

The ATLATL

"Too long have I hunted mammoth alone!"

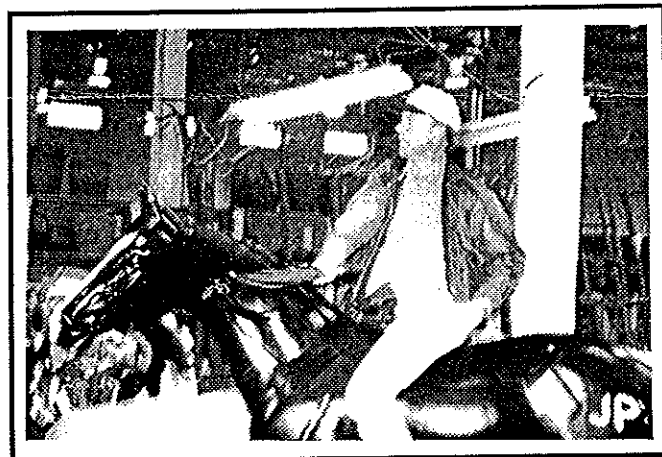
Rich McWhorter

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BILL TATE, EDITOR

IN THE MOVIES

by Russell Richard

As a working anthropologist, I have never had as unique a culture twisting experience as what recently befell me. I can now safely state that I have done my part to distort the known into the realm of fiction, or as I heard it stated, "We don't write the story, we just make it happen." Simply put, Mickey Mouse has discovered the atlatl! It all started with a telephone call to my sister from someone purporting to be the assistant to a movie director, someone seeking the services of an atlatlist no less. When I saw my sister, she was literally jumping up and down yelling, "The movies called! The movies Called!" I, of course, thought she meant that Blockbuster wanted their tapes back, but in truth it was John McTiernan of *Hunt for Red October*, *Die Hard One and Three*, needing someone who knew something about crooked sticks and the fine art of propelling them through the air. As I understand the convoluted tale, he had read *The Wall Street Journal* article about the erstwhile Ray Madden, and then recalled the reference to the atlatl when the need arose in his current movie for a "primitive" weapon. After an arduous search involving many contacts, they somehow wound up talking to your's truly. It should have been you, Ray, but I knew you were on the road at the time, such are the twists of fate. After a couple more calls, I was convinced that they were for real, and that the atlatl dream of a lifetime had just dropped into my lap. Three days later, I was on my way to Vancouver, B.C. with the designation of "Atlatl Expert" to troubleshoot some "user-atlatl interface difficulties" for the movie *Eaters of the Dead*. This is a PG-13 Walt Disney production based on a Michael Crichton novel of the same name, starring Antonio Banderas.



The author's first ever attempt at throwing from horseback

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Handwritten notes in the right margin, including the words "Crichton" and "parts".

Briefly, the character played by Banderas flees trouble in a Middle Eastern court, is then rescued from a tight spot by passing Vikings, and accompanies them on their mission to aid a settlement under attack by fearsome creatures. Upon arrival at the Viking fort, it is discovered that these marauding beasts are actually human. They are the stone-age, Neanderthal-like, bear clan, horse-riding, atlatl-wielding Wendols. Yes, that is correct. Darts will be flung from horse-back as well as by grounded atlatlists. That is just one of many historical "firsts" that will occur in this celluloid reconfiguration of the facts. Watch for the Viking plow and the gryphon femur club. There will be pitched battles in the finest cowboy and Indian tradition.

The production is taking place mainly on Vancouver Island, but I met with the prop people in the city. There they have an amazing collection of creative talent who are not only outfitting one complete material culture with known accouterments, the Vikings, but bringing to life a totally new culture, the Wendols. The prop master, Grant Swain of *Clan of the Cave Bear*, and *Never Cry Wolf*, along with the able Brent Harron, regularly perform movie miracles. The atlatl, however, proved to be a challenge due to the minimal information they had. Bluntly put, they were trying to throw a short, unfletched shovel handle with a boomerang and it just was not working. They were quick learners though, and soon had a viable system after I revealed the secrets of the ancients.

Brent had been the one primarily wrestling with the atlatl, and as soon as he had usable equipment, he literally unleashed a flurry of flying darts. The atlatl which will be used in the movie is based upon an Australian Aborigine design, with a unique shaft lock and trigger (another first), devised by master crafter Randy Patt of Edmonton.

During my day in the movie business, I managed to completely destroy some fine obsidian they had on hand, due to lack of proper tools. Did you ever try to find a good hammerstone in a city? But I did finally produce a good projectile point which was then cast in rubber to provide the points for the movie darts. There will be another weapon of note used by the

Wendols, the aforementioned femur club. This figure prominently in a scene where the Vikings discover that the Wendols are human, and that the claws which tip the club are actually stone. When asked if I could produce these "claws," I of course said, "yes," all the time thinking, "With the help of my friends, I can." Then with minimal assistance from me, Clay Fulfer of Worland, Wyoming knapped the four stunning pieces which will also be cast and used on the actual whacking clubs. I wound up the day demonstrating the basics of the system to Lem Le Mercier, who will in turn train the actors. We tested the atlatl toss as best we could on a very compliant fiberglass horse, and it is my conclusion that if one can ride, and one can fling darts, then it is entirely possible to ride and throw darts simultaneously. I have as yet to give this a live test. I'll let you know when I do.

The entire experience was a pleasure and I even learned something new. Two people demonstrated the "French Arrow", a method of propelling a dart by means of a leather lace or thong wrapped around a groove incised into the dart shaft. So there you have it. The atlatl is in the movies. Expect to see it around Christmas 1997 or the following Spring. I know that I, for one, will be cheering the Wendols and giving a grin with every dart that strikes home.

LETTERS LETTERS LETTERS

Dear WAA,

I found the July issue of *The Atlatl* very useful. I was most impressed by Ray Strischek's article on dart construction and design. I am in the process of sorting out my equipment and found the article quite helpful.

In 1949 when I was almost nine, the family Christmas gift was an archery set. My father had made quite a number of bows long before my brother and I came along, and by the standards of the day had probably been a semi-serious archer. There was a straw-filled bulls eye target and some quality arrows, plenty of instruction and supervision and we had a big enough yard that we could shoot down the driveway safely.

Once we had developed an appreciation for archery, My Father brought out his atlatl and I recall that in a short period of time we were able to stick arrows in the target from some reasonable distance. I would venture that I was one of the few people in Los Angeles County in 1949 that had ever used an atlatl. Certainly one of the few 8 or 9 year olds.

