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INSTINCTIVE ARCHER®

Winter, 1998

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COVER PHOTO: Mike Harmel on a never-ending ridge in North Idaho, hoping to make it back to camp before September's first winter storm. Photo by Rik Hinton.

INSTINCTIVE ARCHER® MAGAZINE

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Hugh Soar, British Editor

From the desk of the British Editor

A friend and fellow archer with whom I exchange thoughts on this and that from time to time, makes footed arrows. He makes them well. Very well. He can turn out perfect dowels, and his footings bear the closest scrutiny. My good friend uses a lathe and a router. Another, equally dedicated, also makes and foots arrows. His tools: a tenon saw, dowel planes, and a rubbing block. Each is a traditionalist; each would defend the longbow to the last drop of his blood.

Clearly there is a dilemma here. On the one hand, speed and perfection that lathe and router bring; on the other, slowness and foibles inherent in the shortcomings of simple tools.

In archery, itself an archaic if not an arcane sport, we traditionalists have chosen the simplest of weapons; but one surrounded by the trappings of modernity. In a world ruled by sophisticated technology, the question surely is, how far should we let ourselves off simplicity's hook? Are scores and success alone to be coveted? For if they are then companionship risks relegation.

We cannot duck the question. Consider; our bowstrings are of Browning's Dacron where they were once of hemp or linen. Our arrows have plastic nocks where once was horn. Our laminations are held by quick-grab resin glues, where hoof and hide took a year to set. We use "platform" tabs where plain leather once sufficed. Our strings have "kissers" fitted. Our bow limbs wear rubber bands. . . I could go on, and so could you. The issue is, how much farther along that road should we let ourselves go?

How important is it that we keep faith with the simplicities of yesterday? Are we guilty of paying no more than just lip service to the ethic of tradition, selectively traditional, replacing the old ways when they prove lengthy and inconvenient? For the temptation is there; the Devil of technology hovers in the wings! It is for each of us to loosen our compact with him and arrest this slide towards the false pretensions of modernity.

Tongue in cheek perhaps, and I foresee hackles rising, but the point is serious and the means are there. Not commercially viable, but arrows can be dowelled and footed by hand and there are few greater pleasures than loosing homely shafts into a mark, be it whitetail, stump, clout, or target. An axe needs no power supply; with care bow billets can be split and not sawn. Self-nocks strengthened by horn inserts are still a substitute for plastics. And, have it from me, fiberglass is not an essential for successful bowery.

But, hold hard. There is another side to this. Would the bowyers and fletchers of old not have thought to use a router or a band saw if opportunity were there? Of course they would; but remember this, they were craftsmen, artisans who worked in wood. They cared about their craft and the natural medium which they used. Their bows and arrows survive to show this. Deride the thought as you will, but I believe that they would have put integrity before commercial gain.

It is we today, whether dedicated bowhunter, or social archer, commercially driven professional, or amateur artisan, who must say, as perhaps they did; "so far and no further." The future of traditional archery and shooting is in our hands. By choice and instinct we are its stewards; let us keep it safe for generations yet to come.





Letters to the Editor:

A Short Bunny Tail

The sun was warm on the rim that morning, my husband and I were taking my 11-year-old son out on his first rabbit hunt. We walked amongst the sagebrush and juniper trees, nothing smells better than that! We had been hunting for well over an hour and hadn't seen one rabbit. We were heading back to the jeep, walking near the edge of the rim when my husband quietly said "rabbit down there," my son Michael, very excited but yet calm spots the cottontail, pulls back his 30 lb. Damon Howatt recurve and releases, hitting the rabbit in the chest.

I was amazed, this was his first hunt, his first time to draw down on an animal and he made an incredible, clean shot. I looked at my son and saw the excitement as he yelled "I got it," and then I saw the sadness when he watched it die. I was moved to see some sadness in my son, for it showed me that he has feelings for these wonderful animals, and hopefully respect, something that all hunters should have. My husband Kin and I praised him on his great shot and successful hunt, exclaiming that the rabbit would sure taste good on the barbecue.



Pam Edwards, Redmond, OR

I recently picked up the summer 1998 issue at my local bookstore and have been enjoying it greatly. The reprint of the Idaho Archery Stamp you used for the cover of this issue was a great choice in my opinion. It really gave the magazine sort of an old-fashion, nostalgic touch I thought. Hopefully you folks might consider using the rest of the same Idaho Archery Stamp series for future issue covers.

I have only picked up about 3 other issues of the magazine before, but have really enjoyed the entire format. Everything about this magazine is very well done. In closing, thanks for a publication that is both refreshing and long overdue. Keep up the great work! Thanks Again. Sincerely,

Kevin Curtis, Fort Wayne IN

Thank you for sending me a trial copy of your magazine. I have never read a better representation of traditional and primitive archery. Keep up the good work!

Jason George

Dear Editor,

Thank you very much for an excellent magazine. It's the only one I've found that covers traditional archery without focusing exclusively on hunting. I've especially enjoyed Hugh Soar's articles, as I am far more interested in medieval European archery than "Primitive Indian" archery. Thanks,

Ken Martin, Bellevue WA

Hi Tracy,

I really liked the last issue! The cover was great, and the articles by Red Chavez, Warren Jorgensen, Gary Sentman, Paul King, Jack Jeffers, and Bob Krout I've read more than once! Actually, I've read the entire issue several times.

One thing that sets your magazine apart from the rest is that many of the articles are not simply a description of a hunt. Those are interesting too, and I have gotten information and tips from them that will help me when I have the chance to go after bear or elk. But, every magazine has those. Articles like the ones I noted are different, and to me, reflect the essence of "traditional" archery.

Forrest Reber

Dear Rik Hinton,

Hi, I'm writing from down under, New Zealand. Recently a new fellow archer from USA has joined our local Archery club, and he showed me your GREAT magazine Instinctive Archer Summer 98. Unfortunately, here in NZ Archery magazines are very rare and I wondered if you could possibly send me a back copy please. I'd like to see what has been in the back copies and may subscribe in the future.

This new friend and I have made our own longbows and I have made several Indian arrows from a great book "Bows and Arrows of the Native Americans." Oh, and yes I've got "Instinctive Shooting II" by G. Fred Asbell. Great!

Once again, superb magazine, pity it's not available in New Zealand. Hope to hear from you soon.

Mrs. Ruby Shugg, New Zealand

Dear Sir,

Many thanks for a copy of Spring 98, great. Please, a correction by you, Sir Ed Hillary is very much alive. You quoted him as the late Sir Hillary on page 19. Keep up the great magazine. I'll try to find them in New Zealand.

Mrs. Ruby Shugg, New Zealand

Dear Mrs. Shugg,

I am pleased to hear that the "late" Sir Hillary is still very much alive. If you have an address where we can reach him, please forward it to us and we'll send him an issue. I am sure that he would get a chuckle out of our error.

Rik

Dear Sirs,

I have been reading your great magazine for a year now. The magazine is very interesting and informative so I would like to subscribe. I have especially enjoyed the articles by Red Chavez and Gary Sentman.

Jerry Keiser, Scottsdale AZ

Dear Rik,

I am writing this letter in regard to Nick Nicholson's letter in the Fall 98 issue.

I also am a member of Ted Nugent United Sportsman of America. I am a life member of the National Rifle Association, a member of Ducks Unlimited, Traditional Bowhunters of Arkansas and the Arkansas Longbow Association. T.N.U.S.A. is a great organization to be a part of. Ted Nugent is the most recognized and vocal hunter in America. He stands up for all of our rights whether it is bear hunting in Oregon, or gun issues in Washington, he is always there speaking out for all the sportsmen of America. Ted is doing a great job and we all need to applaud him for his efforts. I shoot everything from AR-15s to longbows, but I have never enjoyed shooting anything as much as a fine longbow and a beautiful set of matched wood arrows. I consider this the most challenging and most enjoyable activity I have ever tried. When I read Mr. Nicholson's statement "Thank you for attempting to destroy my heritage," I could not believe anyone would say this about your fine magazine. Out of all the publications I get yours is without a doubt the very best. I look forward to each issue of Instinctive Archer more than any other magazine I get. Keep up the good Work.

Larry W. Burford, Jr., Taylor AR

Dear Sir,

I was so pleased to read the excellent article "Try Roving- Here's how" by Errett Callahan, Ph.D, Summer 97 issue, about the history and some of the fun that can be obtained by the simple use of bow and arrows, as used by "The Finsbury Archers" in Merry England in the 15th and 16th Century. Well done to Errett for reviving the rules of this ancient sport. This, combined with Hugh Soar's article on "The Fraternity of St. George," patron St. of England and of course archers, has I hope revived the old Rovers Archery, both here in the U.K. and in your country.

How nice it was to read of some of the rounds even I have forgot, brought to life by this article once again. My very great thanks to Errett for bringing this to the attention of the archery public, I intend to organize some "Rovers" for our small club in the near future.

Best regards to you and your excellent magazine.

Mark R. Cooper, Hon Sec, Bowmen of England.

P.S. The 1628 Edition of "Ayme for Finsbury Archers" by James Partridge is now available at \$42 including shipping and handling, for those interested in history. (See below for more information)

AYME FOR FINSBURY ARCHERS - REPRINT

Ayme for Finsbury Archers 1628 AD has now been

reprinted by kind permission of the British Library Board by W.C. Books, of Whitnash, Warwickshire. It details all the 1628 Finsbury marks set about the fields of London at that time, together with the rules of play, governing the said marks.

Citizens were allowed by law to practice "rovers" as archery was called in those far off days by the King Henry VIII, at Finsbury Fields, and some 190 marks were placed there, all with their own names and measured distances in scores and yards. This allowed archers to maintain their shooting skills for recreation and military requirements. Longbow shooting was in decline due in part to the skill required by an archer, the training required and the interest in other pastimes and sports. But, in order to try to encourage its use, James Partridge published the "Ayme" as a guide to assist the general public and archers in the vicinity, to continue shooting there. There were some diehards who kept the bow and some arrows and shot regularly, but these were a select band, meeting three times each year at major events in Millfields and Finsbury fields.

The book has additional information on Sir William Wood, a renowned archer of the period, together with the history of the Honourable Artillery Company by Fred Lake. Bert Smith brings the Finsbury up to date with memoirs of recent shooting experiences. The book reprinted with many black and white photographs and woodcuts of characters and maps of the fields, brings up to date the story of the Finsbury Archers. A must for every member of the marks, roving archer, field archer or traditional archer of today and a history of early archery practices for the modern archer.

Published by W.C. Books, 75 Coppice Road, Whitnash, Royal Leamington Spa, Warwickshire. CV31 2JB. at £21.50 including postage and packing U.K. and E.C. countries. Please add £5.00 for countries outside E.C.

TED'S TIPS

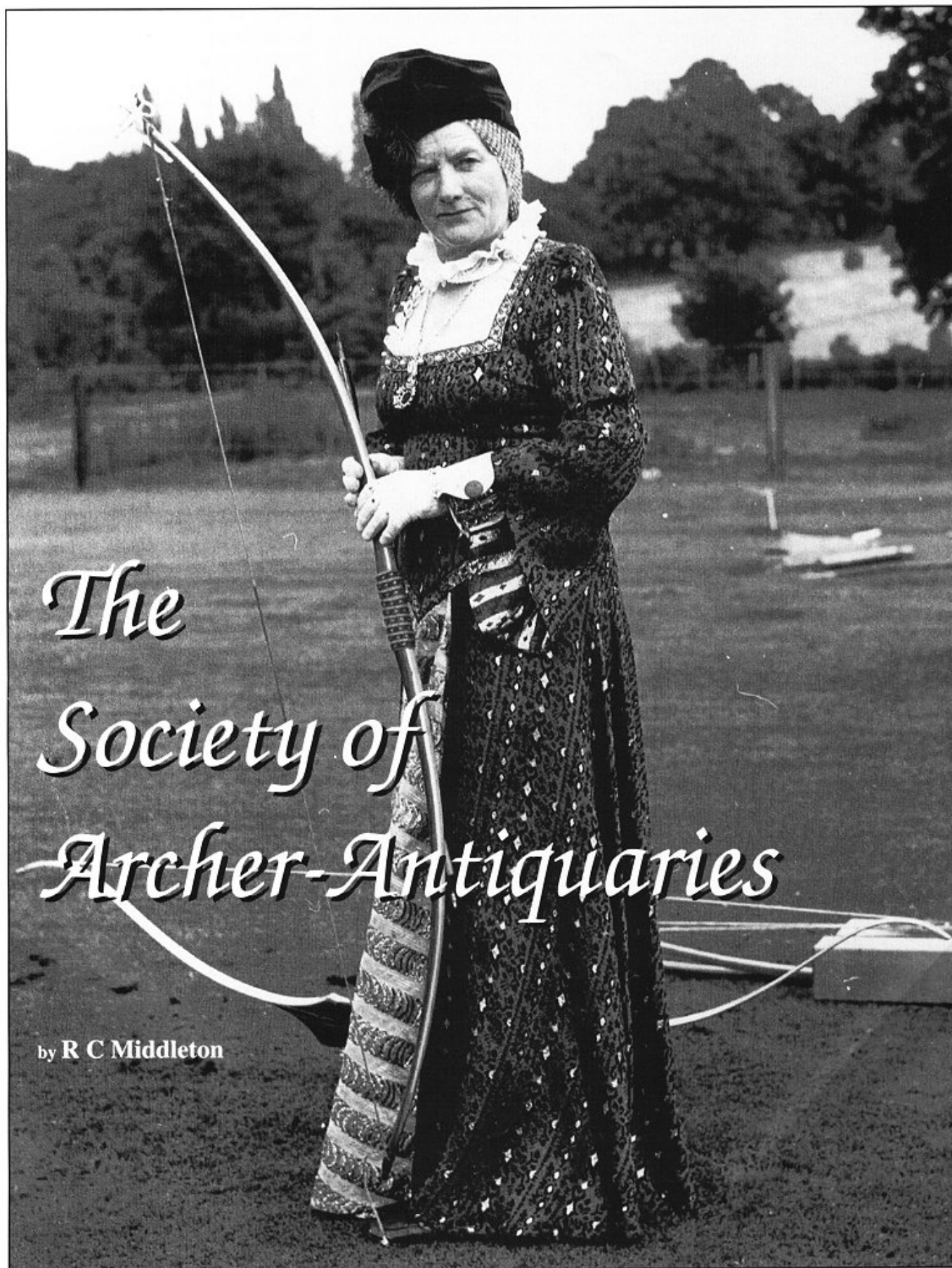


1. Try dipping the tip of kids arrows in plastic tool dip for a good durable point. Tool dip is available at most hardware and auto parts stores.

2. When bundling dozens of tapered arrows with rubber bands, make sure not to place the bands on the tapered portion of the shafts—over time it will warp the shafts.

3. When applying nocks to shafts, make sure to stand each shaft straight up (with the point down) to prevent the nock from becoming misaligned during drying.

Ted Fry is owner/proprietor of Oregon-based Raptor Archery (see ad on back cover).



I was in my garage a few weeks ago nursing my cooper's drawknife (convex blade) quietly contemplating what I could possibly do with a curved, twisted four-foot piece of laburnum (one of those "presents" from a friend) and was startled to notice that there was a mouse on my foot. This is an uncommon occurrence. Mice, when they present themselves, tend towards caution. As this one scurried off behind a dismembered grandfather clock which I fear I will never fix I became aware from another scurrying that there was a further mouse in my feathers' box, and one behind the bandsaw and two more under the bench attempting to mate. That is to say one was attempting to mate and the other was attempting not to be mated with, which meant, no doubt, that they were married.

I like mice, which are very pretty and sweet, and it was with the greatest reluctance I felt I should pay them some attention because they might get into the electrics of the car and bite a vital wire. The upper horn of my longbow snags on bits of seasoning yew slung from the rafters so I spent three days building a tiny air-powered mouse rifle. This mouse rifle has a precision sight set for three yards range and is accurate but of very low power. You don't want a ricochet in a garage. And face the fact, a .22 slug is a cannon-ball to a mouse.

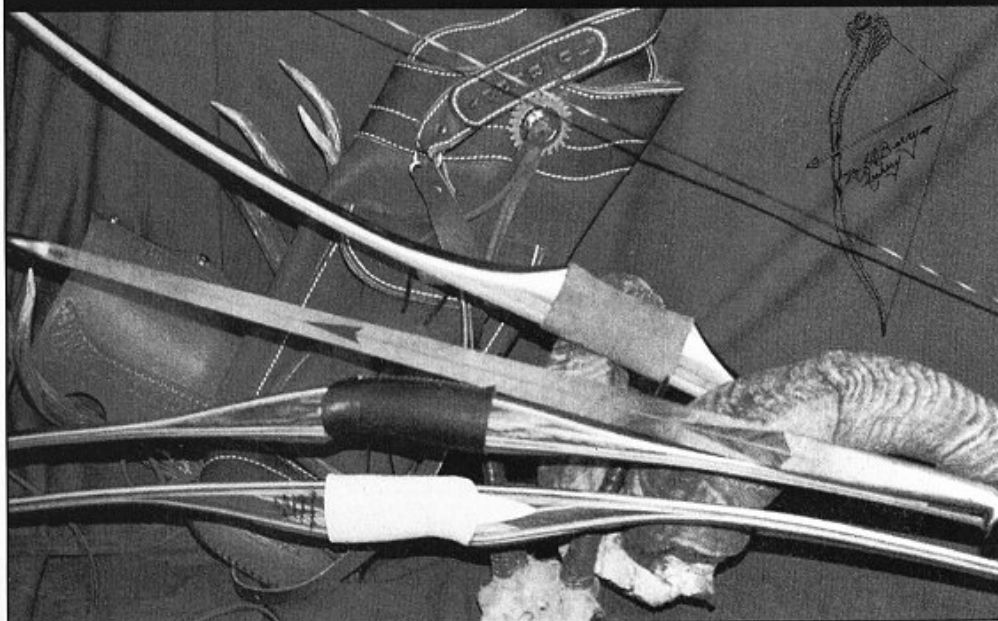
It is a fine little rifle and, because one is always curious about one's weapon's performance even if it isn't a bow, it had to have its muzzle velocity measured (326 fps) and its trajectory plotted necessitating two days' testing with my electronic chronograph. When it was perfect I sat silently on a treestand (a Workmate) in my garage for several hours awaiting the re

appearance of all these mice. The puzzle is that I didn't see a single one, even peering with a torch into the darkest corners. Keith, next door, did mention that he set a trap and caught sixteen in two days but I do not think he is as thorough as me. I do not think he checked the speed of recoil of his trap with an electronic chronograph. I think his trap is fearfully inaccurate.

Exactly why I, an archer, built a mouse rifle may be unclear at first but it is characteristic of the eclectic tastes of the Society of Archer-Antiquaries, for many members' fascination with archery overlaps with other fields both in shooting and in history. It is no more unusual to discuss my mouse-rifle with an A-A colleague than it might be, for example, to discuss Rex Harpham's plans for a Roman ballista—always a handy thing to have in the back garden—nor indeed to be invited to carry out an enthusiastic examination of a genuine Borneo blowpipe and a slightly more wary examination of its poisoned darts. Archery is at the core of our interest, but does not preclude wider exploration.

Archers' Lodge is a half-timbered pavilion looking for all the world like a modest, quiet English country house, and only the enormous expanse of neatly mown grass in front of it—too large for a garden lawn—and the inescapable line of green wooden tripods, at least one of which always bears a circular straw target, betrays the fact that this is the headquarters of the Royal Toxophilite Society. It stands on the edge of the woodlands known throughout the world as Burnham Beeches, and is only half a dozen miles north of Windsor Castle. A large building, at ground-floor level a meeting room swirls with animated talk while up the oaken staircase, at one end of a corridor, the Display Room housing the collection of the Society of Archer-Antiquaries overlooks the shooting grounds. To the layman this Collection is nothing more than a number of old bows and arrows hung on walls and screens; but the archer draws breath sharply, recognizing originals of old English longbows and arrows stamped with their makers' names—Aldred, Buchanan,

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Page 7 Photo: Mrs. Dorothea Baker dressed in Tudor fashion at a bow meeting of the Society of Archer Antiquaries.

Purle; the real thing. There are a cluster of Japanese bows, some Turkish and Indian bows, bows from the Brazilian rainforest with their fantastically long arrows and, by contrast, the tiny, glass-laminated recurve record-holding flight bow not only signed by its maker, Roy King, but with the history of its making on the lower limb in his own handwriting.

My wife, on no more evidence than the episode of the mouse rifle, occasionally hints that she feels I might be a tiny bit eccentric, but then my wife has never attended a meeting of the Society. The pleasing thing about the Archer Anties (as she heartlessly calls us) is that we are not eccentric: we are all entirely rational. At my first meeting, one hot August day a good many years ago, I was amazed to see a man in full Arab head-dress, tee-shirt, short trousers and sandals, get out of a small car in which one central rear wheel had been substituted for the two rear wheels. I would later discover that this was J R Wiggins, and far from being eccentric he calmly explained that Arab head-dress was sensible in hot weather, and that a three-wheeled car is liable for much lower road tax than a four-wheeled car. Wiggins' friendship I came later to value greatly: he is a passionate mathematician and he pulls me up when my calculations go awry, though he has the disconcerting habit of writing half of his letters in Arabic which is not a language I normally use.

The Society of Archer-Antiquaries has for its forty years had a close association with the Tox. We meet twice a year with their permission at Archers' Lodge, and share a fair proportion of our members. For many years the Archer-Antiquaries' Treasurer was the current President of the Royal Tox, Frank Steiner, former First Commoner of England, an outstanding lawyer by profession and usually seen striding energetically about the shooting field—don't be deceived by the fact that he looks as if he's just about to turn sixty, he's now well into his eighties.

The Spring meeting, in early March, is the AGM. Perhaps as few as forty members turn up, but what members! As you come down the stairs just



Mrs. Veronica Bradley (now Mrs. Veronica Soar) dressed in Edwardian fashion, with Alan Holt, dressed as a Japanese archer at a bow meeting of the Society of Archer Antiquaries.



Mr. Clive Bartlett, dressed as an English archer of the 14th century at a bow meeting of the Society of Archery Antiquaries. Clive is the author of *English Longbowmen 1330-1415*, Osprey Books.

before lunch you overhear two slim ladies discussing picture framing in a manner of which only the English are capable. "This non-reflecting glass is absolutely wonderful!" "Nonsense dear: it's garbage. Have another sherry." Who are they? One is Dorothea Baker, a name familiar to everyone on the western circuit, the other Wendy Hodkinson, Honorary Keeper of the Simon Archery Collection at Manchester University and repeatedly the British National Flight Champion.

A huddle of members hovers anxiously round three trestle tables fingering classic books on Archery. A Badminton, a first edition of Horace Ford, a signed copy of Adrian Eliot Hodkin, and a rare copy of former Archer Antiquaries Chairman E.G. Heath's brilliant book *The Grey Goose Wing*. Every meeting, Fred Lake (yes, that Fred Lake, who with Hal Wright spent twenty years putting together the Bibliography of Archery (his membership card is Number 3) spreads out his latest collection of unobtainable books for sale.

Lunch, prepared under the critical eye of Rosemary Williams, and you find yourself squeezed between Doug Elmy, the Secretary, and Peter Good, the Archivist, while opposite, with his Rolls Royce parked outside, sits world-famous composite bowyer and Mongolian expert Ed McEwen chatting with Chris Boyton about the enormous yew crossbow the latter made for the Royal Armouries. Priceless conversation flows about where in Oregon to go for decent yew (English bowyers still scour the world) and a general agreement among the bowyers that working it gives the symptoms of the common cold stimulates the remarks that beefwood is deadly to work and greenheart splinters always fester.

And at coffee, afterwards, you find Hugh Soar, who long before he became British editor of this magazine was Secretary of the British Longbow Society, calmly and effortlessly identifying the maker of a two-hundred-year-old longbow which someone has brought in and leading an impromptu seminar on the side-notched horn nocks of Scotland.

The Summer meeting, in August, is the annual shoot. I was once

told that the Archer Antics are rotten shots, and I certainly am, but to watch Newsletter editor Bob Brown, as ever dressed in his brown suit and as ever setting an unathletic example by chain-smoking, putting a wooden arrow within an inch of the centre of the gold at sixty yards with a longbow and no sights is to revise this judgment. The affable soul in a green blazer unobtrusively blowing a whistle to start the shooting, permanently beaming from behind a wonderful bandit's moustache, will be Chairman Arthur Credland, absolute world expert on the crossbow and one of the most knowledgeable historians of weaponry I have ever met, as befits his position at the head of one of the nation's maritime museums.

The British are supposed to be a nation of very reserved people, and I suppose if the Archer Antiquaries are highly eccentric, this might be true. For among their eccentricities is the fact that every single person I have bumped into has been warm and friendly and welcoming, chatting to me even when I was a completely new face and knew absolutely nobody. Mention an interest and people introduce you to someone who shares your passion. The most obscure tastes are there—not only the longbow, with dozens of well-known makers and shooters, but oriental specialists, neolithic specialists, native American specialists, even a quiet, self-effacing man who is an expert on assassins' pistol crossbows and who, you are staggered to learn, is by profession a doctor of medicine.

Yet it does have to be said that by far the majority of members of the Society have never seen Archers' Lodge in their lives, and subscribe simply to receive the Newsletter (*The Arrowhead*) and, once a year, the Journal. And when you see the Journal you see why. Far from being just British, the authors are enthusiastic researchers of the highest academic standard from every part of the world. For example, in just one recent issue (volume 39) you can read about excavations in Norway, an analysis of Asiatic composite bows, a Chinese crossbow over two thousand years old and Venetian assassins' crossbows a mere five hundred years old, a bow initiation rite from India, French carriage bows and Italian wooden bows and the export of bow-stave yew from the Swiss alps, all on top of several articles on English archery. On my shelves the collection constitutes a detailed, illustrated textbook six inches thick. And while only a percentage manage to attend any meeting, it is a privilege universal to the membership to have access to one of the finest sources of reference for anyone with a feel for the history of archery.

