

The ATLATL

"Too long have I hunted mammoth alone!"

Rich McWhorter

OCTOBER 1995

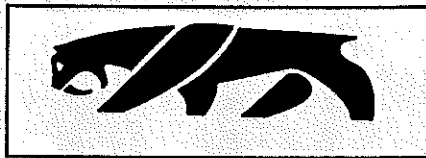
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BILL TATE, EDITOR

VOL. 8 NO. 4

Evidence For Atlatls At Rancho La Brea

by Bill Tate

When I heard that there were atlatl dart foreshafts found at La Brea Tar Pits in Los Angeles, California, I immediately sought to learn more of this "new" find. Since Marcia and I had a trip planned to visit family in the L.A. area anyway, I thought it would make a nice side junket, and called the George C. Page Museum about the possibility of photographing the foreshafts for release on these pages. I introduced myself as "There was a long pause at the "...Yeesss?" Eventually, after explaining just what The World Atlatl Association was all about, I was turned over to Christopher A. Shaw. Chris was more than helpful, saying that he would be happy to meet with me, and we set up a date and time that satisfied both of our schedules.



George C. Page Museum logo.

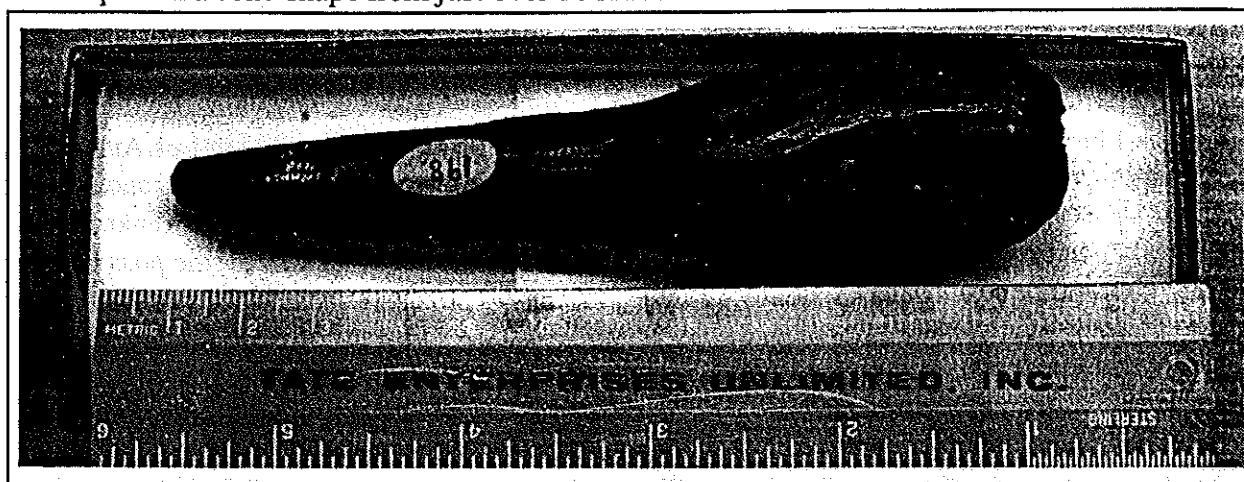
As with much in the archaeological record, this "new" find wasn't new at all. Excavations at this part of the Rancho La Brea, Pits 61 and 67, were made in the 1914-15 field season. Wooden artifacts were first noted in Pit 61, along with midden material made up of a large variety of shells. Pit 67, which connected to Pit 61, yielded four wooden artifacts referred to as foreshafts. The area had previously been disturbed by mining activity (the asphalt material was used on roads and roofing as far away as San Francisco), which had disturbed the context somewhat. However, earth, bitumen, bones, and artifacts are slowly, but constantly mixed due to the action of gases from deep underground petroleum deposits anyway so that neither horizontal nor vertical stratigraphy aids greatly in dating materials excavated at Rancho La Brea.

Located adjacent to the tar pits, in the middle of Los Angeles, the Page Museum is the repository for materials excavated at Rancho La Brea. The naturally-occurring asphalt material has been known for many years as a source for Pleistocene animal skeletons. The dire wolf, ground sloth, mammoth, sabre-toothed cat, and other animals who lived in the area thousands of years before man arrived became mired in the sticky tars at a series of ponds. As one might imagine, predators feasted on the mammoths and sloths that could not escape the pull of the tar pits. Many of the predators, too, became ensnared and left their bones for paleontologists to later excavate. The

