Spring, 1996
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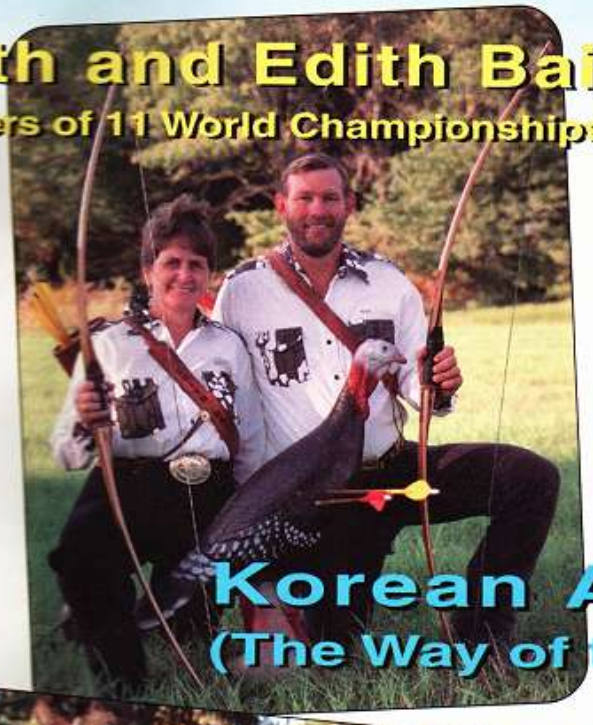
Premier Issue

INSTINCTIVE ARCHER™

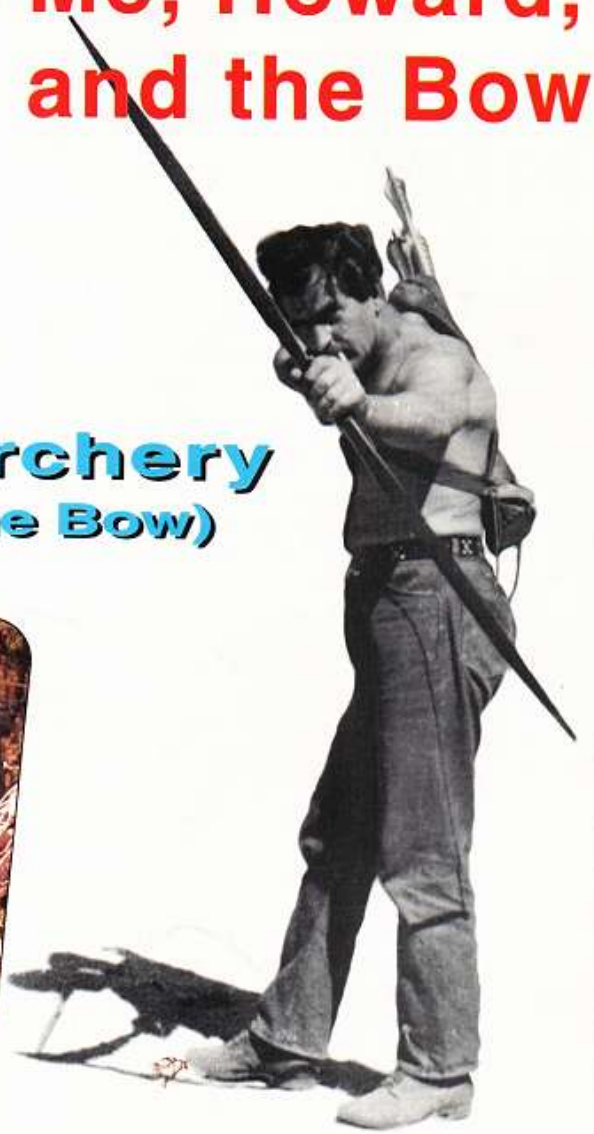
MAGAZINE

The Lore of the Bow—The Flight of the Arrow...

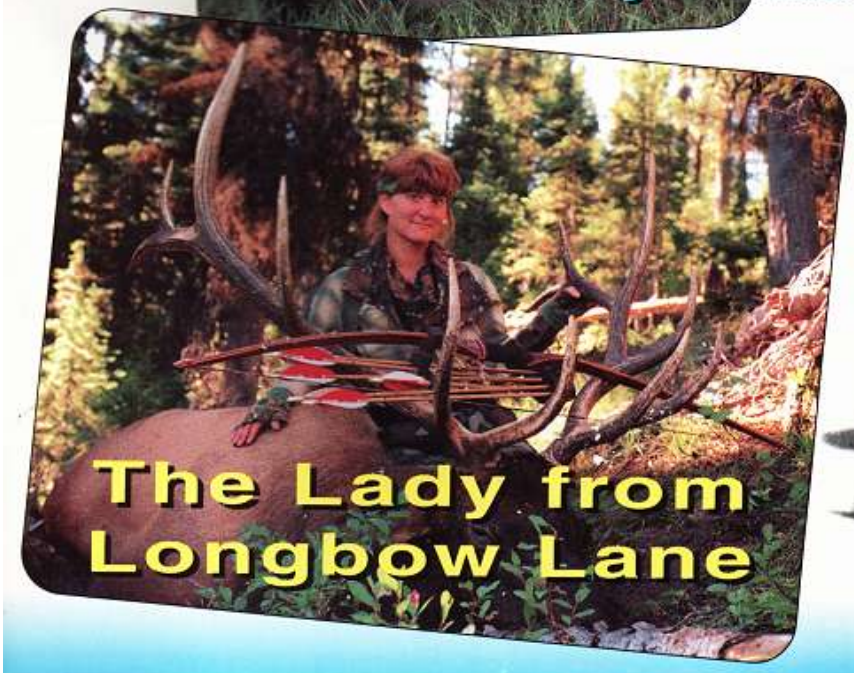
Keith and Edith Bain
(Winners of 11 World Championships)



Me, Howard, and the Bow



Korean Archery
(The Way of the Bow)



The Lady from Longbow Lane

Rik Hinton, Editor

FROM THE OLD OAK DESK OF THE EDITOR

There was a time when the simple act of showing up at an archery tournament with a recurve or longbow would immediately draw a small crowd of amused archers. The crowd would slowly thin after the novelty of the moment had faded, but there were always a few interested people who didn't leave with the crowd. They remained behind, admiring the gear and asking questions, the first of which was usually *"Can I hold your bow?"* Perhaps it was the natural beauty and warmth of the wooden handle which somehow seemed to fit naturally into their hands. Perhaps it was the gentle arc of the limbs which drew their eye, rekindling distant, foggy memories of the ancient past. For some, it was the rich smell and feel of well-worked leather and the striking looks of the hand-made backquivers. But always they came, drawn by whatever it is about traditional archery that captures the romantic and adventurous spirit hidden deep within our souls.

And their numbers grew. Slowly at first, like the early trickle of melting snow high on a mountain peak. Then increasing to a gentle but steady flow of avid, dedicated archers who were rediscovering the age-old joys, challenges, and camaraderie of traditional archery. As the number of traditional archers increased, so did their influence on the archery community and the public.

That first small trickle is now a mature river, as deep as it is wide, nourishing both the tender shoots of new interest and the deep, ancient roots of the wise old archers who have helped guide us on our way. And yet we are only in the early stages of what is yet to come. Traditional archery continues to be the fastest-growing, most dynamic segment of the archery industry, and that growth has brought with it the need for a broader perspective on our rapidly-expanding sport.