Membership is open to anyone: the subscription is £15 (\$25 US) and should be sent to the Honorary Secretary, Douglas Elmy, 61 Lambert Road, Bridlington, Yorks, YO16 5RD, UK. Doug is not at all eccentric, although he did once have to open the door to the postman dressed in a fifteenth century Indian suit of armour (he couldn't unstrap it quickly enough) and he also absent-mindedly answered the door to the vicar holding an eighteenth century cutlass which he happened to be cleaning. (The vicar immediately said he would call again when it wasn't inconvenient, but Doug drily observes that he never did.) The North American Representative is Norman Graham, 6302 Lovejoy Road, Perry, MI, 48872.



The photographs for this article are by member Roy C Hungerford ARPS, taken in the late 1970s.



Mrs. Veronica Bradley, with Mr. Tony Lacey. Tony made Veronica's bow and arrows.

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"Don't forget to pick up those Japanese arrowheads."

My husband has a peculiar way of saying goodbye. There I am on my way out the door to an antique show, and like they're a dozen eggs sitting in a grocery store, he tells me to pick up some Japanese heads. So what happens? Forty-five minutes later I'm on the phone describing what I have in front of me.

First booth I walked into, first display case I looked at, there under the glass were six steel heads sitting on top of long tangs or shanks. Some were in a fluted convex shape (actually a convexo-convex as they are rounded on both sides), others looked like small sword points. The poor dealer almost fell off his stool when I asked him about the Japanese heads. He said that he had carried them around for fifteen years and no one ever knew what they were.

The tangs were what caught my eye, as there is only one effective purpose of the tang, namely to fit the heads into bamboo shafts. The size was another clue. Too small for spear points, the heads had to be for arrows. Since bamboo shafting has been used not only in Japan, but also in China, Korea, India, and other parts of Asia, it was the shape of the arrowheads along with their workmanship, and the quality of the steel that pin-pointed them as Japanese. Dating well

before the fifteenth century, these heads are examples of early and common heads used in warfare.

From tip to tip, that is, from the top of the point to the bottom of the tang, the heads I have measure between a little over four inches to just under five inches. The heads themselves are small, ranging from about one and three quarters to two inches. In most cases, each tang is about one and half times as long as the steel blade. On the sword-shaped points, the tangs are considerably longer, and unlike the others which are square-nail shaped with four sharp corners, one of the sword points has a nearly rounded tang. When one looks closely, one finds that the tang is not truly round, but in fact multi-sided, though the overall appearance is rounded.

With the exception of the two sword-shaped points, these heads are similar in shape, although no two are exactly alike. Hand-forging and the individual variations of craftsmen figure in the subtle differences among them. Some have a raised center ridge that starts from the tip and runs down both the front and back of the blade. From this center ridge to the edges of the blade, some of the heads are sharply sloped, while others are more rounded.

The outer outline of the blade gives them a fluted convex shape. Starting at the tip, the blade expands quickly to

(Photo: Three Japanese togari-ya (pointed heads) from my collection.

its widest point, and then curves sharply inward to a very narrow waist. This narrowing is followed with a fluted base. The diameter of the base matches that of the bamboo shaft, although the base of the head is not rounded like the bamboo. When viewed from the bottom the base is six-sided. This hexagon comes from the two front and back faces (equally four sides), plus two side planes. These two side planes emerge from the edge of the blade. The photograph (page 14) illustrates how the side planes are formed.

I found that the balance point of the blades are generally just below the narrowest part of the blade. Such heads were often made with soft steel cores surrounded by the hard cutting edges. A nifty design, the hard edge provided the cutting quality, the soft core could withstand impact. The combination of hard and soft enabled the blades to have the strength to penetrate armor without breaking or shattering.

All things considered, the designs of these heads are quite elegant, but it marks merely the beginning of what seems like an ocean of variations and possibilities. Two studies of Japanese arrowheads, a monograph produced by Eliza Skidmore in 1904, and a larger multi-volumed series done in the 1980s by John Pflueger document for English-speaking collectors and others the classifications of Japanese heads. Both these studies provide page after page of illustrations and drawings of shapes and designs that span many centuries of development and use. Pflueger's publication amounts to five volumes and a total of twelve hundred and thirty-eight pages which document hundreds of different heads.

The arrowheads discussed in these works recall not only a history of Japanese weaponry and metallurgy, but also of Japanese culture. As in most places, the bow and arrow, and their use in hunting, warfare, and other activities, played an important role in the nation's early history. In Japan, however, with the development of emphasis on certain values of warriorship, skill in archery became associated with a certain code of conduct and set of characteristics relating to the honour and dignity with which a warrior conducted himself.



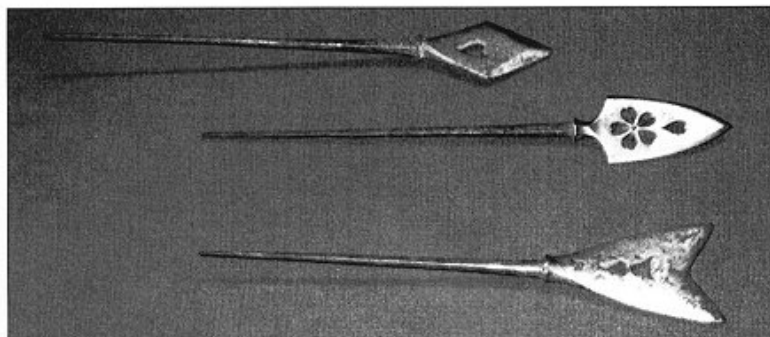
Japanese painting of the legendary Empress Jin-ko (pen & Ink reproduction).

Arrowheads, and the potential they offered as a medium of actual and symbolic meaning, were used to record these values. In other words, the heads themselves became sites where particular cultural values were inscribed, similar to the way canvases are used by oil painters. With regard to Japanese arrows, an expressive tradition developed in which inscriptions, symbols, and images were included on the arrowheads. By the sixteenth century, arrowheads were looking like fine pieces of art.

The history of this expressive tradition is tied to the way archery developed in Japan. The early development of the Japanese martial and spiritual traditions of archery was influenced by Chinese traditions. Ceremonial archery practiced by Chinese aristocracy was adopted as early as the fourth century. By the sixth century, a formal etiquette of shooting had taken root in Japan. Archery was well-established in the imperial court by the ninth century.



This photo illustrates tang length and the side planes.



(Photo, from top to bottom) Stylized yanagi-ya (willow leaf), yanagi-ya showing cherry blossom and inome (boar's eye) cutouts, and kaburaya (chief arrow) with inome cutout.

The next several centuries, leading up to the beginning of the Kamakura period (1192-1338), saw the beginnings of the formation of warrior or samurai traditions, and the association of archery with them.

The Kamakura period, and more importantly what it later came to represent, marks the consolidation of the ideal of the warrior. So labelled because during this time the capital was at Kamakura, the period was ushered in by the victory of the Minamoto (Genji) clan over the Taira (Heike) clan in the Gempei War. This success marked the coming to power of a new military class (samurai or bushi) and opened up a feudal system in which landed barons (daimyo) ruled over their own samurai retainers and vassals. A new governing structure was established at Kamakura called the bakufu and ruled by the chief military ruler of the country (shogun). Although the ruling house and its location changed after the Kamakura period (and was contended among the landed bushi clans in the civil wars of the fifteenth and sixteenth centuries) the de facto rule of feudal militarists continued well into the nineteenth century. On the cultural landscape many things happened but for our purposes here, what is important is the valorization of warrior disciplines. *Yumiya no michi* (way of the bow and arrow) or *kyuba no michi* (way of the bow and horse), in later history called *bushido* (way of the warrior), indicated primarily the ideals and values of the feudal samurai: loyalty, bravery, discipline, duty, and a fearless willingness to meet death in the discharge of these duties, and in the service of these

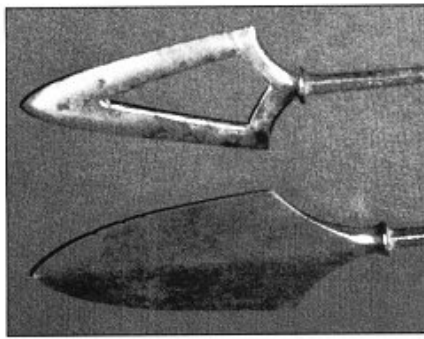
ideals and one's superiors. This life-defining code presumed a spiritual basis, derived from Japanese Shinto and Buddhist traditions. Schools of Zen Buddhism, introduced from China in the twelfth and thirteenth centuries, with their strict discipline and emphasis on absolute loyalty to a master, proved attractive to the warrior class.

As E.G. Heath, in the *Grey Goose Wing* observes, the military spirit of the Kamakura period was in contrast to the taste of earlier periods of Japanese history and although it does have antecedents in earlier times, *bushido* took on its own permanent form under the famous leader Minamoto no Yoritomo. Its ethic is "represented by the bow and the sword—symbols of inner purity—for the samurai perfected a technique for transcending death at the hour of death and regarding it objectively." By making no distinction between life and death, *bushido* eliminated the gap between them.

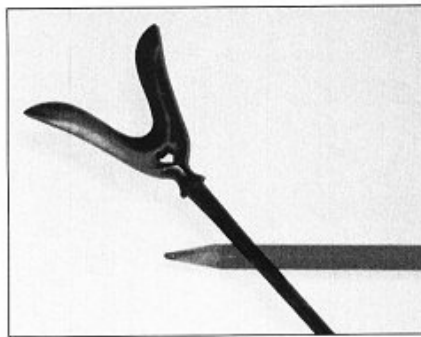
With the arrival of the Portuguese in Japan in the mid-1500s and their introduction of firearms, the gun replaced the bow as the main weapon of war, although ceremonial forms of archery continued to be practiced by an elite corp and by upper classes. Likewise, with the period of peace brought about by the transition from civil war in the sixteenth century to the centralized order that continued through the Tokugawa period (1600-1868), arrowheads assumed other functions. No longer a staple of warfare, but still a reminder of the code of honour and spiritual values tied to martial traditions, arrowheads were made more and more for the purpose of being used as presenta-

tion and votive pieces. They were given as offerings to temples, presented to officials of high standing, and used in various ways to indicate the standing of families. The larger and more elaborately chiseled arrowheads, showing the open metal work characteristic of many of the later Japanese heads, derive from this period. In general, arrowheads from the sixteenth century onwards, became more expressive, even excessive, in comparison with the functional qualities of many of the earlier heads.

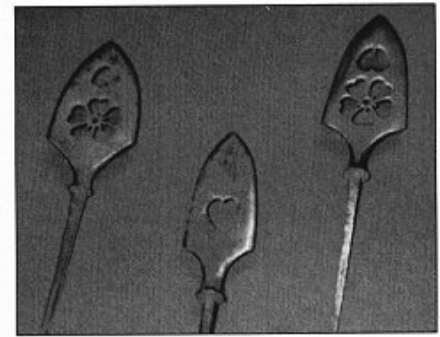
With names such as crab's claw, mackerel's tail, sparrow's beak, hawk's feather, camellia leaf, new bamboo shoot, ornamental bamboo leaf, and so on, many of the heads are patterned after shapes occurring in the natural world. Other heads feature an increasing amount of open metal work and incorporate clan crests, symbols, and writing. Exquisite workmanship figures in these heads; the images, designs, names, prayers and inscriptions appear to float in mid-air in the center of the blades. Many of the celebrated swordmakers of the sixteenth and seventeenth centuries, master swordsmiths such as Yamashiro Umetada Myoju who lived between 1558 and 1631/32, produced exceptional heads that were used as presentation and votive pieces. Signed by the artists, some are inlaid with gold, silver, or shakudo, a gold-bearing silver alloy which patinates black on fields of copper and brass. The method of flat inlay of shakudo was developed by Umetada. Like miniature chiseled metal sculptures, these heads and the scenes they narrate show minute detail. One set of his *yano-ne* (arrowheads) included in



Two styles of large yanagi-ya (willow leaf) broadheads.



Karimata (forked head) with inome (boar's eye motif).



Three yanagi-ya heads with cherry blossom and boar's eye cutouts.

George Stone's classic glossary of arms and armory shows an arrowhead with incised images of a pine tree, bamboo, a crane and a tortoise set in a landscape inlaid with gold on one head. These are emblems of prosperity and longevity, as the crane is said to live a hundred years, the tortoise, a thousand. In another, the artist has recreated a mythic event.

The sheer number of designs is arresting, but amidst this proliferation of patterns and artistry is a set of basic classifications of shapes. These refer to the outline of the shape of the arrowhead, and include the barbed form (*watakusi*), the chisel shape (*tagane-ya*), forked-shape (*karimata*), pointed head (*togari*), triple-pointed (*jumonji-yari*), the blunt training head, as well as the willow leaf (*yanagi-ya*). In addition, there are also whistling heads (*kaburi-ya*). Numerous sub-classifications are derived from these main categories, hence the proliferation of names and shapes.

Among all of the variation, a shape that often attracts a lot of attention is the *karimata*. With its two prongs, the *karimata* resembles the V-shaped formation of an overhead flock of geese, and indeed the name *karimata* recalls wild geese in flight. Some *karimata* heads are more rounded, with more sloping inner and outer edges; others are much more angular in shape. The size also varies, from an inch or so between the two points to up to six and half or seven inches. I've seen one very large *karimata* called the cat's back, with its name playing on two images. Its shape resembled the arched back of a cat, while the depth of the space between the two

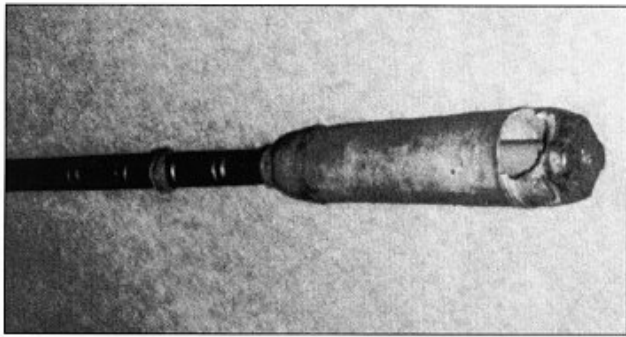
prongs hinted that it was large enough for a cat to pass through.

The *karimata* heads had several purposes, both practical and ceremonial. On all *karimatas* the inner edge of the blade was sharpened, though some had the outer edge sharpened as well, resulting in a blade that could cut or tear in different ways. On the battlefield that large cutting edge could do considerable damage. The points and cutting planes of some *karimata* blades could pierce at different angles, while the sharp inner edge could sever the bow string of an opponent. Indeed, often these blades were used to cut ropes and riggings or shred sails during warfare at sea. However, like other of the Japanese heads, especially those made from the sixteenth century onwards, *karimata* heads were offered to temples or as gifts to others.

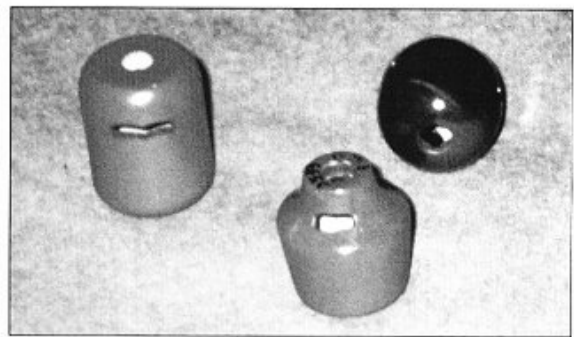
A common motif in Japanese heads is what looks like a heart-shaped opening incised in the steel blade. The cut-out is often made closer to the base of the blade, though I have seen examples where the cut-out is positioned near the middle and also where the open form takes up a good portion of the center of the head. Though resembling an open heart, the form is actually that of the *inome*, the wild boar's eye. According to Skidmore, the wild boar charges straight ahead, with fearlessness. Its eye never turns, never blinks, the boar fights without turning away. As such, the *inome* motif is emblematic of the warrior, and its presence on many arrowheads—both those used in warfare and those used as presentation and votive pieces—not only recalled but also reminded one of these qualities.

Another common motif cut into the heads were stylized cherry blossom designs, either in a single five-petal design or a double blossom, with petals from one blossom running into those of the second. Other open-work designs include family crests (called *mon*), long Buddhist prayers, often in classical Chinese, family names, stylized symbols of prosperity and invocations to different deities. Different deities important in Japanese martial traditions figure in these invocations and prayers. On the heads one finds prayers, invocations, images and symbolic representations of Raijin, associated with the thunders; Bishamonten, a deity of Chinese origin often portrayed holding a shrine or pagoda in one hand, and a spear in the other (implying a spiritual base of martial traditions); Marishiten; Hachiman, and others. Hachiman, the clan or tutelary deity of the Minamotos, has a long history that associates him with military victories. He is the deified son of the legendary empress Jin-ko, who in the 8th century *Kojiki* is celebrated for her invasion and subjugation of Korea in the year 200. In Japanese prints and scroll paintings Jin-ko is usually depicted holding a bow.

Often a pair of matched arrows were made for presentation purposes. The matching was asymmetrical in the sense that two different heads were paired. One was a *karimata*, the other the head known as the *kaburaya*. The outer outline of the *kaburaya* appears stylized either as a heart shape or a cherry blossom petal, with a dip in the top of the head.



Whistling head mounted on a bamboo arrow, courtesy of Dr. Charles Grayson's collection, Museum of Anthropology, University of Missouri, Columbia Missouri.



Lacquered whistling heads, courtesy of Dr. Charles Grayson's collection, Museum of Anthropology, University of Missouri, Columbia Missouri.

In places, the *kaburaya* is described as a large turnip-shaped head, which indicated that the head sometimes included a whistling arrowhead. Such a whistling head—the turnip-shaped head—was placed just below the steel head. Prints, sculpture and scroll paintings show heads like this. For example, sculptures of a series of Buddhist figures which serve as guardians of forms of knowledge show several holding a matched pair of arrows, one a *karimata*, the other a *kaburaya* with a whistling head.

In earlier periods of warfare, a matched pair of *karimata* and *kaburaya* was carried by horseback samurai, generals, and daimos as *wuwagashi* (upper arrows), kept apart from the other twenty-five arrows in the quiver. Those other arrows would be subject to regular use in warfare, while the *wuwagashi* were rarely discharged, being reserved for extraordinary circumstances.

Literary works such as the 13th century *Tale of the Heike* make references to such occasions. Set at the time of the Gempei war, and describing the saga of the decline of the Taira or Heike clan and the subsequent rise of the Minamotos or Genji in the latter part of the twelfth century, the work is full of information illustrating the samurai code of conduct and the use of the bow. It also provides detailed descriptions, down to the colours, shapes and sizes, of bows, arrows, fletching material, quivers, and other archery paraphernalia and armor.

One incident in which the chief arrow or *kaburaya* was released occurs during one of the last battles between the Tairas and the Minamotos on March 21st 1185. The setting is a sea battle in which a fan emblazoned with the Emperor's symbol, a solar disc, is displayed on one of the Taira ships.

In the story, the fan recalls when the Emperor Takakura in 1180 went to Miyajima and presented the temple with 30 fans showing his royal insignia. Later when his son, Antoku Tenno, was taken there by the Taira, the priest of the temple gave him one of the fans, assuring him that the disc would cause the arrows of the enemy to recoil on them. Now during this sea battle, the fan was affixed to a staff on one of the remaining ships of the Taira, and a lady of the court dared a Minamoto to shoot at it. At the command of the Minamoto general Yoshitsune, a skilled horseback archer named Nasu no Yoichi rode into the sea and using a *kaburaya* brought down the fan. That event, as much as the actual victory in the battle, signalled a turning point in the war and the victory of the Minamotos.

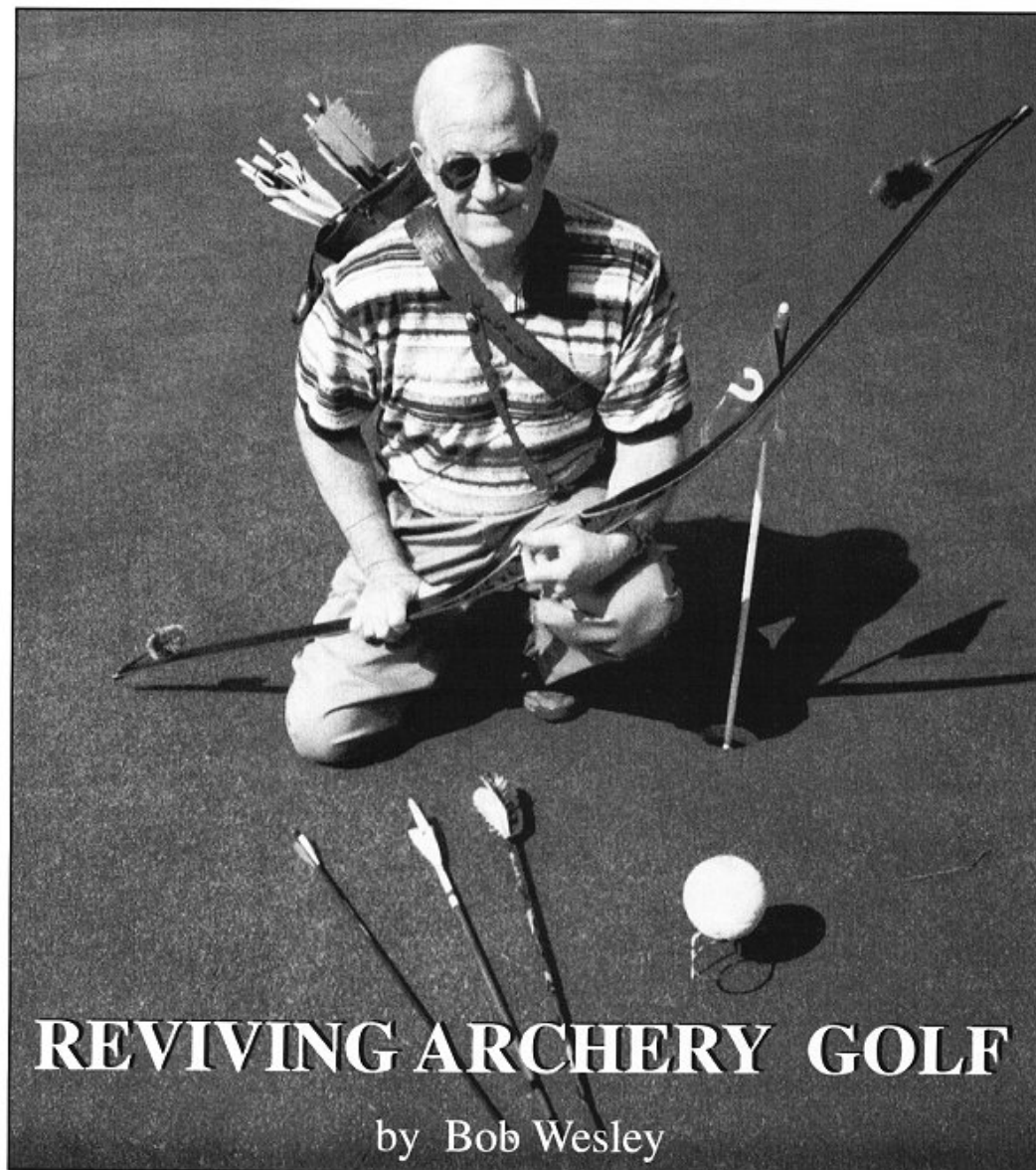
The text, available in an English translation by Hiroshi Kitagawa and Bruce T. Tsuchida, provides a vivid description of Nasu no Yoichi. Twenty years old, he wore a deep blue battle robe, decorated with red and gold brocade on the collar and the edges of the sleeves. On top of the robe he wore armor laced with light green silk cords. The arrows in his quiver, which could be seen fanned out above his head, included

the black and white feathered arrows that remained from that day's battle and what the text describes as "a turnip-headed arrow fashioned from a stag horn and fletched with feathers from a hawk's wing."

Upon order of Yoshitsune, Nasu no Yoichi rode into the waters, and after a prayer to the Hachiman, to the gods of his native region and to another deity, he drew the turnip-shaped head from his quiver. After he released it, the air reverberated with its whirring sound, the tell-tale indication of a whistling arrow. His arrow was true and the fan fell into the sea.

Japanese arrowheads, the images, prayers and symbols they carry, and the stories that they tell recall narratives such as this. A long cultural tradition is condensed and presented in the shape of the arrowheads and in the motifs and designs expressed by them. The metal faces of the arrowheads provided the celebrated as well as unknown craftsmen and artists with a potent site upon which to inscribe meaning.





Richard Walsh, Head Golf Pro at Timberton Golf Club, exhibited perfect form as he drove his ball some 270 yards down the center of the fairway directly in line with the flag on hole number ten. I looked for excessive movement of the tops of the pine trees down the fairway to determine wind direction. Then raising my longbow for maximum elevation I released my flight arrow down the fairway. The arc of the arrow was beautiful to watch as it climbed to peak elevation to the left side of the fairway lane and then slowly floated over into the center to land about 150 yards from the flag at hole number ten. Golfer Russ Pitts took his turn to drive his ball down the fairway to settle roughly 160 yards from the flag.

Russ carefully selected an iron and hit his second shot approximately thirty feet from the hole. Richard's second shot settled near Russ's while My second arrow landed twenty feet from the flag. Russ's putt lipped the hole and went three feet beyond. My third arrow stuck the four-inch rubber

ball which had been placed on a two-inch stand exactly two feet to the right of the flag.