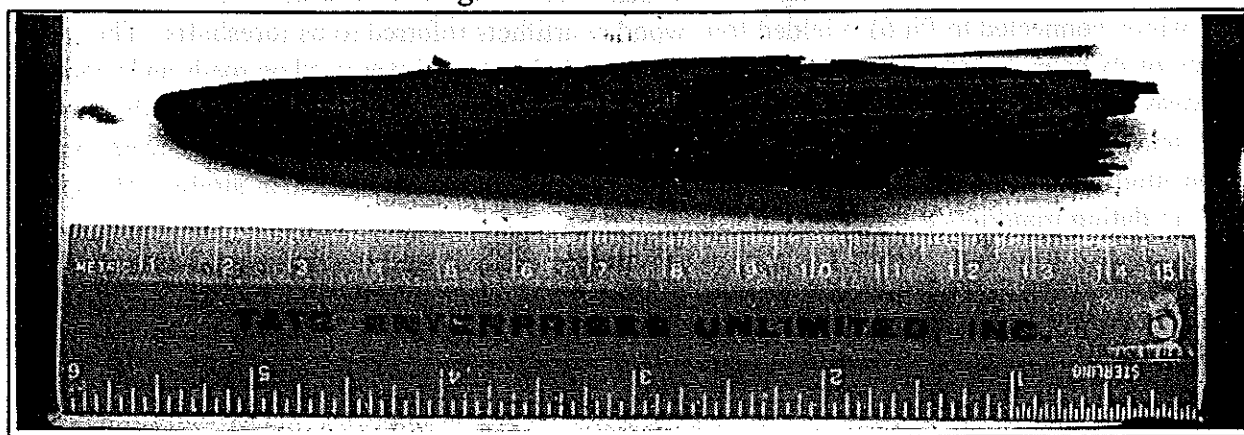
walls of the Page Museum, a part of the Natural History Museum of Los Angeles, are filled with magnificent skeletal materials from these bygone ages. There is evidence that local Indian groups employed the tars both as an adhesive, to cement stone points to wooden shafts, for example, and as a waterproof lining for baskets. Because of the presence of shell materials found in Pit 61, it has been suggested that a campsite may have been located at the tar pits. One partial human skeleton was excavated from this same area.

In reality, the four items which are referred to as "foreshafts" in all of the early literature may actually consist of three fire-hardened wooden points, and a blunt or bunt.

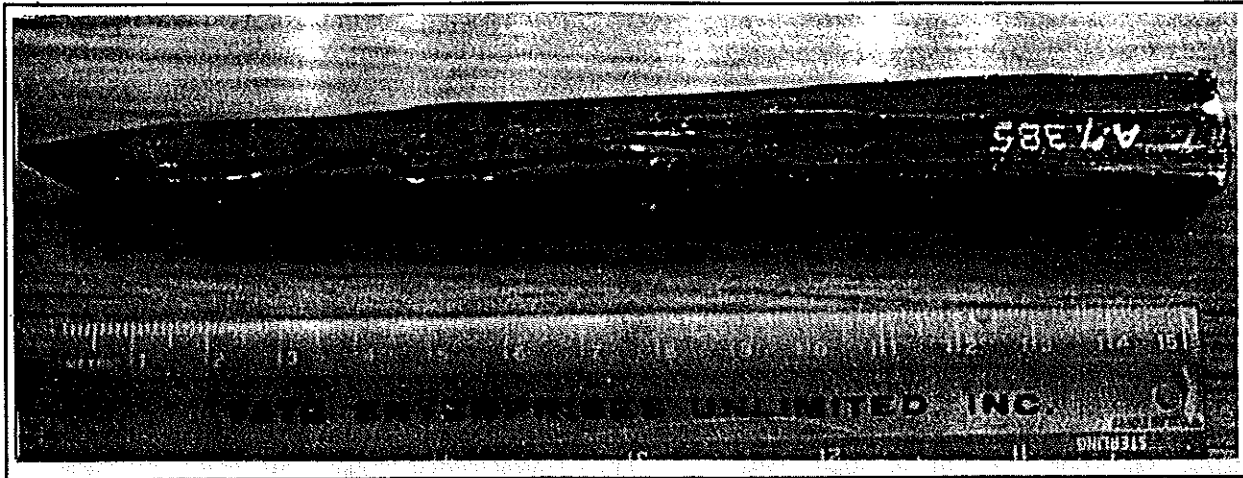
The blunt, specimen LACMHC-198, is the most complete of the four artifacts, showing some minor damage sustained during excavation, as well as minor splintering from use. Ethnological evidence suggests that this type of point was used on arrows in later prehistoric times for stunning birds and small game, and for children's practice. This specimen seems to be made from a hardwood, and measures 126.3 mm in length; the diameter of the bunt portion is 28.3 mm, and the shaft tapers in a cone-shape from just over 18 mm to about 9 mm.



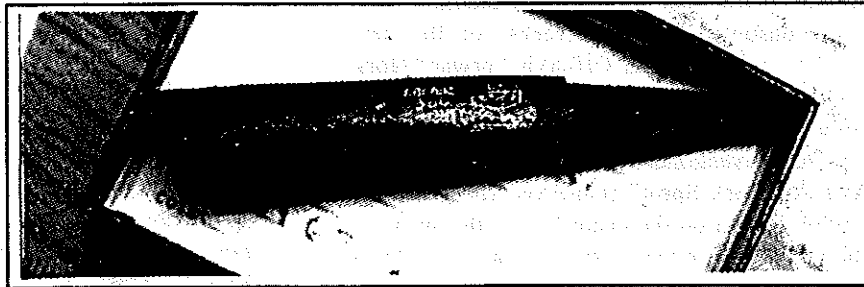
Specimen LACHMC-384, also of a hardwood, measures 132.7 mm in length and has a shaft that tapers from 18.3 mm to approximately 9 mm. This artifact was damaged during excavation. The entire "business" end is missing.