The day has long-since passed when one voice could adequately answer all of the questions and cover all of the public's broad-ranging interests in the world's finest family-oriented sport. The time has come for a new, exciting, multi-faceted voice to fulfill the needs of the traditional archery community, one that will expand and increase the volume of traditional archery's voice in the world. So it is my great pleasure and honor to welcome you to the pages of *INSTINCTIVE ARCHER™ Magazine*. A magazine with an international view of the fascinating world of traditional archery—in all its facets.

The archery community's response to our venture has been heart-warming and uplifting, to say the least. Most of the comments we have heard over the last few hectic months have gone something like *"It's about time!"* Assembling an outstanding team of writers and editors to cover ALL aspects of traditional archery, stood out in my mind as my most daunting challenge. It turned out to be the easiest. A simple explanation of our format (approximately 30% hunting and 70% archery) elicited a contagious enthusiasm from nearly everyone I contacted. An enthusiasm that you will see evident on the following pages. I would like to take this opportunity to commend and applaud the international cast of writers and editors who have contributed their hard work, sweat, ideas, support, and overwhelming depth of knowledge to our premier issue, and to the future of traditional archery.

Instinctive Archer™ is not a magazine written for the elite, it is a live, grass-roots forum of traditional ideas, knowledge, and wisdom, and we encourage you to send us your comments, photos, suggestions, and articles. As word of our existence spreads throughout the archery community, so too will our coverage of the lore of the bow—and the flight of the arrow . . .

Traditional Archery —The Big Picture. . .

INSTINCTIVE ARCHER™
MAGAZINE
The Lore of the Bow—The Flight of the Arrow...

Letter to the Editor (our first):

To Rik Hinton,

I received the letter you sent to our club, Arqueros Tradicionales Club Palo Blanco here in Garza Garcia, Nuevo Leon, Mexico. We are very excited about your magazine . . . The Idea of your magazine is very promising. Instinctive shooting is hard to understand, hard to acquire, and hard to dominate. In fact, the great thing about the sport is that we can never fully dominate it, we will always miss sometimes. That is what keeps us practicing, striving for a perfection that will never come, but isn't that the meaning of our existence as humans? We need advice from people who have been in the sport long enough to master it. The newcomers to the sport need to learn about the sport, its tournaments, and its ethics to enjoy it and to live it.

There is a gap that exists between the guys who shoot well and the newcomers or inexperienced archers. That gap will be filled up with your magazine. Congratulations on your great idea! . . .

Regards,
Patricio Sada

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LORE: A body of wisdom or knowledge . . . especially when it is of a traditional nature.

INSTINCTIVE ARCHER™

Spring, 1996

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Assistant Editor
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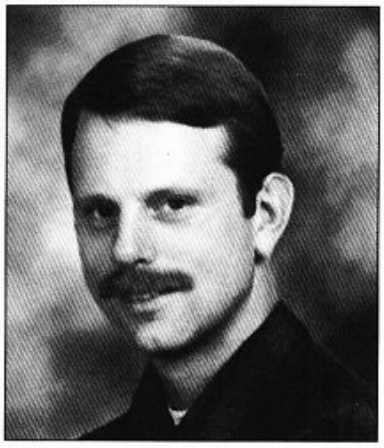


Robert V. Martin, Assistant Editor

INTRODUCTION -

I have a few old silver dollars stashed away. They date back to before the turn of the last century. Some are uncirculated and shiny, some are so worn that the lettering is nearly gone. Funny thing is. . . I like the worn ones the best. They have character. Their tarnished grey surfaces, polished slick as glass from wear, conjure up visions of mining camps and grubstakes, adventure and history, for they were there. They were part of the action, they are "real." The bright shiny uncirculated ones are, well—boring; no soul, no grit, just fluff and flash, each one looks just like the other.

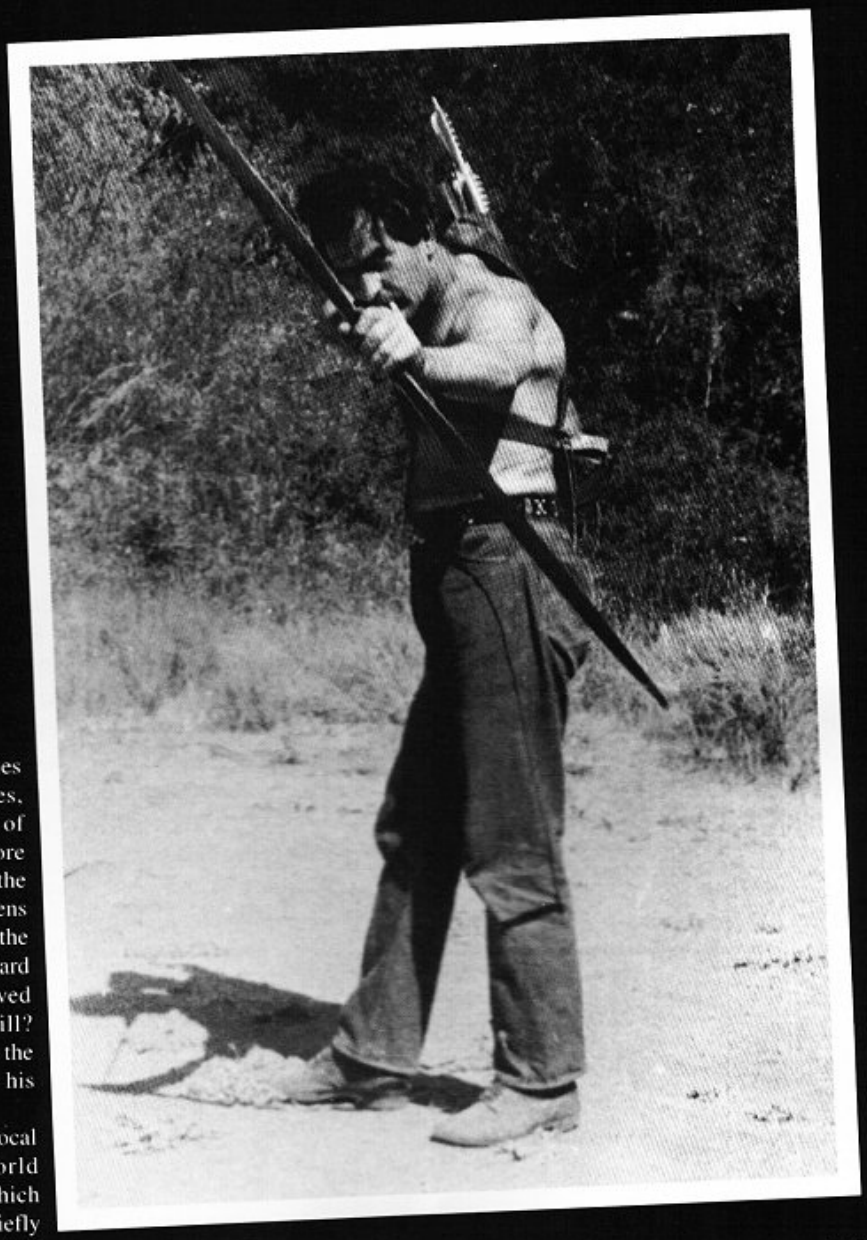
Here's the point: Instinctive Archer Magazine is all about "real archery." We're not about hype and ego or lifestyles of the rich and famous. We're a true-life, hands-on, behind-the-scenes, authoritative resource devoted to bringing you the very best of what real archery is all about. We believe people are interested in more than hunting magazines whose only real change from month to month is the cover, more than just reading about sponsored names doing the same things over and over. Instinctive Archer is the kind of magazine you'll read and use again and again, like an old silver dollar, because it contains authentic, entertaining, and irreplaceable resource information on aspects of traditional archery seldom if ever seen before in print. We are a network of resources and information that will allow you to gain a deeper understanding and enjoyment of your favorite sport.