Some 40 years later, I attempted to expose my 9 year old to the atlatl, and was never able to duplicate the success I had in 1949.

When the Internet was new, I searched "atlatl" and found nothing. I tried again this year and was pleased to find all of the atlatl material, and thanks to the WAA, I am sorting out my most recent attempt at renewing a relationship with the atlatl. My 9 year old, who is now 17, is watching how with patience and some effort and research, I've taken an old broom handle, some scrap from a new house and turned it into something really cool.

I can't claim that the atlatl has saved my marriage, or kept my kid out of trouble, but it has kept the wife, the kid, as well as the neighbors guessing and wondering what I am up to and that is almost as good.

By the way, are you aware that there is an annual atlatl workshop at Toltec Mounds State park near Little Rock, Arkansas?

Anyway, Proud to be a part of the WAA, and to have reconnected with the atlatl.

Regards, L. H. Garlinghouse (Pocahontas, AR) E-mail - garlinghou@waterlooindustries.com

SPEAR HUNTING LEGAL IN ALABAMA by Bill Tate

Within the pages of the 1996-97 Hunting and Fishing Guide -- *Official Laws and Regulations for Alabama*, appears a new hunting category. It reads: **SPEAR FOR DEER AND FERAL SWINE.** May be taken by hand thrown spear during the open Bow and Arrow Season on these species with a special permit obtained from the Game and Fish Division at no charge. The hand thrown spear shall have a sharpened blade a minimum of two inches in width. The spear shall only be hand thrown. The special permit further states: **This would include the atlatl if the blade meets specifications.**

A year before these changes took place, an unassuming 26 year old microbiologist by the name of Doug Walker was perusing a hunting magazine and spotted an advertisement for a video depicting a bear hunt with a spear. This started the wheels turning, which resulted in a major change in the hunting laws of the state. Doug, an avid bow and arrow hunter, remembering the time he shot a deer from only ten yards, realized he could have made that kill with a spear if it had been legal.

Doug investigated the Alabama hunting regulations and found no mention of spears, so he contacted Tim Cosby, Chief of the Game and Fish Division's enforcement section. Cosby walked him through the necessary procedures for making a formal request, which included letters and a face to face meeting with the Department of Conservation and Natural Resources' rule-making advisory board. When asked by a board member about the spear's effective range, Doug bluntly stated, "I could kill you with it from here!" This brought about a chuckle from board members, and when the voting was done, Walker had won his case.

National, and even international attention was focused on Alabama by animal rights activists over the next several months. Even some members of The World Atlatl Association were contacted by "giants" of the newspaper business, including *The London Times* and *The Washington Post*, for views and opinions. One such contact occurred following the 1997 Annual General Meeting of WAA where the following statement of position was made: **The World Atlatl Association takes a neutral position on the subject of hunting, but acknowledges that the atlatl is, historically, a hunting tool, capable of taking large game, up to and including, the mammoth. However, WAA may support, on a case by case basis, the taking of game animals with an atlatl and dart for scientific research.** This statement was read to the reporter so there would be no doubt of our official stand on the hunting issue.

Walker's success resulted in his calling the video production company to find out how to purchase a spear. He was referred to Paul Smith of Brownwood, Texas who makes such items for sale. The price for the 5 ft. 8 inch long, 6 lb. spear was about \$185.00. It came with a barbed hunting blade and an interchangeable unbarbed practice blade which can be screwed onto the half-inch diameter shaft of mechanical steel tubing.

Upon receipt of the heavy spear, Doug Walker began questioning if he really could have killed that board member. He practiced by throwing the spear down from the deck at his Brookwood, Alabama home. The deck sits 12

feet above the ground and provided an excellent simulation of hunting from a tree stand. The thing kept landing flat, not even sticking into the ground. After every throw, he had to go down and bring the weapon up for another cast. This was tiresome activity. Eventually, however, he learned just how to hold the spear--an unusual three fingered grip while wearing a weight-lifter's glove, and soon was hitting a gallon milk container from 15 yards.

When hunting season was over, Doug was "0 for 20," having gone out about twenty times. The deer would not cooperate. Sixty-three other hunters applied for the special spear permit that season as well. Only one of the hunters, retired Air Force Col. Eugene C. Morris, 63 of Elberta, Alabama was successful in this first Alabama deer spear hunt.

Alabama state officials considered the trial spear season a success with one deer and one feral swine taken--both with instant kills according to the hunters. As far as we know, none of the hunters used the atlatl. This may be because of the relatively large point (2 inches across) required by state officials. That size is a kind of fluke, as the officials authorizing the hunt had only Doug Walker's spear on which to base their judgements, and his spear blade was 2 inches across.

PLATT RIVER PRIMITIVE SKILL
RENDEZVOUS, DOUGLAS WYOMING
August July 26-27 -- Charlie Brown

Results of the WAA-type contest follow:

Youth

1st place	Casey Pebbles	25
2nd place	Todd Honadel	27
3rd place	Matt Noble	29

Women

1st place	Regina Ryker	28
2nd place	Donna Degeorge	33
3rd place	Mary Katherman	37

Men

1st place	Jim Ray	11
2nd place	Charlie Brown	15
3rd place	Ken Wee	18

Grand Champion: Jim Ray

THE AURORA SPEAR SLING FLING THING
Aurora, Colorado July 12, 1997

by Bill Tate

The Aurora History Museum calculated that over 150 onlookers watched the 59 throwers compete for awards on this third Annual Spear Sling Fling Thing. Throwers came from Montana, California, Missouri, Wyoming, Utah, Colorado, and Alaska. The first order of the day was another attempt at beating his own worlds record distance atlatl throw, by Dave Engvall of St. Joseph, MO. His 847.5 foot record set on the same field two years earlier still stands.

Between the regular WAA competition and the International Standard Accuracy Contest (ISAC) throwers had a chili and sandwich luncheon at the home of Bill and Marcia Tate. The slower eaters missed seconds on the chili. Next year we'll make more. As usual, the Board of Directors met for a short business meeting over lunch.

The evening before the competition many early attendees got in an atlatl practice session at the home of WAA president Charlie Brown. This was followed by a grand barbecue. Toasts were drunk with Charlie's home brew from bottles sporting labels saying "Woolly Mammoth Pale Ale, a premium ale with a very extinct taste," and "Ancient Atlatl Ale, Breakfast of Atlatl Champions."