Because a part of specimen LACMHC-385 was removed for use as a radiocarbon sample, the measurements are from a discussion titled, *Atlatl Dart Foreshafts From The La Brea Pits* by Arthur Woodward (1937): length 6 1/4 inches (158.3 mm) and diameter 3/4 to 3/8 inches (19 to 9 mm). A measurement made in 1984 indicated that the shaft diameter was 18.4 mm to approximately 9 mm at the proximal--mainshaft connection end. (Salls 1986:21). A C-14 sample assayed from this specimen, the only one so far taken from these wooden artifacts, provided an age estimate of 4450±200 years B.P. This indicates that the atlatl and dart system was in use at the middle of the Millingstone horizon.



The smallest of the four wooden artifacts is LACMHC-386, which has been described as damaged by severe charring. It too, is incomplete, but appears to be a fire-hardened point rather than a foreshaft. It is 79.3 mm in length and 12.5 mm in diameter; part of the point has been burned away.



Since the two "foreshafts," (LACMHC-384 and 385) are incomplete, it is impossible to state if they ever held stone points. Certainly none were found in excavations near the wooden artifacts. It may be surmised that all of the artifacts, excluding the blunt, were fire-hardened points rather than foreshafts as we usually think of them. Peckham has reported that a "ceremonial" cache near Laguna Pueblo, New Mexico yielded several hundred atlatl dart shafts, with a ratio of 200 fire-hardened points for each stone projectile point (Peckham 1965:5).

I would like to thank the staff of the George C. Page Museum and especially Chris Shaw for his hospitality and assistance in researching these most interesting wooden artifacts from Rancho La Brea.

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The Dynamics of: The off-Axis-Forward-Nock Spear vs The On-Axis-Aft-Nock Spear As Thrown With An Atlatl Spear Thrower

By David P. Engvall

In this study I describe my theory of the dynamics of a new Off-Axis-Forward-Nock Spear, and how it differs from the conventional On-Axis-Aft-Nock Spear. A computer mechanism modeler was used to analyze the spear throw and focus exclusively on throwing for distance.

The objective of this study has been, and continues to be, to develop spear and atlatl designs and throwing techniques to achieve maximum distance. With this new design, I achieved a world distance record of 848 feet 6 5/8 inches in Aurora, Colorado on July 15, 1995. The record throw attempt was organized and witnessed by Bill Tate of the World Atlatl Association. My thanks go to Bill, the World Atlatl Association, and the Aurora History Museum for their considerable contributions to this record attempt. This record demonstrates the effectiveness of the new design. The design of the Off-Axis-Forward-Nock Spear is herein described in general terms leaving the specifics to the imagination of other distance throwers.

The conventional spear, referred to here as an "On-Axis-Aft-Nock Spear" (On-Axis ANS), has the nock at the aft end on the centerline of the spear. I describe my newly invented spear as an "Off-Axis-Forward-Nock Spear" (Off-Axis FNS). The Off-Axis FNS has the nock located approximately one quarter of the length of the spear forward of the aft end, and offset from the centerline of the spear. The two spear designs behave very differently.

The construction of the atlatls (spear throwers) used to propel each of these types of spears is similar. But the throwing motion with the Off-Axis FNS is considerably different from that used with the conventional On-Axis ANS. Both designs achieve an axial launch of the spear.

The On-Axis-Aft-Nock Spear

The On-Axis ANS throw is performed by moving the atlatl in such a way that the atlatl spur travels in nearly a straight line. The spear acceleration is linear and coincident with the trajectory of the spear. The spear accelerates axially from the initial stationary position to the point where the spear leaves the atlatl spur and then departs along the same line. The force of

the atlatl spur upon the spear is directed along the same line, and is directed at the center of mass on the spear throughout the throwing motion.

The way that the spear flexes as the force is applied is determined by two factors. First, the orientation of the spine bias (the direction that the spear naturally flexes) is the primary consideration. Second, the slight deviations of the path of the atlatl spur from a straight line, cause eccentric column load on the spear that also affect the direction of flexure. The spine bias is generally oriented so that the spear flexes either concave up or concave down. The off-line path of the atlatl spur tends to be above or below the trajectory. Both of these factors cause the spear to flex in a vertical plane. The off-line motion of the atlatl spur can either be made to add to or subtract from the spine bias flexure.

The fletching (if used) being forward of the nock causes a misaligning moment while the spear is in contact with the atlatl spur. This is due to the fletching being pushed through the air. Slight initial misalignment tends to push the spear farther off line as it moves forward through the power stroke.

