

# The ATLATL

"Too long have I hunted mammoth alone!"

Rich McWhorter

April 1997

THE NEWSLETTER OF THE WORLD ATLATL ASSOCIATION, INC.  
1390 South Paris Court, Aurora, Colorado 80012, USA

Vol. 10, No. 2

BILL TATE, EDITOR  
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JEFFERS PETROGLYPHS  
Bingham Lake, Minnesota

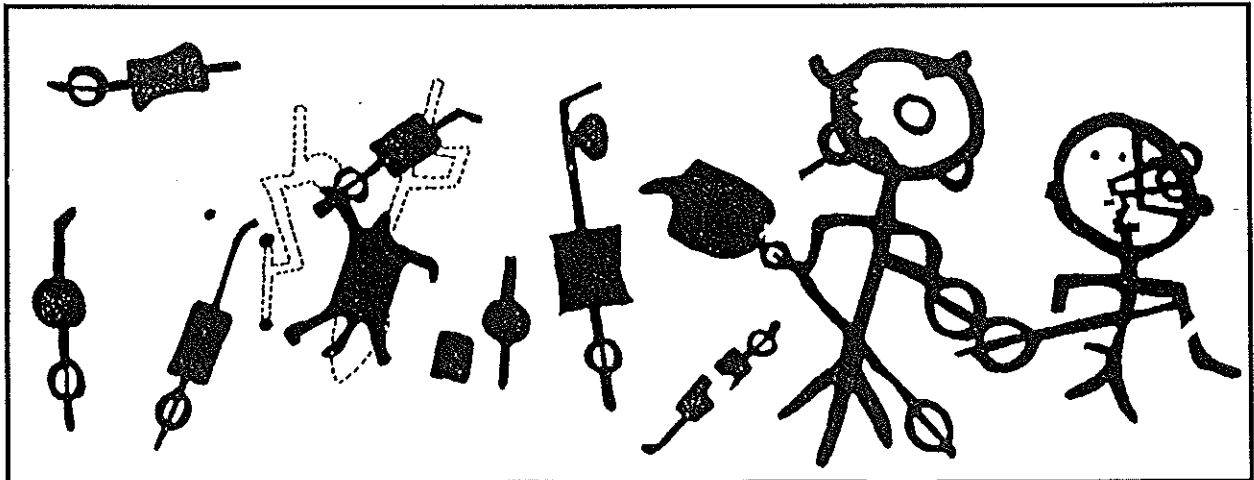
by  
Bill Tate

Some weeks ago, I received a letter from Loris Connolly, Exhibits Curator at the Minnesota Historical Society in St. Paul, Minnesota. Several other atlatl manufacturers also received the letter which described the Jeffers petroglyph site. Part of Mr. Connolly's letter reads as follows:

...I am interested in obtaining a few reproduction atlatls for a new visitor center at Jeffers Petroglyphs. The carvings include atlatls and I am enclosing copies of tracings that were done of the carvings in the early 1970s.

We estimate that the carvings may have been created as early as 5,000 years ago based on the predominance of atlatl representations and on known habitation in the region. How long this place has been used or visited is a question. Out of approximately 2,000 carvings there are few that resemble bow and arrow (introduced about A.D. 1000.) And only one that might represent a horse (introduced to this region about A.D. 1750-1800) These later symbols frequently appear at other rock art sites after their introduction and use.

I am interested to know if you have seen similar atlatls or weights in books or at other museums. No weights have been excavated at the site, and very few have been excavated anywhere in Minnesota. I have not seen drawings of atlatls quite like what is represented at Jeffers, although I am continuing to do extensive reading and research...



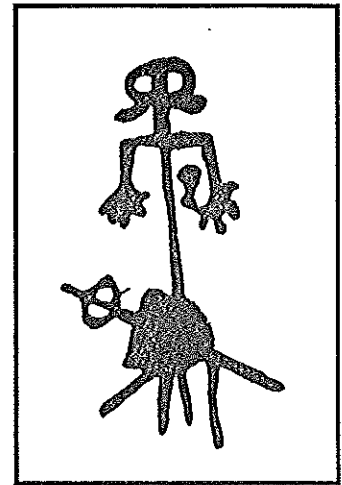
Atlatl depictions from the Jeffers Petroglyph site.

As mentioned above, their interest is in obtaining reproductions for display in their new interpretation center to be opening in May of 1997. Of course it may be truly impossible to replicate a tool based on crudely pecked rock art, but several ideas have come to mind concerning these unusual atlatl drawings. Others may strike the reader as well, and we would be most interested in hearing from any of you whose imagination is better than ours.

My first thought was that since the rock art site is just 60 miles east of the catlinite quarries at Pipestone National Monument, the "weights" portrayed in these petroglyphs could be a stylized rendition of catlinite. Catlinite is the red-brown, iron-rich siltstone used by Native Americans for carving into pipes and other items. Catlinite is found and mined in slabs, and that may be what these early hunters were trying to show. Obviously these weights, if that is what they represent, could not be the size portrayed. (Talk about atlatl elbow--a slab as large as that shown would give you double hernias just carrying it around.)

Another possibility is that they may represent a flat surface to slow the atlatl down during the cast, much as the large leaf-shaped Australian woomeras do by catching the wind in the course of the throw. Atlatl weights and large surface areas both seem to achieve similar, although not identical, effects by acting as a brake to reduce the speed of the atlatl movement. If I understand the principles of throwing correctly, one should throw with consistent speed or effort. You should not cast easy at close targets and hard at more distant ones. Each throw should be at full power to insure the same force is applied to the dart on each cast for consistent results. This is similar to an archer making a full draw on his bow for each shot. Both the atlatl weight and large flat surface area slows the cast, while the person throwing continues to use full power. There are currently various views as to the exact physics which result in the artificial slowing of the cast, but most theorists believe that it results in changing the effect that the atlatl has on the dart's flex, or the attitude or angle of the point when the dart reaches the target. In a recent test, I attached

a 1.5 ounce, 63 square inch, spade-shaped piece of stiff cardboard to the back of my atlatl to see what the effects of such a wind-catching device might be. I assume that early Minnesotans could have used tree bark or other light weight wooden boards for the same purpose. My slowed casts at a target seemed to increase accuracy, favoring use of the device, but only slightly. I found that throwing for distance was affected by a reduction of 6 or 7 yards over casts made without the c a r d b o a r d



Spade-shaped atlatl attachment at the Jeffers Petroglyph Site.

contraption. I think someone more adept than I at target shooting should study this wind-catching device. I am not consistent enough to insure accurate, unbiased results.

Finally, one other thought has come to mind in regard to these large blocky masses attached to the Jeffers petroglyph atlatls. I have read in the past that some of the Aztec's atlatls, and this seems to be confirmed in glyphs from Mexico, attached large stiff feathers to their atlatls which were used to ward off enemy darts during warfare. This use as a shield makes these feather-encrusted atlatls multifunctional tools--spearthrowers and shields, all in one. Could the Jeffers atlatls depict a wooden shield-atlatl combination. Possibly. I leave it to braver or more foolish experimenters to test this theory.