We hope to touch you with the spirit and romance, the mystery and adventure, the heart and soul of archery—from throughout time and throughout the world. From high deserts to steaming jungles, from bull elk to blue grouse, from field archery to 3-Ds, from composites to self bows, from your ancestors to mine . . . you will find it all here on these pages, like the photo of Howard Hill, the one on our cover. . . awesome, such intensity, the "eye of the Tiger."

So sit back, kick off your shoes, and prepare to be swept away as we bring you just the tip of the iceberg in this, the premier issue of *Instinctive Archer™* Magazine. . .

ME, HOWARD, AND THE BOW

By Scott Toll



We often read or listen to interesting stories about the greatest archers of our times, especially when we are shooting one of their bows. Sometimes the bow itself creates more interest than the person who made it famous; on the other hand, this may not be the case when it happens to be a Howard Hill longbow. Instead, we think of the archer with the "Greatest Name in Archery," Howard Hill. Certainly, if there was ever a bow that proved itself most capable, wouldn't it be a Howard Hill? Because of this, his bows have never changed over the years, and even though he passed away in 1975, his legacy still lives on, through his bows.

Last summer, I was being interviewed by a local radio station about the upcoming I.B.O. World Championships in West Virginia. When asked which bow I would use, I mentioned the name of and briefly described my Howard Hill Big 5 longbow. Later that same day, an "old timer" named Ed Palecek called me in response to my interview. When he heard me say that I shot a "Howard Hill" bow, he wanted to meet me. Ed has been a Howard Hill fan since his boyhood. We talked for nearly an hour over the phone, and finally decided to meet at my place and shoot some arrows.

When Ed showed up at my house a couple of days later, we shook hands and talked steadily about archery for the next two hours, before shooting our bows. Ed is 62 years old now and started shooting a longbow when he was just a kid, during World War II. Ammunition was very scarce during those times and it made good sense for a young Kansas farm boy to shoot a longbow; that is, if he wanted to go hunting. This occurred to him one evening while he was in town watching the movie "Robin Hood." By promising to do extra chores and whatever, he convinced his father to buy him a bow. Ed told me, "I was pretty excited when my Dad came home with a lemonwood longbow and a box with six plastic-tipped arrows in it." Inside the box of arrows was a small pamphlet called *Worlds Greatest Hunting Archer, Howard Hill, presents, Fine Points of Archery, publication no. 25*. Ed learned to shoot by studying this "little book," and practiced with a determination to become as good with a bow as his hero, Howard Hill. Soon he was bringing rabbits and an occasional pheasant back to the kitchen table with his new bow. Eventually, family problems came up and his dad left for California; but Ed kept shooting his bow. In 1953, just after high school, he traveled out to California to visit his Dad and new step-mother, Loetta.

Ed told me, "*Loetta came in one day and said that we should go to the L.A. Sportsman Show that was coming up. She said that she had a surprise for me. I had no idea what she was up to, but we all went to watch the show. Then, out came Mr. Howard Hill and he preceded to put on a show that words cannot describe. He shot standing, sitting, lying down, with his foot, you name it and that's the way he shot. Targets flying, rolling on the ground, fast, slow, with never a miss. I felt as though I was watching Moses part the Red Sea.*"

"*After the show my mind was light years away and Loetta said to me, 'How would you like to meet Howard?' I looked at her as though she had gone out of her mind!" She said, 'You know, I have known Howard for years and I'm sure he would have time to stop and talk for awhile.'*"

Ed told me about the time he met Howard Hill at their house. As Ed was walking into the house, Loetta asked him, "*Ed, Who's the greatest archer in the world?*" Ed's quick reply was, "*Howard Hill, of course.*" With that response, Howard Hill leaned his head out from around the corner of the kitchen and said, "*Well thank you, son.*" Ed was dumbfounded as he stood, "*in the presence of a god,*" speechless. He couldn't remember what his response was, but felt it was probably a stupid one. Later that day "Mr. Hill" made a point to come out and watch Ed shoot his bow at a target in the back yard.

As Ed and I were talking, he mentioned a longbow that Howard Hill had built for Loetta. I was surprised to find out that Loetta, now 83 years old, still had this bow. I told Ed that I would really like to see some pictures of it and, if possible, find out more about Loetta.

I was very surprised when Loetta called me several weeks later. She was very pleasant to talk to and responded quickly to my questions. She told me how she used to toss coins up in the air for Howard to shoot at. When I asked her if she was nervous at the time, she replied, "*He hit them so easily, I didn't really think it was that difficult. At first, I thought he might be showing off for me, but I wasn't sure.*"

Loetta told me, "*He never bragged, in any way, about his credits or accomplishments.*"

As we talked, I began to understand what Howard Hill was really like. He was a gentleman and a family friend; a person willing to share his talent with others so that they may also enjoy the sport of archery. Loetta told me she would write me a letter about her times with Howard Hill.

Loetta Davisson, Howard, and his bow in the early '40s.

"He invited me onto the set when Errol Flynn was making Robin Hood, as he was doing all the shooting for Mr. Flynn. It was pretty exciting!"

A week later I received her letter asking me how soon I needed the pictures of, "*Me, and Howard, and the Bow.*" It was exciting to read the letter describing her experiences with Howard Hill. In her letter, she wrote:

"*In the early 1940's, I became interested in archery through a friend. We lived near a sport shop (also a workshop), near North Hollywood, across from a public park. I often stopped by for arrows and other supplies but, mostly for archery 'chit-chat.' This seemed to be a meeting place for many archery enthusiasts, most of whom were Hollywood actors. It was on one of these occasions that I met Howard Hill. His name was not familiar to me as I was a very new archer. Howard was there to buy supplies for his upcoming trip to Africa to make a film (I later learned). He asked me if I was new to archery; I told him I was. I think that he could see that my bow was a 'real beginners' type. He asked me if I would shoot a few arrows for him to observe my ability. A large bale of hay was in back of the shop for practice purposes. Had I known who he was, I'm sure I would have been too nervous to even pull the string. He gave me a few instructions as to stance, proper position, and how to aim. Apparently, he thought I had some possibility of becoming a fairly good archer. He said he would like to make a bow for me of bamboo and fiberglass, which was reasonably new at that time.*

"*He invited me onto the set when Errol Flynn was making Robin Hood, as he was doing all the shooting for Mr. Flynn. It was pretty exciting!*

"*He was most proud of having done exhibitions at three World Fairs, along with being able to draw a bow of 172 pounds at 26 inches.*

"*Our friendship spanned about ten years and our family always looked forward to his letters and pictures when he was away making films in foreign countries.*

It's fifty years later since he made my bow and now that he is gone, I value it as a real treasure. He was a good friend to our family, a friendship I will always treasure as well."

After listening to Ed and Loetta speak so highly of Howard Hill, I could imagine how exciting it must have been to watch him shoot. It's excitement like this that makes us all want to go out and shoot our bows.

Howard Hill, Ben Pearson, and Fred Bear were all famous for their skills with the bow, and each of their bows was built differently. They each developed a bow design to fit their own shooting form and purpose. The most distinctive part of Howard Hill's form was his shooting posture. He stood with a straight back, yet hung his head far forward when he shot. It looks as if he is hunched over but, if you look closely, his back is straight. A straight back is one which maintains a natural curve of it's spinal column. This natural curve provides good balance, optimal strength, and will prevent the injuries sometimes associated with shooting heavy bows. He hung his head out so that he could aim better using a high

Howard demonstrating proper string-hand position to Loetta.

cheek anchor. He placed his feet in an open stance position. This is the most common stance used by most top archers today. Howard Hill also held the bow with a full grip and used the heel of his hand to push the bow. At the time, he called his form, the "swing draw" or "spread draw." Today we call it "Howard Hill" form.