The Off-Axis-Forward-Nock Spear

The Off-Axis FNS throw is considerably different from the On-Axis ANS throw in the way that it achieves an axial spear flight. During the Off-Axis FNS throw, the atlatl spur moves in a curved path. The spear does not move axially during the throwing motion. Instead it pitches forward (rotating about a horizontal axis transverse to the spear) during the power stroke. This forward-pitching rotation increases until the spear tip is released by the throwing hand. After the spear tip is released, the pitching rotation decreases until the moment the spear leaves the atlatl. The torque that counteracts the pitching rotation is created by the atlatl spur force on the Off-Axis Nock. The line of action of this force passes below the center of gravity of the spear, thus stopping the forward pitching rotation. The spear transitions into axial flight just as the atlatl spur loses contact with the nock.

During the power stroke, after the spear tip is released, the Off-Axis FNS flexes concave down due to the torque created against the pitching rotational inertia. After the launch, the spear oscillates briefly, alternately flexing convex up and convex down. The oscillations quickly damp out due to air resistance and hysteresis (spring energy loss) in the spear shaft. The spear then proceeds along its axial trajectory.

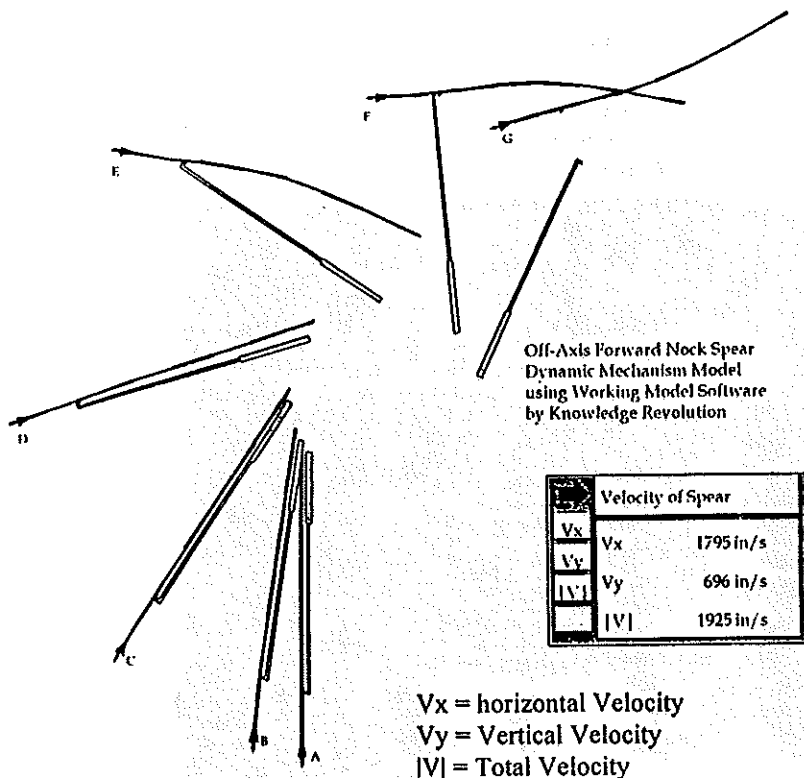
The fletching, being aft of the nock on the Off-Axis FNS, provides a stabilizing moment on the spear during the power stroke. This is due to the fact

that the fletching is being pulled through the air during the power stroke instead of being pushed through the air as in the case of the On-Axis ANS. The fletching helps the spear to attain an axial attitude even before the atlatl spur loses contact with the nock.

Computer Analysis of the Off-Axis FNS Throw

To help understand the dynamics of the spear throw and optimize the design of the Off-Axis FNS, I used a computer program called *Working Model*, running on a personal computer. The software

is a dynamic mechanism modeler produced by Knowledge Revolution of San Mateo, California. This very powerful and flexible software allowed me to gain an understanding of what makes the off-axis FNS work. The analysis resulted in a very effective Off-Axis FNS design. This graphic is a printout from a *Working Model* simulation run. It demonstrates the action of the Off-Axis FNS during the power stroke. The flexibility of the spear is modeled with segments connected by spring joints. The stages of the power stroke are described below:



- A. The initiation of the power stroke occurs with the arm (not shown) cocked back such that the spear and atlatl are in a vertical position.
- B. The spear and atlatl begin to accelerate in a clockwise direction as shown in the graphic.
- C. With the tip of the spear still held by the throwing hand adjacent to the atlatl handle, the forward pitching rotation of the spear increases.
- D. At this stage, the tip of the spear is released by the throwing hand. This is the moment of maximum forward pitching rotation of the spear.
- E. Responding to the force on the nock created by the atlatl spur, the spear flexes concave down. At this stage, the spear's velocity in the direction of the throw is increasing and the forward pitching rotation is decreasing.
- F. At the moment just before the spear nock loses contact with the atlatl spur, the forward pitching rotation is stopped. The spear has attained near launch velocity at this point.
- G. At the initiation of its free flight the spear counter-flexes (concave up) and has attained its launch velocity and near zero pitching rotation.