Whatever the function of the strangely shaped atlatl devices, they are most interesting and deserve study. I am highly pleased that Mr. Connolly brought them to our attention. The Jeffers Petroglyph site is located north of Windom, Minnesota, three miles east of U.S. Highway 71 on Cottonwood County Road 10, then one mile south on County Road 2. Phone: (507) 697-6321 or 877-3647. Mail: Jeffers Petroglyphs, Box 118, Bingham Lake, MN 56118.

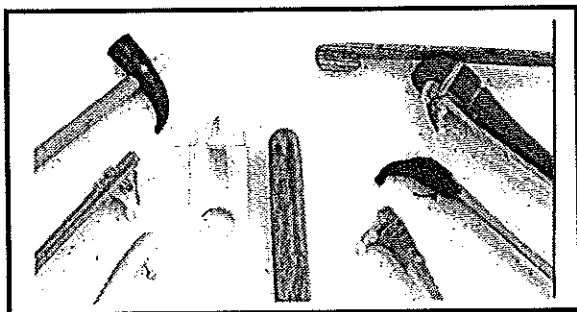
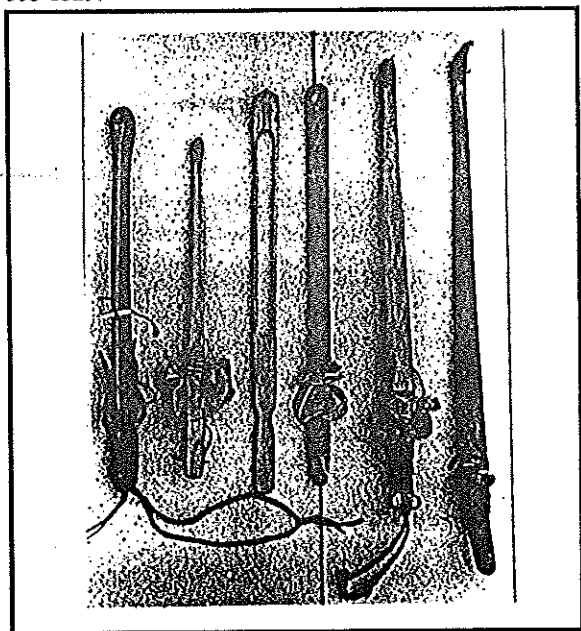
Explore life in the past lane.

## ANOTHER ATLATL MANUFACTURER

### CUSTOM MADE ATLATLS AND SPEARS

Ken Wee is proud to announce the availability of atlatls and spears on a custom basis. Interpretations of historic artifacts, replications of the same, modern atlatls designed to win contests or harvest game and custom-made atlatl projectiles may be obtained at nominal cost.

Basketmaker, Great Basin, Aztec, Inuit, and Australian aboriginal designs made upon request. Two of Ken's innovations are a split limb style atlatl with a sliding timing weight, easily adjusted by moving it along a channel in the thrower, and a compound-cable design allowing the stiffness or spine to be changed to match the spine of various projectile shafts by varying the tension of the cable. He makes steel ball-on-post hooks and carves antler or horn spurs set at a near ideal angle resulting in greater transfer of potential energy to kinetic energy. This translates into greater velocity, flatter trajectory, and deeper penetration. Contact Ken Wee at Bearded Horse Productions, P. O. Box 2303, Boulder, CO 80306, or call (303) 417-6279 or 665-1329.



Detail of the business end.

## The Ocotillo Militia

Bill Tate

Many WAA members and other readers do not personally know Leni Clubb. How that is possible, I do not know, but to the people of the town of Ocotillo in southern California, Leni is not only well-known and feared, she is looked at with some sort of reverence and awe. Members who do know her will understand what I mean.

The town of Ocotillo used to be a sleepy little desert village where retired people came to spend their last years quietly basking in the sun. Not so any more. Promptly at 7:30 each morning a parade of cars sporting "ask to see my atlatl" bumper stickers noisily drive to a shooting range (vacant lot) near the edge of town. General Leni Clubb directs the formation and orders the daily atlatl practice. Her troops include Red Gramstad, neighbor and her first Ocotillo recruit, Duane Runnells, Roger Lewis, and others. It seems that every, repeat, every new person who moves to town is required to perform this compulsory atlatl accuracy training at the shooting range. A couple of weeks ago, Ocotillo was blessed by a new couple, Mr. and Mrs. Thomas Thale, recently from Indiana. Now Thomas is legally blind, but did this stop the lady General? No sirce, it did not! He was promptly conscripted and forced to comply as are the rest of the townspeople, to meet on the range at 7:30 each morning and practice. So heads up everybody!

To General Leni's credit is the fact that since her establishment of the Ocotillo Militia, Mexico has not once attacked, nor have the villagers been plagued by marauding mammoths or giant cave bears. Nice going Leni!!!

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Townsend, Montana

March 17, 1997

### PROCLAMATION

To all members of the World Atlatl Association, especially those living in Ocotillo, California.

On this date at 6:41 p.m., Mountain Daylight Time, the snow that fell November 16, 1996, on the mammoth hunter's atlatl practice field in Townsend, Montana did finally melt.

Atlatl practice for the coming season may now begin.

Any atlatlist known to have participated in any illegal practice prior to this date may be declared ineligible to compete for the BIG BUCKS during the current season.

SIGNED

Troy C. Helmick

President, World Atlatl Association, Inc.

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## 1997 ATLATL CONTESTS ACROSS THE WORLD

### PLATTE RIVER PRIMITIVE SKILLS RENDEZVOUS

by Ken Wee

The Wyoming State Fair Grounds in Douglas, will be the site of the July 26-27 weekend primitive skills rendezvous, to be held by the Wyoming Pioneer Museum. Activities which are free and open to the public, include flintknapping, brain tanning, fiber work, early metalworking, edible and medicinal plants use and identification, etc. Also included will be atlatl and primitive archery classes, and at 3:00 p.m. Saturday, a WAA-type atlatl contest. The usual 60, 75, 40 and 15 meter target rounds will be followed by a 15 meter accuracy round to determine Grand Champions in both primitive and modern classes. The top performers will then be invited to further test their skills in the International Standard Accuracy Contest. A second ISAC is scheduled for Sunday for those who do not participate in the Saturday contest. If you are able to help teach atlatl classes, or wish more information on atlatl competition contact Ken Wee at (303) 417-6279 or (303) 665-1329. Send a SASE for a flyer on this event to PO Box 2303, Boulder, CO 80306. Other contacts are Arlene Earnst, Wyoming Pioneer Museum, (307) 358-9288 or Diane O'Meagher, 803 Poison Lake Rd., Douglas, WY 82633, Phone: (307) 358-0155.