Hole eleven, a 407-yard dog leg to the left ended with a tie of three to three between myself and Russ. Richard cut his second ball off the fairway into the rough. He elected to withdraw. It was now up to Russ to defend golfing's honor against the bow.

Archery Golf hit its hey day in the forties and early fifties in the glory days of the great Howard Hill who excelled to the tune of six national titles. It permits using only three kinds of arrows: a long-distance flight arrow (light in weight with small feathers), an approach arrow (for mid range shooting), and a putt arrow (a flu-flu fletched arrow with a blunt point). A four-inch rubber ball is placed on a two-inch stand roughly two feet to the right of the hole as the object or target of the archer.

The archer has a decided edge in putting and avoiding traps, allowing the golfer a six-stroke advantage for every eighteen holes. This handicap can be adjusted according to the

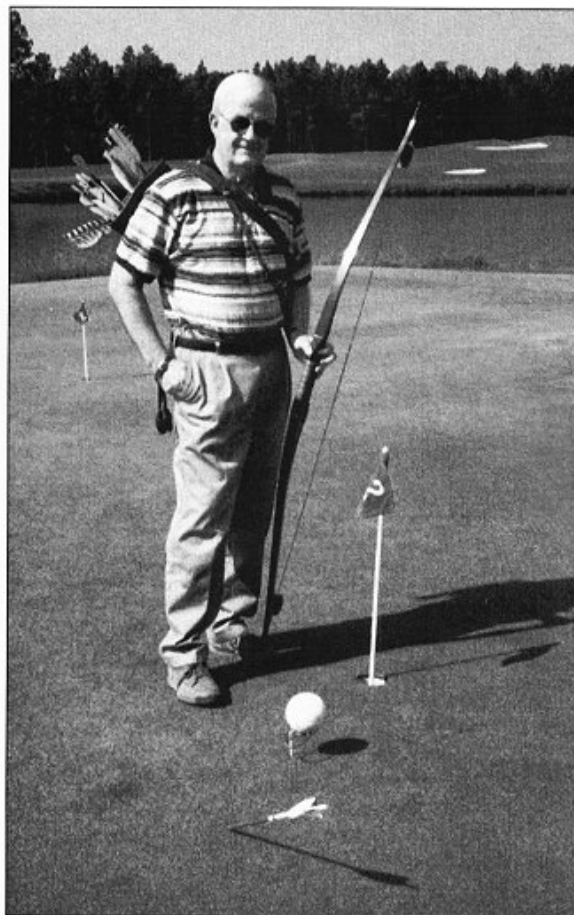
skill of the participants.

This is a delightful application of the wonderful sports of archery and golf. It promotes good exercise, socialization, and enjoyment of the outdoors. Good sportsmanship should prevail amidst good-natured kidding. The awe resulting from seeing a well-shot arrow stream down a long green fairway over water or sand traps to suddenly appear in a vertical position next to the flag is difficult to describe.

The Timberton Golf Club located just south of Hattiesburg, Mississippi in the midst of a lovely pine forest, was voted 4-Star by Golf Digest in 1994, 1995, 1996, and 1997. The beauty of its rolling fairways is enhanced by tall pine trees on each side to be interrupted by crystal clear waterways and white sand traps. The greens are close, fast, and manicured to perfection. The club house at Timberton features modern open style architecture with large full length windows looking out over the lovely green countryside.

As the match moved on, Russ and I tied on holes 11, 14, and 18. Russ was winner on hole 16 by two. I won holes 10, 12, 13 and 17 by one stroke-shot on each.

Outstanding play to be remembered: Russ's 25 foot putt on hole 11 for



Bob's second shot with his approach arrow lands within the "gimme" distance of the target ball. No putt shot is required if the archer can reach the ball from a standing position with an arrow. The "gimme" does register one stroke, however.

a birdie and my three-shot eagle on the 540-yard hole number 15. The three-stroke handicap favoring the golfer for nine holes gave Russ a 35 while I carded a 34 to win by one.

The overall day could only be described as delightful. Superb sportsmanship was displayed as each contestant did his best while cheering his opponent on. Archery-Golf combines two wonderful sports and brings together two sporting groups that would not otherwise meet.

This sport provides a special niche for the traditional longbow or recurve, which should be used without sight devices, stabilizers, or release aids. In determining the elevation for distance, the archer should use his innate instinct just as the golfer employs no sighting devices. It is of utmost importance to keep the competition simple, fair, and fun.

Discretion should be used in placing the archers on the golf course so that the other golfers do not feel any danger of being hit by an arrow. Usually a three-green buffer space is allowed between the archer and other playing groups to allay any feelings of danger. In recorded history there is no record of any accident occurring from archery-golf play. We want to maintain this excellent record. Whenever possible, select a day during the week for play when golfing activity is slow. If there seems to be anxiety concerning safety, archers can always use rubber blunt tips on all arrows.

It is also great sport to match an archer-golfer team against another archer-golfer team. A handicap is not required with this kind of match up. Adding an archery-golf team to a benefit match provides a touch of something different which seems to be enjoyed by all. Perhaps deep within all sportsmen there is a touch of the spirit of the patron saint Robin Hood.

I'll see you on the Greens, longbow in hand, for another quest in reviving the sport of Archery-Golf.



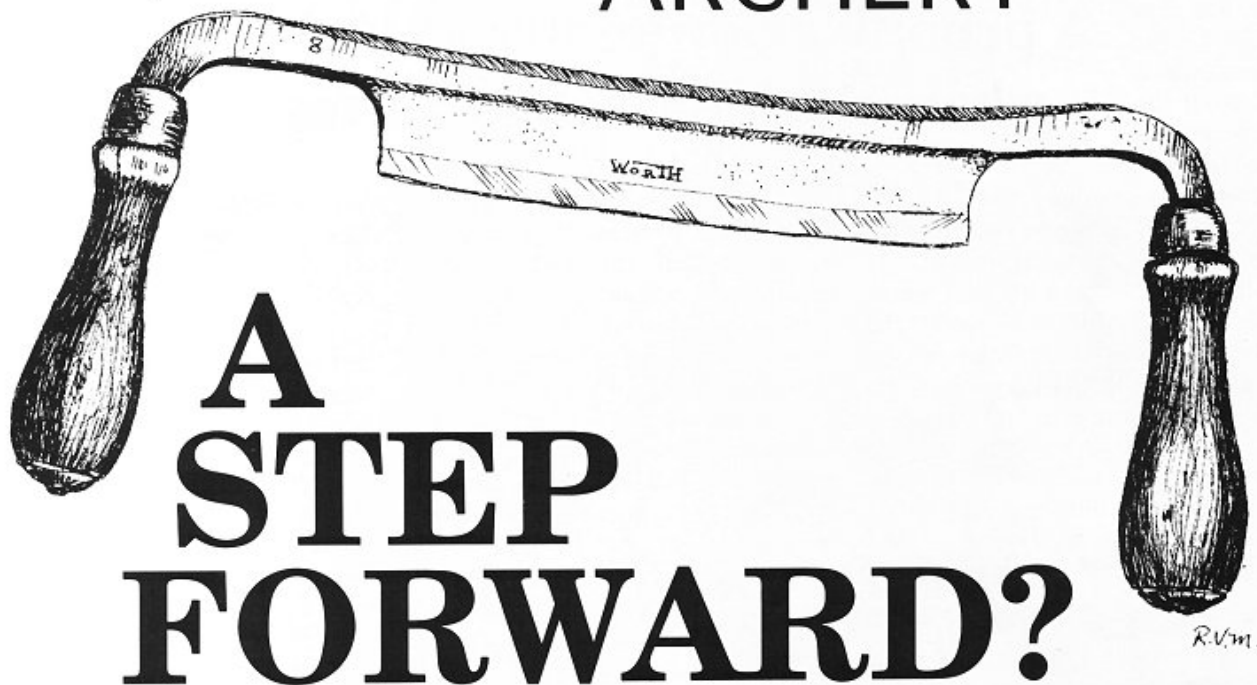
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PRIMITIVE ARCHERY



A STEP FORWARD?

by John Vaughn

I should have caught myself as soon as I flashed my credit card and said I wanted to buy the compound bow. I won't say I was on my way down the primrose path, but I hadn't started out with the idea of going the way of high-tech bows and arrows.

Archery had captured my attention long before, and I had enjoyed the sport on what few occasions I'd had to dabble in it. Finally, after years of chasing rabbits and deer with firearms, I decided to take the plunge, which was why I was buying a bow in a gun store that happened to offer a limited stock of bowhunting gear on the side.

Once I committed myself to the pulley bow, the salesman, who was actually quite helpful, wanted to know if I needed a bowstring release too—which was a surprise, since I'd thought only my guns came with a trigger. He said I should consider adding a sight to my bow, so I bought one of those—a multicolored fiber-optic sight, no less.

As the cash register rang and rang again, I seemed to be narrowing the distinction between my new bow and the bolt-action and semi-automatic rifles that stood in a homogeneous formation on every wall in the store. I asked myself if archery really was, or needed to be, this complicated.

I may be a little resistant to emerging technology—things like personal computers, email, and the World Wide Web—but I get a nostalgic feeling of admiration for those who master yesterday's skills, absent modern contrivances. I marvel at archers who can make arrows fly true, and consistently so, on instinct and without the help of a system of pulleys designed to ease the draw weight. Traditional archery is poetry in motion, a higher art form.

I settled on the compound only after the dealer told me he didn't have in stock the long bow I originally wanted, that he couldn't get it on order anytime soon, and that, in any case, the compound would shoot a lot faster for the same price.

In hindsight, I should have stuck to my guns—figuratively speaking. The compound I bought has been relegated to the closet in favor of a long bow I subsequently found in a catalog and bought. To some archers' way of thinking, I've devolved or regressed in my preference for no-frills traditional bows, but I believe I've risen to a higher level, advancing in inverse proportion to the high technology I shun.

Now I'm trying to take the progression a step farther, to primitive archery. As I study and try to perfect techniques

for making one's own bows, strings, and arrows from scratch, I've also picked up the vernacular of yesterday's craft—terminology like "stave," "sinew-backed," "tillering," and "growth rings."

My first selfbow was crudely and inexpertly scraped from a tamarisk, one of the few trees that grow in any kind of abundance in the desert surrounding my hometown. I

tied onto it a bowstring I made by braiding 15 strands of waxed cotton string. Badly depleted by string follow, this combination launched my first homemade arrow all of 15 or 20 yards. The second shot went a little farther and the third farther still. As I drew back the bow for another shot, my bow snapped.

A second bow, cut from a northern Arizona stand of aspen, broke in half during the tillering process. Then after spending hours, then days, and

finally weeks crafting my third bow from a plank of lumberyard red oak, I snapped it in two the first time I tried to string it. The jury's still out on my two current efforts, bows from oleander staves, but I think they're going to fly—the arrows I shoot from these bows, that is.

A primitive bowhunter doesn't start where the bow factory leaves off.

So how is it I could be progressing from a compound, to a fiberglass-backed long bow that doesn't shoot as fast as the compound, to several variations of selfbows which couldn't stay intact, much less hurl an arrow the length of my backyard?

Each setback is a small step forward in that I learn a lesson I'll apply to the next bow I attempt. Sooner or later, knowledge accumulated from experience and bowyers' books will enable me to build a bow that shoots as well as my fiberglass long bow.

My homemade bow will bring me closer to being a complete archer than any compound, even if the compound can outperform a traditional bow. My bow-making exercises, the failures as well as the successful ones, will have taught me persistence, problem-solving, and self-reliance, the same qualities archers needed to have before the first bow shop appeared on the scene. The worldly archer is not just the one who's taken game in different states or continents, but the one who's gone back in time to master bygone skills. A primitive bowhunter doesn't start where the bow factory leaves off. He or she has taken every step in the process of a suc-

cessful hunt, from cutting and splitting the log that will become the bow, to taking game without the aid of a bowsight. He or she is a complete archer, and thus practicing archery and bow hunting at a higher level.

An archery acquaintance once told me she had hung up her compound for good, in favor of a recurve. What she couldn't

have predicted, nor could I, was that my long bow would see progressively less time on the range as I spent my free time trying to build a bow to match it.

I'm a ways off from realizing that goal, but recent developments have encouraged me. After sawing two oleander staves from my father-in-law's bushes, I debarked one, let it dry out, then scraped it. It measures 52 inches in length and one-and-a-half inches in diameter at the the handle, tapering down to three-quarters of an inch at the nock. Lacking any other suitable material in a pinch, I back it with fiberglass-reinforced freight packing tape (a technique I learned In *The Traditional Bowyers Bible*).

Then I fashioned a string from stands of dental floss and went out in the backyard for what I hoped would not be another exercise in frustration. To my chagrin, the arrow not only sailed the length of my backyard but almost cleared the 10-foot brick wall separating me from my neighbor's property.

On my bathroom scale, my bow has a draw weight of 35 pounds, not enough to anchor a deer but nonetheless a leap forward that has inspired me to redouble by efforts. I'll go back to my bowyers' books, back to my tillering board with the second, larger oleander stave. This time, maybe I'll be a purist and back the bow with sinew, the genuine article.

And I'll go back to searching for other bowyer's tips on the web, where I learned how to braid a bowstring in the first place. (The Internet—there are some kinds of high-tech not even a primitive archer can avoid.)



Juniper Mtn. Longbows

One Man One bow at a Time

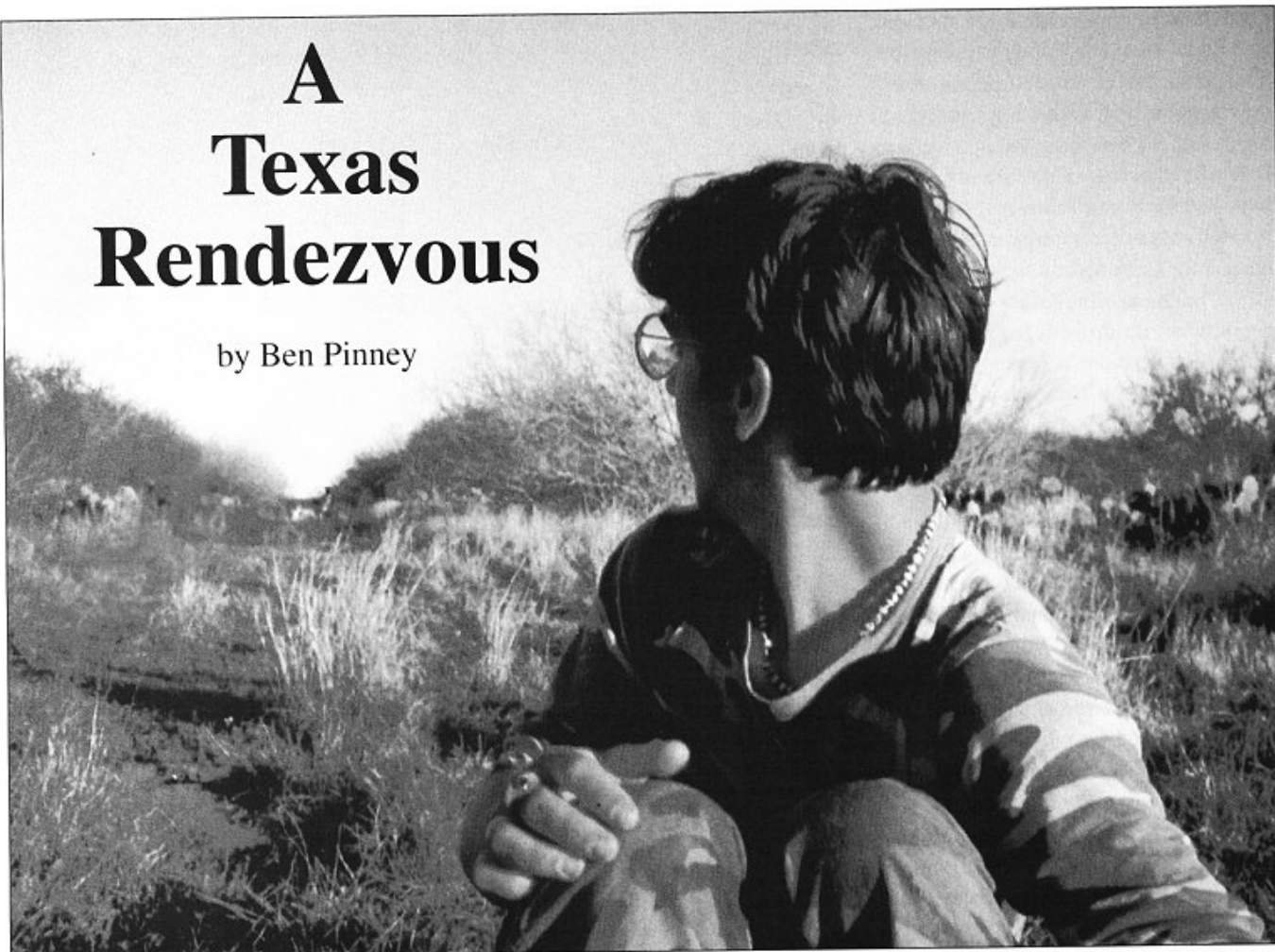
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A Texas Rendezvous

by Ben Pinney



I opened my eyes to the predawn darkness of southern Texas in my mummy sleeping bag. It was quite chilly, probably around 50 degrees Fahrenheit. While hustling out of my sleeping bag to get dressed, I could tell I wasn't the only one anxious to hunt hogs and javelina. My tent buddy, Mike Misch, was on his feet getting ready.

Once we were camouflaged, Mike and I unzipped the tent to a cool, south Texas morning. Everyone was moving around camp getting ready for the day's hunt. Some were taking a few practice shots; others were fitting arrows into their quivers; still others were discussing the upcoming hunt over a hot cup of coffee. After a quick breakfast with my hunting buddies, Rick Still and his son Greg, we set off for an adventure hunting hogs and javelina.

A year ago, my family purchased a computer which gave us access to the Internet. Right away I found the Stickbow, a website for traditional archers which is a part of a larger website for bowhunters called The Bowsite. Both websites had chat rooms, and I began conversing with other bowhunters from around the country. I got to know a number of guys very well, and before I knew it, I'd made plans to

meet them in Texas and hunt on the famed King Ranch for feral hogs and javelina. Rick Still has been booking group hog and javelina hunts with outfitter Jeff Massie for several years now and originally suggested the idea. Everyone liked it, and that's how the 1998 Hog and Javelina Shootout came about.

I worked hard the previous summer picking strawberries and mowing lawns to earn enough money for the hunt, and on Thursday, February 19 it finally paid off. I boarded a plane in Green Bay, Wisconsin and flew to Corpus Christi, Texas. There I met Rick and Cory Anderson, George Wiedener, and Jeff Vogel. We all loaded our gear into Jeff's rented van and headed for our final destination: the King Ranch.

Upon arriving at our campsite deep in the wild expanses of the ranch, I found that Mike already had our tent set up, so I stowed my gear away and assembled my recurve. Then, I went around putting faces to all the names I had been communicating with via the Internet for the past year. Some guys were exactly the way I imagined. Others were complete surprises. But they were all the nicest people anyone could

Photo: Cory Anderson observing a deer as we watch the Senderos for feral hogs and javelina.

ask for in a hunting camp. We spent the remainder of the evening enjoying our new friendships and talking about bowhunting. It was just like we were in the Internet chat room except we now had some visual aid. Nobody would have been able to tell that just hours ago, most everyone in camp had "shook hands" for the first time.

The south Texas air had just begun to warm up with the rising of the sun which sent down rays sparkling on the morning dew. Not a cloud decorated the azure-stained atmosphere above. Rick, Greg, and I studied hog and javelina tracks imprinted in the mud along a fence line. It had rained the previous evening and all of the tracks were fresh. After a year of counting down the days, we were finally hunting hogs and javelina.

Rick took off into the brush while Greg and I still-hunted down one of many dirt roads, what the locals call "senderos." The sendero was wet with about 10 inches of standing water covering it. However, as we worked our way further along, we found a high spot where it made for easy sneaking. When we reached the opposite end of the dry rise, Greg and I decided to split up. I still-hunted into the brush, and he opted to stay on the sendero.

When 11 a.m. rolled around, I hadn't seen a thing and was on my way back to the sendero when two javelina peeped by me about fifteen yards to my right. The small wild pigs scurried to the sendero just ahead and began feeding on some corn that was placed the night before. I was dumbfounded. I had just still-hunted this entire area without seeing a single animal. Now there were two javelina right in front of me. I thought it best not to stand around and wonder where they came from. The stalk was on.

Keeping the wind to my advantage and staying in the shadows, I closed the distance to thirteen yards. Lucky for them, there was a bush in the way. I didn't want to risk anything, so I waited until they moved. Unfortunately they

began walking away from me and meandered beyond a huge patch of prickly pear cactus. Using that for cover, I managed to sneak within twenty yards. When I peered over the cactus, they were standing broadside in a clearing. I chose not to draw my bow, however. It just didn't feel right. With little cover between us, I could only watch as they proceeded to parts unknown.

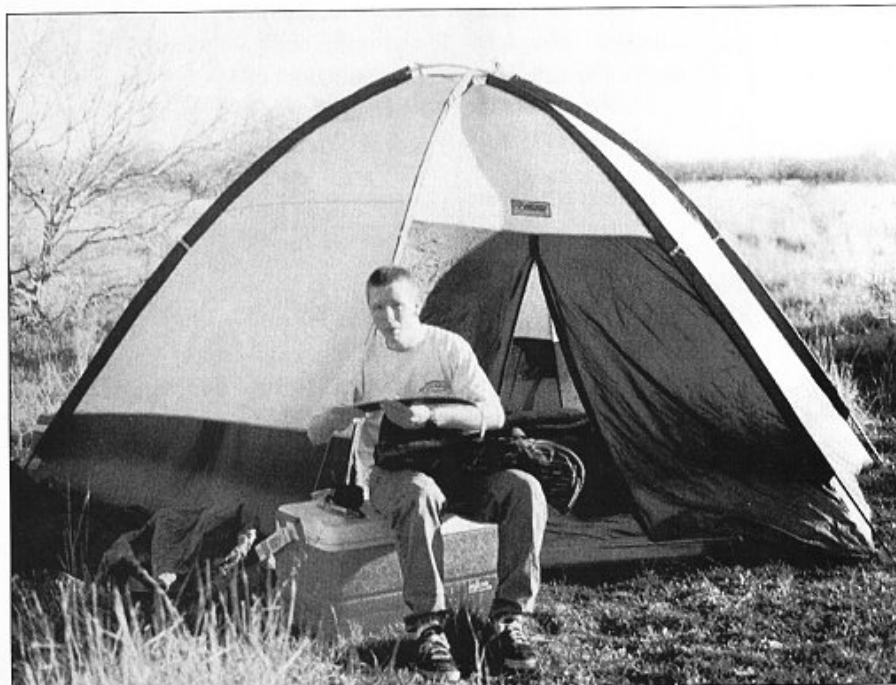
I arrived back at the truck to learn that both Rick and Greg had missed shots at javelina. What an exciting morning. All three of us had shot opportunities on javelina. What more could we ask for?

After Lunch, we managed to get Rick's truck stuck in the mud while driving down a sendero. It seemed hopeless for the three of us to free it, so we decided to walk to a different area for the evening's hunt. When the sun finally set, none of us saw anything. We ended up walking a mile back to camp in the darkness. My mud-laden boots got heavier with each step, and I was starting to ache all over. Then it hit me, and I opened my eyes to my surroundings: the clear sky twinkled with beautiful stars while the occasional coyote howled in the distance.

Orion the great stellar archer stood magnificently above us, and I realized this is what it's all about. I forgot about the ache in my legs and began picking my feet up a little higher. By the time we got back to camp, I couldn't have been in better spirits. Luther, our cook, had a delicious Mexican dish prepared for us, and there were many stories told of the day's events. Mike hit a hog and had lost the trail. He was going back the next day to search the area. Matt Napper missed a javelina; Jeff Dodd passed on a questionable shot, and many others sighted pigs and javelina.

Regarding the dinner Luther cooked up, I wasn't exactly sure what it was. However, after one bite it didn't matter. It was good. Once we polished off the fine meal, Jeff Vogel built a campfire, and everyone sat around telling stories and talking bowhunting for the remainder of the evening. I couldn't think of anywhere else I'd rather have been on that night than right there.

The following morning, we managed to free Rick's truck, and again we had a mode of transportation other than our feet. By noon, none of us had sighted any pigs or javelina, so we



The author putting his bow together in preparation for the hunt.



The 1998 Hog and Javelina Shootout gang.

returned to camp for lunch. Mike was at camp with a big smile and a black hog to show for it. Also, Matt Napper had received a chance to redeem himself and made a perfect 31 yard shot on a good javelina.

Once our bellies were full, Greg and I decided to sit on the intersection of a gravel road and a sendero. Soon enough, three javelina crossed the road about 150 yards ahead of us. We took off in a dead sprint toward our unsuspecting quarry. When we were about fifty yards away we split up. Greg took the road to try a stalk on them out in the open, and I headed into the brush to try and intercept them.

As I was just beginning to wonder where I went wrong, I smelled the javelina's characteristic skunky odor. I saw the first one coming, and he was headed toward a small opening in the brush twelve yards ahead. I kept him in my peripheral vision as I fumbled to nock an arrow on my string. He kept getting closer and closer to the opening, and I kept missing the string with my nock. By the time I nocked an arrow, two javelina had already passed through the opening. I took a quick glance around and started after the two javelina. I guess it wasn't a good enough glance because three other javelina were within

six yards and became spooked by my careless movement. Suddenly, I was surrounded by many furious little pigs popping their teeth with the coarse hair on their backs bristled up. One charged and stopped eight yards away, popping his teeth. He was facing toward me, so I tried circling around to get a shot. But before I could get into position, he melted into the brush followed by the others. Everything was silent for a split second until I heard the rumble in the distance.