Conclusions

The Off-Axis-Forward-Nock Spear works very well for distance throwing. The reason that the Off Axis FNS goes farther than the On-Axis ANS is obviously greater launch velocity. The greater launch velocity is achieved by more effective energy transmission into the spear during the throwing motion. The Off-Axis FNS allows for a curved path of the atlatl spur while still achieving an axial spear launch. The thrower can put more power in the spear using a curved atlatl spur path than a linear spur path.

I would like to express my thanks to Knowledge Revolution for their assistance in this effort.

(Dave would appreciate hearing from members with comments on his paper. He can be reached at (816) 232-9688, or write: Dave Engvall, 1309 Midyett, St. Joseph, MO 64506. Ed. comment.)

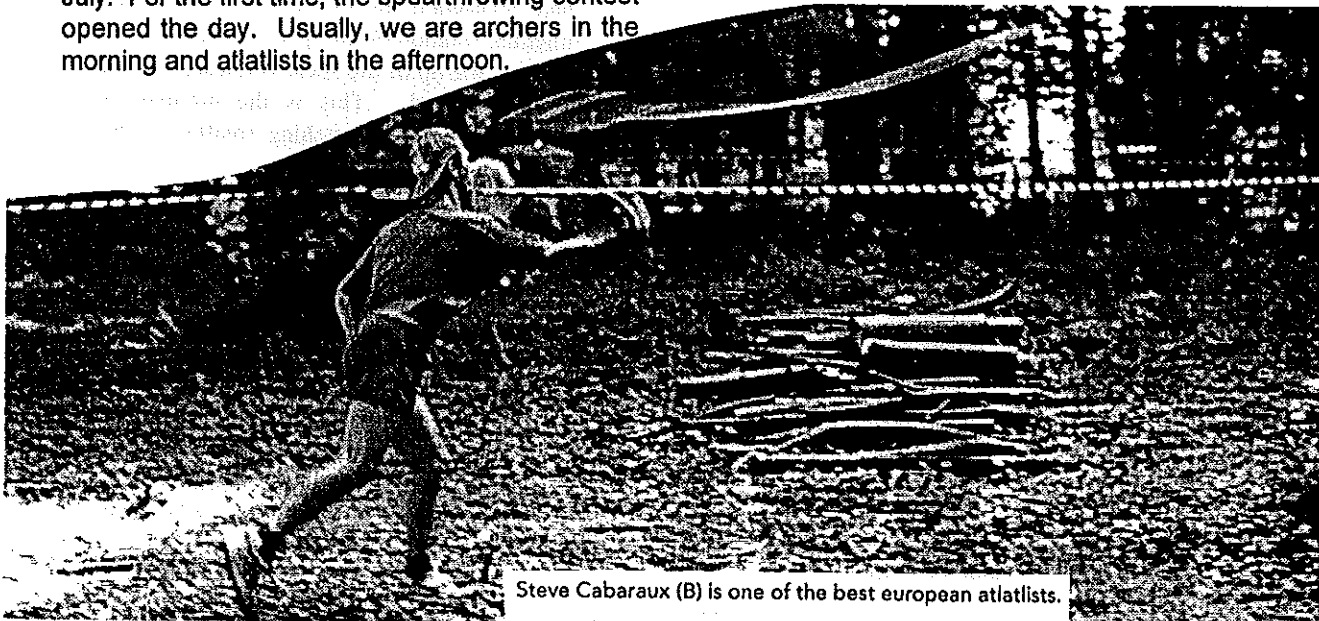
Members who take *The Wall Street Journal* got to read an excellent atlatl article by Bob Ortega, titled "Nifty Spear Flinger Aztecs Called 'Atlatl' Makes a Comeback." Bob contacted me clear back in July when newspapers reporting Dave Engvall's record-breaking long distance atlatl throw showed up on his Boulder, Colorado doorstep. Ortega contacted close to a dozen members of The World Atlatl Association and a number of archaeologists around the country. He then boarded a plane and flew to Missouri to interview the man we reported last July as just about the best atlatlist in the world, Ray Madden. *The Wall Street Journal* carried the excellent 1200 word report in their Tuesday, October 24, 1995 issue. It should still be available at your local library. Editor, Bill Tate

FIFTH EUROPEAN SPEARTHROWING CHAMPIONSHIP FIFTH, SIXTH, AND SEVENTH ROUNDS

By Pascal Chauvaux

The fifth round of the European Spearthrowing Championship was held July 30th at Abbaye de Brogne (Saint Gérards, Belgium). Thirty-two contestants (Belgium, France, and Germany) took part in our traditional contest: Thirty throws at 8 to 26 meter targets. Abbaye (ancient abbey) de Brogne is an archaeological museum exhibiting "The Genius of Man From Origin to Writing". A stand is dedicated to hunting (spearthrower and bow). It felt good to take advantage of the shady gardens of the abbey as we have had a very hot July. For the first time, the spearthrowing contest opened the day. Usually, we are archers in the morning and atlatlists in the afternoon.