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### AURORA SPEAR SLING FLING THING

By Bill Tate

Set to begin promptly at 9:00 a.m. July 12, 1997, this third annual atlatl event at Aurora's Delaney Farm, 170 South Chambers Road in Aurora, CO, is sponsored by The Aurora History Museum and The World Atlatl Association. Once again, we plan on having Dave Engvall of St. Joseph, MO attempting to beat the Guinness record long distance throw of 848.5 feet that he set with his unique, computer-designed atlatl. An International Standard Accuracy Contest (ISAC) will follow the regular WAA style competition. We hope to have lots of competition from you easterners at this year's event. This is your chance to see just how well darts fly in the high dry air of Colorado. For further information and suggestions on camping or motels, contact Bill Tate, (303) 755-5591, or e-mail: [atlatl@mho.net](mailto:atlatl@mho.net)

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### A NEW EUROPEAN CONTEST IS BORN!

Pascal Chauvaux tells us that still another European event will take place. This one on April 12 & 13, 1997 at Mas d'Azil, Ariège, France. See Schedule of events elsewhere in this newsletter on how to contact Pascal about details on this and other European competitions. Note, that a corrected telephone number is now listed for Pascal.



### ANNOUNCING

#### THE 9th ANNUAL MONTANA MAMMOTH ATLATL HUNT

The '97 hunt will convene at the Blacktail Ranch north of Helena and west of Wolf Creek, MT at 10:00 a.m. Saturday, July 19th. This WAA-listed public event is sponsored by the Museum of the Rockies and held in cooperation with Tag Rittel and Sandra Renner, proprietors of the Blacktail Ranch, Inc.

Registration fee for atlatlists is \$5.00 for youths and \$10.00 for adults. (Money is used to pay for awards) Awards will be presented to 1st, 2nd, and 3rd place winners in three divisions: Adult Men, Adult Women, and Youths under 16 years of age.

The event is held in conjunction with the Museum of the Rockies' "Prehistoric Missile Systems of the Americas Research Project," a project of the First Montanans Search program, directed by Les Davis, MOR Curator of Archaeology and Ethnology. Following the awards ceremony, atlatlists and guests are invited on a tour of the Museum's third season of investigating the Ice-Age paleontology and archaeology of Blacktail Cave, in progress.

Please send notice of your intent to participate along with a check made out to the Museum of the Rockies to hunt co-organizer and leader, Troy Helmick, Box 303, Townsend, MT. Troy's phone number is (406) 266-3398. Your advance registration will be acknowledged and you will receive a map to the mammoth hunting grounds.

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#### CAHOKIA MOUNDS--SITE OF NEW CONTEST by Ron Mertz

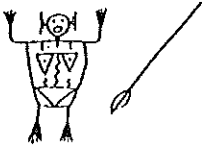
Ray Madden and I, along with other members of the newly forming "Missouri Atlatl Association" will be hosting an atlatl tournament on Saturday and Sunday, October 11 and 12. The tournament will be held at Cahokia Mounds State Historic Site in Illinois. Cahokia Mounds, which is about 10 miles from St. Louis, Missouri, is the largest complex of the Mississippian Culture and is an outstanding archaeological site with an excellent museum.

We chose these dates in part because mid-October is a beautiful time of the year in this part of the country. For more information about the tournament, contact: Ron Mertz, (314) 822-2514, or via mail at 11829 Claychester, Des Peres, MO 63131, or e-mail through his wife at: 103210.2044@CompuServe.COM. Information regarding Cahokia can be obtained from Marilyn Gass, Cahokia Mounds State Historic Site, 30 Ramey St., Collinsville, IL 62234, phone: (618) 346-5160.

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## BITS & PIECES -THINGS AND STUFF

The following is a translation of a late Basketmaker rock art panel in Canyon del Nada, Utah as interpreted by John Whittaker



Sitting in the plaza, atlatl on his knees  
Grandpa Anasazi his favorite grandson sees.  
With a quiver full of arrows and a strung bow in his hand  
He comes to sit by Grandpa, lays his bow upon the sand.

"You are getting slow, Grandfather. The last time you threw a spear  
You just about hit Mother, and you clearly missed the deer.  
If you had a bow and arrow, you would get another shot,  
And the deer, instead of running, would be safely in the pot."

"No, I hate these new contraptions, and you're right, my eyes are poor.  
If I scared your mom with one shot, with one more I'd hit her sure.  
If I'm close enough to tell, my boy, your mother from a deer,  
I can kill it just as well as you for all your fancy gear."

"But I got this bow for raiding, Gramps, the trader convinced me  
That when you're in a battle, ammunition is the key.  
I can put six arrows in you while your first dart's in the air,  
Your atlatl is outmoded and it simply can't compare."

"Nah, those pinpricks couldn't hurt me," the tough old grandpa laughed,  
"When I sling my dart right through you, you will know who got the shaft!"



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IN ANSWER TO THE DUMB BLONDE JOKES:  
Q. What's the difference between men and government bonds? A. Bonds mature. Q. What do men think Roe vs Wade is? A. Two ways to cross a river.

## LETTERS -- LETTERS -- LETTERS

In response to last issue's comments by Chuck Butorajac regarding what should be acceptable as primitive materials:

*Personally, I feel that what is classified as "primitive" should probably be different in competitions put on by groups like WAA, whose objective is to encourage people to participate in and enjoy the sport, from those put on by groups whose objective is to teach or practice primitive crafts and living skills. For WAA-type competitions, I think that if a competitor uses a spearthrower and shafts made from materials that actually grew and feathers from real birds, that it should be sufficient. First, this will allow more people to try their hand at making and using their own atlatls and spears. If they enjoy it, they may not only continue with the sport, but may also want to go farther into authenticity. Second, but maybe more important in an organization of volunteers, is the question of asking someone to inspect for compliance at competitions. I think that present policies which allow for unidentified glue, unidentified wrapping fibers, commercially available lumber, etc, help to keep this job simple and friendly. This avoids the need for questions like, "Is Chinese bamboo appropriate in Montana? Is that glue actually from horse hooves? Was that cotton thread homegrown and handspun, and did you cut it with a flint knife?" These questions are very appropriate for living history staff, re-enactors, and others who choose to go for all-out authenticity, but probably not necessary in a group trying to encourage participation in the sport itself.*

*Just my opinion.*

*Chris Judson, Los Alamos, NM*

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Dear WAA

I have always been impressed by the atlatl. I was temporarily broken-hearted when one science magazine writer wrote a negative test report on the effectiveness of the atlatl as a hunting weapon. It turned out that he did not use the "harmonic balance" stone to give it its true power.

Please enroll me as a member. I found you on the Internet after losing the address of an atlatl maker that used to advertise in *Omni* or *Discovery* Magazine. His article corrected the negative one. The base I am at in Southeast Turkey is closing so I'll be very happy to have the materials I am ordering and the newsletter to enjoy when I get home.

Has anyone ever organized a kangaroo hunt with the Aborigines in Australia? While I was there I picked up their tourist version of an atlatl. For the hunters in the crowd, it would be a test of skill to try on game animals. The locals near Alice Springs had two types of throwing sticks as well as the atlatl. Just seeing the locals using them as their ancestors did would be a treat.