Competition results follow:

Under 11

First	Gregg Mckee
Second	Andrew Rogers
Third	Johnny Temple

Youth 11-15

First	Ben Bleckley
Second	Pam Rau
Third	Jenette Graham

Women

First	Leni Clubb
Second	Sherrie Buike
Third	Elizabeth English

Men

First	Ray Madden
Second	Jim Ray
Third	Charlie Brown

Following the event, Mary Dwyer of the Aurora History Museum sent us a letter thanking the World Atlatl Association for our support to help create the unique opportunity for the city of Aurora.



Jean Speckens of Belgium at Tautavel, Pyrenees Orientales, France.

PREHISTORIC SPEARTHROWER EUROPEAN CHAMPIONSHIPS

by Pascal Chauvaux

Sixth Round:

Les Eyzies-de-Tayac (Dordogn, France) June 14th.

The Les Eyzies-de-Tayac contest is unquestionably the top of the atlatl season in Europe. Half of the European paleolithic spearthrowers were found in this location, and the Number Two prehistory museum of France is located here. More, the contest was held at a nice prehistoric site called "Gorge d'Enfer". The site is so extensive that the organizers were able to set up 30 different targets instead of the normal 10.

Fifty-three atlatlists from France, Belgium, Germany and Switzerland competed on the 30-target course. As in previous years, the weather was dry and warm. We all took great pleasure in a dive into the swimming pool just after the competition.

Awards went to:

First place Pascal Chauvaux (Belgium) 30.67
 Second place Bernard Ginelli (France) 24.27
 Third place Laurent Bernat (France) 19.84
 ISAC top scores: Steve Cabaroux (Belgium) 86, Pascal Chauvaux (Belgium) 83, Patrick Bidart (France) 82, Laurent Bernat (France) 79, Jean Speckens (Belgium) 74, Christophe Griggo (France) 71.
 WAA Grand Champion: Pascal Chauvaux

Seventh Round:

Department of Prehistory, Museum of Solutre (Saone et loire, France)

Solutre is the eponym site (type-site) of a paleolithic culture dating from 19,000 BC to 16,000 BC in France. It was a dream to go there for a spearthrower contest. Remember that the oldest paleolithic spearthrower found is attributed to Solutrean times. Solutrean culture is, above all, well known for its flintknapping employing pressure flaking. Distinctive laurel-leaf (*feuille de laurier*), and willow-leaf (*feuille de saule*) spear points were manufactured. One can draw a parallel between European Solutrean and North American Plains Paleo-Indian flint tools.

As France is the *other* wine country after California, I must say that Solutre is also the land of Pouilly-Fuisse white wine. Our contest was held at the foot of Solutre Rock, in three open meadows right in the middle of the vineyards. Thirty-nine atlatlists from France, Belgium, Germany and Canada took part in the 10-target course, which was covered three times.

Awards went to:

First place Pascal Chauvaux (Belgium) 33.60
 Second place Laurent Bernat (France) 27.38
 Third place Eric Braconnier (France) 24.89
 Only one ISAC contestant went into the 70s, Jean Speckens (Belgium) with a score of 73. The WAA Grand Champion Award went to Pascal Chauvaux.

Eighth Round:

Le Grand-Pressigny (Indre et loire, France) - July 6th.

Le Grand-Pressigny is most probably the best known flint site in Europe. Archaeological finds of this flint have been found as far away as Switzerland, 700 kilometers to the east. It is not unusual that a competing atlatlist will find bits of flint when picking up his dart.

This year, local organizers tried to be more original. They invited the English archaeologist, Timothy Taylor from Bradford University to speak. His talk was on the subject of *Sex During Prehistory!* (An Englishman on this subject??? That's a first! Ed. note.) Forty-seven contestants from France, Belgium, Great Britain, and Canada took part in our usual 30-throw competition in the meadows opposite the town.

Awards went to:

First place Pascal Chauvaux (Belgium) 44.80

Second place Johann Tinnes (Germany) 26.22

Third place Christophe Griggo (France) 25.33

Five ISAC contestants made it into the 70 and above category: Pascal Chauvaux (Belgium) 85, Jean Speckens (Belgium) 81, Bernard Ginelli (France) 78, Christophe Griggo (France) 74, and Jurgen Junkmanns (Germany) 70. The WAA Grand Champion Award went to Pascal Chauvaux.

Ninth Round:

Lakeside Neolithic Farm of Gletterens (Switzerland) July 19th.

It was our first atlatl contest in Switzerland, yet we know of eight Paleolithic spearthrowers from a Swiss cave at Kesslerloch near the German border.

Only 21 throwers from Switzerland, France, Germany, and Belgium met at the bank of Neuchatel Lake to compete. The weather was poor, with rain and fog. Our course was held inside the forest where the ground was slippery. I know now that someday somebody will invent special shoes for throwing darts in the mud.

Awards went to:

First place Pascal Chauvaux (Belgium) 29.64

Second place Alain Grospron (France) 17.20

Third place Stephane Madelaine (France) 16.47

ISAC top scores were Pascal Chauvaux (Belgium) 81 and Stephane Madelaine (France) 71. The WAA Grand Champion Award went to Pascal Chauvaux.

Tenth Round:

Burgundy Archaeological Park of Beaune (Cote d'Or, France) July 27th.

Twenty-three contestants from Belgium, France, and Switzerland met in the Archaeological theme park which is situated along A-6 expressway. Targets were scattered in the middle of reconstructions of the site of the Roman defense of Alesia Siege, a Neolithic farm, and an Iron Age tumuli grave.

Needless to say that with Beaune situated in the exact middle of the Burgundy wine area, the organizers offered a Burgundy meal to all competitors.

Awards went to:

First place Pascal Chauvaux (Belgium) 37.31

Second place Jean Speckens (Belgium) 14.67

Third place Jehan Speckens (Belgium) 6.60

Only one thrower scored well on the ISAC, Jean Speckens of Belgium with a 77. The WAA Grand Champion Award went to Pascal Chauvaux.



Ulrich Stodiek of Germany at Solutre (Saone et Loire, France) 16-meter Target.

Eleventh Round:

Renteria (Spain) - August 9th

Of course, the site where we were invited to show our skill was a Paleolithic site (Aitzbitarte), with five caves, one of which is decorated. Sixty contestants from Belgium, France, and Spain took part throwing at 30 different targets. I must say that we were very well received, and that we lived a week-end according to the Spanish way of life--meals at 3:00 p.m. and 11:00 p.m.

of fish with tomatoes, garlic, and pepper, served with apple cider. It will be one of my best-remembered souvenirs of the season.