When we arrived back at camp, the pounding rain was coming down in sheets while earsplitting thunder crashed all around. Lightening flashed momen-

tary scenes of brightness that seemed frozen in time. Greg and I were just about the last ones back. Everyone huddled under the dinner tarp and recalled the day's events. Jeff Dodd missed a red pig, and many others had sighted game. The storm receded shortly after dinner and everyone went to bed early.

The next and final morning, Rick and I watched a sendero while Greg still-hunted. None of us saw much, but it sure was great to be outdoors. It was cool with a gentle breeze coming off the gulf and not a cloud in the sky. Everything was still damp from the rain. It all seemed perfect.

For our last evening hunt on the King Ranch, Cory Anderson and I decided to sit at the intersection of two sendaros. We talked while watching for javelina. Cory is 21 and I am 16, but I could tell that we had a lot in common. We talked about hunting in Montana, where Cory is from, and my home state, Wisconsin. We talked about whatever came to mind, and I don't think there was one moment of silence the whole evening. We did see game, too. While we were in the middle of a conversation, Cory suddenly focused all of his attention on three black dots off in the distance. They were javelina, and we began a stalk. I went into the brush and Cory went down the sendero. After about fifteen to twenty minutes, I slowly still-hunted back to the sendaro only to find Cory about 150 yards away. As I

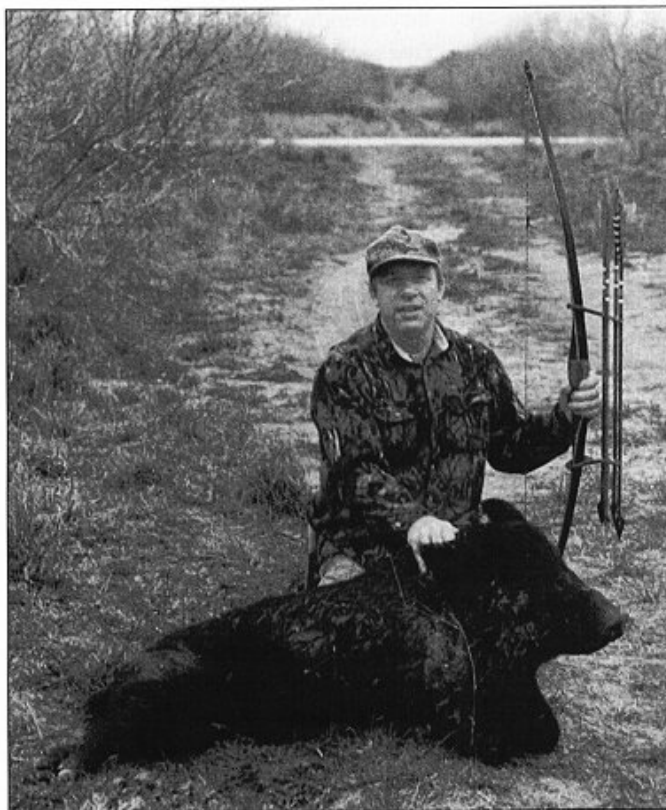
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Mike Misch (Mooseman) with his Texas feral hog.

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peered through binoculars, it looked as though he was right on top of the javelina, but soon enough he was walking back toward me. When we met, he said that he managed to stalk within twenty yards of the javelina but the shot didn't feel right, so he didn't draw his bow. Cory didn't care though. He said he just wanted to try to stalk a hog or javelina. He hadn't seen either the first two days so I was very glad when he got the opportunity for a stalk. Those were the last Javelina we saw.

I have to confess I've always been a little skeptical when I've read stories about guys going on hunting trips, not taking home any wild game, and saying they had just as good a time as if everyone had been successful. But that is exactly how I felt. I established many good friendships that will last my lifetime, and I was able to hunt new and beautiful country. How many 16 year olds can say they've done that? Some of

us took game. Many had not. I hadn't, but that wasn't on my mind. I couldn't have been happier as Cory and I watched the south Texas sunset, bows in hand.

Author's Notes:

We hunted for three days on the King Ranch with outfitter and bowyer Jeff Massie (830) 540-4954. Jeff provided corn for baiting the roads to draw game out of the thick brush, about 13,000 acres of leased land from the King Ranch for us to hunt on, dogs for tracking game, and a tripod and gambrel for cleaning game. Rick Still of Orion Archery booked our hunt. He can be reached at (406) 287-3723. Our hunt was also catered by Luther Young of the B-Bar-B Bread and Breakfast in Kingsville, Texas. Luther provided a breakfast of pastries, fruit, milk, coffee, and juice. For lunch, we had coldcuts. Dinner was hot and delicious to say the least. Luther is a fine

cook, and was very knowledgeable of where to find game, as he also guides quail hunters on the King Ranch. We camped in tents, and porta-potties were available for our use. To hunt feral hogs and javelina, non residents need a small game special license #157 which is \$35. These were obtained beforehand through the Texas Parks & Wildlife at 1-800-895-4248. This three-day catered hunt ran \$305 plus license and travel costs. However, you can save money by not hiring a caterer and providing your own food. Feral hog and javelina seasons vary by county. We were in Kleberg county where feral hog and javelina can be hunted year round with a bag limit of 2 a piece. All in all it was a great hunt. It lit my fire for hunting pigs and javelina, and I would recommend it to anyone.



THE ALTERNATIVE ARCHERY GLOSSARY

“A gallimaufry of outdated archery terms in serious danger of being entirely forgotten.”

**Compiled by Hugh D. Soar, Archer Antiquarian,
and Historical Adviser to the British Long-Bow Society.**

A

Anti-aeolian: A leather harness, commercially produced and sold, weighted at the ends, and used by Nineteenth-century ladies to hold down voluminous skirts in windy conditions.

Archeria: An aperture or loop-hole in medieval fortifications through which archers might shoot.

Arrow-boy: A boy employed at public and other archery meetings, in earlier days, to collect arrows from the ground after they had been shot (and sometimes from the target) to avoid the need for ladies and gentlemen to stoop to recover them.

Arrow-man: Descriptive of an archer employed as a Ranger in the Royal Forest and Chase of Kingswood near Bristol.

Arrow-pass: A piece of hard material, usually but not always mother of pearl, set into the limb above the handle of a bow, to prevent wear from the passage of the arrow.

Arrow-scatt: A yearly tax, anciently paid in bows and arrows, by the Laplanders to the Danes.

Arrows of the sea: A poetic description of herring, by Norse sea farers in olden times.

Artillerer: A maker of artillery in its original meaning: A bowyer (e.g. the King's artillerer).

Ascham: 1. A tall, narrow, static cabinet, purpose built to hold bows, arrows, and other equipment: Named after the author of "Toxophilus" (1545) Roger Ascham.
2. A portable (travelling) version of the above.

B

Barret-cap: The name given to a flat cap worn by gentlemen archers during the nineteenth century.

Bast: An early alternative name for the more common term "Boss." A straw mat used as a target.

Belt: A strap worn around the waist, from which hung a leather "well" into which arrows for immediate use were placed.

Belly wedge: An angular piece of cork or wood affixed to the upper bow limb at the arrow-pass designed to deflect an arrow on its being inadvertently drawn inside the bow.

Bend-bow: Early description of what is now known as a long-bow.

Blazon: Continental target used principally in Flanders, the face of which is divided into squares, each having a number.

Bobtailed: Said of an arrow stele which tapers from its pile end towards its nock: A derogatory term in medieval times when applied to men. In modern parlance, "thick!"

Bolting: A sporting activity indulged in by gentlemen in earlier times, whereby nestling rooks were killed with crossbows and bolts.

Bow lathe: A wood-working lathe, the motive power for which was derived from the stressing of a bow, one limb of which was secured and the other free.

Bow-rake: The name given to an (undefined) distance within which hunters of deer wounded during a cull might pursue the animals into a neighbour's territory.

Bow-spere: An unidentified weapon which appears within the inventory of the sixteenth century Bristol Merchant vessel "Trinity Smith." Possibly a light javelin shaped like a bow. Alternatively perhaps, a bow with a spiked end.

Brazed pile: A target pile comprising a thin sheet of metal surrounding a metal tip and brazed at the side to form a cone: Superseded by the "turned" pile.

Breasted: Said of an arrow stele which tapers from the nock towards the pile end.

Burgundian bow: A longbow with recurved limbs and set-back handle, having a cambered cross-section turning from the horizontal and becoming elliptical towards the limb ends.

Bye-wood: The surplus wood removed when making bows.

C
Captain of Numbers: The contestant at an archery Tournament making the highest score.

Cast: The assessed effect of transmission (to the arrow) of kinetic energy from a bow's limbs when drawn and released.

Casting: Warping, as in a bent, or warped arrow.

Courb: To curve, or bend wood in (Scottish) bowery.

Cross-slit: To cut an arrow nock at right angles to the slit for the nock piece. (q.v.)

Crow-bill: An arrow-pile made of horn: Used largely on short distance butt-shafts.

Crown-clod: An ornament of turf, often urn-shaped, surmounting an archery butt.

Carquois: French, a quiver: See also "quequerl."

D
Dead shaft: An arrow, whose characteristics are a dull and heavy flight.

Diagonal loose: An archaic form of Continental draw in which the bowstring is held diagonally from the first joint of the forefinger to the second joint of the ring finger: Common in the 15th and 16th centuries; also employed in recent times by one French Olympic archery Coach.

Devil's arrow: A treacherous pronouncement against a friend or colleague.

Draw, to: To strip the web from the shaft of a feather.

Drawing through the bow: Said when, on being drawn, the point of an arrow comes within the belly of the bow.

Drib (vb): Dribber (n): To shoot inaccurately: An inaccurate shooter.

E
Eye, of the string: The upper loop of the bowstring.:

Etui en cuir. — The leather case in which a French carriage longbow is contained.

F
Feather into, to: To shoot an arrow into a target up to the fletchings.

Flane: An arrow (from the Saxon, "flan").

Flein: A Scandinavian arrow having flukes and barbs: Vide Norse King sagas. (Killing of King Hakon).

Float: A flat, rectangular tool with teeth on its lower surface, used by bowyers to remove bye-wood (q.v.)

Flemish loose: A two-finger draw and release of the bowstring, a finger each side of the arrow: Used in earlier times by the military archer: In occasional present use.



Fluting: Indented transverse lines stretching from below the shaftment of an arrow stele to above the footing, allegedly to prevent casting. (q.v.).

Foot. (1): The pile end of an arrow;
Foot. (2): In traditional Clout shooting, a distance of 111 feet from the centre of the Clout, scoring 5.

Forker: Colloquial: Descriptive of a type of broadhead; technically a "crescent" broadhead: Closely associated with both hunting and warfare: Used with crossbows for poaching

Foyler: Scottish dialect name for a fletcher, or arrow-maker.

G

Gizzen: A longitudinal crack occurring whilst wood is undergoing the process of seasoning:

Glazing: The act of coating the shaftment of an arrow with water glue preparatory to the glueing and the positioning of fletches.

Goddams: The name by which English troops, and particularly archers, were known in France during the Crecy campaign: Apparently arising from their constant use of this oath.

Grafted (bow): A bow spliced at the handle.

Grease-pot: A small pot, often of ivory or ebony, containing a mixture of suet and other substances with which an archer greased his, or her, shooting glove or "tips."

H

Hay: An area bounded by hurdles or similar, into which deer or other game to be culled were driven, to be shot by archers stationed at "stable stands" (q.v.).

Half-bow: An early distance measure used when shooting roving Marks, or Hoyles. (q.v.). Perpetuated in Clout shooting by the Woodmen of Arden. (Meriden)

Halfpenny ware: Descriptive of cheap arrows, as used for shooting at garden butts.

Hand bow: Early name given to what is now known as a longbow.

He He: Believed by some to have been a common battle-cry of longbowmen during the French campaigns.

Herse, or harrow: A primarily defensive formation of military archers.

High bearded: A broad arrowhead having wide barbs.

Hobelar: A mounted infantryman from whom the mounted archer is thought by some to have originated.

Hoyle(s): A short distance roving mark. (Shooting) Hoyles: a game similar to roving, but conducted at shorter distances.

J

Jonathan's arrows: Shots (arrows or other) made in warning, and not intended to give hurt. (See 1 Sam 20 v 35-39)

K

Keep compass, to: Keeping a length; the maintenance of a proper trajectory between archer and target.

Kykmigge: An as-yet-undetermined piece of a crossbow's mechanism, believed to be associated with the act of aiming.

L

Lapping: Alt: "Serving": The protective reinforcement of a bow's string.

Low feathered: Said of an arrow's fletchings when these are cut short and narrow.

Lugg: An early, colloquial expression for a longbow: From the verb to lug (drag, or pull): There are two English rivers called the "Lugg" and the "Arrow."

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M

MacNachton bow: Descriptive of a weapon similar to that customarily used by Burgundian archers: From mercenary Scottish archers who fought in Europe under the command of officers of the clan MacNachton.

Mallet head. (Alt: Maquet): The head of a heavily bobtailed continental arrow used in Popinjay shooting.

Marker: He who stands beside the Clout to signal to archers the position of their shot.

Matras. (Alt. Mattross): A crossbow bolt having a round disc head, used in hunting to avoid damaging the skin of Game.

Mortuary arrow: A funerary arrow: One of a pair (three) carried in funeral procession in earlier times.

N

Noose (of string): The timber hitch (bowmans knot) securing the string to the lower limb in a single-loop bow string.

Nock piece: A sliver of horn designed to protect the arrow nock

O

Oxford box: An arrow box made and marketed commercially: Name derives from the place at which National Archery Meetings were held for many years.

P

Pathradoe: A simple, and seemingly inexpensive handgun, issued with bows and arrows to London Reserve Regiments during the English civil war.

Piecing: Pec(yn)ing: The insertion of a harder wood at the foot of the arrow stele to improve balance and durability: Known today as footing.

Piking: The reduction of bow limbs both by length and diameter to improve cast and thus performance.

Play in the hand: Said of a bow which bends at the grip, or comes in full compass.

Pointing out: The first cutting of the arrow shaft from the rough wood, by use of a knife.

Poising: Poys(en)yng: The comparison of two arrow shafts by weight and balance to create a matched pair.

Poke: Pole: A waterproof canvas bag used for the carriage of bows (and sometimes arrows)

Pouch: Circular leather pocket suspended by a strap from a belt; used for the carriage of "ready-use" arrows by Regency archers: Replaced by pocket, or tinplate/leather quiver.

Pound arrow: The name given to an arrow which, together with a flight, and a broad arrow was shot in competition for distance in earlier times: Derivation is uncertain but may relate to the prize, which in the 16th Century was £1.

Prick: A wooden pin identifying the centre of a target.

Pricker: A metal point, mounted (usually) in an ivory holder, used to record scores by pricking holes in a coloured card

Q

Quequer: An early English arrow case (forerunner of "quiver").

R

Ridged pile: A light pile with ridged shoulder forming a drawlength aid, probably used for Roving and Butt shooting.

Ripper: A small half-round plane used by fletchers for roughly working up a shaft or stele.

Rood: An archaic linear measure of either 7.5 or 5.5 yards: The constituent of ancient Clout and Butt shooting distances: Thus 120 yds: 16 roods (longest butt distance, and still ladies traditional clout length) 180 yds: 24 roods (men's)

Round pile: The profile of a (Victorian) target pile having a rounded tip.

Rush grown: Alternative (and more correct) description for a "bob-tailed" (q.v.) arrow.

S

"Save the Mark:" In full, "God save the Mark:" An expression, or exclamation said in the hope that a central shot would not be bettered by that of another archer.

Scantling: Anciently the circular area surrounding a mark, within which an arrow must land if it were to be counted.


Shafee: Alternative spelling for a sheaf of arrows.

Shaffe: Shave: A plane-like tool used to smooth and round a shaft: A bowyer's and a fletcher's tool.

Shaftment: Part of the arrow occupied by the fletchings, but extending to below the Cresting: Literally "little shaft."

Shave-horse: Not archery specific; a general term for a bench, astride which the bowyer may sit whilst working.

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Shillings: Traditionally presented by archers to one who has shot three consecutive arrows into the centre of the target.

Side-nock, at: A string groove cut to the side of both stringing horn (qv) and lower horn on a bow (bow hand, and shaft hand alternately) rather than from side to side as at present. Said to facilitate stringing bows of heavy draw-weight

Sinking (a bow): Setting a bow into an habitual pattern, by the shooting of heavy shafts.

Silver-spoon pile: One of two types of "ridged" pile: So called from its resemblance to the handle end of a 16th Century spoon: The ridge enabled a draw-length check to be made.

Slashing loose: A form of dynamic two-fingered draw and loose practiced by those wishing maximum distance when shooting.

Slitting, or framing saw: A slender saw, set in an iron frame, with a detachable handle, used to cut the arrow nock, (and speculatively, also the slit for the nock-piece q.v.).

Spell: A rising of the ends of the grain of the wood of which a bow is made: A bowery term.

Sprangling: To disturb, or separate through damage, the barbs of a feather.

Sprite, (alt: Musket arrow): A heavy arrow, sometimes of iron but more often of wood, unfletched, but occasionally with leather vanes, sharpened to a point and shot from a musket.

Stacking: Said of a bow whose draw-force curve does not rise evenly towards full-draw.

Stable stand: The position at which a hunting archer stood prior to the culling of game (usually deer.)

Staff: Alternative to "stave." A bowery term.

Starting shaft: One that veers sharply and suddenly from its intended, or true flight.

Stopping: In brazed piles, the end or head which is solid, and separately assembled.

Stringing-horn: Alternative and correct term for the upper horn tip on long-bows.

Sugar-loaf pile: A conical pile with a tip shaped to suggest the old-fashioned sugar-loaf, and embodying a ridge used to determine the "full draw" position: See also "silver-spoon."

Swallow-tail: A broad-headed arrow with long and wide barbs, known sometimes as a "horse-head," from its use in warfare against cavalry: Also used in hunting.

Sweet: Said of a bow which neither stacks unduly when drawn, nor kicks in the hand when shot.

Swine-backed: The profile of a fletching having the assumed shape of a pig's back.

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T

Target card: A coloured rectangle or disc, formerly used for the recording of scores by "pricking": See "pricker."

Thumb: Alternative name for a "petticoat", "skirt" (modern parlance) or "spoon" (archaic).

Tiller-bow: A (heavy) long-bow drawn, held and used by means of a tillering stick.

Treading (a bow): The action of bracing a heavy bow by placing one foot in the mid-section and drawing the upper limb down

V

Viraton (alt vireton): A crossbow bolt with spiral fletchings, increasing its rotation in flight.

Volet: A Continental "flight" arrow.

W

Warrants: Knots on a long-bow stave left to stand proud by the bowyer, for strength at a potentially weak part of the limb.

Weatherman: One who is expert in reading weather conditions and applies his knowledge to shooting.

Whale-backed: Said of a bow whose belly is almost wedge shaped: Alt: "ridged" belly.

White: A piece of cloth used as a Roving Mark, or a piece of paper used as a Mark at Butt shooting. 16th Century longbowmen are known to have used oyster shells as "Whites."

Wiltshire box: A wooden box, commercially made, and designed specifically for arrows, but having compartments for strings.



George Birnie

by
GARY ALTSTAETTER

Mention the name George Birnie to most collectors and the usual reply is, "George who?" I've got to admit, I was in that group until about three years ago. I called Joe St. Charles to see if he had any old catalogs that he was willing to sell. He mentioned that he had a 1963 Birnie catalog for sale. I had never heard the Birnie name or seen an ad in my old magazines for these bows. I had seen several pictures of a professional archer Joe Mills shooting a Birnie Royal Caledonian, but I was never able to identify the bow until I received the catalog.

George Dryden Birnie was born in Galashiels Scotland in 1933. An interest in woodworking at an early age lead him to seek an apprenticeship at age 14 with Richard Galloway—the last Royal Bowyer to King George VI of England. Because George was Galloway's last apprentice, he carried the distinction of being the last classically trained bowyer in England.

The apprentice program that George started at age 14 had its roots in the 14th century. Craft guilds were started as a method of guaranteeing standards of quality for articles made and sold by its members. Members who sold inferior merchandise or charged more than a fair price for their products could be fined, or even expelled from the guild for repeated



The Last Classical Bowyer

offenses. You became a member of a guild by serving an apprenticeship. A boy was bound out by his parents to a master craftsman, usually somewhere between the age

of seven and 14 years of age. The master fed, clothed, and lodged the apprentice with his family. After seven years of hands-on studying under the master, the apprentice became a journeyman (from the French word *journée*, meaning a "days work") and worked for daily wages. Not every journeyman became a master. To become a master you had to have your own shop and this took more money than most journeymen could afford. The guild system started to break down in the 1600s. In an effort to bring stability back to the system, Queen Elizabeth I required Parliament to pass The Statute of Artificers. The guilds remained viable until the advent of the *Industrial Revolution*, and had all but disappeared by the end of the 1800s.

I spoke with George's widow Vera to see if she could shed any light on his apprenticeship with Richard Galloway. I was hoping to find out why he had entered a system of training that was no longer in vogue. She told me about the only thing George ever talked about was how much work was involved in the apprenticeship. I did find an article on George

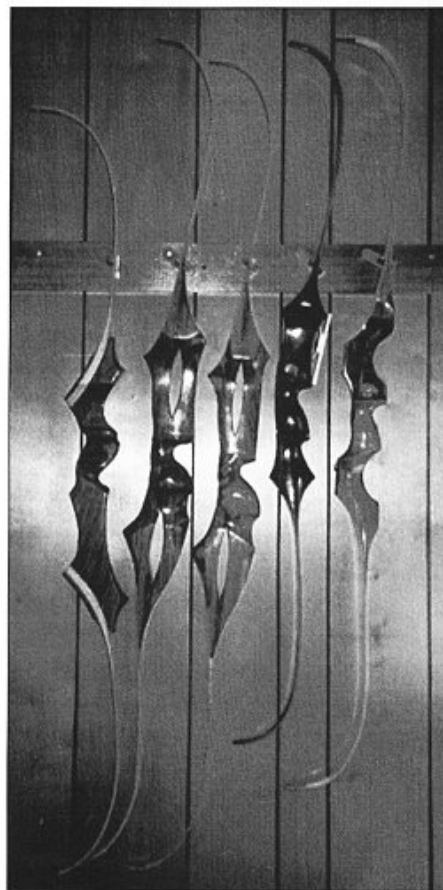
out of the Joplin Missouri Globe newspaper. In that article George stated. *"The apprenticeship process was a long and complicated one, and I guess I'm the last person who had the interest and patience to stick with it."*

George came to the United States in 1954 to work as manager of the Edding's Archery Company of McGregor, Iowa. I don't know whether he had much input on the design of the Eddings bows. The Eddings bows that I have seen do not carry any of the later Birnie characteristics. These bows have a rather short handle section with long limbs and big sweeping recurves. George's bows had a longer, heavier riser with tight working recurves. He stayed with Eddings until sometime in 1959.

After he left Eddings, we next find him in Crockett, Texas as President of Tex-Tox Corporation. Here's where I think George comes into his own. These bows had what he called a lateral color core. Today, we call this an "Action Wood." His core was a little different from present-day Action Wood. His core lamination was made of only four pieces of alternating layers of maple and purple heart. The two laminations were arranged so that the joints of one layer intersected in the middle of the piece immediately below it. This would make a much stronger core than if the joints were aligned. Another feature of his limb design was the concave-convex cross section for superior performance. It is concaved on the back and convex on the belly. I don't know how this would improve the performance, but I do think it would make it much harder to twist a limb. A third feature of this line is a rampant grip for less bow-hand error and better balance. I looked up the meaning of rampant in my Webster dictionary. It is an adjective that means overleaping restraint or natural bounds; rearing of the hind legs with one foreleg raised above the other. I don't know what correlation there is between this definition and this handle design, or if rampant takes on a different meaning in

England. In the picture of the Rampant Kiltie you can see this neat handle. It fits nicely into the hand and the shelf lays right on the knuckle. All in all these bows were unlike anything available at the time. George had a way of painting a pleasing geometric design with many different kinds of wood.

Sometime late in 1962, George moved his business to Dallas and renamed it *Bernie Bows*. He continued



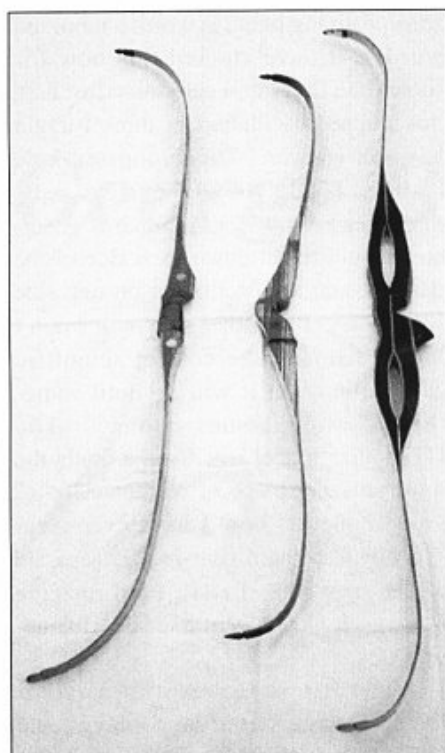
Left to right: the first bow is a take-down model that George made specially for his wife Vera. Bows 2 and three are Royal Stuarts made in England by his Royal Scots Bow Company. Bow number 4 is a Ben Pearson Silencer. Bow number 5 is a Ben Pearson Centurion.

the innovations of the *Tex-Tox* bows and added one new twist. The Royal Caledonian and the Brigadoon both had an "Oscillation Damper." This was nothing more than an elongated hole in the riser above and below the handle (the

accompanying photo is worth a thousand words). I have studied this bow for some time to try and determine just how this stopped oscillation. I think I might have an answer. This elongated hole basically divides the riser into two separate pieces. Any vibration that is generated would travel down each side of the damper, and the oscillation on one side would cancel the other side out. I don't know if this is the correct scientific explanation, but it will do until something better comes along. The Caledonian model is without a doubt the most amazing piece of workmanship of any production bow I have ever seen. The checker board riser has 95 separate pieces of wood. I can't even imagine how much work went into its construction.