Sincerely, J. F. Welch, Baldwinsville, NY

Dear WAA,

Enclosed is my check for dues to run from 1/97 to 1/99. I am a Scout Master of Troop 87 here in KY and got to try the atlatl for the first time at Camp Roy C. Manchester near Benton, KY at Boy Scout Summer Camp. My first couple of throws were not as I had hoped, as my throwing stick went 20 feet further than my dart, but after calming down, I was able to do better. We have a gentleman who knaps and shows Indian lore, and lets scouts use his atlatl and bamboo darts. I hope to get my scouts more into the atlatl this summer. I have enjoyed your newsletter very much.

Yours Truly, Charles R. Murray, Princeton, KY  
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#### NEW USES FOR OLD ATLATLS

"The Throwing Stick Roll" is the title of an article by Cindy Cole in the February 1997 issue of *Sea Kayaker* magazine submitted to us by Boomeranger Ted Bailey. The article begins:

*While the throwing stick, or atlatl had its origins as a tool used to throw harpoons and darts, it was also used for rolling. Greenlanders trained to roll in all kinds of circumstances. In the chilling Greenland waters, wet exiting was not an option. Kayackers had to roll or perish. If adverse sea conditions or a hunting accident threw the kayaker into the water and dislodged the paddle from his hands, the throwing stick stowed on the foredeck was an effective tool to assist in rolling up...*

*...to begin a throwing stick roll, lean forward as you capsize. As you come up on the other side of the kayak, reach for the surface with the throwing stick and start a sweeping hand and body motion front to back. With proper planing angle, the stick will lift you toward the surface.*

*...I wasn't interested in using a throwing stick for hunting, but I discovered that rolling with it is a great aid in learning to hand roll, besides being a lot of fun. I now include with my regular kayak gear, a "throwing stick" -- though it is designed solely for rolling, with a handgrip and a foil shaped blade for improved planing ability.*

Cindy Cole teaches Greenland style kayaking techniques. She lives in Bethany, Delaware.

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hooks that have been used for at least 25 or more casts for research and experimental purposes.

Lorenz Bruechert, 3018 West 7th Ave., Vancouver, BC  
CANADA V6K 1Z8

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We have mentioned the book *Dar and the Spear-Thrower* by Marjorie Cowley very briefly once before.

At an initiation ceremony that he wants, but fears, Dar will soon receive his "manmarks" in the sacred painted cave. After becoming intrigued with a stranger's spear-thrower, Dar goes on a journey to acquire one of his own. His understanding of what it means to become a man deepens as he pursues his quest. Dar returns home with the spear-thrower, new skills, and a stronger sense of kinship with his family and clan.

This novel, set in the stone age, is for children 8 to 13 and is now in paperback for \$5.95 (\$4.87 for classroom use.) from Clarion Books, Houghton Mifflin. Orders may be made by calling 1-800-225-3362. The ISBN is 0-395-79725-X. To request a free teacher's guide, write 2934 1/2 Beverly Glen Circle, #210, Los Angeles, CA 90077, or FAX your request to (310) 274-8858, or e-mail: MHCowley@aol.com

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#### CORRECTION

In the last issue of *The Atlatl*, we stated that May 3rd was the date for the Fort Osage, Missouri atlatl event. This was in error. The correct date is May 17th. The scope of this annual Spring Knap-in is widening to include primitive weapons contests including atlatl competition. Our old friend Virgil Hayes is in charge of this portion of the program. Virgil can be reached at (816) 646-2514 early p.m. local time.

Fort Osage sits on the Missouri River about 15 miles below Kansas City. The best way to get there is from I-70 east of Blue Springs, at the town of Grain Valley, go north on Buckner-Tarsney Road across US 24, Blue Mills Road, and Hunter Road to the Fort. The reconstructed early 19th century fur-trading post and military fort sits on your right.

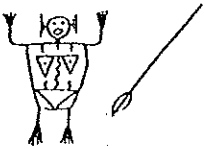
Jackson Parks and Recreation officials advise me that: "there is ample room for tent/primitive camping, and also a parking lot where RVs can be parked. There is no electrical or water hookups, but there is a hydrant where potable water can be obtained. Portable toilets will be available for participants. A Scout group-operated food booth will serve breakfast, lunch, and dinner. They are very reasonable and the food is quite good. We ask that participants and family/friends accompanying them fill out registration forms and pay a \$5.00 registration fee. Participants may sell appropriate items at no additional cost. We reserve the right to ask that inappropriate items be removed from booths or trade blankets. Vendors are responsible for any applicable taxes, etc. General questions can be directed to our office at (816) 795-8200 ext. 1260."

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hooks that have been used for at least 25 or more casts for research and experimental purposes. Lorenz Bruechert, 3018 West 7th Ave., Vancouver, BC CANADA V6K 1Z8

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We have mentioned the book *Dar and the Spear-Thrower* by Marjorie Cowley very briefly once before.

At an initiation ceremony that he wants, but fears, Dar will soon receive his "manmarks" in the sacred painted cave. After becoming intrigued with a stranger's spear-thrower, Dar goes on a journey to acquire one of his own. His understanding of what it means to become a man deepens as he pursues his quest. Dar returns home with the spear-thrower, new skills, and a stronger sense of kinship with his family and clan.

This novel, set in the stone age, is for children 8 to 13 and is now in paperback for \$5.95 (\$4.87 for classroom use.) from Clarion Books, Houghton Mifflin. Orders may be made by calling 1-800-225-3362. The ISBN is 0-395-79725-X. To request a free teacher's guide, write 2934 1/2 Beverly Glen Circle, #210, Los Angeles, CA 90077, or FAX your request to (310) 274-8858, or e-mail: MHCowley@aol.com

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#### CORRECTION

In the last issue of *The Atlatl*, we stated that May 3rd was the date for the Fort Osage, Missouri atlatl event. This was in error. The correct date is May 17th. The scope of this annual Spring Knap-in is widening to include primitive weapons contests including atlatl competition. Our old friend Virgil Hayes is in charge of this portion of the program. Virgil can be reached at (816) 646-2514 early p.m. local time.

Fort Osage sits on the Missouri River about 15 miles below Kansas City. The best way to get there is from I-70 east of Blue Springs, at the town of Grain Valley, go north on Buckner-Tarsney Road across US 24, Blue Mills Road, and Hunter Road to the Fort. The reconstructed early 19th century fur-trading post and military fort sits on your right.

Jackson Parks and Recreation officials advise me that: "there is ample room for tent/primitive camping, and also a parking lot where RVs can be parked. There is no electrical or water hookups, but there is a hydrant where potable water can be obtained. Portable toilets will be available for participants. A Scout group-operated food booth will serve breakfast, lunch, and dinner. They are very reasonable and the food is quite good. We ask that participants and family/friends accompanying them fill out registration forms and pay a \$5.00 registration fee. Participants may sell appropriate items at no additional cost. We reserve the right to ask that inappropriate items be removed from booths or trade blankets. Vendors are responsible for any applicable taxes, etc. General questions can be directed to our office at (816) 795-8200 ext. 1260."