Awards went to:

First place Pascal Chauvaux (Belgium) 37.87
Second place Laurent Bernat (France) 31.69
Third place Serge Vigier (France) 21.60

The top ISAC score was Pascal Chauvaux's 78, and once again the WAA Grand Champion Award went to Pascal Chauvaux.

Additional Round -- Non-Championship:

Pyrenean Archaeological Park in Tarascon-sur-Ariege (Ariege, France)

Twenty-six competitors from Belgium, France, Germany, and Spain took part in this 30-throw contest (10 targets 3 times each). The meet was held as a test for a possible location for next year. The park is situated at the foot of the Pyrenees Mountains with splendid views. The weather was fine. What more could one ask?

Awards went to:

First place Pascal Chauvaux (Belgium) 43.80
Second place Jean Speckens (Belgium) 18.40
Third place Aude Labarge (France) 18.13
Only two ISAC contestants were in the 70s, Stephane Madelaine of France and Pascal Chauvaux with 74.

Twelfth Round:

European Center for Prehistoric Researches of Tautavel (Pyrenees Orientales, France) - August 17th.

Fifty-eight throwers from Belgium, France, Spain, Switzerland, and Canada met in the vineyards of Roussillon for a ten target course--three throws at each. Tautavel is known as the site where one of the oldest European human skeletons was discovered (450,000 BC - Caune de l'Aratgo). The environment is wild--the only things you can see are rocks and...vineyards. Maybe France would be the *first* wine country, before California?! Every competitor had the opportunity to visit the museum and the cave where excavations have been on-going for 25 years.

Awards went to:

First place Pascal Chauvaux (Belgium) 37.33
Second place Alain Gospiron (France) 26.13
Third place Jean Speckens (Belgium) 17.31
Top ISAC Scores were Pascal Chauvaux with 83, and Jean Speckens 78. The WAA Grand Champion Award went to Pascal Chauvaux.

Thirteenth Round:

Open-Air Archaeological Museum of Oerlinghausen (Germany) - September 7th.

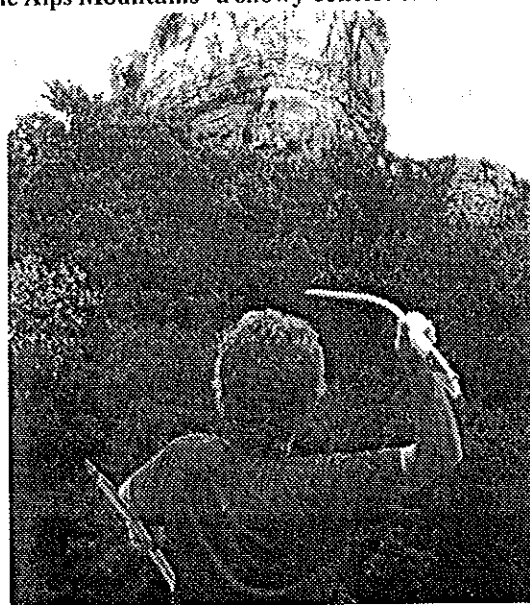
Because of the cancellation of the Nemours competition, this was the final contest of the year for Europe. Sixty-three athletes from Germany, France, Belgium, Great Britain, USA, and Italy took part. (This must have been the largest competition ever held. Ed. Note).

Awards went to:

First place Pascal Chauvaux (Belgium) 35.73
Second place Laurent Bernat (France) 35.27
Third place Ulrich Weigle (Germany) 32.20

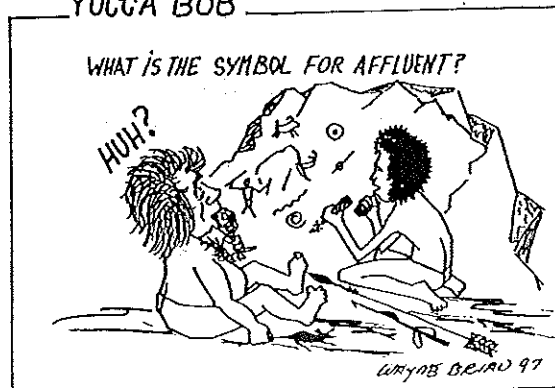
Only two ISAC competitors scored above 70: Pascal Chauvaux 86, and Martin Street of Great Britain 80. The WAA Grand Champion Award went to Pascal Chauvaux.

Next year we expect to hold 18 European competitions. I have instructed the throwers that the first contest of 1998 will be held in January in the Alps Mountains--a snowy contest on snowshoes.



Jean Speckens of Belgium at Solutre.

YUGGA BOB



DART CONSTRUCTION AND DESIGN

Part 3

by Ray Strischek

Readers can obtain parts 1 and 2 of this report from Secretary, Leni Clubb by ordering the April 1997 and July 1997 issues of *THE ATLANTL*.

ACCURACY

The best way to achieve accuracy is to practice using 5 to 10 darts of the same material, weight, length, diameter, fletching array, and degree of kinetic flexibility. Practice from 30 meters, 25 meters, 20 meters, and 15 meters. Practice at the longer distances will greatly improve accuracy at the shorter distances.

I used natural materials: bamboo and river cane, which vary considerably in all the departments. Through various tricks, I was able to produce 5 or more good darts out of every 10 tries. These were 6 to 6.5 feet in length, with slightly varying diameters and degrees of kinetic flexibility, and weigh from 5 to 8 ounces, decked out.

At distances from the target of 15 and 20 meters, these differences do not detract from my level of accuracy. I am able to get the vast majority of them to the target with the same level of force applied to the throwing motion and the same low trajectory arc.

However at 25 and especially at 30 meters, the differences begin to show. At these longer distances, it is necessary to throw harder, and/or use greater elevation and throw harder. I think the reader will agree that accuracy is adversely effected through the use of high trajectory arcs. At issue here is the adverse effect on accuracy of throwing harder and over-compressing the dart during the throwing motion.

To get the darts to travel 30 meters with a low trajectory arc, I must throw harder than I would if I were only throwing 20 meters, but the extra force of throwing necessary to get any of these darts to travel 30 meters, whether the dart weighs 5 ounces or 8 ounces, does not differ that much from one dart to the next. The real problem is that the darts with the higher degree of kinetic flexibility react badly to any increase in force of throw. The heavier, less kinetic darts, generally are more forgiving and less sensitive.