Results		Score (150)	Hits (30)
Place	Name		
1	Pascal Chauvaux (B)	67	26
2	Steve Cabaraux (B)	66	25
3	Alain Maxence (B)	63	23
4	Jean Spéckens (B)	47	17
5	Johann Tinnes (D)	42	16
6	Stéphane Lhoir (F)	40	16
7	Pierre Matheus (B)	39	14
8	Pierre Cattelain (B)	35	14
9	Eric Chauvaux (B)	31	14
10	Fernand Collin (B)	32	13



Steve Cabaraux (B) is one of the best european atlatlists.

The current European Championship classification is the following (average of the best 3 results in 5): **Pascal Chauvaux (43.54)** - **Steve Cabaraux (36.59)** - **Alain Maxence (31.44)** - **Jean Spéckens (16.61)** - **Fernand Collin (15.76)**.

The sixth round, the next to the last event of the year, was held September 3rd at Archäologisches Freilichtmuseum in the town of Oerlinghausen in central Germany. Again, like last year most contestants arrived the evening before the event. Martin Schmidt, our host, welcomed us with a big meal taken together in one of the reconstructed Neolithic houses at the open air museum.

A total of 38 people from Belgium, France, Great Britain, Switzerland, and Germany took part in the Sunday "hunt" taking 30 throws at cardboard targets depicting wild animals.

SIXTH ROUND RESULTS

Place	Name	Score (150)	Hits
1	Pascal Chauvaux (B)	80	27
2	Steve Cabaraux (B)	70	23
3	Alain Maxence (B)	58	24
4	Jean Spéckens (B)	61	21
5	Johann Tinnes (D)	60	20
6	Patrick Bidart (F)	56	20
7	Martin Street (GB)	54	20
8	Stéphane Lhoir (F)	46	17
9	Didier Cocchi (B)	41	17
10	Gerhard Kalden (D)	37	13
11	Philippe Langlet (F)	32	14
12	Thierry Risselin (B)	32	13



Jean Speckens (B)

The **Seventh** and final round of the Fifth European Prehistoric Spearthrowing Championship was held at Musée du malgré-Tout, Treignes, Belgium on September 24th. This was the last event of the year and a lot of our friends from the south of France, Germany and Switzerland were present. A total of 41 people took part in this all primitive event. It was a great pleasure to meet and pass groups of pals on the field during the contest. To insure steady progress of the competition, the throwers were divided into small groups. Everything went well except for the strong crosswinds which affected spear trajectory and resulted in breakage of shafts at the moment of impact. The results of the contest follow:

Place	Name	Score (150)	Hits (30)
1	Pascal Chauvaux (B)	80	26
2	Bernard Ginelli (F)	58	21
3	Jean Spéckens (B)	54	19
4	Steve Cabaraux (B)	47	21
5	Alain Maxence (B)	42	17
6	Stéphane Lhoir (F)	46	15
7	Pierre Cattelain (B)	37	15
8	Fernand Collin (B)	40	13

All of the organizers of the European Contests came, evidence of the good atmosphere of our Championship. But, everything has to come to an end. The overall results of the 1995 European Championship with 104 contestants follow:

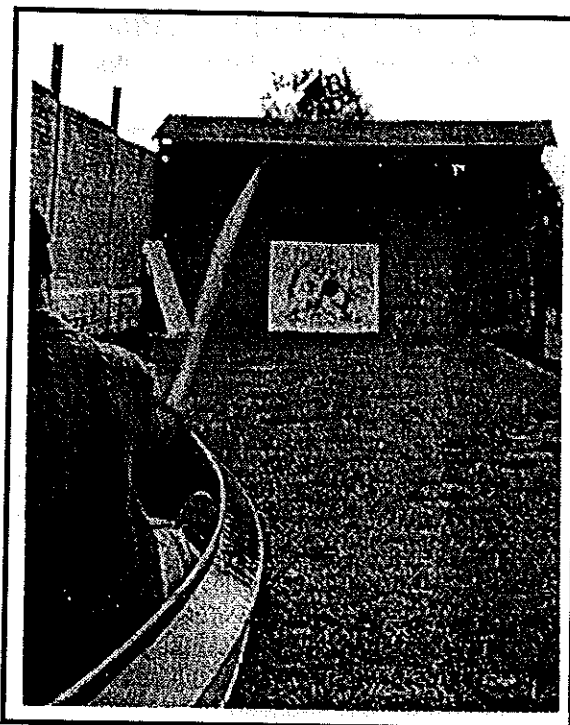
Place	Name	Average of 3 best results
1	Pascal Chauvaux (B)	49.24
2	Steve Cabaraux (B)	39.15
3	Alain Maxence (B)	33.31
4	Jean Spéckens (B)	23.01
5	Bernard Ginelli (F)	19.91
6	Johann Tinnes (D)	17.91
7	Didier Cocchi (B)	16.52
8	Fernand Collin (B)	15.76
9	Stéphane Lhoir (F)	15.64
10	Pierre Cattelain (B)	14.07



Alain Maxence (B)
our rocket launcher

For the first time in a spearthrowing contest, we kept a little surprise for the end of the day--Throwing at a 12 meter target while seated in a kayak. For all of us it was a premiere! Spearthrowing is

so demanding when you cannot use your legs. Footwork is everything, as people say.