## DART CONSTRUCTION AND DESIGN

By Ray Strischek

### Part I

The first year of wide spread use of the World Atlatl Association's International Standard Accuracy Competition (ISAC) is over. The European atlatlists per capita have generally scored higher than their American counterparts. Why? How?

Read WAA's *The Atlatl*, Oct. 1994, Vol. 7, No. 4, Spearthrowing in Europe. This article is a summary of Ulrich Stodiek's doctorate thesis on atlatls and darts worldwide, and contains a special focus: The study of and experimentation into dart construction. To be brief, the Europeans have done their homework.

We Americans on the other hand have generally put most of our creative drive and energy into our atlatls, with darts being something of an afterthought. We all too often have opted for 5 foot break-downs for easy travel and storage, and which are also highly flexible and light-weight enough for those long distance shots. However, what works for long distance does not necessarily work for accuracy at 15 and 20 meters.

I did fairly well this last summer (1996) in the ISAC, in part, I believe, because of a lucky accident of circumstances--low budget, relative isolation from other atlatlists, free bamboo from a friend--which forced me to put an inordinate amount of time and energy into the design and construction of my darts. I certainly cannot credit any natural throwing ability. I have none.

My darts, in design, more closely resemble the European's in that they lack the hyper-kinetic flexibility of most American darts. Also, my darts are tapered, larger in diameter at the front or point end, than at the rear. This makes the front-third stiffer or less flexible, than the rear two-thirds. The front end acts like a kite and the rear like a kite's tail. My darts are around 6 feet in length, which is shorter than the 7 and 8 foot European darts, but longer than the 5-foot American models. Additionally, my darts balance point is forward of center--not as far forward as those of the Europeans, but more forward of center than most American darts, which are for all intents and purposes, center balanced. Weight distribution as well as kinetic flexibility of the shaft is important.

Many of my fellow competitors commented favorably on the performance of my darts, usually noting a lack of wobble (hyper flexing) during flight. My darts flex less than those of the European's, but both theirs and mine flex less rapidly than American darts.

I believe my darts gave me an edge in competition. Mostly, I was able to keep more of my darts inside the "6" ring than other competitors, who for the most part scored more 10s and 0s than I did. In the WAA's ISAC, the target is about 4 feet across, composed of concentric circles scoring 10 for the inner ring, then 9, 8, 7, and 6 for the 42 1/2 inch outer circle. Anything outside the 6-ring is a zero or miss.

In my opinion, my competitor's misses (0s) were a direct result of over compression of their centered-balanced darts during the throwing motion. My darts have considerably less kinetic flexibility than most American darts and are more forgiving of variances in the amount of force put into a throw. The de-flex/re-flex activity of the dart subsides shortly after it separates from the atlatl, giving my darts a more stable and predictable flight pattern.

Most American darts of milled lumber that have a single diameter of 1/2 inch or less, all aluminum darts, and especially the break-down versions, whether milled lumber or aluminum, are either extremely flexible or have what I call hyper-kinetic flexibility. That means, not only can you just about bend them into a circle before they will break, but they snap back like a coiled spring. I believe that these darts are too sensitive to variances in the amount of force applied during the throwing motion, and keep on flexing wildly and needlessly long after the throwing motion has ended. That, in my opinion, is the only time the dart really needs to flex at all.

The characteristics of my bamboo and river cane darts are as

follows: a. Six to six and a half feet in length. b. Five eights inch or slightly less diameter at the point end of the dart shaft. c. Half an inch or slightly less diameter at butt end. d. Five to 8 ounces in weight, including point and fletching. e. Three feather fletching, full quill, trimmed to a tear drop shape 8 inches long and 3/4 inches wide at widest point. f. Point and foreshaft make up 6 to 8 inches of the dart's length. g. Dart shafts have a medium range of kinetic flexibility. h. Balance point varies from 3 to 6 inches forward of center.

I normally refer to these darts as "6 footers," with nominally 1/2 inch diameters, or 6' X (5/8"-1/2"). Bamboo and river cane, being plants, are highly variable. The density of the walls vary. The weight varies. The distance between the nodes varies. Therefore, some of my darts are slightly less or more than 6 feet in length, slightly more or less than nominally 1/2 inch in diameter, and have slightly varying degrees of kinetic flexibility. However, given the distances involved in the ISAC, 15 and 20 meters, the differences from one to the next makes no difference in the amount of force I put into the throwing motion or the elevation I use in aiming.

The ultimate reason I make my darts the way I do, is to give them a forward of center balance point, a medium degree of kinetic flexibility, and a distribution of weight along the length of the shaft so that when cast, the dart travels in a shallow, low trajectory arc, which is stable and predictable and controllable.

### DART DESIGN AND CONSTRUCTION ELEMENTS:

#### PROPULSION

The atlatl as the leverage extension of the throwing arm accounts for some of the propulsion. The whipping motion of "wrist flick" at the end of the throwing motion is said to account for most of the propulsion. And, some of the propulsion is produced by the dart as it is compressed (storing energy) during the throwing motion.

#### FLEXIBILITY AND KINETIC FLEXIBILITY

We all know the dart must be flexible. I learned, that depending on certain circumstances, a dart can be either too flexible, or not flexible enough, and that the flexing itself can be too fast or too slow.

During the throwing motion, a dart is compressed (energy being stored), and upon separation from the atlatl (energy being released), the dart springs forward de-flexing and re-flexing. The amount of flexing decreases as the dart nears the target (energy spent).

This talk of the energy of the flexible dart is all well and good, but the energy of the flexible dart provides only a small amount of the total propulsion needed to get the dart to the target. The real reason the dart is flexible in the first place is that it is a necessary reality in order to be launched by an atlatl. If the dart was absolutely rigid, the point end would rise straight up into the air in a failed attempt to do a loop-de-loop, then drop like a rock into the ground in front of the atlatlist or fall backwards into the atlatlist.

Bow and arrow engineers know that an arrow must flex around the bow when the string is released. Good arrows are "spined" so that the flexing of the arrow occurs at the right moment and just enough to get around the bow, and then decreases its flexing motion as soon as possible so as not to interfere with good accuracy.

Also, With the bow and arrow, the bow provides all of the propulsion. The arrow is drawn back to the exact same point each time. The amount of propulsion is the same each cast, thus the spine, the degree of the arrow's kinetic flexibility, has nothing to do with providing propulsion, and the flexing is kept to a minimum -- just sufficient to get the arrow around the bow.

In my opinion then, the dart flexes in order to accommodate the method of propulsion produced by the atlatl system. The dart's flexing immediately after launch, acts as a sort

of gyroscope-like stabilizer for the start of the flight to the target. If the gyroscope is not functioning properly, the flight will go off course. However, after the dart is started toward the target, the usefulness of continued flexing is problematic. If the point end of the dart is flexing 12 inches or so up and down, or left and right, when it gets to the target, where in the target will the point hit? How do you aim a wiggle or a wobble?