DISTRIBUTION OF FLEXIBILITY THROUGHOUT THE LENGTH OF THE DART SHAFT, OR COMPARISON OF CANE DARTS TO MILLED LUMBER AND ALUMINUM DARTS

Bamboo and river cane darts differ from milled lumber and aluminum darts in a number of ways, but the most obvious is that the front end of a cane dart is bigger than the back end and thus the front third of a cane dart is less flexible than its rear two thirds section. Milled lumber and aluminum darts have the same diameter front and rear, and thus are just as flexible throughout their length.

Most American atlatlists use various versions of milled lumber and aluminum darts with their uniform-diameter shafts. The European darts are generally hand-made, following Stodiek's recipe. Their darts are long, with long and wide fletchings, have .5 inch or more diameters, weigh more than American darts, are as, or more flexible than American darts, but do not have the American's hyper-kinetic flexibility. The extra length of dart hanging off the front end of the atlatl has the same effect as moving the balance point of my dart to forward of center. Point-end heavy darts fly a better arc than center-balanced darts.

America's uniform-diameter darts are center balanced darts and remain so even with the heaviest of store-bought field points, which are designed for arrows, not darts, anyway. Such darts do not produce a good, flexible, but wobble-free dart capable of a low trajectory arc, and they react badly to forceful throws.

My darts, in construction, more closely resemble the European darts. The stiffer front end acts like a kite while the more flexible rear end acts like the tail of the kite. The balance point is decidedly forward of center, but the weight forward of center is incrementally distributed along the forward section of the shaft, and not piled into the point and foreshaft section alone. I think my darts have design merit and generally perform better than darts used by most American atlatlists

One American atlatl maker, Bob Berg of Thunderbird Atlatls is currently re-examining his hand milled darts in terms of length, weight distribution, diameter, and degree of kinetic flexibility. His first change, the black darts with the greater diameter (reduces the amount of flexibility) which he used at Flint Ridge Ohio, showed immediate improvement over his earlier models. In a phone call to me recently, he told me he has since experimented successfully with increasing dart length, and burnishing the exterior to stiffen the dart's adjustments in the degree of kinetic flexibility.

In my heart, I know that if American atlatlists turn their inventive attention to the design and construction of their darts, I will have a tough time doing as well against them next year as I did this year. I most certainly hope they do, too. For one reason, my darts require a lot of labor-intensive trial and error modification and remodification from dart to dart to achieve a proper forward of center balance and proper degree of kinetic flexibility. I would love to be able to buy completed darts or dart shafts that already have the balance point and degree of kinetic flexibility worked out. If I am going to beat somebody, I'd rather do it by being the guy who put the most darts into the bulls eye, and not because I had more 6s and 7s and fewer 0s than others, which is the way it happened most often last year.

Yes, a dart needs to be flexible, but to what extent and for what purpose? Propulsion alone? I don't think so! Shooting for accuracy is different than shooting for distance. Accuracy requires control. Hyper-kinetic flexibility is hard to control.

SOURCE MATERIAL

1. *Mechanics of Pre-industrial Technology*, Brian Cotterell & John Kamminga, Cambridge University Press, 1990. (ISBN 0-521-42871-8)

See chapter 7, Projectiles:

a. See pages 160 through 175 as it relates to the mechanics of the flexible spear (or dart) and atlatl. The need of the dart to be flexible in order

for the atlatl/dart system to function at all. The atlatl as an extension of the arm for leverage gain, wrist flick as the primary source of velocity, and the compression of the dart during the throwing motion as a means to store energy for additional propulsion.

b. See pages 180 through 187 as it relates to the mechanics of the bow and arrow, and the need of the arrow to be flexible enough to go around the body of the bow, but not so flexible as to adversely effect accuracy--the archer's paradox.

2. *Effects of Stone Projectile Points as a Mass Within the Atlatl and Dart Mechanical System*, William R. Perkins, *Bulletin of Primitive Technology*, Fall, 1995, No. 10:

a. See pages 69 through 72 as it relates to "dart mechanics," the dart as a flat spring capable of compression, storing spring energy to be used in the launch, and the effects of various weight/mass differences in dart points on dart flight efficiency. Note especially that one of Perkins' experiments involved adding and subtracting 1.5 grams to and from a 9 gram point on his darts. The flight characteristics changed dramatically. I too, have noticed that very little weight, only 1 to 2 grams, is needed to move a balance point 2 to 5 inches forward of center.

3. *Experiments in the Function and Performance of the Weighted Atlatl*, Anan Raymond, *World Archaeology*, Volume 18, No. 2, *Weaponry and Warfare*, pages 153 through 177:

a. See pages 156 through 159 for a pictorial essay on how to use the atlatl and dart for 20 meter distances.

b. See pages 162 and 163 for a discussion on dart dimensions, construction, and the balance point of the dart being forward of center.

c. See page 164 for a chart on dart weight, dimension, and materials used in Raymond's experiments.

Raymond's article is primarily a discussion on atlatl weights but in the course of explaining how atlatl weights function, he lets slip through some excellent tips on atlatl and dart construction. As far as atlatl weights are concerned, he concludes that the unsettled debate on whether atlatl weights produce more or less velocity is basically irrelevant for anything except distance shots and that the more practical purpose of atlatl weights is for control and stability of the throwing motion which aids accuracy--not velocity or distance.

4. *The Atlatl*, newsletter of the World Atlatl Association, Inc., October 1994, Vol. 7, No. 4, *Spear Throwing in Europe*, Ulrich Stodiek, Pages 1 through 4:

a. See page 2 concerning bamboo as the preferred dart material in prehistory where available, and stabilization of dart flight by either fletching or placing the center of gravity (dart's balance point) into the forward third of the projectile.

b. See pages 3 and 4 for experiments in dart replication using pine, birch, and hazel wood shafts of about 2.10 meters in length by 10 mm +/- wide which had a wobble in flight and the discussion of maximum effective range. Accuracy is shown to decrease dramatically at ranges greater than 20 to 27 meters. Archaeological records indicate 10 to 30 meters as normal atlatl/dart hunting distances.