By studying the shooting tapes of Howard Hill I've been able to identify most of the basic parts of his form. After attempting this form with other bow designs, I've discovered that it is very difficult to duplicate certain parts of his form without using the same bow design as he did. I have developed my own form by attempting to duplicate his. I'm careful not to make claims that I am using Howard Hill's form because I am doubtful that anyone can fully duplicate it. Each of us will more likely develop our own individual form based on the form of other archers.

Howard Hill's method of aiming was to place the point of the arrow somewhere on the target as a reference, using his peripheral vision to do so. The best way to describe this method of aiming is to pick two spots. The first spot is the one which you intend to sink your arrow into and the second spot is imaginary. It is important to focus on the first spot with both your mind and body and never let your focus stray toward the second spot or the point of your arrow. As you draw the bow to full anchor, the point of the arrow will be somewhere below the first spot, if you are shooting at close range. If you can imagine a second spot to aim the tip of your arrow at without looking directly at it or the tip of your arrow, then, you are using what Howard Hill called "split vision". As the first spot is moved further away, the secondary spot will move upward until eventually, both spots will be the same place. When both spots are in the same place, we refer to this as the "point on" distance. At very long distances the secondary spot will be imagined somewhere above the target.

Some will call this method of aim "gap shooting" or "point of aim" but these are entirely different. With "split vision", the secondary spot is an imaginary reference used at the same distance as the first spot and it is done more with the mind than with the eyes. Successful use of this aiming method will depend upon whether or not the archer can control his or her focus. An archer's form must be very consistent to gain the confidence it takes to use this method. Most people find this method of aiming very difficult and have little success with it. With most bows, the distance is so great between the secondary spot and the target that it is nearly impossible to use this split vision aiming technique, effectively anyway. It does, however, work very well with the Howard Hill Big Five.

It is important that we classify the form styles of the great archers of our time and study them for the purpose of developing our own form. As new designs are brought to market, we must match our shooting form with them. Additionally, we may also gain valuable experience by using some of the older, more successful bow designs used by great archers in our recent history. I've heard it said before that we can learn from studying our past history. Archery is no exception to this.

THE BOW: I ordered my Howard Hill Big 5 longbow from Howard Hill Archery in Hamilton Montana. This straight limbed, reflexed bow design has not been changed since the time when Howard Hill was using it on his African safari during the mid-fifties. The statistics on my bow are as follows:

Length:	70"
Draw Weight:	64# at 28"
String Length:	65 7/8"
Brace Height:	6.5" (+ or - 1/8")
Sight Window:	3/8" out from center
Arrow Rest:	1 5/16" above center

I like to use a chronograph to test a bow for it's consistency in casting an arrow the same speed each time. Consistent arrow speed is a good indication of it's "shootability," and this can make a big difference in long range accuracy. It is also important to compare relative speed differences when shooting light or heavy arrows. When someone tells us a bow is "really fast," it means nothing; instead, we want to know "how fast." We must be careful not to choose a bow based on speed alone, because "shootability" is the most important factor in selecting our equipment. A " fast miss" is still a miss.

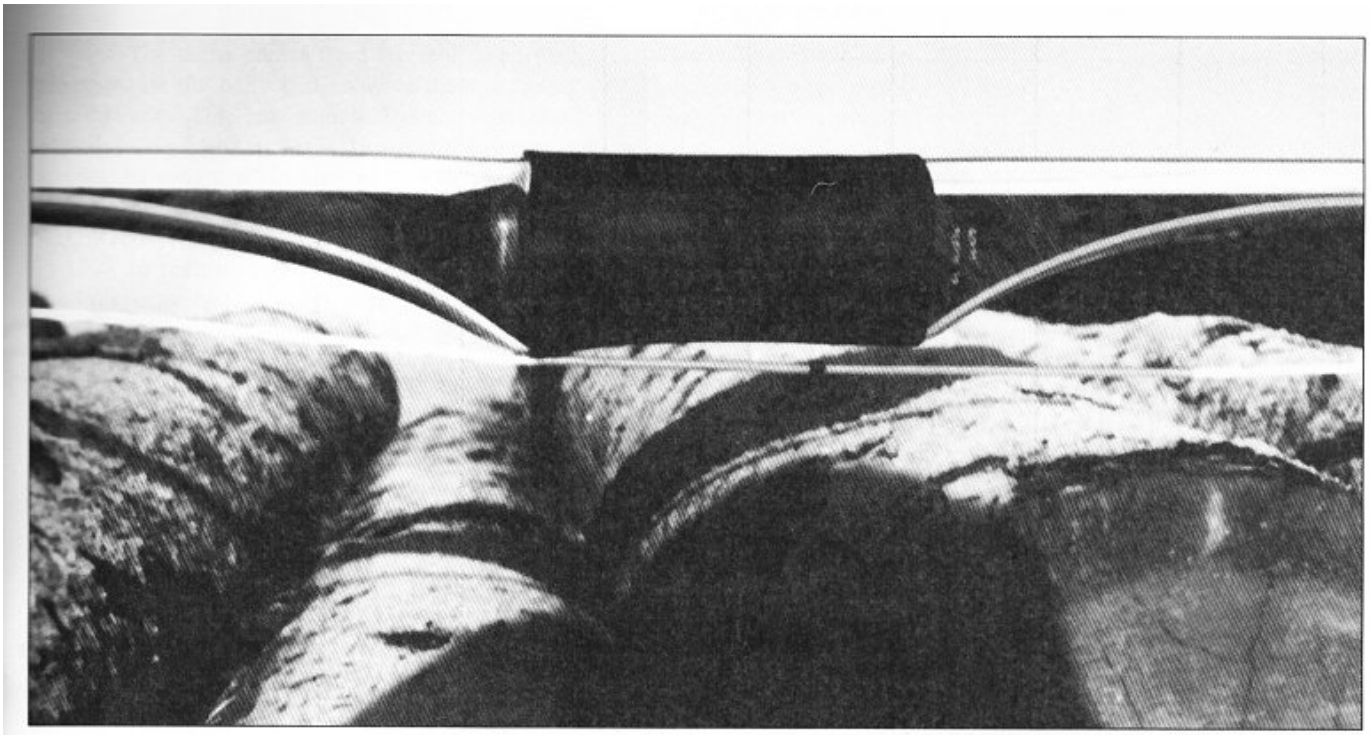
The bow Howard Hill built for Loetta brings back many cherished memories.

I tested this bow using a 28" draw length and controlled this by having another archery friend watch my arrows as I drew them and anchored. Test results were as follows:

1. 540 grain arrow avg. = 179 fps
2. 600 grain arrow avg. = 170 fps
3. 650 grain arrow avg. = 168 fps
4. 700 grain arrow avg. = 165 fps

These test results show that this longbow will handle a wide range of arrow weights very well, which is probably due to it's long limbs. This bow is no "slouch" either, with it's ability to cast 540 grain arrows at 179 feet per second. Consistent arrow speed is the key to success when shooting with the "split vision" aiming technique. This Howard Hill bow proved to me that consistent arrow speed could be achieved with a longbow.

When I first shot a Howard Hill bow I kept hitting the bottom of the target butts. I was used to shooting a reflexed-deflexed longbow and, at first, I thought the bow must be very slow; I was mistaken. After shooting it several hundred times, I simply had to make some mental adjustments with the sight picture. The secondary spot was closer to the first spot all the way out to 50 yards. Howard Hill could have easily configured his bow



Close-up of a Hill bow's riser section.