The Birnie Company was short lived. George closed *Birnie Bows*, and left Dallas on that fateful November day in 1963 when President Kennedy was assassinated. The British press, eager to get a story-any story, learned that the Birnies were the only British citizens departing from Dallas that day. On their arrival, they were deluged with journalists and photographers eager to broadcast any tiny bit of information that would scoop their colleagues. George enjoyed his fifteen minutes of fame, and then turned his energy once again to building bows. He leased an old carpet mill building in his hometown of Galashiels, and launched a new venture called *Royal Scott Bow* in the spring of 1964.

Like a lot of new ventures, George was long on ground-breaking ideas and short on capital. It wasn't long until he was in financial trouble and needed more backing. The Scottish Rural Industries Development Agency found him backing in one James King—a wealthy manufacturer of surgical appliances. This marriage was on rocky ground from the start. George was dedicated to producing quality bows, and King was interested in the almighty English Pound.



(Left) Eddings Fireball, (center) Tex-Tox Rampant Kiltie, (right) Birnie Royal Caledonian.

This partnership ended in 1969. The firm was renamed *Kings of Kelso* and carried on without George. The firm was sold several more times before it was acquired by Robbie Robson and is still in business under the name *Border Archery*. I have seen several of these Border Bows at the major traditional events in the Midwest. They are a fine example of bow craftsmanship.

I have a copy of a Royal Scots catalog that I acquired from George's good friend, Roy Simpson. The catalog shows eleven different models. The target models outnumber the hunting models nine to two because target archery and not hunting drives the sport in England and Europe. The *Royal Scots* bows resemble most of the *Birnie* line. One new model, the Royal Professional, looks somewhat like the Hoyt Pro Medalist. I know a number of collectors who would trade their favorite hunting dog for one of these beauties.

I asked Roy Simpson if it was possible to date a bow by the serial number. He sent this explanation. The year the bow was made would be separated. A bow made in 1965 would have a serial number starting with a 6 and ending with a 5. The next two numbers would be the month and day. Lastly would be the sequence in which the bow was made that day. The 4th bow made on February 8, 1966 would have a serial number—62846. I have seen several bows from his Texas operations and their serial numbers do not follow this format.

Adirondak Duo-Flex All Purpose Bow (left and right handed).



After George sold out in 1969, he drifted back to the USA. He became the plant manager for the archery division of Adirondack Industries in Dolgeville, New York. A position he held until sometime in 1972. I have a 1971 catalog that shows three different models. The Predator hunting bow has the same profile of the Kiltie. The Conqueror Target model profile looks somewhat like the 1964 White Wing. The Duo-Flex All Purpose is another Birnie original. This bow has a window above and below the handle. The bow can be shot either right of left handed by simply turning the bow over. I thought I would never see one of these bows, but at the Great Lakes Long Bow Invitational I had the good fortune to see one and photograph it. I have included that photo in this article.

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George left Adirondack Industries sometime in 1972 and joined the Ben Pearson company as their chief bow designer. His main contribution in the 1973 catalog was the Centurion target bow, the Silencer T/D, and the 48-inch Rogue. These bows all have the "Hyper-Kinetic" limb design. This design was supposed to reduce the pull at full draw and give faster acceleration on release. George stayed with Ben Pearson until 1977. His wife Vera told me that he decided to leave the archery business because he just could not embrace the compound bows. After leaving Ben Pearson, he held a number of management positions in industry and passed away in May 1994.

I am indebted to Roy Simpson for much of the information that appears in this article. Roy was a personal friend and worked a short time for George. He has written three different articles in *The Bow*—an English archery publication. Roy writes about George's legendary wit, quick mind, and razor sharp tongue. Roy tells the story of the time George was invited to speak to a group of archery instructors at Galashiels and introduce his new bow models. He laid a strung Royal Stuart bow on the table in front of him. As he picked the bow up to explain its finer points, the bow delaminated and exploded in his hand. Without a moments hesitation George said, "well, you've seen how my best bow comes apart. But first let me tell you how it was put together." I would recommend reading these articles if you would like to learn more about George's wit.

George Birnie devoted close to forty-five years of his life to archery, and even after he left the archery business, it was still one of the great loves of his life. In those forty-five years he left a great legacy of innovations that live up to his motto of "Nulli Secundus." Second to none!



Two bonnie lasses in traditional Scottish kilts, from the cover of the 1963 Birnie Catalog. The bow on the left is a Caledonian, about which the catalog says:

"Caledonia was the name given to Scotland by the Romans who, in the First Century, were unable to conquer the valiant Caledonian warriors of this region."



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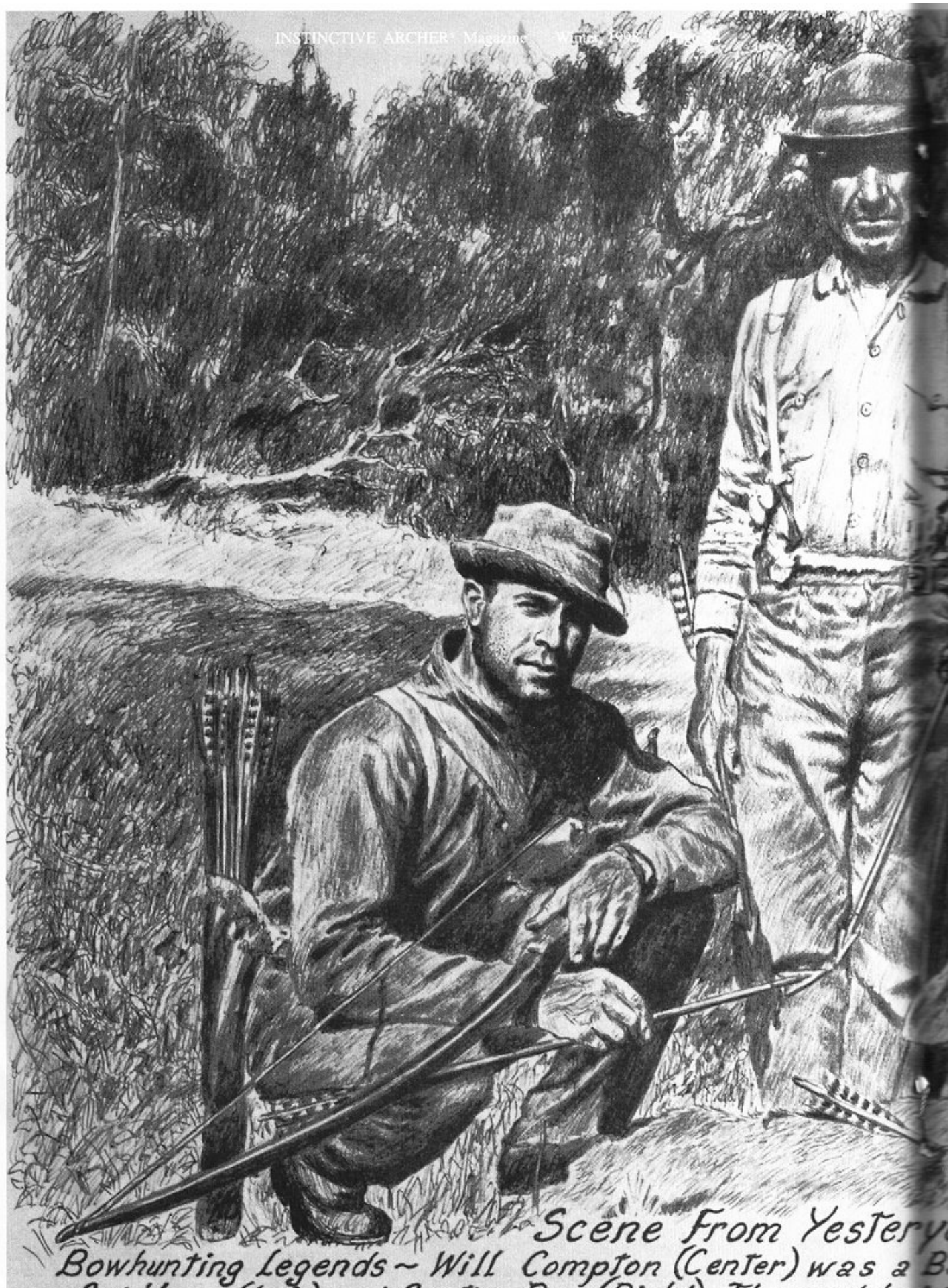
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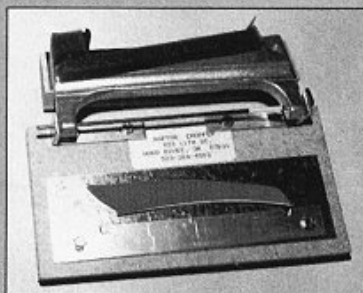
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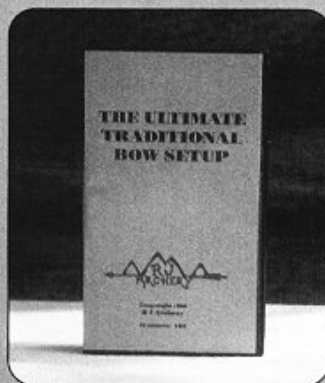
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As a catalog supplier of traditional equipment, we have spent years trying to help people properly set up their bows over the telephone. We know the frustration of not understanding what is wrong, and the difficulty in adequately communicating how to correct problems through verbal directions. Our desire to overcome these limitations has resulted in this video, "The Ultimate Traditional Bow Setup."

This video was produced to give bowhunters all the information necessary to get optimum arrow flight. Step by step, it shows how to **choose the proper shaft, adjust the bow to correct problems, and how to change an improperly performing arrow into the perfect one for your bow and your shooting style.** It explains **archers paradox, arrow nodes, and how an arrow actually flies toward the target.**



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HUNTING, HIKING, OR FISHING—THE SPORTING LIFE IS MORE AFFORDABLE THAN EVER!

Enjoying the great outdoors in 1998 is cheaper than you might think! According to the **7th Annual Wild Turkey Bourbon Sportsman's Index** (the yearly survey comparing the cost of outdoor life to inflation) getting back to nature in the U.S. is more affordable than ever.

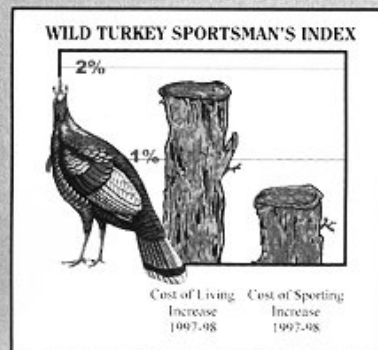
This year the news is good for outdoors sports enthusiasts. According to the survey, the cost of living rose 1.7% from June 1997 to June 1998. During that same period, the cost of the items surveyed rose an average of just six tenths of one percent, making the sporting life cheaper this year than last.

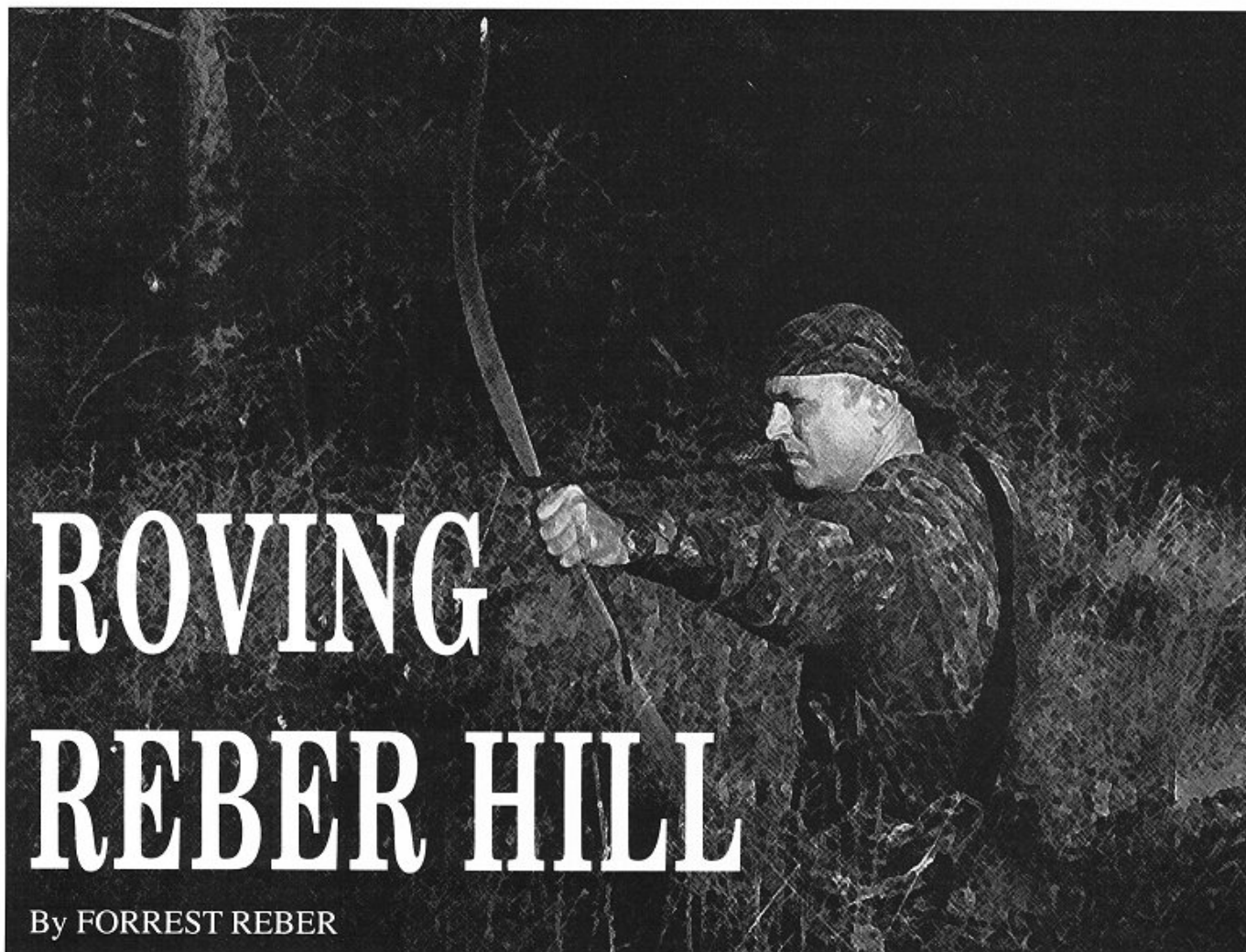
"We've always felt that outdoor sports like hunting and fishing were among the most economical," said Lynda Fitzgerald, Wild Turkey brand manager. "But this year sportsmen will find it even cheaper to leave the techno pace behind and take advantage of the pleasures of nature," she added.

The rate of inflation is indicated by the U.S. Department of Labor's Consumer Price Index, which compares the cost of consumer goods throughout the nation. The Wild Turkey Sportsman's Index works the same way by comparing the cost of products within the sporting industry.

This year the Wild Turkey Sportsman's Index surveyed ten items. The products and their annual price increase/decrease include: **National Parks Service Golden Eagle Pass**, no increase; **Berkeley Lighting Rod**, no increase; **Mercury Marine 150 EFI Outboard motor**, no increase; **Zebco 33 Classic Reel**, no increase; **Bear Archery "Lightening Strike" Cross bow**, +3.84 %; **Danner Canadian Hunting Boot**, +2.6%; **Nikon 9X25 Travelite Binoculars**, no increase; **Honda Fourtrax Foreman 400 ATV**, -1.7%; **Field & Stream Magazine**, no increase and **Ford F-Series Light Duty Pick Up Trucks**, +1/3%.

According to Fitzgerald, the Wild Turkey Sportsman's Index was first published in 1992 as a service to sportsmen and women around the country. Wild Turkey Kentucky Straight Bourbon, which is a favorite among those who appreciate the sporting life, has also held the line on inflation for the past several years.





This isn't my favorite time of year—there are no oranges, reds, golds, and chocolate browns typical of the autumn season when the woodlands and its denizens go to sleep, or no snow blanket covering them as they slumber—but I must tell you that this is one of those spring days which can only be described as nearly perfect! I'm "roving," what our English counterparts call what many refer to as stump shooting. Anyone who could be out here and not be aware of the freshness and newness in the air is dead and just hasn't laid down yet.

Spring has sprung. The blossoms on the wild dogwood, redbud, and other flowering trees dot the hills in bright contrast with the carpet of several seasons of oak leaves, the greening new growth, and the bright blue sky. Tiny and large, short and tall, in a spectrum of colors from violet to yellow, the many wild flowers greet the season of new growth. The chilly early morning air is invigorating as I walk, bow in hand, toward the first of many targets for today.

I take a shot at a large birch leaf lying on the rich brown and moss green of a bank some thirty yards away. The leaf becomes a tom turkey that just stepped out to look for a hen. Using a traditional bow, thirty yards would be a long shot at a turkey, but, this is practice, and you never grow if you don't stretch your limits! My shot strikes just to the side of the leaf. Not bad, not great. I walk over to retrieve my arrow. There was a time not too long ago that I would have been far less confident of my shot.

That was before I received my Fedora longbow, named "a Forever Bow," and with it began to really learn to

shoot with some consistency. Both the bow and the understanding and application of proper form—more specifically “aiming”—were equally important in my improved accuracy and confidence. I think I can tell you why they were both so important.

Shooting traditionally, without sights, mechanical releases, and no letoff as with compound bows, requires, for this archer at least, concentrated practice, like here in the woods, in Western Kentucky. I nock another arrow, “aim,”

and shoot at a clump of moss at the base of an oak some fifteen yards down the little hill meandering along between two hills. Shooting like this allows me to concentrate on learning to shoot properly, consistently, at field distances. But, how did I shoot?

With a compound bow with its string-mounted peep, adjustable multiple-pin front sights, kissers button, mechanical release, and sixty to seventy percent letoff, things are pretty regimented. Line everything up and pull the trigger. There are several tangible reference points. Not so with a traditional bow. Not exactly.

While there are definite points of reference even with traditional bows,

the actual process requires much more conscious judgement. Not truly “instinctive” shooting, but a blend of instinctive and split vision. I had initially shot more or less instinctively but was not nearly as consistent as I needed to be. I read every article I could find about the methods used by successful traditional archers and

While there are definite points of reference even with traditional bows, the actual process requires much more conscious judgement.

hunters and watched videos of great names in our sport as they shot and taught their way of shooting.

There has always been one problem in particular which plagued and frustrated me. There are times when, regardless of the range, I just nail the point at which I aim. Then, the very next shot or shots, the arrows are all around but not near the same spot. Consistency was eluding me. I needed to find out why. That’s when the two things came into play which have made considerable difference in my proficiency and consistency: reading the aforementioned articles and shooting a very special bow.

The reading pointed out a flaw in my form. That flaw being what I

understand to be “snap shooting” or shooting without a proper sight picture (releasing the arrow before you’ve come to anchor and acquired the target). Whether you shoot purely “instinctively” or with a method similar to the one I’m trying to use, you must align the arrow along the point from anchor to target spot or you’ll miss left or right every time. I found that I was more-often-than-not releasing before I reached my true anchor point. This is where the bow’s influence comes into play.

One thing my longbow has

taught me is that you must learn with and shoot a bow with a draw weight you can truly handle. Before “a Forever Bow” came into my shooting life, I was shooting a sixty-five pound recurve or a sixty-eight pound long curve. Now, I’m

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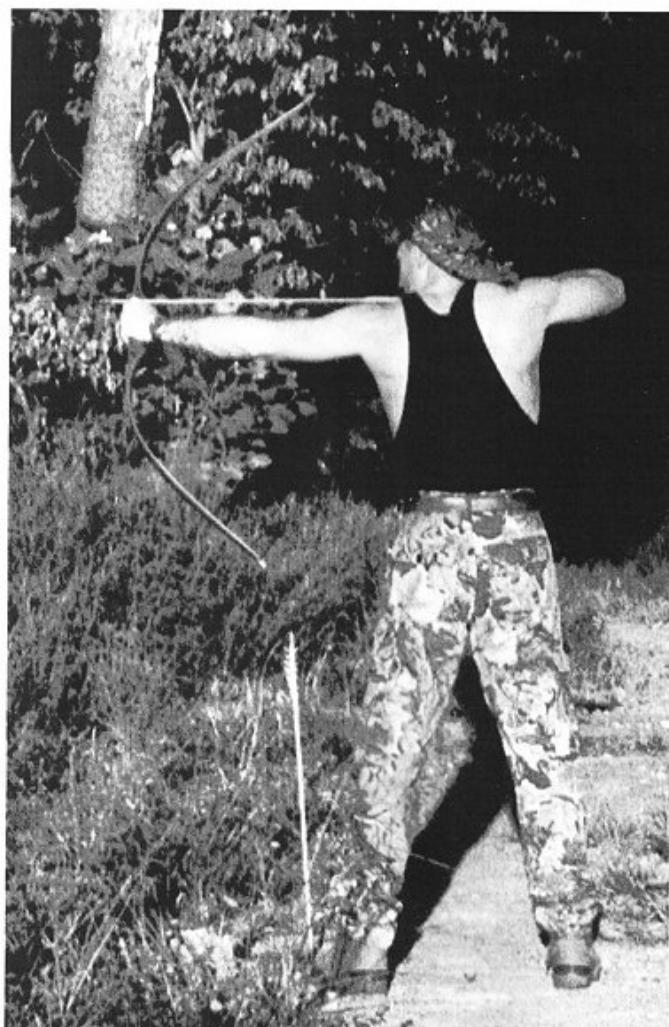
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This time I select what I can see is a very rotten stump and let fly an arrow.

no weakling, but that's a lot of weight to draw and hold at anchor for very long! Especially holding for an animal to come to a good broadside position or when you shoot one-hundred to two-hundred arrows in a session. Trying to develop good form when your arms and back are fatigued, and fingers are in pain is not very likely and extremely frustrating! And I just hate to quit shooting!

I once read an article in which the author said "perfect practice makes perfect. . ." This could not be more true. Being able to "handle" a bow means draw, anchor, hold long enough at anchor to achieve both a straight line from anchor point to ten ring and appropriate vertical elevation either by instinct or the indirect, instinctive method, then,

finally, releasing the arrow. These steps must be done over and over until when it looks and feels right, it is right! Each and every time. That takes practice. Perfect practice. Much practice. With the right bow!

For this bowman to overcome the problem of inconsistent shot accuracy, I had to practice with a bow I could draw and hold comfortably, and concentrate on acquiring proper sight alignment, via whatever method that I found to work best—every time! The latter component should be done until the process is "second nature" or instinctive. Members of our elite fighting forces, the SEAL Teams, RECON

Marines, etc, learn to draw their weapons with their eyes closed, or blind folded, or in total darkness, and come to proper sight alignment! They have done the routine so often that they actually, instinc-

tively, feel the weapon into place. The traditional archer can do the same, with the proper practice. I enjoy making my practice realistic, not always simply standing in my driveway shooting at a target. In the woods and fields I can practice stalking, choose ambush sites, and enjoy the outdoors while actually putting in shooting time. That's the beauty of this sport! The practice is fun!

I walk along the rill for a short distance then turn to climb a hill to my left. At the top, I stop and choose a shot at a clump of grass at the bottom of the opposite side of the hill I just walked up. This shot requires not only judging distance, but the arrow must pass between several branches to reach the target. Animals don't always stop broadside down an obstacle-free shooting lane! What this shot will accomplish is to illustrate what I have now discovered may be another flaw in my shot execution. This one being my actual release of the string. Finger release is crucial to accuracy!

I choose another of the cedar arrows from my quiver, nock, draw slowly, come to anchor, focus on the primary spot, place the tip of my arrow on the secondary aiming point taking into consideration the trajectory needed to reach the spot without glancing off one of the branches, and release. All this takes about six seconds. Well, I still need some work. I shoot again. This time the arrow strikes the clump. I move a couple of yards down the side of the hill and sit down. I select another arrow and shoot at the same clump. Another hit, but barely. I move again

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and shoot from behind a tree. A hit on the opposite side of the elongated clump. No group.

There is the evidence of inconsistency in form. The release, using fingers, tends by its nature to be an imprecise movement. But it can become less so, with concentration and repetition. Repetition requires a bow which functions flawlessly, even when the archer doesn't. No stack, no pinch, no tangible hand-shock, good cast. I'm a very lucky soul—I have three which do. But, one in particular seems to actually teach me to shoot properly. My "a Forever Bow." I know if I do something wrong, I'll miss. Or, if I hold the bow incorrectly I'll torque it and the arrow will fly erratically.

I have another bow that compliments this one. This bow, a little cedar longbow from a very special new friend, Marius Vallecorsa, compels me to put into practice what the other bow has taught me! This bow is different (shorter, riser is different, handle shape is different, more reflex/deflex). While it doesn't teach in the same manner as does "a Forever Bow," there is a definite feeling I get from it, also. It wants to be shot! Like a dog that wants to hunt or a horse

that wants to run, this bow beckons me to let it do what Marius designed it to do in my hands!