SPEAR THROWING OR GAME OF CHANCE? STEVE CABARAU (B)

MORE NEXT YEAR...
CONGRATULATIONS PASCAL!



Artist Lois Montoya Rumohr has her bronze back from the foundry. It looks as if they did a beautiful job on her great sculpture of a muscled spear thrower from the Southwest. The piece is titled "Sandia Man with Atlatl." Interested individuals should contact Lois at Estudio Leon, 931 Hacienda Drive, NW, Albuquerque, NM 87114.

Lean Back and Say A'tlatl (Dont try this at home, folks)

I am, a student of Aztec archaeology-linguistics, so I thought you might be interested in how to pronounce the original Nahuatl (Aztec language) word from which the English term "atlatl" is derived from. The Aztec term for a spear-thrower is A'tlatl.

- First of all, the two "a"s are pronounced like the "a" in the English word *father*.
- This word is only two syllables, with the stress falling on the first syllable: A'-tlatl (be careful not to make this word three or four syllables as with its English derivation).
- The apostrophe after the first "a" represents a glottal stop, which is basically an abrupt termination of the "a" sound before the rest of the word is pronounced.
- The Aztec "tl" represents a single consonant sound which has no equivalent in English (it is not pronounced by splitting it up into a "t" and an "l"). The sound is similar to an English unvoiced "t" or "k". To make this sound we will modify the English unvoiced sound for the letter "t". First, make the "t" sound with the following facial/oral modifications: open your lips and draw the corners of your mouth far back so that both your upper and lower teeth are exposed (basically, a forced smile). Now, open your jaw a few millimeters and press the tip of your tongue against the backs of your front teeth so that the tip of your tongue is visible behind the small gap between your front teeth. Now try to make the unvoiced "t" sound again, making sure that your tongue remains pressed against the backs of you front teeth, your teeth are exposed, and that the corners of your mouth remain pulled back. You should find that a unique clicking sound is produced and that air is escaping from both sides of your mouth. The second syllable of a'tlatl can be pronounced by saying the English word "tot" with these modifications.

- Now, combine these elements to create the two-syllable word a'tlatl.
I hope this has been informative or at least entertaining.

This is probably one of our most favorite letters of all time and comes to us from Matthew McDavitt of Knoxville, TN. After asking about joining our organization and for information on competitions etc., McDavitt gave us this wonderful explanation on the proper pronunciation of the word a'tlatl.

All seriousness aside, the proper pronunciation of this word has stirred up more controversy than any other aspect of atlatling, or should we say a'tlatling.

Years ago, we were informed that the proper way to hold an atlatl is much like using chopsticks. Now we find that just saying the word is like holding those chopsticks...with your tongue. Ed. Comments.

MINNESOTA ATLATL WORKSHOP

Grand Mound, operated by the Minnesota Historical Society, is about 20 miles west of International Falls, Minn., on the south bank of the Rainey River. The site was used as a gathering place and burial mound site for people of the Laurel culture of 2200-1200 years ago, and the Blackduck culture 1200-600 years ago.

Those dates are approximate. The Laurel culture used atlatls and the Blackduck culture had switched to the bow and arrow. So sometime around 1200 years ago, the transition was made.

The site may have been visited by Paleoindians, but definitely was an Eastern Archaic gathering and fishing site. The Laurel people, of the Woodland era, were hunter-fisher-gathers who roamed northern Minnesota, Wisconsin, and Michigan, and southern Ontario. They made pottery, toggle fishing spears, and stone and copper items. They buried some of their dead in mounds. They hunted caribou, bear, and moose, as well as small game.

Michael Budak is the archaeologist at the site. In late April of this year, he held an atlatl workshop with about 10 attendees. The atlatl constructed at the workshop is about 18 inches long and made from a maple branch 1.25 to 1.5 inches in diameter. The dart's main shaft is made of cattail about 4 feet long, with an aspen foreshaft of about 10 inches. Artificial sinew is used to attach the feathers and stone tip.

I would be interested in making contact with other WAA members in this area.

Earl Violet, 1600 NE 3rd Ave.,
Buffalo, MN 55313 - (612) 682-1299

**One of the hardest things in life to learn
Is which bridge to cross and which to burn.**

Results of the Montana Mammoth Hunt By Manuel & Helen White

The results of the seventh annual Montana Mammoth Hunt, held August 12, 1995, were:

Regular Course -- 90, 70, 60, 50, 40, & 30 meters for men; 45, 35, 30, 25, 20, & 15 meters for women.

MEN

1st	Troy Helmick	210 points
2nd	Jim Ray	105 points
3rd	Tom Baird	70 points

Women

1st	Sheri McCarter	10 points
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Under 16 years

1st	Ramon Adebai (12)	95 points
2nd	Tyler McCarter (12)	65 points
3rd	Chris Baird (15)	35 points
4th	Allen Brummett (12)	20 points

The "Mightiest Hunter award went to Troy Helmick.