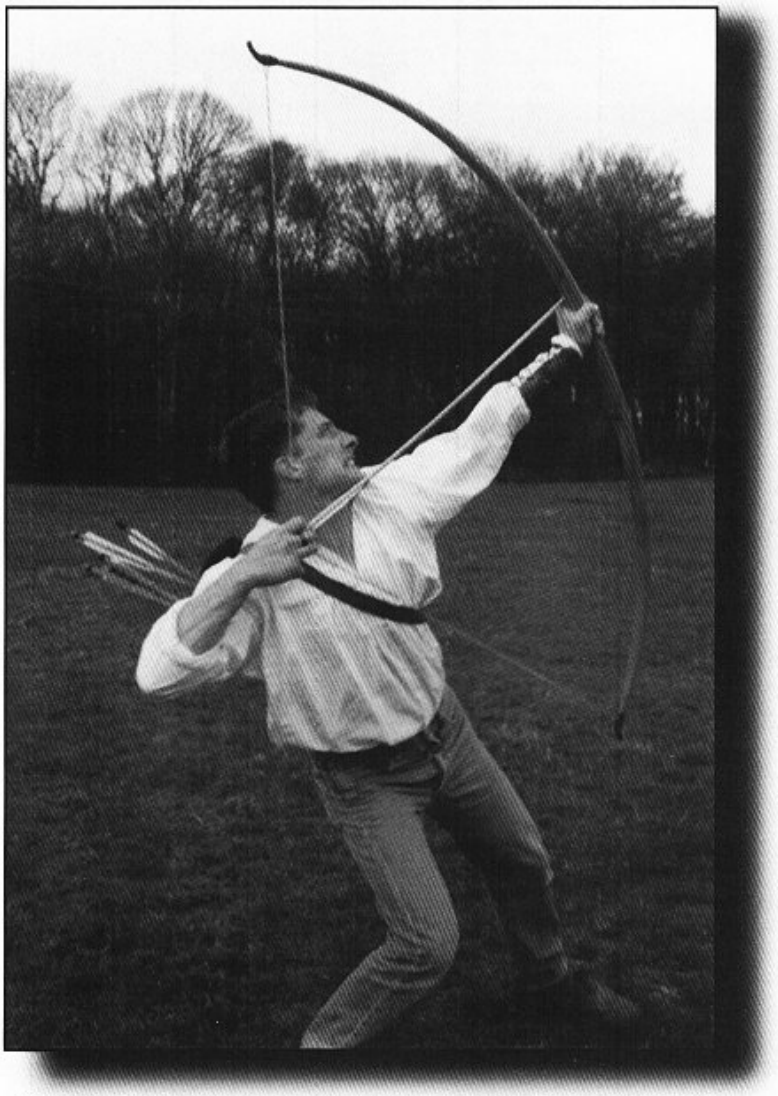
any way he wanted to but he liked the way this bow shot. The "split vision" aiming he used works very well with this bow.

If a Howard Hill bow is not properly heeled with the bow hand, it can produce tremendous handshock. The term "heeling" refers to the pressure we exert to the bottom portion of the handle of the bow. By heeling this bow, we can better flex the lower limb, which stabilizes the entire bow and reduces handshock. My first experience with shooting a Howard Hill longbow was quite unpleasant. I shot it like a recurve and it nearly tore my arm off. I wasted no time in studying Howard Hill's shooting style. I quickly discovered that heeling this bow would decrease the handshock.

After shooting this bow correctly, I found that it was actually quite pleasant to shoot. The handshock which is sometimes associated with a Howard Hill bow occurs when attempting to shoot it like a recurve; that is, applying pressure with the web of the hand. Howard Hill once made the statement, "*I am not skilled enough to shoot a short recurved bow accurately.*" The simple fact was that his own shooting form did not allow for him to shoot a short recurve. After all, each bow has it's own personality, much as we do, and to get the best results from our bow, we must use a shooting form that is fitting.

I favor my Howard Hill longbow during those times when "the pressure is on." It gives me a little extra confidence when I need it. I've used it often during 3-D tournaments and on hunting trips this past year and have had great success with it. I really do enjoy shooting this bow. If you would like to develop a shooting form and technique similar to Howard Hill's, then I would highly recommend it. Howard Hill was known as the "Worlds Greatest Archer," and his bow design served him well.

Scott Toll teaches school in Oregon. He is an avid bowhunter and an outstanding archer. He was the 1994 Oregon State Traditional Champion and is the 1995 Northwest I.B.O. Traditional Champion. When he's not scouting, hunting, or competing, he lives in Durkee, Oregon.



Simon Stanley hurls a war arrow down Robert Hardy's paddock, towards an advancing army! This bow is "The Leopard," here held at 165 pounds.

RAMBLING ON THE LONGBOW
–THE OTHER ARCHERY

By
Roy King, Bowyer to the Mary Rose Trust

Now, I enjoy a FITA as much as any target archer and many a 1,300 have I shot—at least in my dreams—and I must also only dream of shooting in heavy longbows. Once our national arm of war, these Goliaths of the archery scene are tremendously difficult to draw, and likewise the pain and pleasure of shooting in the ancient way is only reserved for the select few, just as with the 1,300 FITA.

In making replica bows for the Mary Rose Trust research team I have come to the conclusion that the really heavy bow shooter is born and not made, just as with any top level athlete. Making bows of 100 lbs., and at times of half as much again, is difficult enough. Drawing them, for me as for thousands of other archers, is impossible. I have come across a few archers who say they can use bows in excess of 100 lbs., but when handed such a beast the bow always wins!

Fortunately, within the Mary Rose team we have the services of Simon Stanley, one of the world's strongest archers, and certainly the strongest in Britain. He can draw, HOLD, and shoot bows in excess of 160 lbs.!!! Perhaps it is Simon's pedigree as a farmer/blacksmith that has set him aside of others. Certainly his skill at the anvil in manufacturing Damascus steel blades and pioneering the lost art of forging medieval arrowheads must help.

Whatever the case, the real subject of this small article is to inform the reader on the performance of war bows, those at the very top end of the weight scale. Bows used in war would have been more common at 80 lbs than twice this weight. Robert Hardy who heads the Mary Rose archery team, and author of the book *Longbow*, is presently undertaking a labour of love in writing a second book on the "Great English War Bow." However, until that book is published, ponder on the following few facts about one yew bow in particular, "The Leopard."

The name comes from the few pin spots on the belly that enhance the bow's beauty. This bow is now 3 years old, having shot several thousand arrows. Its weight when fully broken in was 154 lbs. at 30 inches, and is still that weight today.

In making such weight bows the bowyer must repeatedly draw them to force the limbs to come around. I do this by the simple process of placing the horizontal bowstring of the braced bow over a hook fixed to a roof joist. With the bow hanging at "nipple height," both hands are brought downward on the central section, pushing it to full-draw. This is usually the point where the poor bowyer's body-weight balances out the weight of the bow and his feet almost leave the floor! The Leopard is of the crossection of the heaviest Mary Rose bows, though not a copy of a particular recovered bow.

It is made of English yew of my own felling some 16 years ago. A wind twist within the tree deemed it necessary to remove the sapwood down to a flat heartwood back. A new back of hickory from the ex-stock of George Dowsen, the last official bowyer with the Royal Company of Archers in Edinburgh some 25 years ago, was used to replace the lost sapwood. The function of the sapwood compares equally to that of the substitute hickory for all tests and performances.