After retrieving my arrows, I walk along what's left of the old dirt trail my great-grandfather used when the mule pulled the sled or wagon to one of his fields. This time I select what I can see is a very rotten stump and let fly an arrow. The hex shaft of lodgepole pine hits the mark—well, actually a couple of inches to the left. I move a few yards to my right and place another arrow just about an inch above the spot on the stump. Twenty paces. Good killing shots, both. I'm getting better. I'm also getting hungry.

I gather my arrows, quiver all but one. . . just in case another target beckons as I head back to the house to lunch with my dad. There's just so much more to enjoy in traditional archery than taking a trophy! If piano practice was this much unadulterated fun, I'll bet there would be many more accomplished pianists in the world! In fact, I can think of few other sports in which practice offers so many opportunities for so much pleasure, especially roving with a special bow and wooden arrows out amid nature's best!



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AUTHOR'S NOTES:

1. According to one professional, there is a difference between true "Point of Aim" and the Split Vision method. Point of Aim requires deliberate placing of the point of the arrow on the secondary aiming spot rather than totally by peripheral or indirect vision. At this time, I still need to deliberately choose and place the tip on the secondary aiming spot, then reconcentrate my primary focus on the primary spot in the kill zone!

2. A Forever Bow is a sixty-four inch longbow made for me by Mike Fedora. When Mike and I were discussing the qualities of the bow he was to build me, I told him I wanted a bow that would outlast me—his remark was that I wanted "a Forever Bow," and that's what he inscribed on it. The bow pulls sixty-one pounds at twenty-eight inches. The riser is of curly ash, the limbs are black locust. The matte finish on the limbs allow the grain to remain visible.

3. Anchor point will affect both vertical and horizontal point of impact and actual draw weight. Thus, snap shooting, by its very nature, causes inconsistent point of release thereby unpredictable shot placement from horizontal misalignment and/or incorrect secondary point of aim. Also, if the release is short of anchor, point of impact will drop as will energy and momentum of the arrow reducing penetration.

4. The "Jaguar" style longbow Marius crafted for me has a riser from a spectacular piece of cocobolo the color of cayenne and cinnamon, with limbs from a piece of cedar with remarkable flow of color, the streaks of red to yellow looking very much like tall, slender flames. At the base of the handle there are two knots side by side like eyes. I'm thinking of calling this bow Dragonfire. At sixty-inches long, pulling sixty pounds at twenty-seven inches, this little cedar bow shoots very hard and flat and with absolutely no pinch or noticeable handshock! This bow is a deadly hunter!

The Competitive Edge

by Gary Sentman

It's Hunting Season and I Haven't a Thing To Wear!

When hunting season is approaching I find myself wondering what kind of clothing I will need. Remembering other hunts where often I would find my boots too stiff and noisy, jacket either too hot or not warm enough for weather conditions, or when an unexpected shower would leave my nice quiet fleece garment soggy and wet. There are so many choices for hunting attire today. I often purchase something that I think will be the answer for my needs. Consequently I have the closet jam-packed with hunting attire which I have collected over the years. Thinking each garment would prove to be quieter, more water resistant, lighter, warmer or cooler, etc. However more often than not I go back to what has been proven out in the past. The following is a rough outline and opinion of what I have experienced in regards to hunting attire.

From the time I was a teenager in the 50s I've spent many hours in the woods from Alaska to the Panama Canal, all these locations required different attire. In my lifetime I have particularly taken my hunting clothes very seriously, especially footwear. I've had trouble keeping my feet warm in cold climates. I remember in Alaska for winter use, military bunny boots and sometimes wearing ice creepers on them was well worth the bulk and overall size. Of course back in the late 50s we didn't have the insulating capabilities that are available in modern boots of today.

The two most-important factors in any boot made for outdoor wear are durability and comfort. If the boot is too tight and cramps your feet, your feet will be cold in cold weather regardless of the insulation. On the other hand if the boots are too loose, your feet will move too much in the boots giving you blisters. In regards to durability, we're not walking around in the woods today with a breachcloth or light buckskin jacket. Often times we'll find ourselves in the woods packing 45 to 65 lbs. on our backs and for most of us a light



moccasin or tennis shoe is not going to hold up. While on the subject of moccasins I personally think there were probably a lot of Indians who obtained bruises and broken bones from falling down while wearing moccasins. Bruises mostly occurring on the bottom of the feet from stepping on rocks and bruises on the buttocks from slipping on leaves and grass while sidehilling or inclining.

Now to get back to modern-day boots. Let's take your typical hunting boot with the stiff corrugated or waffled tread, while insulation and Gortex may keep your feet warm and dry, they make the boot big and bulky for bow hunting. While wearing this type of boot in the dry weather which often occurs in early archery seasons I sound like The Jolly Green Giant moving through the woods. I find the stiff hard sole breaking twigs beneath my feet, and the toe of the boot breaking sticks as I step over logs. I've known hunters to wear tennis shoes for this type of early season hunting, but for me, by the end of the first day my feet would stink so bad it would literally run me out of the tent when I removed my shoes. I have heard of hunters wearing rubber boots to lock in the human scent. Personally I have found them too uncomfortable. And rubber boots without stretching capabilities will tire your feet, as well as make them perspire. I'm hearing more



and more about Scent Lok products. I have no personal experience with them because I have not yet purchased any footwear with Scent Lok.

Boots are one of the most important elements in your whole attire. Let me tell you a short story, when I was a young boy, approximately 13 years old, I hiked into some fishing lakes in eastern California. Being a young lad without the appropriate gear I was loaned a pair of hiking boots by a member of the party. We were to hike into these lakes of approximately 7,000 ft elevation. It was spring time and the lakes were beginning to thaw from the center of the lake to the shoreline. We would reach these high lakes and cast a

clear weighted bobber with approximately 3 ft. of clear line to the fly. By reeling slowly with a jerky motion we would catch many trout which were hungry and ready to bite on the flies we were casting. However these boots I had borrowed for the six-mile hike were much too stiff and slightly undersized for my feet. By the time I had reached the lakes I was almost incapable of walking. My feet had become bloody and very sore, thus restricting my every step. We caught many trout but the thought of putting those boots on for the return trip was a great concern to me. I made the trip but still suffer from the consequences. The back of my heels were deeply injured and are very sensitive in that area. Your

footwear is important because if your feet are destroyed or injured you can no longer travel and are lame and down.

Choose your footwear carefully. For the early archery season when temperatures are mild I like a soft leather boot with an eight-inch ankle-high top and a fairly smooth sole. A little tread is O.K. but if they are too stiff you will sound like a buffalo herd going through the woods. I've had my Red Wings 10 years, they have been resoled twice and for the early season their soft leather can't be beat.

When the rain starts you will be able to wear a heavier boot with Gortex and insulation. In Alaska where you may face muskeg, rain, and snow every day,

avoid soles that are glued on. I have paid out good money for the best of them only to have the sole come off. Something else I have learned the hard way, a Gortex boot can leak when it becomes dirty and aged. Every pair I have owned leaked when put to hard use.

I should mention something about socks. For long hard hikes in the summer, one pair of medium cotton athletic socks or two pair of white cotton socks to prevent blisters and sore feet are the best. For cold weather, say down to 20 degrees above zero, I would prefer one light pair of cotton socks with one pair of medium weight wool socks over the top. There are other combinations but this will suffice for most circumstances.

When bow hunting, if I can hear myself move I'm too noisy. Only the softest materials will be ultimately quiet. Light wool pants are the best over all—bar none. When it comes to wearing wool pants, and walking long distances, it will be necessary to line the crotch

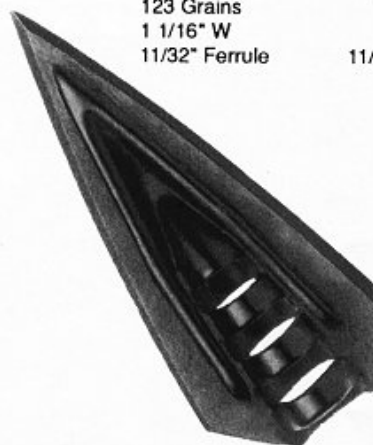
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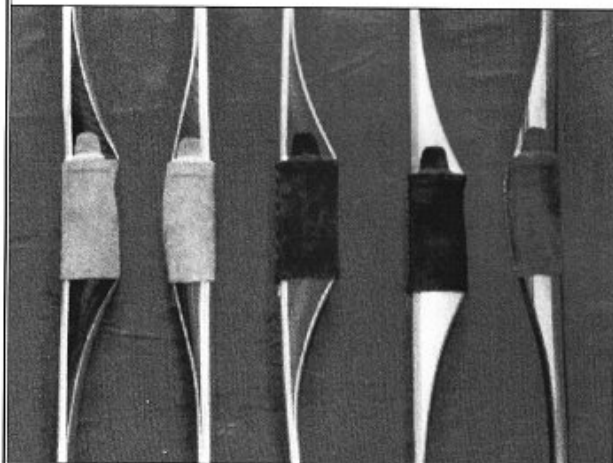
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area with a slick liner fabric. Otherwise inside of your legs may become raw and uncomfortable.

If the weather is extremely hot one may have to wear trousers made of cotton polyester fabric. Some fabrics are stiff and noisy and you'll hear your legs rubbing against each other every time you move. Or when walking by a branch you will hear rasping noises. Remember, if you can hear yourself at all, the animals will hear you long before you ever see them and simply move out ahead of you.

For my undergarments I prefer shorts of the jockey type, that are reasonably tight around the legs. This will pay off when one finds himself standing over or near a yellow jacket nest or making the mistake of sitting near or on an anthill.

For outerwear in Alaska I preferred the heavy wool mackinaw. But even in Alaska the early hunting season temperature can be cold at night and in the morning but fairly hot during the day, making a heavy wool mackinaw more trouble than it is worth. I think layering is the way to go. It actually took me years to learn this. I would often spend more than \$200 for a beautiful wool mackinaw only to find it was a pain in the butt by midday unless the temperature was extreme.

Today's fall hunting season might find me wearing a lightweight T-shirt of possibly camo material with a medium-weight plaid shirt or cotton

camo jacket over the top. If temperatures are on the cool side late in the season my best combination would be a light-weight under garment like a T-shirt, a light-weight long-sleeved shirt and a light to medium weight wool garment over the top. This way I can shed the medium-weight garment during the heat of midday, tucking it under my belt or in my fanny pack behind me and be reasonably comfortable. As the late summer, fall, and winter seasons begin to combine, one is inclined to find himself dressing too light or too heavy. This variation is something you will have to work out.

Remember, science has proven that approximately 85 percent of your body heat escapes out of the top of your head. When it comes to cold weather especially when the wind is a factor, one wants a hat with ear muffs. For most seasons I prefer a light-weight wool crusher type felt hat with a small brim. This will shade my eyes from the sun so I will have good visibility and will keep things such as ticks, pine needles, snow, rain etc. from falling down the back of my neck. But when the weather gets cold and nasty I want a hat that completely covers my head, ears, and back of my neck.

Adding a wool scarf to your neckline can increase your body warmth tremendously and can easily be removed and tucked into a pocket when the weather warms. Through the years of hunting in extreme cold to extreme heat I've found that when it comes to extreme heat you're allowed some mistakes in your selection of clothes. But when it comes to extreme cold remember that a mistake can be harmful if not fatal. If you become cold and wet, there is the chance of hypothermia which is a very serious condition.

While living in Alaska and Montana as well as other states I've seen weather conditions change tremendously from the time

you get out in the morning until the sun sets that afternoon. I have always had a tendency to overdress because every time I would leave in the morning I couldn't help but think what if I became lost from camp or injured where I couldn't get back and have to spend a night or two or more in the wilderness. Again, having spent my boyhood in Alaska I have a philosophy to prepare for the worst and hope for the best.

I have talked in general about hunting attire that has worked for me in the northwest. However there are other aspects of clothing when it comes to bowhunting to take into consideration. I have learned not to wear shirts with the shirt pocket on the left side when shooting the bow, the string will touch the pocket and throw the shot. I find a sweater much better, a tight fitting sweater like the commando type is best.

For summer, wear a tight T-shirt or sweatshirt. When hunting big game I use dark-green and black or red and black plaid. Certainly the latter if there are rifle hunters in the area. I have worn solid colors such as olive green and have had game spot me even when I stood dead still. You must break your outline with two patterns. It's a rare day when I wear camo gear. It's a personal thing, I think it serves its purpose and I have a few camo garments, but for the most part it's not for me.

From my experiences of hunting waterfowl in Alaska, I have learned to put something on my face to diminish the glare. Otherwise your skin reflects light like a shinning mirror. Black charcoal

from a burned tree will do if you don't happen to have the paste to smear on your face.

When I bowhunt I like to travel light. I don't like a lot of things hanging from my belt, shoulders, and pant legs. My standard gear will be a leather belt which not only holds up my pants but also holds a sheath with my hunting knife. I place the point of the knife in my back right hip pocket. A second small pocket knife in my right front pant pocket. A light weight coat with a compass, nylon cord, space blanket and of course a couple of lighters tucked in the pockets. If on an evening hunt a small flashlight. If I'm anticipating a hard hunt I will bring a fanny-pack with extra things like energy food, cord, large plastic bag, more matches, water bottle, (if there isn't a lot of water available in the area), and perhaps a 6 1/2 inch saw.

For survival, a small bottle of hydrogen peroxide and a pair of extra socks. If I were to get lost I'm sure I could stay warm. If you are in Alaska or a place where insects are a problem, insect repellent is a must, so is chap stick for your lips in dry climates.

On most hunts I leave the fanny-pack in camp. I find I have everything I need without the extra weight and bulk. I might add that if I did not use a back quiver I would use a small ruck sack instead of a fanny pack. KISS is the moto I live by—Keep It Simple STUPID!

In conclusion, as far as hunting gear goes, I find I'm still basically using the same type of clothing for wilderness outings as I did more than 25 years ago.

(With the exception of footwear which I feel has been improved considerably.) But then that's why I still shoot a longbow as I did 25 years ago. It's still the best for me!

Good shooting.

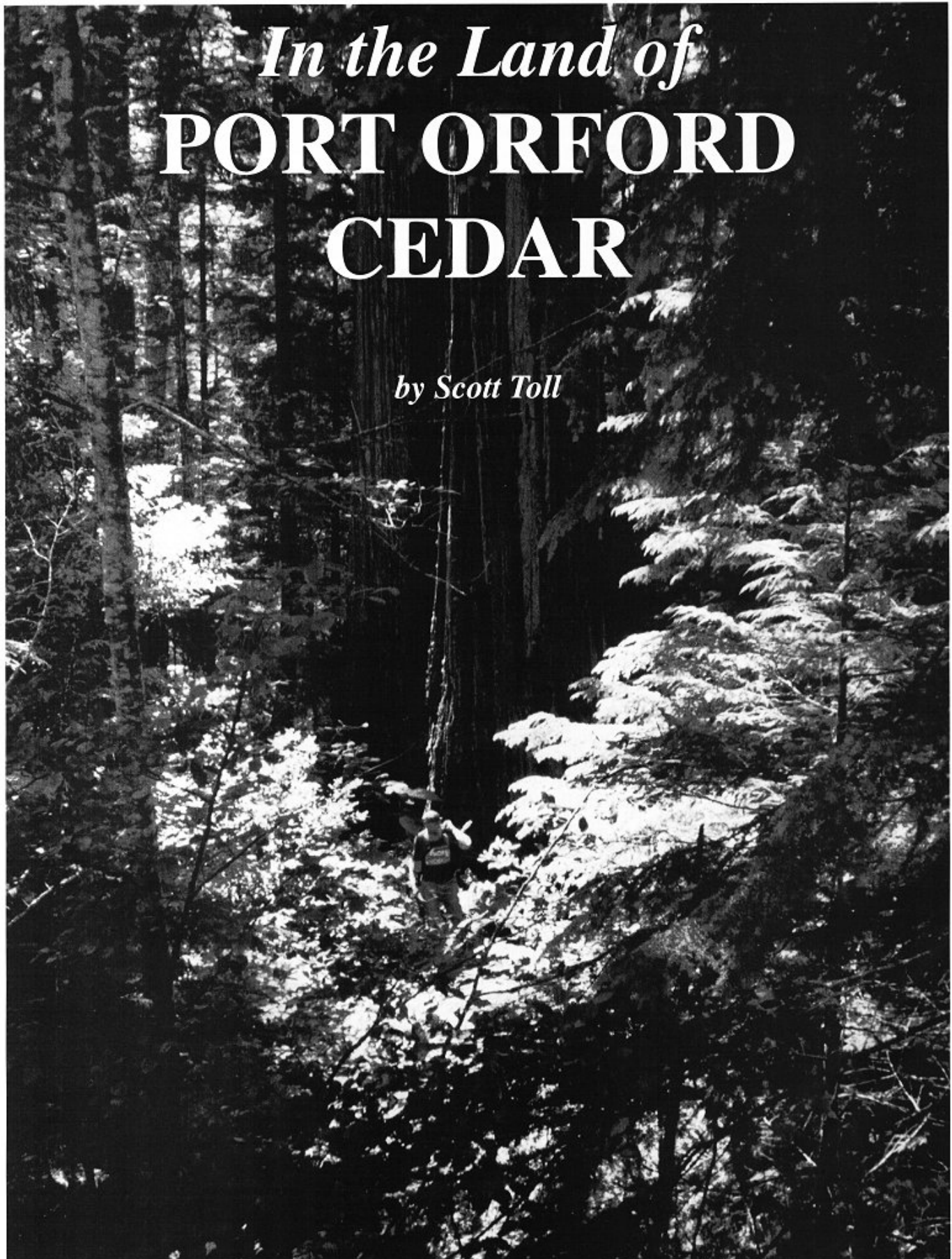


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In the Land of **PORT ORFORD** **CEDAR**

by Scott Toll

I went to the Oregon coast this summer to learn more about Port Orford cedar, the shafting, and the arrow-shaft industry. I'd heard that the shortage of Port Orford cedar was a blessing to the modern traditional archer. This had me more than just a little concerned because my favorite hunting arrows are made of Port Orford cedar.

It has been said that Port Orford cedar lacks the physical weight, as a hunting arrow, for adequate penetration; but I know better. Last season I shot my elk with a Port Orford cedar arrow, the same one I used to win the Idaho State Championship with. I found two small bulls in a lodgepole thicket, feeding my direction, during the last weekend of the season. One of them was nearly 50 yards away so I just stood there and waited for him to get closer. Within fifteen minutes, he was standing broadside to me, with his head behind a tree. It was perfect. I slowly raised my longbow, and shot him in the center of the chest, thirty-five yards away. The arrow went through both lungs then stuck in the ground. He ran less than forty yards and piled up. This arrow hangs on my wall now and is still in perfect condition.

A sharp broadhead and a well-tuned arrow does the most for penetration and I do not like an arrow that is excessively heavy. This arrow weighed 575 grains and was plenty. I have harvested my fair share of elk and deer with Port Orford cedar arrows and have never experienced a problem with penetration. Furthermore, I believe that 500 grains is plenty for deer and elk.

I test-shoot arrows all the time, to see which ones shoot the best from a particular bow. I've experimented with everything but carbon/graphite in all of my longbows and recurves and am comfortable with using either aluminum or wood shafting out of the same bow. I certainly know that aluminum arrows shoot more accurately than woods, but I like my arrows to ride quietly in a backquiver. This is one reason why the IBO (International

Bowhunters Organization) requires the use of wood arrows in their "traditional" (longbow) competition. If a longbow shooter uses aluminum or carbon/graphite at an IBO-sanctioned shoot, he or she must compete in the "recurve" class.

I have an affinity for Port Orford cedar arrows because they are much easier for me to shoot at longer ranges. When my wife and I visited, "The Land of Port Orford cedar," we toured an arrow factory, perused local museums, explored native forests, and talked with people who have made this wood their lifestyle. I wanted to know if there really was a "shortage" of Port Orford cedar, and, if so, how much was left.

As a traditional archer, I felt deceived when I discovered how much Port Orford cedar was really out there for commercial harvest. There has never been a shortage of Port Orford cedar wood supplies for making high-quality arrow shafts. The only "shortage" we ever experienced was a shortage of Port Orford cedar shafting, because of a factory shut-down. I learned all about this so-called "shortage" and much more, when I visited the one of the arrow factories on the Oregon coast.

The climate there is cool and temperate. It usually rains from November through March without ever letting up. It's humid in the summer, mild in the winter, and generally overcast most of the time. There is frequent fog, even during the summer. Unlike Eastern Oregon, the brush is thick, and black-

(Photo on previous page) In earlier times, many would have referred to Scott Toll as a giant (don't sit behind him in a theater), but check out the real giants behind him—Port-Orford Cedar trees on the South Fork of the Coquille River, near its headwaters.

berries grow everywhere. Fortunately for us, so does Port Orford cedar.

The native range of Port Orford Cedar is very small, starting at Coos Bay, Oregon, it stretches southward for about 200 miles into California. Port Orford cedar is found almost everywhere along this part of the coast, and for nearly 50 miles inland. It is most abundant in moist ground. It is also found with western hemlock, Sitka spruce, Douglas-fir, and grand fir in stands so thick that the light can hardly penetrate. When my wife and I explored these forests, we found several Port Orford cedar trees nearly eight-feet in diameter and 150 feet tall.

Oregon and California Indians split cedar into six-foot long planks and made their homes from them. They also used it for clothing (shredded bark), canoes, utensils, and of course, arrows. They used stone wedges to split arrows from pieces of the wood, then scraped the arrows with shell knives and smoothed them with sandstone. Since the arrival of Europeans, Port Orford cedar has been harvested commercially. It has always been a valuable wood for one reason or another.

Between 1857 and 1906, a number of ships were built in Coos and Curry counties (Oregon) from this "strong, buoyant, and durable wood." Port Orford cedar was also used in the ferry boats on San Francisco Bay as early as 1866.

During the First World War, Port Orford cedar plywood was used to build airplane fuselages because it was light, strong, and could meet the required mechanical tolerances of .005 of an inch.

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Between 1917 and 1943 Port Orford cedar was used for venetian blinds and battery separators because of its unique ability to be machined precisely. It also remained strong in acid conditions, and was porous enough to yield high voltages in batteries. This wood was considered a "critical material" for the United States during World Wars I and II.

Port Orford cedar is still a major horticulture product all over the world. The seeds from this tree were cultivated in European nurseries as far back as 1855, and in New Zealand back to 1869. In the Pacific Northwest, it was originally cultivated outside of its native range and used for windbreaks and woodlots.

For several decades now, the commercial value of Port Orford cedar has depended entirely on the aesthetic values of Japanese society. They like Port Orford cedar because it resembles their own cedar, which they call, "Hinoki." These woods have traditional uses in homes and temple construction. The use of Port Orford cedar, as a status symbol, has resulted in a steady demand for this beautiful wood.

Outside of arrow-shaft production, domestic use of Port Orford cedar is very limited because of its great

expense. We use it in boat construction, musical instruments, and roof shingles (when it is too short for arrows); However, we have a law which provides our own arrow-shaft industries with this wood and protects from exuberant export prices.

Unlike the export of raw timber, arrow shaft production is very labor intensive for the little amount of wood used. Politicians understand this and know the value of domestic jobs in an otherwise depressed economy.

In 1968, Wayne Morris, an Oregon Senator, proposed a plan that would help the arrow industry. The Morris Amendment changed U.S. Forest Service Policy (which allowed all of the federally-owned Port Orford cedar to be exported) by designating a small portion to be held back for domestic arrow-shaft production.

Most of our Port Orford cedar is still exported to Japan because they will gladly pay up to \$30,000 for a dead-standing snag. Many of these old snags are up to six feet in diameter and have the highest quality wood in them.

Luckily for traditional archers everywhere, we get our fair share of them.

The biggest threat we have in commercially harvesting Port Orford cedar is a root-rot disease known as *Phytophthora Lateralis*. It spreads with the natural movement of water, or mud carried by animals, machinery, or transported soils.

In 1952 the disease was accidentally introduced into the natural range of cedar. The U.S. Forest Service has been doing their part to prevent the spread of this disease. Port Orford cedar timber sales are now contracted for removal with helicopters for this purpose. This type of logging operation is very expensive and must be planned for and carefully executed to be cost-effective. All arrow wood must be carefully selected and prepared before a helicopter is sent in to remove it.

The harvesting of Port Orford cedar is considered "salvage logging" because only dead-standing or already-downed trees are taken. Some of the

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best trees are partially buried in the ground and covered with vegetation. Wood that has been dead between 100 and 500 years makes the best arrows.


Port Orford cedar wood stays well preserved in its natural environment, once the tree has died. The wood itself contains natural preservatives and insecticides to protect it from Mother Nature. Moisture, fungus, giant carpenter ants, and moths will not attack this wood for centuries at a time.

Port Orford cedar becomes very well seasoned as a result of its preservation. This is what gives this wood its dimensional stability and why it works so well for arrows.

Only the mid and lower parts of the tree are used for arrow wood. The tree's top has too many knots in it. Old growth trees are best because a high canopy of leaves prevent limbs from growing the full length of the trunk. Only clear, straight-grained, sapwood is suitable for arrow wood. This sapwood is called the "rind."



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Sapwood and heartwood make up the cross-section of a tree. These parts of the tree are dead but still serve the rest of the tree. The only part of the tree's trunk that is living is called the cambium and it is not considered wood. This part lies just under the surface of the bark and builds new cells onto the outside of the sapwood. As a tree grows in width, growth rings develop as the result of dead

cells forming on the sapwood. The sapwood serves the living tree by conducting water up through the plant. The heartwood, or innermost section of the trunk stores water, wastes, and other materials.