Next year's Montana Atlatl Mammoth Hunt will be held in late July or sometime in August at an archaeological site north of Helena, Montana. More about this in later issues.

FIRST COMPETITION OF 1996

Valley of Fire Atlatl Contest -- Apr. 19-21, 1996

If you haven't participated in a contest at Atlatl Rock in the Valley of Fire State Park, Overton, Nevada, you have missed a really great time! This will be the sixth year that The World Atlatl Association has conducted the event in this sensationally beautiful setting. Throwers from California, Colorado, Arizona, Montana, Utah, Michigan and Nevada attend this annual event. Come join your fellow atlatlists. Never mind if you are a beginner, or even if you don't have equipment. We will have some to lend for the contest and there are plenty of "old timers" who will show you the ropes. Other activities being planned include: flint knapping demonstrations, campfire talks, possibly even a long distance atlatl throw. Come and gain an insight into the history of the Desert Culture by studying the thousands of Indian petroglyphs--free for the picture taking.

The January 1996 newsletter will have full information on the event. Mark your calendars now and plan to join us. You will be glad you did!

Leni Clubb

MICHIGAN ATLATL ASSOCIATION TO HOST MAJOR 1996 CONTEST

From Jim Gilligan

It is not too early to be thinking about the big Michigan event scheduled for September 27-30. This year's event promises to be one of the highlight of the atlatlists' year, with not one, but two atlatl contests--a western style atlatl golf match on Saturday, the 28th, and an eastern style target competition on Sunday. Lots of other events are planned to make your stay fun. There will be more on these pages as it becomes available on this great event which, by the way, is being held on Bois Blanc Island north of Cheboygan, Michigan in Lake Huron.

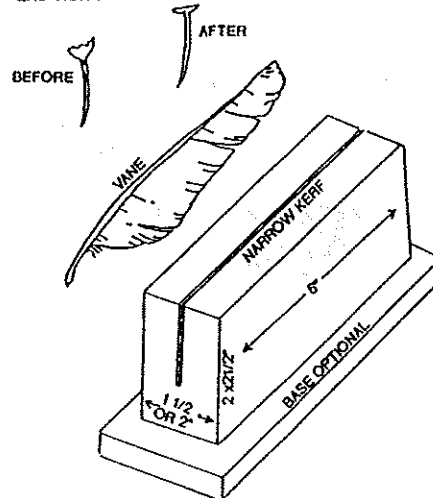
This same group of avid atlatlists, The Michigan Atlatl Association, was busy at the Fall '95 gathering of The Great Lakes Primitives at Camp Woodsong, near port Huron, Michigan last month. In addition to pottery, basketry, stone tool-making, trapping, no-match fire making and bow-fashioning, there were contests for primitive archery, slings, boomerangs, throwing sticks and the 1995 State Championship atlatl tournament.

FRUSTRATION IS OFTEN THE MOTHER OF INVENTION

By Clayton Carter

I was having a terrible time getting feather spines cut straight to lay down the shafts of my atlatl darts and arrows. I have access to lots of pheasant, turkey, and wild bird feathers, and wanted to make something impressive. The problem was that I just couldn't cut the spines straight. I got so frustrated that I came up with a fetching jig that just works wonderfully!

END VIEWS - ENLARGED



The size of the jig can vary from person to person and with whatever they are using. Simply put the feather into the jig and sand it lightly. DONE! (Clayton's address is CMR 457, Box 954, APO AE 09033.)



ON TARGET

One of our newest members is Jean Auel who wrote about the world's first atlatl contest in her book, *The Mammoth Hunters*. In the book,

she describes her protagonist setting up an atlatl course with the starting line marked by poles with arctic wolf tails attached. I was so intrigued at the idea, that at our first Colorado contest in the rugged mountains near Twin Lakes, I set up the starting line poles with real fox tails. It gave the target course a great look for our "mammoth hunt."

I have gotten so many requests for names and addresses of persons and firms who make and sell atlatls and darts, that I have made up a list. Drop me a line or post card if you would like a copy of the listing.

REMINDER: Check your mailing label for the expiration date of your membership. Don't miss an issue of our great newsletter!

I have on hand copies of all 26 issues. The cost is \$2.50 per issue plus 50 cents postage for each or \$3.00 Priority Mail (US only) for a full set. Send for a listing. We also have a supply of official WAA patches at \$2.50 plus 50 cents postage.

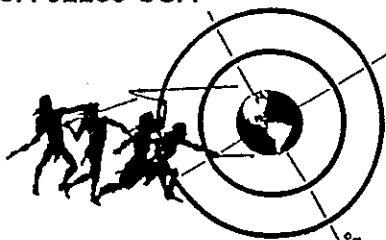


LENI CLUBB - WAA Secretary

Leni

MEMBERSHIP IN THE WORLD ATLATL ASSOCIATION IS STILL JUST \$10.00 PER YEAR. FOR CANADA AND FOREIGN MEMBERSHIPS THERE IS A SUPPLEMENTARY POSTAGE FEE OF \$2.00. SEND ALL INQUIRIES AND DUES TO WAA SECRETARY:

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