Finally, there are hundreds of papers written on the subject of atlatls, darts, and atlatl weights. Unfortunately, intact or complete darts are rare in the archaeological record, and most papers about darts are limited to detailed descriptions of the few bits and pieces found in a particular "dig." The few people who have experimented with dart construction tend to experiment until they find something that works for them--myself included. My darts are different than both the European darts and those used by most American atlatlists who participated in the WAA's International Standard Accuracy Competition last year. I am most certainly not trying to say that my way of making darts is better than Stodiek's, Perkins' or

Raymond's, or anyone else's. All I am trying to do is add my bit of learning to the small pile of practical information that does exist, and to encourage others to do some experimenting too.

Readers wishing to contact Ray Strischek, may reach him at 10810 Peach Ridge Road, Athens, OH 45701.

ON TARGET



Many of you may not know that we are celebrating the tenth year anniversary of the formation of The World Atlatl Association. We were chartered in the state of Colorado on September 17, 1987 as a nonprofit organization. We have come a long way since then. We had our first "official" Board of Directors meeting in the Pike County Campground near

Woodland park, Colorado on July 7, 1988. Bill Tate was elected President, I, Leni Clubb, Vice President, and Charley Lilly, as Secretary/Treasurer. Charter membership was offered through atlatl competitions and demonstrations, as well as announcements in newsletters and at meetings of Chapters of the Colorado Archaeological Society. As a result, 75 members were signed up by June 30, 1989. Of those, 27 are still dedicated members. As of this writing, we have a membership of 381. They are located in 45 of the 50 United States, 5 Canadian Provinces, 5 European countries, and 1 member lives in Australia. (You've come a long way, baby! Ed.)

From the above, it looks as though we need to do some recruiting in the states of Alabama, Delaware, Mississippi, Nebraska, and Vermont.

The WAA wrist watches are now on hand! Be sure to indicate men's or women's styles, and your preference of black or white face. \$20.00 postage paid.

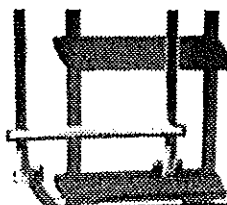
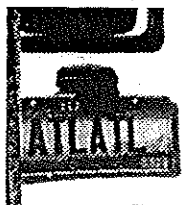
I've had a great summer of "cruising the circuit." Nevada, Utah, Wyoming, Colorado (2 contests), and Montana. One more to go this year--Cahokia mounds near St. Louis, set for October 11 and 12. Many of your Board of Directors will be there to support this first contest organized by two of our loyal throwers (Ron Mertz and Ray Madden) who have traveled many miles to participate in competitions west of the Mississippi River. There seems to be another circuit being established in the eastern states -- Michigan, Ohio, West Virginia, Pennsylvania, Illinois, etc. Check the calendars in each issue of *The Atlatl* and try to find one in your area. You will meet and throw with some of the finest people in the Universe!!!

Until next time, remember, KEEP SOME WOOD IN THE AIR!



Leni

Dean Pritchard's Motorhome sports the Idaho "ATLATL" license plate. Join the club.



**OHIO ATLATL ASSOCIATION CONTEST
RESULTS -- Aug. 30-31, 1997
By Ray Strischek**

The weather was great, warm and mostly sunny. Nice breeze, and for a change, no rain!

The Flint Ridge Memorial Museum State Park and Ohio Historical Society graciously allowed the OAA to conduct its competitions on the museum's front lawn as part of the Ohio Lithic Society's Annual Flint Knapping Festival. I wish to thank the museum staff for their generous cooperation, especially Jim Kingery, Site Manager of Flint Ridge and Mound Builders Museums, and "Hoppy" Cummons, Educational Director, Flint Ridge. I also want to thank Jack Lahr and Carl Fry of the Flint Ridge Runners and Ohio Lithic Society for making the Ohio Atlatl Association's competition a part of their organization's festivities. Top scorers in this two day event were:

**Ohio Atlatl Association Standard Accuracy
August 30 - Maximum possible 150 points**

Youth

First place	Dan Ross	Ohio	35
Second place	Michael Miller	Ohio	34
Third place	Peter Berg	NY	30

Women

First place	Bonnie Bowers	Ohio	18
Second place	Cheryl Berg	NY	6
Third place	Joyce Kish	Ohio	6

Men

First place	Ray Strischek	Ohio	115
Second place	Chuck Butorajac	Penna.	96
Third place	Richard Lyons	Indiana	96

**Ohio Atlatl Association Standard Accuracy
August 31 - Maximum possible 150 points**

Youth

First place	Nathan Warner	IN	34
Second place	Tiffany Warner	IN	23
Third Place	Rachel Molesworth	MI	19

Under 4 feet tall:

First place	Charlie Bracken	Georgia	13
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Women

First place	Joyce Kish	Ohio	26
Second place	Bonnie Bowers	Ohio	24

Men

First place	Ray Strischek	Ohio	103
Second place	Chuck Butorajac	Penna.	102
Third place	Paul Gleckl	Penna.	93

Editors comment: One truly spectacular event occurred at this OAA competition -- Ray Strischek scored a phenomenal 93-XX on August 31st WAA International Standard Accuracy contest (ISAC). This is a full 5 points higher than anyone in the world has achieved to date in this two year old contest. How does Ray feel about it? Aside from pride, I mean. See Below:

All I can say is that the day before I cast a 64 with two big "goose eggs" back to back. So, anything can happen, right? I was physically exhausted and mentally drained that second day. Enough so, that for the first time, I was completely relaxed, and not hampered by the usual "target panic syndrome" that I normally feel.

I am convinced and eagerly await to hear about the next person to beat my score, which I think can happen yet this year. I can just feel people like Jim Gilligan, Chuck Butorajac, Paul Gleckl, Richard Lyons, Gary Fogelman, Ray Madden, Charlie Brown, Jim Ray, and Pascal Chauvaux and his horde of European compadres barking at my heels.

For the 93-XX, I used a river cane dart with foreshaft and point, 7 feet long weighing 7 ounces. It had triple goose feather fletching and a flexible and weighted atlatl 22 inches long made of an oak handle and osage orange shaft with a wooden "male" spur of my own design. The grip style is basically Basketmaker II, meaning the atlatl shaft passes between my middle and index finger.

Ray Strischek

**IMPRESSIVE FINAL RESULTS FROM
EUROPE**

Pascal Chauvaux

It is time to assess! Two hundred and thirty-eight competitors of eight different nationalities took part in our thirteen contests held in five different countries. A display about spearthrowers, with photographs, maps, drawings, and ethnographical materials, was shown at each contest. Seven contests were announced by colored posters, and the public was invited everywhere by radio and TV spots. We always found reports of our meets in newspapers.