There might only be ten feet of arrow wood in a 100

foot tree. Only the straightest-grained, well-seasoned rind will work for arrow wood. To prepare arrow wood correctly, logs must be cut into three foot increments first, split, and then the heartwood must be removed. These blocks of wood are called "bolts."

No green trees are cut or damaged in a Port Orford cedar timber sale. No roads are built and no heavy equipment is used on the ground. The loggers walk in with their chainsaws, gas, and lunch boxes, and leave the same way. To remove the wood, a helicopter flies in, lowers a cable with a hook on it, and picks up either bundles of bolts or logs which have already been gathered. Wood is often purchased from the large timber companies such as Georgia Pacific, International Paper, and Weyerhaeuser. When these companies find a "good log," they will either prepare it for export or contact an arrow-making factory (like **Rogue River Archery** [see ad on page 52] or **Rose City Archery**).

Ocean Spray Cranberry is located in nearby Bandon. They will occasionally dig out a well-preserved, Port Orford cedar log as they are cleaning out or developing a cranberry bog.


Then there are guys who come in with a pickup load of bolts. The locals call them, "Cedar Thieves," but generally speaking, they are full-time loggers who sell Port Orford cedar on the side. They cut it on private timber lands, with per-



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
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mission from the owners, and then sell it as arrow wood for \$300.00 a cord.

Rose City Archery was started in 1932 in a small town called Powers, Oregon. The original owners made lemonwood bows, yew wood bows, and arrows. Eventually, they quit making bows altogether, and went strictly into arrow production. During World War II, they produced battery plates and airplane fuselage parts. After the war, they made arrows again, and continued well into the 60s, when the Ademack family bought the business.

In 1994, the company again changed hands. The new owners made an agreement to move the machinery into another building within a year. Eventually, they had to lay workers off, shut down production, and spend a bunch of money to get the job done. Needless to say, they lost most of their big customers that year and the rumors started that there was a shortage of Port Orford cedar. Most traditional archers didn't know what was really happening and thought we were running out of wood supplies. Substitute arrow woods, such as fir, pine, spruce, and various hardwoods flooded the market during this time. Things were looking pretty grim for Port Orford cedar, but then Rose City Archery started up again.

They have relocated themselves into a much better facility and can work more efficiently now. They are producing more high quality shafts than ever before. Now that their move is complete and their workers settled, they have



Sorting squares for the trim saw.

more potential than ever to meet the growing demand for Port Orford cedar shafting.

Rose City will buy approximately 300 cords of Port Orford cedar in a year from different sources. They also partnership with others to buy helicopter timber-sale contracts. They will produce between 10 and 12 thousand shafts per cord, and nearly one-half million pounds of sawdust in a year. Port Orford cedar wood supplies are very stable and future operations are promising. Rose City Archery has been in business for 66 years.

The factory will have an inventory of over 500,000 finished arrow

shafts at any given time. There will be another 300,000 unfinished pieces still being worked on. They sell approximately three-million shafts in a year and their goal is five-million.

It was very impressive to see this many shafts in one place at the same time. It was also very calming to smell the heavy fragrance of Port Orford cedar as we walked through the 22,000 square foot building.

The entire place is busy with workers dashing here and there. Altogether, there are fifteen workers running this factory, including a few people who work staggered shifts. As is typical in a sawmill, safety is a big concern. A

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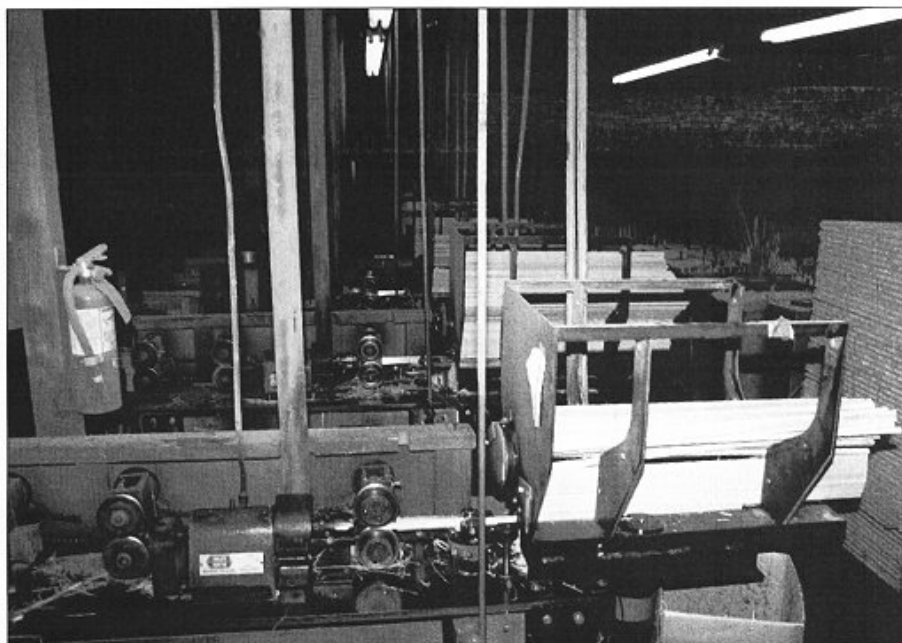
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visitor must be guided to stay out of harm's way. The working environment was friendly, but intense.

While arrow factories may vary slightly in their production methods, the overall production of arrow shafts is similar and can be explained more easily by describing it in smaller parts. "Bolts" of wood must be prepared for the machines. Arrow "squares" must be cut out from the bolts. "Shafts" must be machined out of the squares. And finally, shafts are "sorted" into boxes by spine-deflection and grade. The entire process is time-consuming, takes specialized equipment, and requires highly-skilled workers.

The wood is handled like a precious commodity, and in some cases will be reworked several times before eventually becoming an arrow shaft. All rejected shafts and other wood is used



Doweling machines loaded with Port-Orford cedar squares.

for making other products. No Port Orford cedar is wasted.

The first stage of production is to hand-split the raw bolts of wood into sizes the "square machines" can handle. Care must be taken to keep bolts large enough to be practical for the machines and still not waste wood. They are transported to the "square room" with a forklift when they are finished.

Rose City has two specialized machines, a horizontal bandsaw, and a

"gang ripper" for making squares. Each of the two "square machines" will cut 36 squares per minute, eight to ten hours a day. The square machine cannot cut squares out of the entire piece of wood because part of the bolt must be used as a purchase by the carriage of the machine. There is still arrow wood left in this piece so it is cut into squares using a different method. This small piece of wood is cut into slats with a horizontal bandsaw first and then stacks

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From the archer's point of view, this may be the most important part of the shaft-making process—the grading station.

of slats are sent through the gang-ripper. A gang ripper is just another name for an oversized tablesaw with multiple blades. All squares are finished to 7/16 by 7/16 by 36 inches long before they are cut to length.

To get the most full-length shafts possible from these squares, a three-inch cut is made on both ends. A finished shaft will be 32 inches long. A worker will use a trim saw to make these cuts, but it is not as simple as it sounds. The trim saw is designed to cut a whole stack of squares that have been sorted.

The worker will handle each square individually, looking for splits and knots. If a defect is found on the end, it will be removed with the first three-inch cut of the trim saw. The squares will be inspected for defects and sorted into different length bins for further cutting. A 32" cut is most desirable because it makes a full-length arrow, but the shorter squares can be made into "kiddy arrows" of varying lengths. Squares are cut in 32, 28 1/2, 26, and 24 inch lengths. The squares are carefully stacked into groups of 5,000 and then moved into the drying room.

The drying rooms are capable

of drying 250,000 shafts at a time. There were 50,000 arrows in them when we passed through. The stacks of squares are 66 inches in height when moved into the drying room and are removed when they shrink down to 63 inches. This takes approximately four days. Sixty-five years of experience has determined this method, an accurate measure for drying. Three large, explosion proof motors circulate air evenly throughout the stacks of squares, keeping the entire room as humid as a tropical rainforest.

When the squares are finished drying, they are ready for the doweling machines. One man operates all six doweling machines and has been doing this same job for the last 18 years. He is very quick and does an exceptional job of keeping these machines tuned up. He walks back and forth, filling the shakers with squares, adjusting knives, and replacing dull knives when needed. These machines are very reliable, but need constant attention to maintain arrow finish and final dimension.

The doweling heads, which are actually centerless grinders, are fed squares automatically, with help from chain-driven gearboxes and wheels. As a

square becomes a 23/64 inch, finished shaft, it drops into a bin on the other side. From here, they are taken into the grading room.

Inside the grading room, shafts are spine-tested. The fully-automated spine-testing machine can test and sort 15,000 arrows a day into five-pound increments. It is calibrated to AMO standards of spine-deflection for wooden arrows. Once the shafts are grouped by spine weight, they are graded for quality.

Workers will sit all day at work stations where shafts are mechanically fed onto well-lit rails for inspection. It is very tedious work for people who go through tens of thousands of shafts in a day. Shafts are sorted as premiums, selects, re-runs, or garden stakes.

A premium shaft is the highest quality shaft available. It has to be straight, perfectly round with a smooth surface, and the grain has to follow the shaft for at least 21 inches. A select is not quite this perfect, but still makes a



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very good arrow. Most archers cannot tell the difference between premiums and selects by looking at or shooting them.

A re-run shaft does not have the quality to be sorted as a premium or select. There is still hope for it however, when it is sent back and re-doweled into a smaller diameter. By reducing its diameter to 11/32", blemishes can be removed and the overall finish improved. Sometimes, this will expose a better grain quality, too. An arrow will also lose stiffness and grain weight when wood is removed.

If a shaft does not make it at 11/32", then it can be re-doweled into a 5/16" "kiddy arrow." These shafts must be inspected again for quality, but they are not spine selected. Kiddy arrows are the least-expensive shafting, but most labor-intensive shaft to produce. They must be inspected and machined more times than any other shaft, but it is still cost effective to sell them in high quantities.

Port Orford cedar makes a light kiddy arrow. This makes them more enjoyable for kids to shoot because of a flattened trajectory. They are cheap to buy, and there are plenty of them for sale. Rose City Archery sold a million of these shafts last year and plans to sell twice as many in the future.

Arrow shafts with major cracks or knots in them are discarded as arrow shafts altogether. These defects are usually found on their first trip to the grading room as 23/64ths. They are collected in boxes and sold as "garden stakes" for

about a four cents apiece and work great for staking tomato plants or tree saplings.

Reject squares are made into several different sizes and styles of flower boxes. My wife was overjoyed when Jerry gave her some of these. I have to admit, they look very good, sitting on our deck with flowers in them.

Port Orford cedar sawdust is non-toxic, unlike other varieties of cedar, so it can be sold as bedding for pets and other animals. Not only does it smell good, but it keeps bugs from nesting, too.

The sawdust is also distilled, and its oil used in a variety of products. They gave me some mosquito repellant that was made with this oil. I spilled most of this bottle inside my coat pocket at the North American Longbow Safari, and smelled like a giant Port Orford cedar arrow for several days. At least the mosquitoes didn't bother me. Port Orford cedar oil is sold as pet-bed rejuvenator and even as "Aroma Therapy" products for people. Sawdust "oil" has become an important by-product.

The demand for Port Orford cedar comes from many different sources and is used much differently than I thought before. It is physically lighter than most other arrow woods, yet stiff enough for my heaviest hunting bows. Best of all, it shoots fast and flies flat. Port Orford cedar has been a preferred arrow wood for many years.

So, the next time you hear the mention of a "shortage" of Port Orford cedar, just smile—there is more than enough of it to go around.



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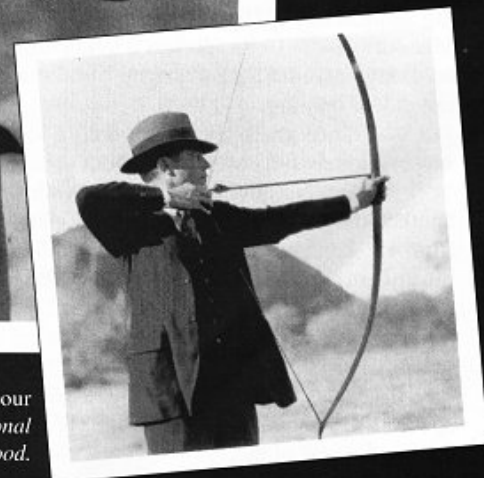
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Photos from the Past - **ART YOUNG** -



Lou Scarcella, M.D., submitted these treasured photographs of Art Young to share with our readers. They were given to him by one of his patients. She and her husband "...were personal friends of Art Young. He frequently visited the archery range in Griffith Park, near Hollywood. She remembered Mr. Young as a gentle and friendly man and an accomplished violin player."

THE FOURTH TIME'S A CHARM

By Doug Campbell



I thought if I spent enough time chasing elk eventually a shot would come along. I never imagined how exciting it would be when it finally came.

My first trip to Colorado ten years ago was a learning experience. The main thing I learned was finding a Missouri shot in Colorado was a tough thing to do. After eight hard days of hunting I managed to take a doe muley on the last day of hunting.

Three years later, I covered a lot of miles and only saw one lonely old cow elk for about three seconds.

Another three years after that we were back again for another try. We packed into what looked like a super spot from all the sign, (until I realized how long sign lasts in the mountains). After four days of 85-degree weather, mosquitoes, and a few spooky cows, we moved to scout a different area for a couple more days with the same results. So much for trip three.

Don't get me wrong, I love every minute I'm able to spend in the mountains, but so far elk hunting seemed to be getting the best of me.

This year, back for the fourth time, I was still looking for my first shooting opportunity at an elk. I had a good feeling about this trip. I was going to be hunting with Kenny Coose, a friend with a lot of elk-hunting experience. Horns, photos, and stories aplenty had me pumped up and ready to go. After a long trip to western Colorado, we finally arrived. We spent the rest of the day setting up camp and preparing our gear for the next day. We were both more than ready for a good night's sleep before tackling the mountain.

An hour before daylight the next morning found us riding Kenny's four wheeler to the area we intended to hunt. After the forty-five-minute ride under a beautiful starry sky and perfect archer's moon, we were ready to hunt. As if on cue, the bulls started bugling. We listened for a couple of minutes and discussed our plan of attack. We moved in on the bugling and called. The bull would call back then move away. We chased after the elk doing this same thing for prob-

ably three quarters of a mile. The last time we came to a huge open park on the mountain side with the bull above us. We circled below the park and up a drainage, so the bull wouldn't see or smell us, and moved to within 150 yards of the him. There we set up for calling again on a small mound covered in scattered aspen and a draw falling off the other side of it. Across the draw, about sixty yards away, the black timber started and ran up and down the mountain-side in both directions.

I got ready. A big aspen was in front of me, one to my left three feet away, and a blow-down behind me. Kenny was below me twenty yards away, hidden among the aspen also. When we were ready, Kenny cow called. Almost immediately I heard sticks popping in the black timber and concentrated there, knowing the elk would probably not get close enough coming from that direction. A few seconds later, I caught movement to the left and glanced that way. There was a bull elk coming up the mound toward me only fifteen steps away, and I was down on one knee with my bow in my lap. Fortunately, I had knocked an arrow. I thought he was going to walk right over me, but at the last second he veered around the tree to my left. As his head went behind the tree, I jerked my Brackenbury recurve to full draw (the 65 pound pull felt like nothing, the adrenalin was really flowing).

His head came from behind the tree before I finished my draw. When he saw my movement he jumped back and froze with his head on one side of the tree and rear sticking out on the other. There I sat, pointing at his quivering nose from six feet away, him wondering what the heck he'd seen. We stayed like this for probably five seconds. Then his eyes flared open with recognition. He whirled around and bolted away. That's when instinct took over. I swung with him as he ran quartering away, the yellow and red turkey feathers seemed to bloom out of his chest cavity. It was a great hit, entering the back half of the ribcage and angling forward.

The bull ran down into the draw in front of Kenny, who shot as he ran by at twenty five yards and missed. Then he turned and ran over the mound twenty yards below Kenny and stopped, giving Kenny another shot. This time he

connected, hitting the elk low in the brisket adding some more to the blood trail. This started the bull traveling again. We ran down to where we could see him crossing an opening below us 150 yards away. He was moving at a wobbly walk as he went behind a patch of brush. Then I heard him crash in the brush. I looked at Kenny, he was as excited as I was. Apparently he had seen the bull coming from 200 yards away and had a front-row seat for the whole show.

Kenny didn't know the bull was hidden by the edge of the mound we were hiding on, he said he was afraid I had frozen up when I saw the bull. I have to admit, if I had seen him coming for 200 yards I would have probably been a basket case by the time he got there. As it was I didn't have time to think about much, all those years of practice just took over.



As we looked for arrows and gave the bull some time before going after him, we looked up the mountain. Out came a big cow. Then another and another, until there were seven cows and a good five-by-five bul above us 100 yards away. We dropped down in the brush and hadn't been seen. Kenny crawled up the hill to try to intercept the herd. They were pretty nervous and kept milling around above us. Kenny tried calling but the bull wasn't having any of it. Apparently my bull had been a satellite bull that was following this herd. The five by five herded the cows up and

moved them out. All we could do was watch as the bull and his cows headed across the park and out of sight. This was amazing! We had only been hunting for three hours, and had shot one bull and had a chance at another. Even if nothing else happened, this was turning out to be one truly fantastic trip!

I was worried about trailing the bull after hearing all the stories about the poor blood trails elk leave. I'm always nervous when trailing an animal until I see him lying on the ground. We trailed down to the patch of brush where we had heard the crash. Sure enough, there lay the five-by-five bull. Finally after ten years and four trips out west, I had done it. Here was the proof lying on the ground in front of me. Everything was still wet with the morning dew, the sun was just coming over the mountain to the east—it just doesn't get any better than this.

After all the whooping, hollering, and hand shaking it was time for the work to start. The bull had ran down the mountain to within 200 yards of the trail. So after quartering the bull, it was a short pack out to the trail, then to town to get the meat in a cooler.

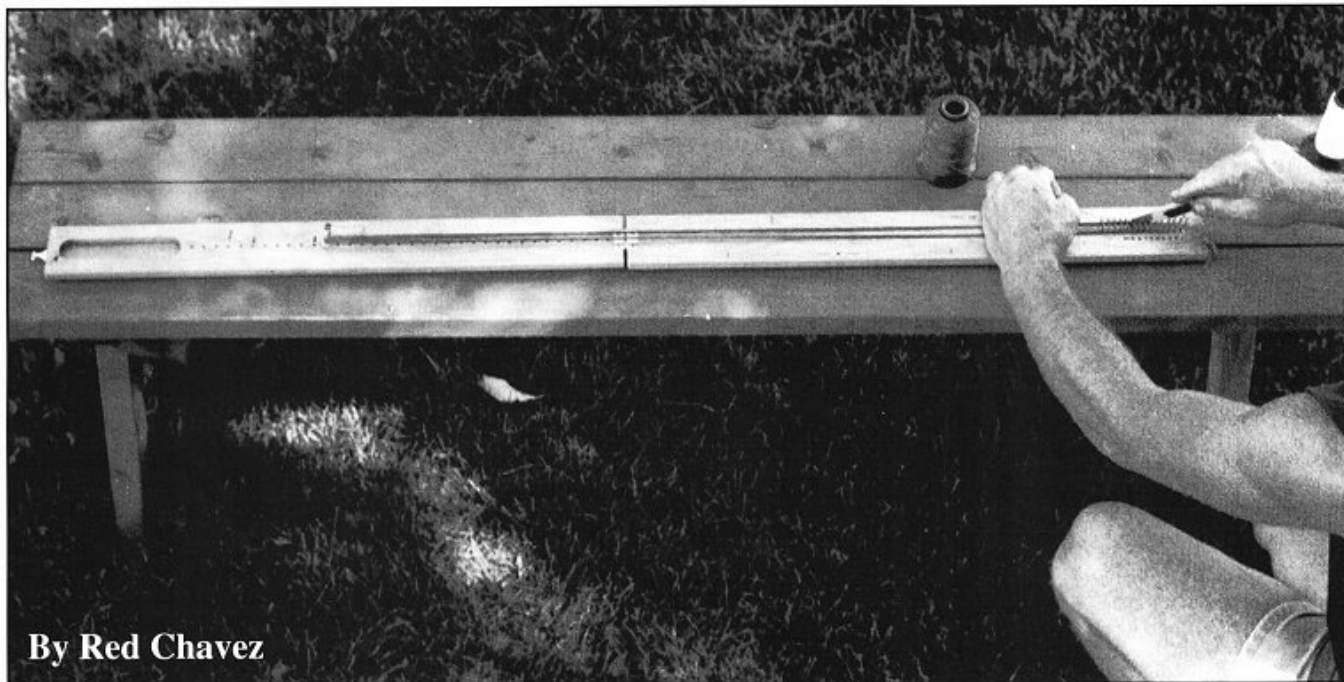
We were into elk all week long, calling in a couple more, but something always went wrong, which anyone who has hunted elk much would probably relate to. We sat on the edge of a canyon for most of one morning and listened to what sounded like a hundred cows mewing below us while two bulls bugled and tore the mountain apart across from us. Unless you've been there you just can't imagine how beautiful it is with this kind of music and scenery surrounding you.

Unfavorable winds kept us from trying to go after them but it was worth every drop of sweat, sore muscles, and dollar it took just being there. We hunted hard but were unable to get Kenny a bull. But with all the bugling bulls, cows, deer, and a big black bear that came out when we were stopped for a snack one day, this had been a trip to remember.

I owe Kenny a great debt for taking me to his spot, calling my bull in, and sharing his elk-hunting expertise so unselfishly with me. I hope we can work out another trip to Colorado in the near future.



Making a Flemish String Jig and Making a Flemish String



By Red Chavez

I had waited to perform the most important part of bow making, the shaping of the riser section, for Scott to see. His bow looked like a square block and only appeared to be a bow because of the limbs. I'm sure that Scott raised an eyebrow, but he kept quiet, not knowing what to expect. Within a short time, the block became a snug-fitting handle and, after several trips to the practice butt, Scott gave the high sign that meant the shaping process was a success. During the next two days, we talked a lot of archery while I finished his bow.

The last step in making a custom bow is the making of its first string. It is a thankless job, but a necessary one; in that I want each and every bow to go to the customer with the right string—a tightly twisted, well-shot, flemish bow string.

I pulled out my string jig, flopped it open and set the pin length. I heard an "ooooh!" from Scott as he watched me progress through the process of twisting and turning the strands of fastflite into the perfect string for the newly finished bow hanging from the ceiling. We talked our way through the serving and then I volunteered to make Scott a duplicate of my folding jig in order to save the one that I had.

I kept track of the jig-making process and offer it to you as a weekend project (see Step 1) to while away the winter blues. The jig is simple to make and, when finished, is handsome enough to be a furniture piece in your den. You'll be able to keep it where the spiders don't make webs and when your houseguests ask, you'll be able use it to impress them with your string-making ability (see step 2).

STEP 1: MAKING A FLEMISH STRING JIG

MATERIALS:

- Two boards: 1" x 2.5" x 24"
- 1 hinge: 1" with screws
- 1 lid clasp with brads
- 1 large pop rivet
- 25 1" nails

TOOLS:

- Tape measure
- Drill motor with 1/8" drill bit Router with: 1" straight bit 'V' groove bit round over bit Hammer
- Awl or nail to mark hole locations

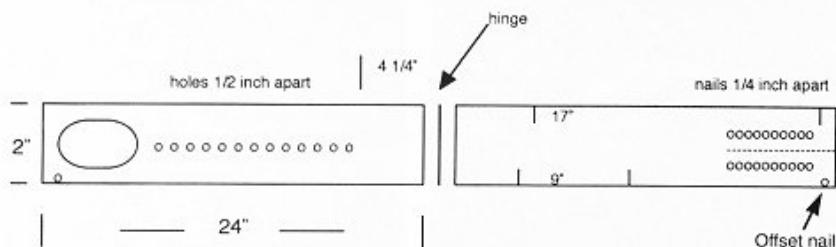
1. Begin by cutting the boards to size and finish sanding them. It is best to finish sand now before putting in the nails and marks that will make future sanding too difficult.

2. Mark the boards for the nails and holes as per the plans (see illustration above). Use a sharp pencil and make the marks lightly so the pencil lead can be sanded off after using the awl or a nail to pre punch the nail and hole spots.

3. Once you've drawn the plan on the boards, use the awl to lightly punch starter holes for the nails and the peg holes.

4. Use the router to make a "V" groove, on center between the row of nail marks. This "V" groove will act as a guide for your razor knife when cutting your bow string.

5. Now for the hardest part of the whole operation: use the router to make the recessed pocket for the nail heads to reside in when the jig is folded closed. The pocket is 1" wide, 6" long, and 5/8" deep. The best way to do this is to make a simple jig, clamp your board to the jig and run the router through once. I never did do anything the best way the first time and after ruining several boards I got good enough to draw a straight line



Flemish-String Jig Plans

on the board, get a good grip on the router, and follow the line. Be sure to wear your safety glasses and make the wife and kids wear ear plugs so they can't hear what you call me.

6. Mark the 9" and 17" marks; lightly sand any pencil marks you don't want to see on the finished product (leave the 9" and 17" marks, as you will go over them with a marking pen later).

7. Install the two rows of nails as per the drawing, leaving 1/2" of each nail above the surface of the board. Hammer them in as straight as possible, 1/4" apart, 12 nails in each row. The last nail is installed offset slightly from the bottom row. (Note that it will not fit into the routed pocket when the jig is closed; we'll take care of that later).

8. Now we go to the other half of the board, the half with the nail pocket routed into it. Using the 1/8" drill bit, drill the peg holes 1/2" apart starting at 4.25" from the end of the board. If you have prepunched the holes, the drill bit won't tear up the board when it starts into the wood. Check to see that the pop rivet fits into the holes.