Between the horn string-grooves the bow measures 75" in length. As in medieval times, there is no covering to the grip of the bow, just the bowyer's stamp on the side to indicate where the arrow should lay and the bow hand be set.

In shooting, Simon simply (heaven knows how) draws the bow, initially with the arrow in a horizontal position. He anchors well behind the ear for his usual draw of thirty inches plus. The weight of the bow is then "held and fully arrested" in this position. Distance shooting being the prime objective, Simon then tilts back from the waist (who said unit-aiming is new?), and adopts the required 45-degree angle with the arrow, the loose naturally follows. The whole draw to release takes some four seconds. There is no fumbling draw, then a snap loose as the arrow approaches full draw. The whole shot, time and time again, is a slow, powerful, methodical action that mere mortals cannot comprehend.

Arrows used for testing The Leopard are mainly of ash or birch and occasionally of pine, in diameter of one-half inch. Heads of course are Simon's unique hand-forged type, to all Museum of London patterns etc., designs, though usually of bodkin or type 16 war heads. Fletchings we have found needn't be, nor are for any reason desirable to be, high-cut. An overall base length of six-inches is used, as in Mary Rose recovered arrows—though seven and one-half inch fletchings have occasionally been tried. With such heavy bows and arrows, the size of the fletching has little retarding effect on the overall flight distance achieved.

A lighter arrow is sometimes used, "to harass the enemy at a great distance," as was done in war. Though fletchings even here aren't less than 5-inches long by 3/8 of an inch high. In some flight arrows a lesser fletching is used. In most cases fletchings are parabolic, or ancient swine-backed or saddle-backed shape. The triangular type fletching, much used by artists and supported by the British Longbow Society standard-arrow, holds little to recommend its use, nor the 3/4 inch height.

The fact that the war arrow was made up and held in storage, perhaps for decades, required that the fletchings be bound as well as glued to the shaft. The binding was closely lapped at the fore-end of the fletching and then with 1/4 inch or so gaps, was wound along the shaft to the rear-end. Here again the last section of bare quill was closely lapped to solidify the fletching in place, even if damp were to attack and loosen the animal/vegetable glue. To this glue was added verdigris, to act as a waterproofing agent.

To bind on fletching, some sources say the ancient fletcher used a single strand of horse hair, being both strong and of small diameter. Horse hair is found on the building up, or should I say, the holding down of Victorian longbow handles.

Draw length of course is a personal thing. Though in war certain

Photo by Sally Hardy

The Mary Rose Gang holding replicas of the longbows found on the Mary Rose. Left to right: Simon Stanley, Robert Hardy, and the author, Roy King.

made-up lengths of arrows were used. Some 25% of all arrows recovered from the Mary Rose indicate a useable length of about 28 inches. The remainder indicate a useable length of about 30 inches, from a shaft whose overall length is 31 1/2 inches.

One peculiarity of shooting very heavy weight bows is the actual compression across the chest and bow arm, that in effect shortens the draw length. Arrows in the longer lengths used with "The Leopard," at Simon's 31 1/2 inch draw, and pulling 165 lb, give a weight of around 1,450 - 1,500 grains. This for an arrow with a heavy type 16 barbed head. However, the bodkin was without doubt the favorite and much more easily made, and in certain Tudor examples could weigh in at over one ounce alone. Now, 1,500 grains is near 3 1/2 ounces, and The Leopard will hurl these javelins 270 yards in our damp, lowland, old English climate. Appreciate the striking force of such an arrow. That is the name of the game in warfare, purely foot-pounds of energy!

With arrows of roughly 840 grains, just under 2 ounces, 310 yards can be reached. The Leopard gives 208

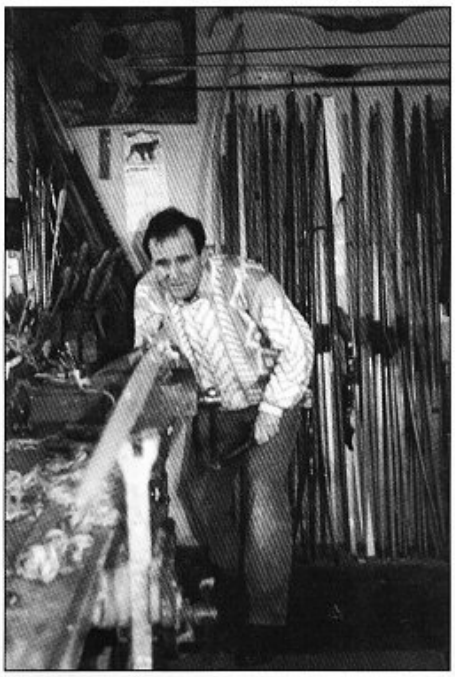
feet per second with a 925-grain arrow, producing 89 foot-pounds of energy! The monster 1,500-grain arrow leaves the bow at 175 feet per second and gives an incredible 102 foot pounds of energy!

The yew stave for "The Leopard" had a slight follow when glued up and now has 2 3/4 inches of string follow. Whilst agreed that the bow will last forever, no small task at 165 lbs, alas due to the obvious follow of the full-working and abused bow, not just a half-broken in and under-braced and quickly drawn toy, the obvious force/draw curve is predictable. This means that the bow will have lower tension at brace height and build up more toward full draw, reducing stored energy somewhat.

The wonderful English yew from which it is made is physically heavy wood. Around 46 pounds per cubic foot. (I have English yew at 56 pounds per cubic foot and this weight of limb, with the sheer bulk of it, will have a retarding effect on resilience. Naturally this makes the bow perfect for it's designed purpose, pure ft/lbs of energy with heavy arrows. Not a quick snap with a flight arrow.

The longest Mary Rose replica I have made, M.R.A. IV, duplicated the longest recovered bow, which was 82 1/2 inches tip-to-tip, without its perished horn nocks of course. This bow weighs 145 pounds at Simon's draw length, which is an extra 1 1/2 inches over that of most Mary Rose arrows. It is made in American yew. Most of this yew is lighter weight, less dense than English yew, irrespective of the number of growth lines to the inch, and therefore more likely to chrysal in the belly, and less likely to withstand imperfections of growth.

Indeed, I have been sent via the Mary Rose Trust a perfect stave of Oregon yew, in order to make another replica that only weighed 34 pounds per cubic foot. Needless to say that is a non-starter in the heavy longbow scene. Such weak wood is only suitable to make either weak bows or flatter-section bows. However, not all English yew is perfect, in fact the choice of it is far more critical than the American. English yew that is perfect for bowmaking is as rare as chicken's teeth. English yew that has bowyer qualities is a joy to behold,



The author working on a bow for the Mary Rose Trust, January 1993. This photo was used as an illustration in the book, "Such Goodly Company," following the history of the Worshipful Company of Bowyers 1300 - 1600. The collection of longbows on the back wall mainly date from the 19th century.

work, and shoot, with the deep orange heartwood that withstands knot and gal without chrysal.

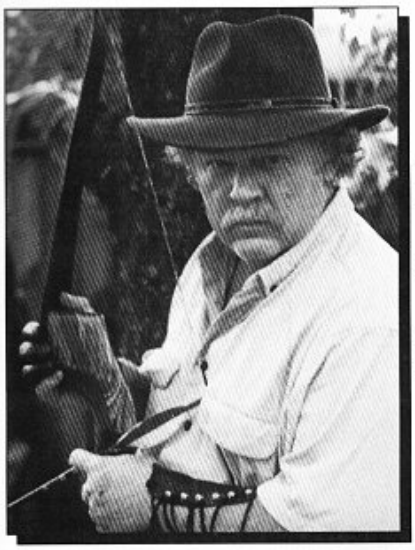
But back to M.R.A. IV and its shooting qualities. With a Victorian type of clout/flight arrow, on early trials the bow gave 370 yards as a best distance. With a harassing arrow of 650-grains the initial velocity was measured at a remarkable 222 feet per second, giving a flight of 340 yards, though only 71 foot pounds of energy. This bow has an advantage in its force-draw curve, in that it was naturally slightly reflexed, giving the bow a better initial build up of energy and putting on only 7 pounds per inch at the very end of the long draw!