#### DART FLIGHT CHARACTERISTICS

A good flight characteristic for a dart is a shallow arc or trajectory from atlatl to target. A high trajectory arc makes estimating distance difficult. The flexibility of the dart shaft and the distribution of weight along the dart shaft determines how much or if the flight pattern of the dart will arc.

#### HOLD THAT THOUGHT!

Next issue we will continue this analysis of dart mechanics and construction.

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#### SPEARS IN THE NEWS

Many of you read the Associated Press article along about the end of February concerning archaeologists unearthing 400,000 year old wooden spears from a lakeshore hunting ground in Germany. The spears were found with thousands of animal bones--mostly horse, and many had butcher marks on them. The account suggested that they were probably made for throwing, javelin-like, but that is open to question. Nowhere did they suggest use of them with atlatls, thank goodness, as that invention was far, far in these people's future (At least four of you submitted this article to me for inclusion on these pages. Nice going.)

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#### SPEAR-HUNTING FOES

A second AP article that came to my attention was published in mid February, and concerned animal rights activists taking aim at spear hunting in Alabama. I first got wind of this when a reporter from *The Times* of London called me wanting to do a follow up on the subject.

The report stated that about 64 Alabama spear hunters were permitted to take deer or wild pigs last year. It is not known how many were successful, however the State game officials have sent questionnaires to the hunters.

It might be a good idea if The World Atlatl Association followed up on this subject. Hunting with spears and atlatls is being studied and considered in several states.

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#### Fun Things to Do in an Elevator:

Stand silent and motionless in the corner facing the wall without getting off.

When the elevator is silent, look around and ask, "Is that your beeper?"

Make explosion noises when anyone presses a button.

## CORRECTION

Missing from the list of those scoring 50 and higher in last issue's report on the 1996 International Standard Accuracy (ISAC), was Belgium's atlatlist Louis Baumans. Not only did he make the list on July 28th at Beaune, France with a 62 score, but attained a 61 the following month at Oerlinghausen, Germany. We regret omitting his name from our list.

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#### CHANGES IN CAS ENCAMPMENT PERMANENT OR TEMPORARY?

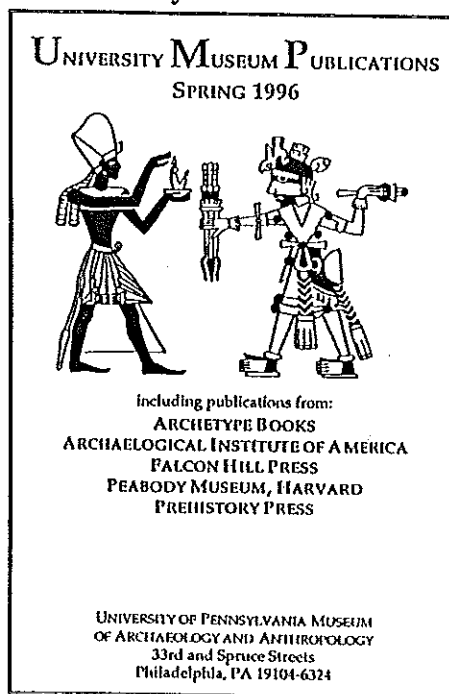
By Bill Tate

We are saddened to learn that the Colorado Archaeological Society's 1997 Encampment will not hold an atlatl contest, after all. For many of us this is where it all began. A lot of our members first got started in the field of atlatling at this annual event, and the World Atlatl Association was born at one of these meetings.

There has been resentment, among a few CAS members, whose feeling is that WAA had "taken over" and that some of the Society's members were getting "bored" with atlatls. Nevertheless, they did contact me to set up an atlatl demonstration area to give participants something to do. I will do that if it my schedule allows me to attend. Still, it is sad to have our roots severed. Maybe next year, under different directors, they will be a more amenable to our sport.

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The U. Of Pennsylvania Museum catalog cover below displays an Aztec atlatlist. Sent in by Albert Abril.

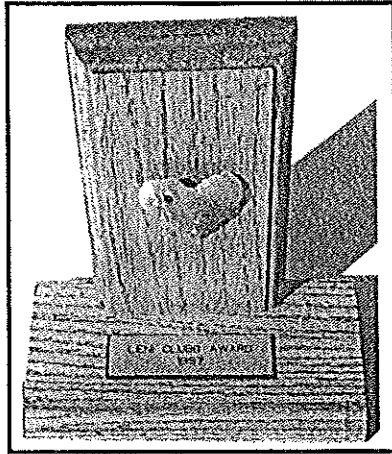


## SPECIAL AWARDS TO BE PRESENTED AT THE ATLATL WORLD OPEN

by Ken Wee

Among the awards to be presented at the June 21 and 22, 1997 Atlatl World Open in Casper, WY will be the "Good Sports" awards:

the Leni Clubb Award for sportsmanship among women contestants, the George Stewart Award for sportsmanship among men, and the Honodel Family Award for youngsters under 16 who best exemplify sportsman-like behavior.



The Leni Clubb Award-- for sportsmanship.

Where possible, the person for whom the award is named will make the presentation at the ceremonies following the contests.

For the first time, the Stan Honour Award will be presented to the competitor using the most authentic weapons. This could be atlatl/dart, bow/arrow, or other primitive equipment.

First time competitors should note that this is a "primitive" only competition, and atlatl and dart equipment made of aluminum, graphite, fiberglass, or other synthetic materials is not permitted.

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### 1st Annual Winter Count Primitive Weapons Contest

by Dave Wescott

A primitive weapons contest sponsored by the Boulder Outdoor Survival School (BOSS) at its 3rd Annual Winter Count Primitive Skills Conference was held February 15, 1997 near Maricopa, AZ. Awards for the event were sponsored by BOSS and BPS Engineering. A field of over 30 competitors vied for honors in four divisions and the ISAC. Former world record holder, Wayne Brian, conducted a distance throwing demonstration during the event.

Contest rules allowed 3 throws each from a firing line at targets placed at 15, 25, and 35 yards. It was an "open" contest with both primitive and modern gear being used. Contestants and spectators alike enjoyed the ability to see all the action as it took place.



Jim Riggs, noted primitive skills instructor, author of *Blue Mountain Buckskin*, and an early advocate of atlatl technology.

Range safety officers and WAA members David Wescott and Albert Abril conducted the contest. WAA Secretary Leni Clubb attended early in the week to help kick off the event.



L to R. Tamera Wilder, W 1st (3rd overall); Norm Kidder M 2nd; Michelle Riley W 3rd; Bob Perkins M 1st (Grand Champion); Tomokii Sage Y 1st (2nd overall); Albert Abril (Safety Officer); Jessie Larrison Y 2nd; Rod Dotson M 3rd. Not shown, Jo Guill W 2nd.