9. Install the hinge to the outside ends of the boards; close the boards together and tap the top board to make a mark where the offset nail is, then drill a hole to accommodate the nail.

10. Close the boards and install the clasp on the ends of the boards.

11. If you feel real good about the project, you can use the round-over bit

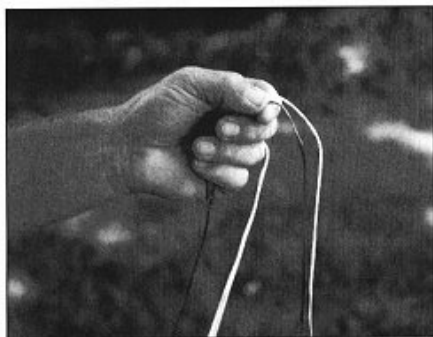
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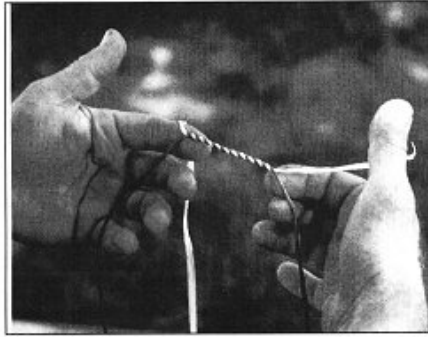
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Put several clockwise twists in each half, then start.



Twist clockwise and pull the string to the front—again and again.



This is what it should look like when you have enough twists to make the loop.

to dress up the outside board surfaces.

12. Your string board is now complete, except for the finish. After applying the first coat of finish, use a marking pen and mark the 9" and 17" spots; then finish the project.

13. You can cut the excess pop rivet length off and store it in the nail pocket when you close the jig. I mark the peg holes for different lengths of bow strings and future reference.

PART 2: MAKING A FLEMISH BOW STRING

Before starting the process of making a string, we need to make sure that we have all the necessary tools within easy reach. First on the list is the string material (fast flight, B66, B50, S4, etc.). You'll need a sharp knife, single-edged razor or exacto knife, and an alligator clip. Bow string wax comes next, followed by your string-making jig, and a tape measure (if you don't have a string of the correct length that you'll be duplicating).

You do need to know the length of the string that you'll be making. For your first string, use the manufacturer's suggested length, then on following strings you can adjust the length to achieve the desired length. Don't be disappointed if your first string is not the correct length, because it takes several

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Form the loop and merge the ends into the string halves.



The finished loop should be nice, tight, and even.

strings to become accustomed to the process and before long you'll wonder why you ever needed instructions at all. But, don't discard them, most archers only make a few strings a year and the instructions come in handy for refreshing your memory.

Let's start by opening your jig on a flat surface (table, etc.). You may want to clamp the jig to the surface, but it isn't necessary. (be very careful here, because "She Who Must Be Obeyed" may not appreciate the round clamp dimple on the dining room table). The jig plays only a small roll in the string-making process, so once you have cut the string to proper length, the jig can be set aside. Set the jig up with the row of nails on the right side. You'll note that there is a row of holes on the left and a pin that goes into one of those holes (which hole is determined by the length of the string you want to make). Before you on the right are two lines, they are nine inches apart. Directly above that is a line that is approximately seventeen inches from the first nail in the top row.

Let's get started. Take your duplicate string and hook the end on the first nail in the top row (all the way to the right, top row). Lay the string down the board to the row of holes and then back up the board to the seventeen inch mark. Insert the pin into the hole that allows the end of the string to be at or near the mark. The string starts at the first nail, goes down the board, around the pin and back to the seventeen-inch mark. It is better for the string end to be just past the mark than just before the mark. If the finished string is a little

long, it can be twisted to shorten it; but if the string is too short, it was practice.

If you don't have a duplicate string, you need to use the tape measure to determine where the pin goes. Generally speaking, for most traditional bows, the string length is about four inches shorter than the total bow length. Using the tape measure as you did with the fore-mentioned string, hook the tape end on the first nail, top row, run it down the board around the pin and back to the seventeen-inch mark. Adjust the pin to achieve the proper length. Now you can start the string making process.

Tie the string end to the off-set nail below the two rows of nails. Run the string between the first and second nails on the top row and down the board counter clockwise, around the pin and back up the board around the number one nail, bottom row. Angle across between the second and third nails, top row, and back down the board. Continue this process until you have used one half of the number of strands that your finished string will have. If you are making a sixteen strand string, you will run the string until you cross the number-eight nail.

Angle across after your last nail and hold the string tight as you put your knife into the groove between the rows of nails and cut all of the strings with one slice. Pick up the end of the lower half at about twelve inches and wax it generously; smooth the string down to the other end, but don't wax it. Repeat the above instructions to make the second half of the string, making sure that the ends are well waxed. The better they are waxed the tighter you will be able to

make the twists in the end loops and the better your string will look.

The next step is so simple that it almost defies description. If you were to watch someone do it, you'd learn it in minutes; but to read about it and learn it may take some time. The best thing to do is to read these instructions several times, trying to visualize what is happening, then pick up the two string halves and try it. Here goes.

1. Stand up, it's easier to keep the string halves apart. Using the nine-inch marks on the jig, measure from the string ends. Pinch the two halves together at the nine inch mark. Let one half dangle straight down and run the other half down between your middle finger and your ring finger. This will help you to keep the two halves separated. Keeping the two halves pinched, with your other hand, put several twists (clockwise) in each nine-inch half.
2. Take the half on the left, twist it tightly clockwise and pull it in front of the other half. Keeping the cross-over spot pinched tightly, take the half on the left, twist it tightly clockwise and pull it in front of the other half.
3. Do it again; take the half on the left, twist it tightly clockwise and pull it in front of the other half. As you perform this task, your thumb and fore finger pinch will work its way up the string with your twists. Again, take the half on the left, twist it tightly clockwise and pull it in front of the other half. And again, and again.
4. Now let's take a look at what we've done; with your right hand separate the string ends while holding the halves in the other hand. You should see a series of twists that are tight and even. Spreading the ends will tighten them somewhat.
5. Pinch the string again, where you left off, and start the twist/pull process again. Every now and then, stop and

check your progress and count the twists. If your string is for a recurve, you will need about eighteen twists; a long bow needs fewer. The twists that you have just done will form the loop at one end of the string.

6. Bend the ends over, forming a loop with the twists. Take the ends and merge them into the long dangling halves by twisting them a couple of times. Pinch the two halves together where the loop ends. Take the half on the left, twist it tightly clockwise and pull it in front of the other half. Keeping the cross-over spot pinched, take the half on the left, twist it tightly and pull it in front of the other half. Keep the twists as tight as possible, checking often for uniformity.

Keep this up for about twenty-four twists, or until you have gone at least an inch past the ends of the string halves. You have now completed one end of the bow string. The halves, dangling, should remain separate.

7. Take an alligator clip or a paper clip and clip the last cross-over point; so that the newly twisted end won't come undone.
8. At this point I usually hang the string from a nail and straighten out the dangling strings. This might be the time to use great caution as to where to put that nail. My first wife took great exception to me slapping up a framing nail in the doorway to the living room. Remember what I said about not learning the first time; well, my second wife liked the idea I came up with to put one of those neat looking brass coat hangers just inside of the front door way. It was a good idea, but I didn't have time, so, I used a rusty old framing nail. Well, now that I live alone, there's no way I'm going to mess up this nice house I live in; so I put up a rusty old nail in my shop. Anyway, running your fingers between the strands usually does the trick, then wax each end about nine inches up.

9. Before making the loop at the other end, you have to allow for the final twists that are made after the loop is formed. To accomplish this, lay the two halves on a table and pick up one half about eighteen inches from the end and swing the end around in circles, clockwise, for the number of twists that you put in the other end of the string (about twenty-four twists). Do this to both halves of the string.

Originally I could never remember which way to swing the string until I realized that every time I counted to myself, the string was slapping me up along side of the right side of my

head. I guess that for me to do something right I need to be smacked along side of the head. Any way, if the string hits you on the right side of the head, you're going in the right direction, unless of course, you're left handed, then I'm lost. Hmmm.

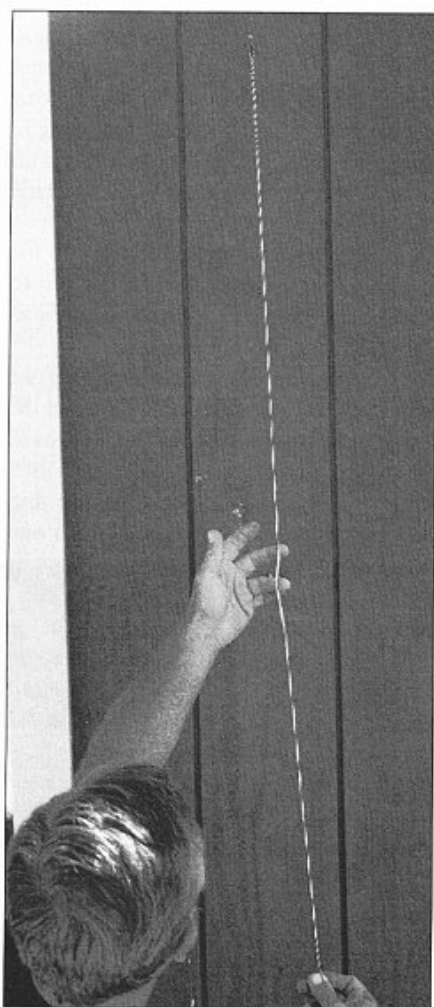
10. Now you are ready to make the last loop. Make this end the same as the first end, by pinching the two halves at the nine-inch mark and twisting and crossing over, as before. This loop should have a few more twists than the other end, as it needs to be big enough to slide up and down the upper limb tip.

11. Merge the ends into the string halves and start the final twists. As you put these twists into the string, the back twists will come out. Put the same number of twists in this end as you put into the other end. Remember to keep the twists tight.

12. Hang the string from the nail, take off the clip and stretch the string as you put twists into the whole string.

13. Put the string on the bow and check its length, if it's too long, add more twists.

14. Leave the string on the bow until you add the center serving (remember to add the center serving in the same direction as the string is twisted).



Loop one end over a convenient nail and pull as you put twists into the string. Then hang the string from the other end and add more twists. Twist the string to the desired length, put it on the bow, and add the serving. **DONE!**

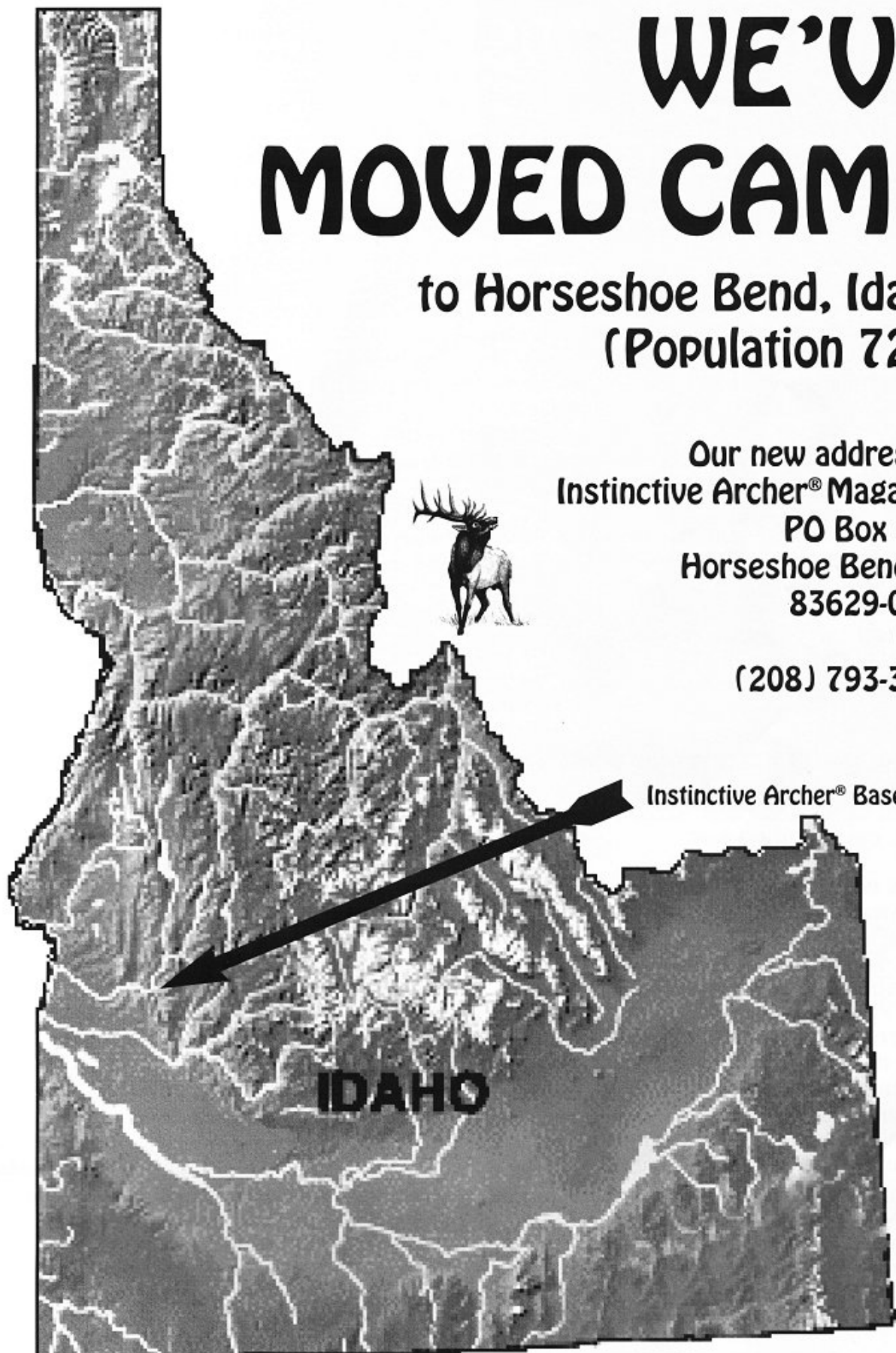
The above process may seem difficult; but once learned, you can make a string in just a few minutes. If these instructions are too much to comprehend, cut fourteen strands of your string material and walk up to anyone at your local archery shop and I'm sure they will point you to someone who'll show you just how simple it really is. Of course, you could call me; but I once spent 45 minutes on the phone trying to explain it to a gentleman and he still couldn't grasp it when we parted.



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THE FIRST HUNT

by
Mark Moersch

A pair of clear dark brown eyes stared out from the dense forest undergrowth, studying an unwary animal. The antlers atop the animal's head reminded the hunter of a gnarled old oak tree that had been twisted and shaped by many

years of wind and storms. He tried not to dwell on the horns and concentrate instead on the exact spot where he would place his arrow.

For an instant, the hunter reflected on the many hours of preparation that had brought

him to this precise moment. To start with he had spoke to older, more experienced hunters about bow types, arrow lengths and weights, types of broadheads, clothing and cover scents that he could use to ensure success during the upcoming hunting season. After deciding on the type of bow and arrow he would use, his next duty as a hunter was to sharpen his shooting skills. He practiced at different distances and angles, from high atop tree limbs, as well as from ground blinds.

The animal's twitching ear brought the hunter back to the present and he found that his bow

was at full draw without the hunter being conscious of the act. It was as if the bow had a mind of its own. He then visualized the arrow's flight path, and when it left the string he knew the arrow was on target.

The deer leapt straight into the air at the sudden intrusion into its body. The hunter noted the deer's tail was down as it disappeared into the underbrush, a good sign of a solid hit. As the hunter's breathing returned to normal, he realized that he was hungry. He ate slowly and deliberately, giving the animal time to weaken before beginning his pursuit.

The trail was an easy one. Blood lay clotted on the forest litter so obviously that the hunter did not even have to bend over to see it. In a very short time, the hunter found the animal dead. Silently, he thanked both his God and the animal's departed spirit for the success of the hunt.

Working quickly as the afternoon sun began to set, he deftly cleaned the animal. The task of dragging it back to camp was hard work, but to the hunter it was not unpleasant. The thought of the delicious meals that he and his family would enjoy made him step lightly and turned the burden into pleasure.

When the hunter cleared the woods with his prize in tow, he stopped to look at his camp. Tall buffalo-hide lodges dotted the landscape before him. Everywhere, women worked on animal hides or tended to cooking fires. A mismatched collection of cur dogs lay here and there, chewing on bones or sleeping in the late afternoon sun. Men too old to hunt, greeted the hunter's arrival with words of praise and hand clasps.

Later that evening, after all the women and children had gone to bed with sated stomachs, the men of the village sat around the campfire. Warmed by the dancing flames before them, they told stories of hunts that they had participated in during their younger days.

The boys of the village, too young to hunt, sat behind the men and absorbed the tales that were told to them. In a few years, they would take their place closer to the fire and re-tell the stories heard in their youth to their sons and their sons' sons, ensuring the perpetuation of the hunting tradition.



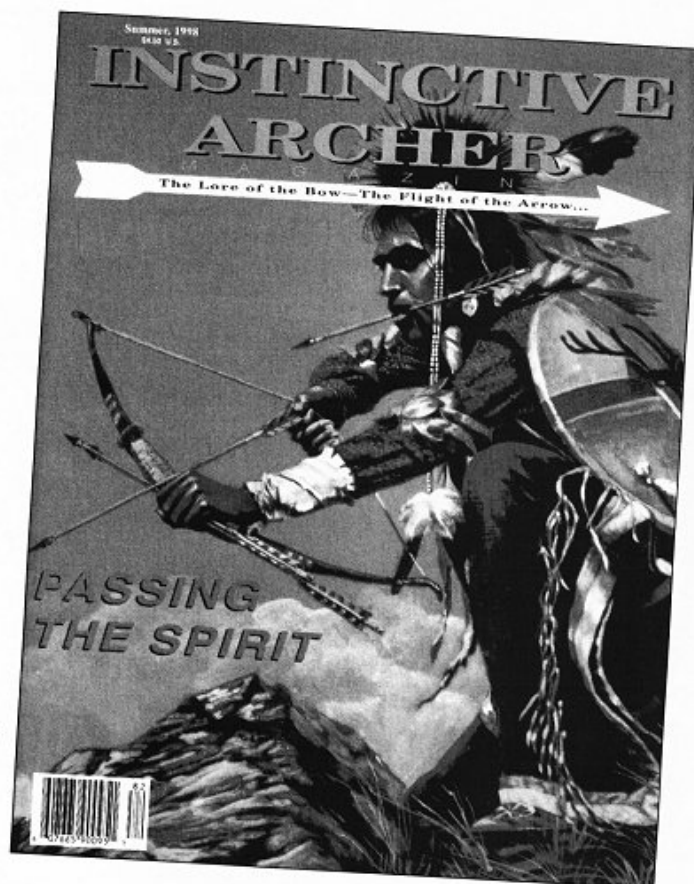
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LORE: A BODY OF WISDOM OR KNOWLEDGE . . . ESPECIALLY WHEN IT IS OF A TRADITIONAL NATURE.



I was over at a friends house the other day and was enjoying his company as he showed me his latest archery paraphernalia, which I never grow tired of. I was inspired by several accoutrements he had discovered and I thought of ways I could adapt and change some of my own equipment to better solve some of the challenges I usually deal with when bowhunting the remote areas I usually get sucked into. It was fun and helpful to exchange ideas about various trappings, gear, and strategy. I have often found I benefit from sharing ideas with other bowhunters wherever I go.

I enjoy the commraderie and benefits of the years of stored knowledge and experience available through fellow bowhunters. Sometimes these ideas change our entire sport for the better, individually and as a whole. Things bowhunters have thought up like string silencers, bow quivers, elk bugles, deer calls, tree stands, etc. They all started as someone's good idea and proved to be of great value to the common bowhunter. These ideas changed the way almost all bowhunters did business and many have developed into an integral part of the archery products industry, which provides thousands of jobs. The bowhunter has put archery on the map in the modern world!

The "common bowhunter" works 40 hours a week and usually gets to hunt deer a few weekends in the fall and maybe if he's lucky, gets to take a week off work to go hunting with his buddies. He's got a couple bows and works hard for his time in the field and the gear he uses. He has carried the archery industry on his back with his love of archery and bowhunting.

He would love to have the luxury, time, and money to do all the things he reads about in archery magazines, but he has a family to raise, bills, work, anniversaries, birthdays, braces to pay for, mortgages, car payments, doctor bills, kid's ball games, yard work, house maintenance, family and friends who need his help, etc. On top of all this, he carries this industry on the dreams of those few days in the autumn when he gets to escape to the woods for those golden days of adventure he fondly calls bowhunting!

"TO THE BOWHUNTER"

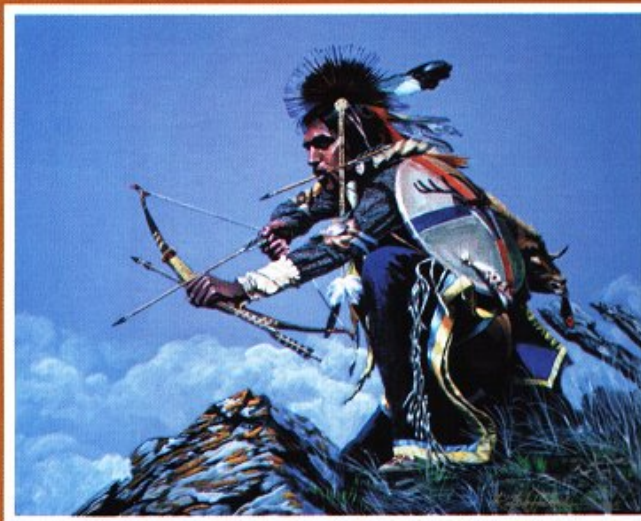
*He walks the sylvan woods in search of antler, fur and horn.
He hunts the solitude of timber, wherever he is borne.
And oath of honor, by which he lives, guides him on his way:
To shoot straight in arrow, word and deed, and live well every day.
And so to honor as is due, and reap a just reward:
Live long and well, shoot many bucks, before you cross the ford!*



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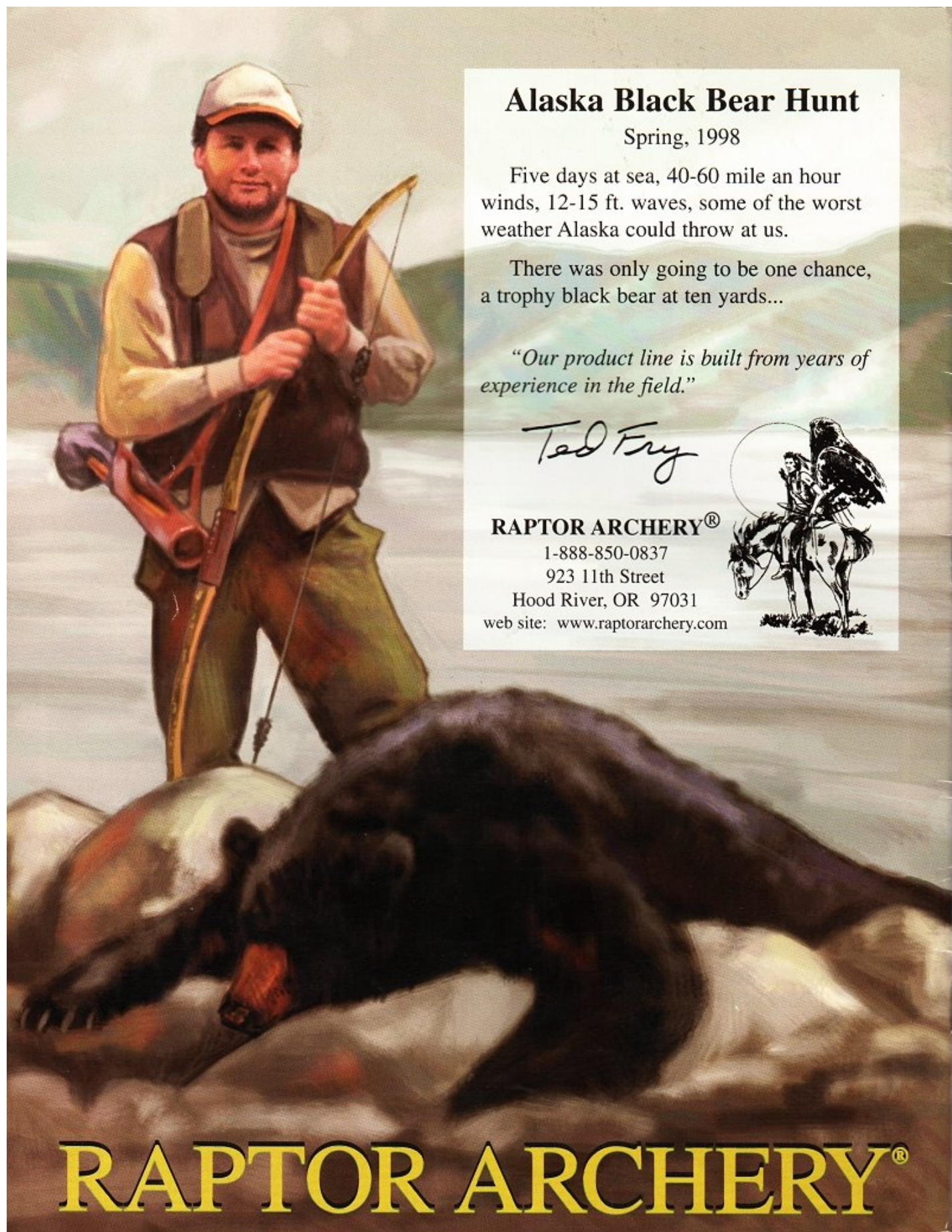
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