In shooting heavy arrows approaching 1,000-grains, both M.R.A. IV and "The Leopard" shoot the same distance, "The Leopard" being the better 1,500-grain shooter.

It will be seen that the Olde English War Bow, with its heavy shafts, is a very efficient machine, when over 100 foot pounds can be generated on the dispatch of an arrow. Unlike light shafts, this energy is retained at distance. Which is the name of the game!

Alas, from all of the above I regret to say that I get my enjoyment from the longbow in making and shooting bows of more normal weights. I can best handle bows of 50 to 60 pounds. These bows, though similar to the Medieval bow, are basically 19th century in appearance. Bows that the Thompsons and Saxton Pope in the USA would have been familiar with, that saw action on the target fields or in the hunt. And herein is the joy of the longbow: in its diversity of weight, design, and usage, it is a weapon to suit all men, fit for commoner or King!

Roy King, of England, has been in organized archery since 1958, and in due course has won five National Flight Championships and four National Field Championships, always using equipment he has designed and constructed himself. His interest in the construction of the longbow started thirty years ago. Since then he has supplied longbows and shafts to many notable archers and societies. He is Bowmaker to the Mary Rose Trust, concerned with the recovery of archery equipment aboard that ship which sank in the Solent in 1545.



Real Archery

by
E.T. Williams

"TRADITIONAL ONLY!!" "INSTINCTIVE ONLY!" "TRADITIONAL BOWHUNTER!" "INSTINCTIVE ARCHER!!!" What do these terms mean? I had no idea, as I notched (not nocked) another arrow on the string of my hickory recurve and flung the arrow in the direction of my target. It was the late 1950s, and I was an archer bowhunter "wannabe," (just a kid with a bow). No, I don't remember hearing most of these terms, however, I do remember hearing the word "compound." Compound was the word back then used to describe a bow constructed from more than one component (like the asiatic composite bows used by the Turks).

A friend of mine had an uncle named Bob who had what we then called a "compound." Uncle Bob was a real "archer bowhunter." He made his own arrows and had shot a *real* deer with his compound. Uncle Bob would place three fingers under the arrow, draw his bow, and then aim down the shaft before releasing the string. Soon I was shooting just like Uncle Bob, and I was no longer flinging arrows, I was hitting targets.

Almost forty years later it's 1996, and as I read the flyer for an upcoming traditional 3-D event, I see the following restriction: "***WOOD ARROWS ONLY AND SPLIT FINGERS ONLY.***" Now, I can understand the rules prohibiting sights and modern-day compounds, but give me a break! "Split fingers and wood arrows only" may be taking it too far. Perhaps shoot sponsors don't realize that approximately one out of five traditional archers shoot three fingers under, and over half of all traditional archers use aluminum arrows.

"Howard, we'd really like to let you and Fred shoot at our event, but we can't because you both use aluminum arrows—and this is a real traditionalist event!"

"We're sorry Ishi, this is a traditionalist event so you can't shoot here. Maybe the Apaches will let you shoot with them, or maybe you can find more Yanas to shoot with. This is a purely traditional event like our ancestors held. You know, you understand, right Ishi?"

"Oh yeah, Ishi, on your way out, would you mind telling that group of thumb-ring shooters (a 2,000 year-old style) *that they aren't welcome here. One more thing Ishi, would you tell the Turks to hit the road with their overdraws. Yep, this is going to be a real traditional event, split fingers, wood arrows only, and no overdraws, not even ancient ones."*

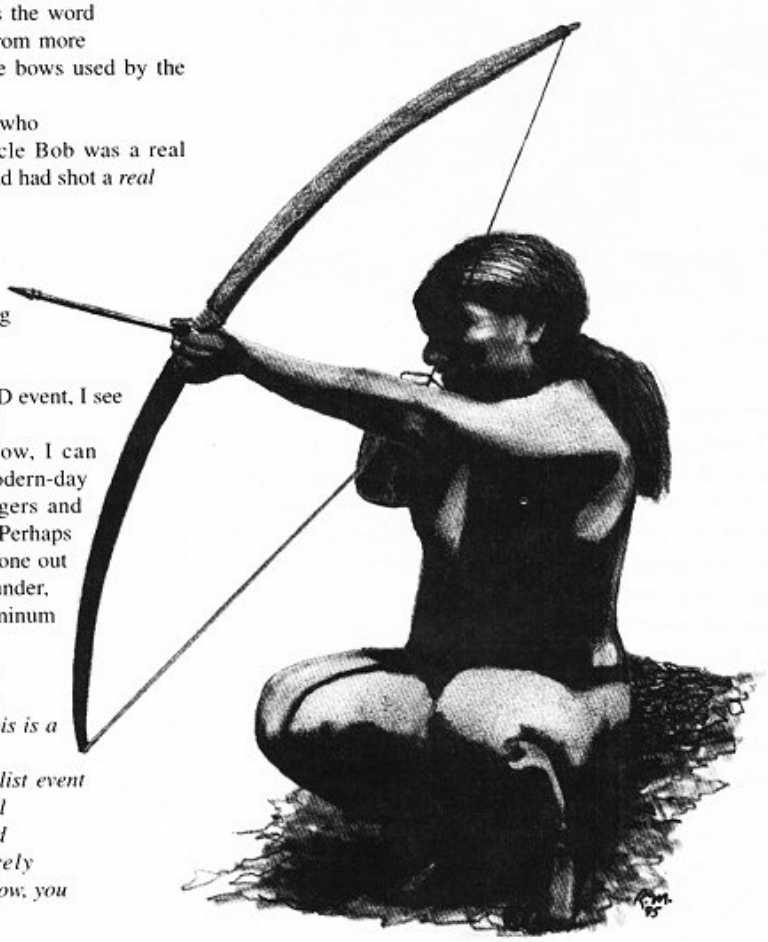
"Hey, who does that guy over there think he is, coming to our event with that old beat up recurve? You're who? Uncle Bob?"

"That's right, moron, Did you schedule this event? Well, let me tell you a thing or two about your rules. . ."

"I'm sorry Uncle Bob, I just didn't know the true meaning of those words."