A small fee equivalent to \$4.00 U.S. was asked of each contestant for the usual expenses of invitations, targets, and certificates. Awards were distributed to the top three competitors plus the WAA Grand Champion Award to the winner. We always invited contestants to bring their spouses and children, and never asked them to be masters of their art. There were no restrictions--our championship was open to everyone!

Final Results:

1st	Pascal Chauvaux	Belgium	43.16
2nd	Laurent Bernat	France	36.39
3rd	Alain Maxence	Belgium	28.80
4th	Alain Sellekaerts	Belgium	26.56
5th	Jean Speckens	Belgium	21.44

Scores are based on the average of the three best scores of the season.

Lee Lacey Succumbs to Cancer

By Leni Clubb

Lee Lacey, 71, retired chief Design Engineer for the High Altitude Observatory, NCAR, died on October 1st at his home in Dolores, Colorado. He was born in Greenport, New York, August 13, 1926 and served in World War II in the Army Artillery in the European Theater. He graduated from the State University of New York at Oswego, NY, attended Pratt Institute in Brooklyn, NY and studied art in Paris.

From 1953-1988 he worked first as a machinist and then as design engineer of the instrument development laboratory of the High Altitude Observatory of the National Center for Atmospheric Research in Boulder, Colorado. Throughout his distinguished career, he designed instruments used for observing solar eclipses in Puke Puke, New Guinea, the Canary Islands, Bolivia, Kenya, Southern Mexico, Gaspe Peninsula in Canada, Western Australia, Java, and the Southern Philippines.

Lee helped promote the construction and use of the atlatl from 1983 through workshops and participation in many contests. He was a charter member of The World Atlatl Association, and won the Greatest Honor Award at the Colorado Archaeological Society Encampments in 1991 and again in 1995. He won many other awards in Colorado and Wyoming not only for his throwing skill, but also for "most authentic" and "most artistic" atlatls. He was interested in archaeology and contributed to research at Crow Canyon Archaeological Center, and was a long time member of the Colorado Archaeological Society. He was particularly fascinated by primitive technology including atlatl construction and throwing techniques, flint knapping and pottery replicating. One of Lee's beautifully crafted atlatl replications is on display at the Denver Museum of Natural History. He will be sorely missed by all of us who knew him.

Lorenz Bruechert (bruecher@sfu.ca) 3018 W. 7th Ave., Vancouver, BC V6K 1Z8 Canada is still looking for more bone atlatl hooks which have been used for at least 25 casts. The research project he is working on is at the Namu Site near Bella Bella where archaeologists have recovered what appear to be bone atlatl hooks.

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.

1997 WAA INTERNATIONAL STANDARD ACCURACY COMPETITION RESULTS

by Lloyd Pine

score	equip.*	name	addr.	date
93-X	P	Ray Strischek	Ohio	8/23
88	M	Jim Gilligan	Michigan	8/3
87-X	P	Pascal Chauvaux	Belgium	4/27
86	P	Steve Cabaraux	Belgium	6/14
85	P	Chris Pappas	New York	8/3
84	P	Charlie Brown	Colorado	6/21
84	P	Laurent Bernat	France	5/31
83-2X	P	Gary Fogelman	Penna.	7/19
83-X	M	Lou Becker	Michigan	7/20
82-X	P	Ray Madden	Missouri	5/17
82-X	P	Chuck Butorajac	Penna.	5/25
82	M	Jim Ray	Montana	7/19
82	P	Patrick Bidart	France	6/14
81	P	Jean Speckens	Belgium	7/5
81	P	Paul Gleckl	Penna.	8/31
81	P	Alain Maxence	Belgium	4/27
80	P	Barry Kimball	Colorado	7/26
80	P	Martin Street	Great Br.	9/7
78	P	Bernard Ginelli	France	7/5
77	M	Chris Oberg	Michigan	5/3
74-X	P	Christophe Griggo	France	7/5
74-X	M	Bob Perkins	Montana	2/15
74	P	Stephane Madelaine	France	
73	P	Alain Sellekaerts	Belgium	5/18
73	P	Russell Richard	Wyoming	4/19
72	P	Sonja Souvenir	Belgium	4/27
71	M	Quinn Pritchard	Idaho	7/19
71	P	Didier Cocchi	Belgium	4/27
70-X	M	Ron Mertz	Missouri	5/24
70-X	P	Robert Hamilton	Utah	7/12
70-X	P	Pierre Matheus	Belgium	4/13
70	P	Jurgen Junkmanns	Germany	7/5
70	P	Ken Wee	Colorado	6/21
70	M	Bob Berg	New York	7/19

*P = Primitive M = Modern

The above report is incomplete because Lloyd has not yet heard from several contest's sponsors. They are:

Jul. 27-27 Eastern Traditional Archery Rendezvous.
Aug. 9 Rocky Mountain College Rendezvous.
Aug. 9-11 Eastern Canadian Atlatl Assn.
Aug. 20-24 Great Lakes Primitive, Bois Blanc Is.
Aug. 22-24 Eastern Seaboard Atlatl Competition.

To be fair to all of the contestants, sponsors should promptly submit ISAC results to Lloyd Pine, 5858 Berkshire St., Baton Rouge, LA 70806. Also, don't forget to send write-ups on the competitions to your newsletter editor.

ATLATL EVENTS AROUND THE WORLD -- 1997-98

- 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. 27 Second Annual Northeast Oregon Open Atlatl Challenge. To be held at the Wildhorse Powwow Grounds, Umatilla Indian Reservation, Oregon. Practice 11:00 a.m. contest begins at 1:30 p.m., rain or shine. Contact Dean Pritchard (208) 343-3382.
- Sep. 28 MAA European style Tournament, Hartland, Michigan, noon. Contact Phil Klimowicz, (810) 750-1509 or Jim Gilligan (810) 231-2314.
- Oct. 4,5 Mercyhurst-Northeast College Primitive Gathering. Atlatl contest will be on Saturday the 4th. Contact Cathy Pedler (814) 824-2578.
- Oct. 11,12 Sixth Annual Croton Point Knap-In featuring a local and ISAC atlatl competition. Contact Berry Keegan (914) 592-8961.
- Oct 11,12 Missouri Atlatl Association/ Cahokia Mounds Tournament, at Cahokia Mounds near St. Louis, MO. Contact Ron Mertz, (314) 822-2514.
- Oct 25, 26 Missouri Red Willow Primitive Skills Weaponry Weekend. Rivercane blowgun, atlatl, bow & arrow construction classes. Contact Bo Brown (417) 862-5770, or Don Brink (417) 865-6379.
- 1998**
- Jan. ? Somewhere in the Alps. Contact Pascal Chauvaux.
- Apr. 15-19 Valley of Fire State Park, Nevada -- WAA Atlatl Contest and get-to-gether. Contest Saturday the 18th. Contact Leni Clubb (619) 358-7835.
- Jul 18 Annual Meeting and the Aurora Spear Sling Fling Thing. Date not firm as of this printing. Contact Bill Tate (303) 755-5591.