Prior to the contest, BOSS hosted a 5-day primitive skills gathering where 30 instructors taught classes ranging from primitive cooking and hide tanning, to pottery making, and basketry. Open seminars were held in flintknapping, fire making and desert survival. The next similar BOSS event will be September 14-20, the 10th Anniversary of Rabbitstick, the oldest and largest primitive skills gathering in the country. BOSS will sponsor another atlatl contest at this event. Contact David Wescott at PO Box 905, Rexburg, ID 83440, or call (208) 359-2400 for more information, or e-mail: [dwcot@aol.com](mailto:dwcot@aol.com)

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## ATLATL EVENTS AROUND THE WORLD -- 1997

Make plans to "ride the circuit"

- Apr. 12-13 European Spearthrowing Championships, Mas d'Azil, Ariège, France\*
- Apr. 16-20 Valley of Fire State Park -- WAA Atlatl Contest. VoFSP, Overton, Nevada. Contact Leni Clubb (619) 358-7835.
- Apr. 18 WAA Annual Meeting at Valley of Fire State Park, Nevada -- 3:00 p.m. Contact Leni Clubb (619) 358-7835.
- Apr. 26,27 European Spearthrowing Championships, Ramioul, Belgium.\*
- May 3 Mich. Atlatl Association Tournament, Noon at Brighton Recreation Area, Brighton, MI, Contact Jim Gilligan (810) 231-2314
- May 3 Spring Fling in the Woods, Ligonier, PA, Contact Chuck Butorajac, (412) 238-6878.
- May 17 Fort Osage Primitive Weapons Contest (Atlatl and Primitive Bow) Ft. Osage, Missouri, contact Virgil Hayes (818) 646-2514 (NOTE THAT THIS IS A CORRECTED DATE)
- May 18 European Spearthrowing Championships, Samara, Somme, France.\*
- May 24 Mich. Atlatl Association Tournament, Wilder Creek Cons. Club in Marshall MI Contact Jim Gilligan (810) 231-2314.
- May 25 Mich. Atlatl Association European Style Tournament, Wilder Creek Cons. Club, Marshall, MI., Contact Jim Gilligan
- May 31 European Spearthrowing Championships, Crepy-en-Valois, Oise, France.\*
- Jun. 14 Fremont Indian State Park, Sevier, Utah, Contact Pete Weimer (801) 527-4631.
- Jun. 14,15 European Spearthrowing Championships, Les Eyzies-de-Tayac, Dordogne, France.\*
- Jun. 21,22 Atlatl World Open, Fort Caspar, Casper, Wyoming, Contact Rick Young, (307) 235-8462.
- Jun. 28,29 European Spearthrowing Championships, Solutre, Saone et Loire, France.\*
- Jul. 4-6 Colorado Archaeological Society Encampment, Trinidad State Recreation Facility, Demonstrations only--no competition, Contact Bill Tate, (303) 755-5591.
- Jul. 5,6 European Spearthrowing Championships, Le Grand-Pressigny, Indre et Loir, France.\*
- Jul. 12 Aurora Spear Sling Fling Thing, Aurora, Colorado, (Aurora History Museum) Contact Bill Tate (303) 755-5591.
- Jul. 19 Ninth Annual Montana Mammoth Hunt, Sponsored in part by the Museum of the Rockies to be held at Blacktail Ranch, Montana. Contact Troy Helmick, (406) 266-3398.
- Jul. 19 Alder Acres Atlatl Tournament, Lorraine, New York, Contact Roger Klindt (315) 639-6293.
- Jul. 19,20 European Spearthrowing Championships, Gletterens, Switzerland.\*
- Jul. 26,27 European Spearthrowing Championships, Beaune, Cote d'Or, France.\*
- Jul. 26,27 Platte River Primitive Skills Rendezvous, Douglas, WY, Contact, Diane O'Meagher (307) 358-0155.
- Aug. 9 Rocky Mountain College Rendezvous, Colo. State Muzzle Loading Association, Aug 3-9, Pike National Forest at Lost Park near Jefferson, Colorado, Contact Pat Pennington (303) 255-2923, or Ken Wee (303) 665-1329.
- Aug. 9,10 European Spearthrowing Championships, Renteria, Spain. \*
- Aug. 9-11 Eastern Canadian Atlatl Association contest at Orillia, Ontario, Canada, Contact Louis Rebello (519) 745-5930.
- Aug. 16-17 European Spearthrowing Championships, Tautavel, Pyrenees Orientales, France.\*
- Aug. 20-24 Great Lakes Primitive Gathering on Bois Blanc Island, MI, Michigan Atlatl Tournament Fri. 22nd, and WAA Contest Sat. 23rd. Contact Jim Gilligan (810) 231-2314.
- Sep. 7 European Spearthrowing Championships, Oerlinghausen, Germany.\*
- Sep. 20 10th Annual Rabbitstick Primitive Skills Conference atlatl contest. Rabbitstick dates are: Sep. 14-20, Rexburg, Idaho, contact BOSS (208)359-2400.
- Sep. 20 Pennsylvania State Atlatl Championship, Ligonier, PA, Contact Chuck Butorajac (412) 238-6878.
- Sep. 20 Chimney Point State Historical Site at Addison, VT. To be conducted in association with Vermont Archaeological Week. Contact: Audrey Porsche (802) 759-2412
- Sep. 27 Sixth Annual West Virginia State Atlatl Championships, 1:15 p.m., Lower Campus, Davis & Elkins College, Elkins, WV. Contact Mountain State Forest Festival (304) 636-182, or William Good, (304) 636-5003.
- Sep. Or Oct. Dan O'Laurie Museum, Moab, Utah. Very tentative at this time. First reported Oct. 96, but have heard nothing new.
- Oct 11-12 Missouri Atlatl Association/ Cahokia Mounds Tournament, at Cahokia Mounds near St. Louis, MO. Contact Ron Mertz, (314) 822-2514.

\*Note, our contact for all European Spearthrowing Championship contests is Pascal Chauvaux, Rue Au dela de l'Eau, 3 B-5630, Cerfontaine, Belgium --Telephone: (32) 71 64 34 16.

*(Members are encouraged to submit dates of atlatl events for this calendar)*

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**KEEP SUBMITTING YOUR REPORTS, CARTOONS, AND SUGGESTIONS TO US. YOUR EDITOR CAN NOW BE REACHED BY E-MAIL: [atlatl@mho.net](mailto:atlatl@mho.net)**

Next issue of *The Atlatl* will contain more of Ray Strischek's report on Dart Construction And Design. It will also report on many of the Spring contests.

ON TARGET

by Leni Clubb



Thanks to Ted Bailey of Ann Arbor, Michigan, who put WAA on the Internet, we have gotten many inquiries about membership. The latest came from a man at a base in southeast Turkey. He not only joined, but ordered the entire set of back issues of *The Atlatl*, two extra patches, and the available atlatl construction articles.

Several of our members have asked about a "Life Membership." In fact we received two inquiries in one day. At the Annual Business Meeting at Radium, Colorado last July, the categories of Supporting -- \$50.00 (equivalent of 5 years), and Contributing -- \$100.00 (equivalent of 10 years) were established. Only those who have received the Fellowship Award for exemplary service to WAA have a life membership.

