgonzalez81@hotmail.com	
03-04 oct	Bougon	Deux-Sèvres	France	Aubugeau	Rodolphe	rodolphe.aubugeau@cg79.fr	isac Saturday
10-11 oct	Pinar	Granada	Espana	Martinez	Celedonio	celemartinez68@hotmail.com ; ayuntamientodepinar@hotmail.com	
10-11 oct	Saint Just	Ille et Vilaine	France	Leroux	Aurore	aurore.leroux.cpie@orange.fr	isac Saturday
23-24 oct	Brassempouey	Landes	France	CHARTIER	Christophe	musee.maisondame@wanadoo.fr	isac Saturday
07-08 nov	Ramioul prehistomuseum	Liège	Belgique	Lepers	Christian	christian.lepers@yahoo.fr	isac Saturday
14-15 nov	Auneau	Eure et Loir	France	Brutus	Fabrice	fabrice.brutus@inrap.fr	isac Saturday

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Worldatlatl.org



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Rock art above the ISAC target at Valley of Fire