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

KEEP SUBMITTING YOUR REPORTS, CARTOONS, AND SUGGESTIONS TO US. YOUR EDITOR CAN NOW BE REACHED BY FAX: (303) 755-1145, OR E-MAIL: atlatl@mho.net

The Computer Corner

Hi Bill, just a note to give you my e-mail address. Now that I am computerized, I'll be putting *The Cast* out again and sending news from Michigan to *The Atlatl*. By the way, I hear Ray Strischek's atlatls have been infested by some hungry Michigan termites. Bummer!

The European contest on Bois Blanc Island was a blast. We've added a new one, Sep. 28th, in Hartland, MI. ISAC to follow.

Jim Gilligan, atlatl@tir.com

Just a short note to let you know that Red Willow Primitive Skills is holding a class in primitive weaponry, Oct. 25 and 26, 1997. This includes atlatls. (Contact them on the net at: redwillowcamp@juno.com or call Bo Brown (417) 862-5770 or Don Brink (417) 865-6379)

Ted Bailey tbailey@ic.net

At this point your editor would like to publicly thank Ted Bailey, editor of *Boomerang News*. Ted supports us by not only maintaining a web page for the atlatl and WAA, but frequently sends atlatl-related inquiries our way--several each month--that he receives on his e-mail.

Dear Bill

Please remove the Nemours, France contest from your calendar of events. They decided to cancel their competition due to some internal problems. Our European championship is now completed. Our last contest was held Sep. 7th in Germany. (Results of the European championships will be found elsewhere in this issue., Ed.)

Pascal Chauvaux Atlatl@skynet.be

The Second Annual Northeast Oregon Open Atlatl Challenge is set for September 27, 1997 at the Wildhorse Powwow Grounds. Practice session is at 11:00 a.m. and the contest is set to begin at 1:30 p.m. Fun and Prizes. Age groups are: Boys: 8 years and under, 9 - 12 years, and 12 - 16 years. Girls: 8 years and under, 9 - 12 years, and 12 - 16 years. Men: 17 years and over, and Women: 17 years and over.

Note: This contest takes place on the Umatilla Indian Reservation in eastern Oregon. I am working with these people to eventually upgrade their contest to WAA standards -- maybe next year. It should be a lot of fun to compete with Indians!

Dean Pritchard Atlatlist@aol.com

MONTANA MAMMOTH ATLATL HUNT

BLACKTAIL RANCH--JUL 19

By Troy Helmick and Leni Clubb and
Dean Pritchard

For an entry fee of \$10.00 for adults and \$5.00 for youths under 16, twenty modern day mammoth hunters vied for prizes at this ninth annual atlatl event. The weather held for the competition, but then turned ugly about two hours later.

High scorers for the day were:

Youth (under 16)

First	Alex Pritchard	Boise, ID	18
Second	Drew Owen	Billings, MT	8

Women

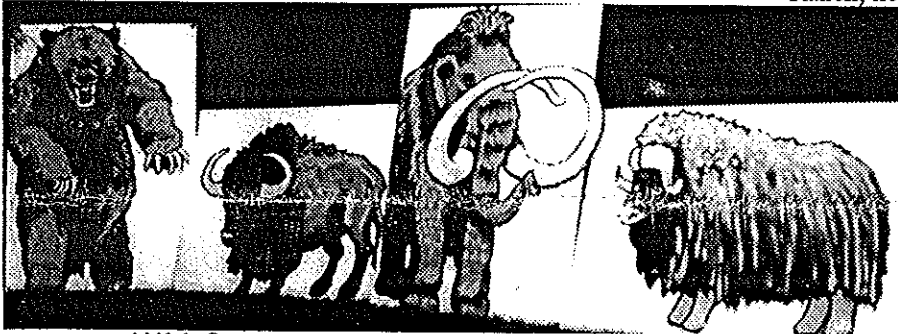
First	Judy Pritchard	Boise, ID	16
Second	Cherie Hicken	Rawlins, WY	14
Third	Wendy Stokes	Arlee, MT	11

Men

First	Jim Ray	Belt, MT	36
Second	Russell Richard	Worland, WY	32
Third	Troy Helmick	Townsend, MT	29

A "first" occurred at this event when 12-year old Alex Pritchard, right, made "the cut" to participate in the International Standard Accuracy contest (ISAC) due to her high score in the youth division. It was rewarding to see her step up to the starting line with such poise and assurance to compete with the big guys and gals.

As with last year, the contests sponsor was the Museum of the Rockies, and was held on Tag Rittel and Sandra Renner's Blacktail Ranch, north of Helena,

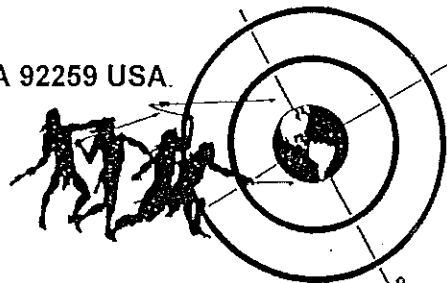


Montana.

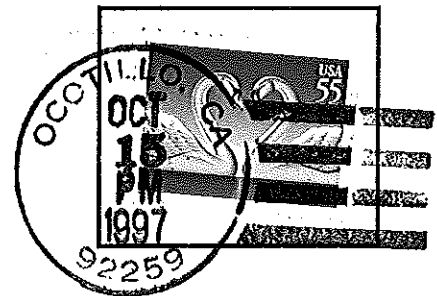
The hunt

organizers were Troy Helmick and Jim Ray. Target artist (see photo at left) was Kit Mather. Drawings were conducted, with atlatl systems donated by both Jim and Troy going to Ron Saunders and Dean Pritchard.

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



The WORLD ATLATL ASSOCIATION, Inc.



JOHN WHITTAKER (9/97)
P.O. BOX 805
GRINNELL IA 50112-0806