Those of you organizing and sponsoring atlatl competitions who would like to be able to present a WAA Grand Champion Award at your contests should apply as soon as possible--especially for those contests in May, June, and July. Requirements are simple: Request the award in writing and sign an agreement that you will follow the official safety rules.

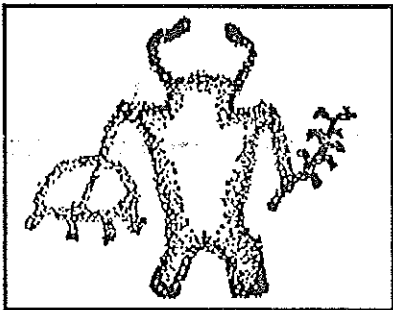


Grand Champion brass plaque award.

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FIFTH ANNUAL FREMONT INDIAN STATE PARK ATLATL CONTEST

Sevier, Utah, June 13 & 14, 1997

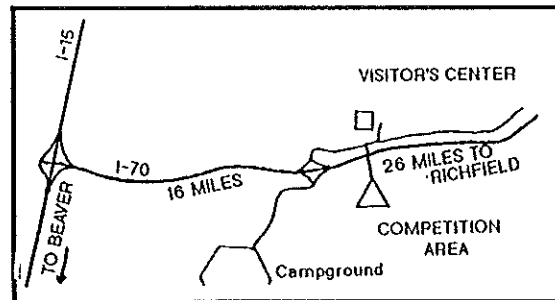


Starting promptly at 10:00 a.m. on Saturday, June 14th, this annual event is always a challenge, with targets set high atop steep hills, across chasms, and up and down hills against beautiful scenic areas of Fremont Indian State Park. Contestant categories are: Men, Women, Youth (11-16), and Children (10 and under), with first, second, and third place awards, plus Grand Champion WAA awards in both primitive and modern categories. The International Standard Accuracy

Contest (ISAC) will follow the regular competition. Safety rules will be strictly enforced and participants will be asked to sign a liability statement. For contest information contact WAA Sec. Leni Clubb: (760) 358-7835. Note: New Area Code.

Free camping for contestants and their families has been reserved in Sites 27 and 28. Other campsites may be reserved by calling 1 800 322-3770, or can be arranged at the visitor's Center upon arrival. Camping is also available in the nearby towns of Joseph, Monroe, and Richfield. The nearest motels are in Richfield, 26 miles east on I-70.

A Dutch Oven Dinner has been tentatively arranged, providing at least 15 reservations are made in advance. Cost of the Saturday evening meal is \$5.50 for adults and \$3.50 for children under 12. The deadline for receiving reservations is June 7th.



Competition area. For park information call 1 800 527-4631.

FREMONT INDIAN STATE PARK REGISTRATION FORM

COMPLETE AND MAIL TO THE WORLD ATLATL ASSOCIATION, P.O. BOX 56, OCOTILLO, CA 92259

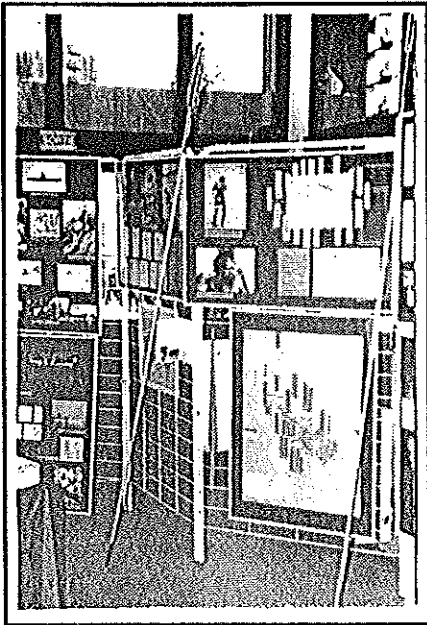
NAME(S) \_\_\_\_\_ NUMBER OF THROWERS \_\_\_\_\_

ADDRESS \_\_\_\_\_

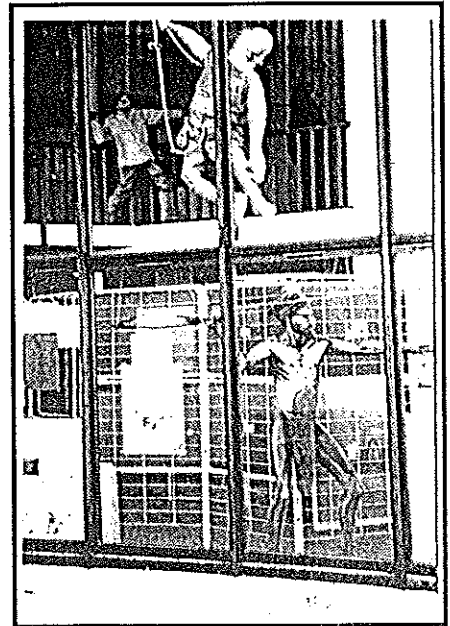
DIVISION ENTERING: MEN \_\_\_\_\_ WOMEN \_\_\_\_\_ YOUTH \_\_\_\_\_ CHILDREN \_\_\_\_\_

DUTCH OVEN DINNER: NUMBER OF ADULTS \_\_\_\_\_ UNDER 12 \_\_\_\_\_

**PASCAL CHAUVAUX'S TRAVELING ATLATL EXHIBIT GETS LOTS OF ATTENTION AT EUROPE'S PRIMITIVE WEAPONS COMPETITIONS**

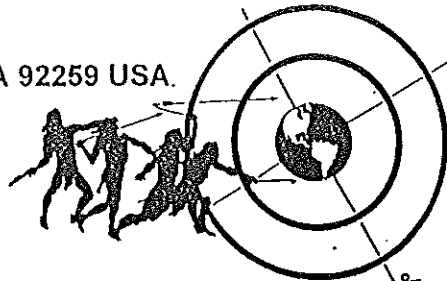


Using lifesize silhouettes of both Australian aborigine and Magdalenian hunters using authentic and replica spearthrowers, the display educates the public about worldwide use and the history of spearthrowers.

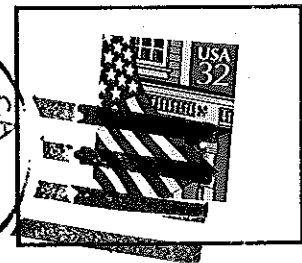
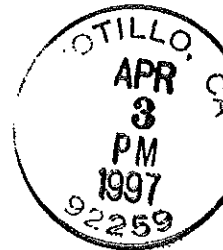


MEMBERSHIP IN THE WORLD ATLATL ASSOCIATION IS JUST \$10.00 PER YEAR, FAMILY: \$15.00. CANADIAN AND FOREIGN MEMBERSHIPS: \$12.00. SEND ALL INQUIRIES AND DUES TO WAA SECRETARY.

LENI CLUBB  
P. O. BOX 56  
OCOTILLO, CA 92259 USA.



The WORLD ATLATL ASSOCIATION, Inc.



JOHN WHITTAKER  
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