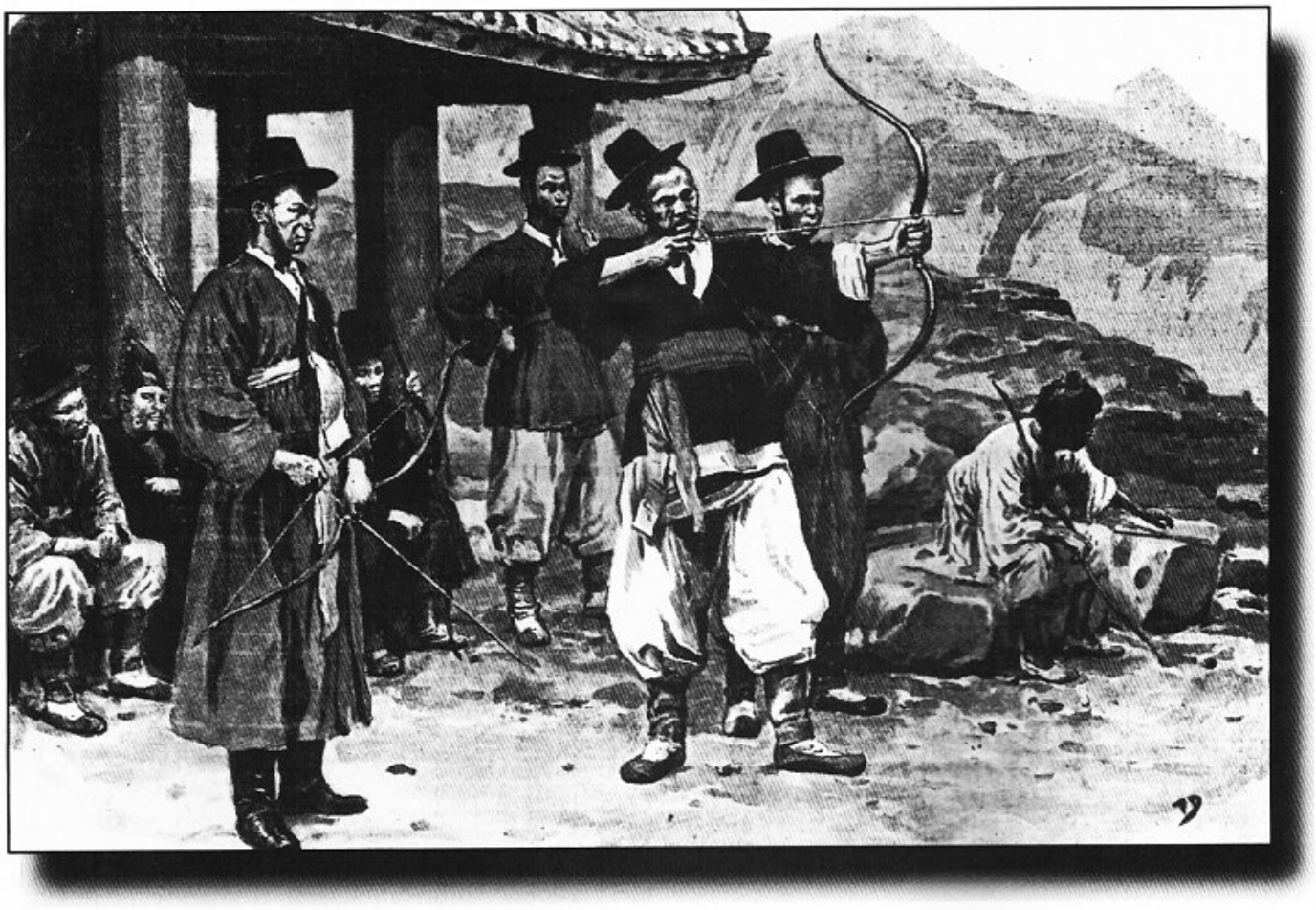
The wood arrow and split finger restrictions for many of the so-called traditional events can cost all of us—and our sport— in the long run. Fred Bear and Howard Hill both used aluminum arrows, and many Native Americans did not use the split-finger mediterranean release. I think we can all agree that Howard, Fred, and Ishi were some of the finest traditional archers to ever draw a bow. Would you exclude them?

E.T. Williams lives in West Palm Beach, Florida. He says he really can't remember a time when he didn't have a bow as a kid, and learned how to make laminated bows in his high school shop class. He was drafted into the army in 1968, and a few years after returning from Vietnam, he once again returned to archery (or it returned to him). He is now a full-time bowyer producing high-performance longbows and recurves in his Florida shop, which also features a popular indoor archery range. He has written for several magazines, was a staff writer for Mid-West Bowhunter, and as you will see in future issues, has a quite a knack for humor.



KOREAN ARCHERY

—The Way of the Bow—



By Thomas Duvernay

Drawing by British Officer Frank Dadd, R.I., 1901

Archery in Korea is probably as ancient as the country itself. Although other countries may claim the same thing, in Korea archery is still at the very heart of the country's culture. Korea has had archery, virtually uninterrupted, since prehistoric times. Before we begin discussing Korean traditional archery, we should briefly mention the Korean language.

The Korean alphabet (Hangul) is phonetic, with twenty-four letters (ten vowels and fourteen consonants). It was invented during the reign of King Sejong in 1443 AD. Before that time, Koreans relied upon Chinese characters. For romanization, there are some conventions I will make and generally follow.

VOWEL	SOUND	VOWEL	SOUND
Ae	Ae	O(h)	Oh
A(h)	Ah	Oo	Oo
E	Ay	U	Uh
I	Ee	Eu	Eu

For consonants, I will use the letter sounds that are closest in romanization, with the exception of names that are already well established (with some exceptions to that, also). I think you should be able to catch on.

HISTORY: The bow was a vital part of Korea's defense from ancient times up through the nineteenth century. It was used during the Three-Kingdoms period, which ended in 668 AD (when the Silla Kingdom defeated Baekje and Koguryo Kingdoms, unifying the country). During the unification wars, Silla had elite young warriors, called Hwarang (Flower Knights). They were trained in both military and literary arts. They had five major precepts:

1. Loyalty to the monarch
2. Filial piety to parents
3. Amicability among friends
4. Nonretreat in war
5. Aversion to unnecessary killing

The city in Korea where I live, Kyongju, was the seat of power for the Silla Kingdom. Outside the city's interchange, is a statue of a Hwarang on horseback, with bow at full draw. On the outskirts of the city is the Hwarang Educational Center. This is a place where the academically- and athletically-elite youth of the country go for extended training. While in high school, my wife attended this center, as a modern *Hwarang*. (It is interesting to note that archaeologists have found strong evidence to support the theory that the *Kyongju* campus of Dong Guk University [where I teach] was built upon the original *Hwarang* training grounds.)

After the Three-Kingdoms period, Silla gradually pushed back the Tang army. Originally, the Tang army was in Korea helping Silla defeat the other two armies. However, as it usually goes, they wore out their welcome. It took some time, as successes went back and forth, until 735 AD when Tang finally gave in.

The next major point in Korean history, where the bow played an important role, was the Japanese Hideyoshi invasion of Korea in the late sixteenth century. Although the war was devastating to both countries, Korea successfully drove the Japanese back. During the war, Korean archers rained deadly salvos of arrows on the Japanese invaders. These were frequently at long distances.

Probably the last major use of the bow as a military weapon in Korea was in the nineteenth century. At that time, they were defending against invaders from the Western Hemisphere (mainly France and the United States). In 1866, the United States tried opening Korea's door, sending in the ship "General Sherman." The ship was attacked and set on fire. Next, after a massacre of Catholics, France sent a squadron to Kanghwado. They, also, were repulsed by Korean units. The doors to Korea were finally opened, but not without valiant struggle by the Koreans.

In recent years, Korea has excelled in Olympic-style archery. A great percentage of the top ranked archers, worldwide, are from Korea. Some reasons for this include not only the transfer of traditional philosophy and

Hwarang Statue outside Kyonju Tollgate

training, but also the very practical reason that top athletes in Korea can gain benefits, both monetary and otherwise. The top archers spend their days not at a nine-to-five job, but training for their sport. Archery is taught uniformly among Korean archers; that is why they have generally uniform results–winners.

STARTING AT THE BEGINNING

Probably the most logical way for me to introduce you to Korean traditional archery would be as though you, the reader, just joined a club. I will show what would happen from first signing up to the end of your first competition. First, you should learn some terminology. I will romanize Korean terms and explain them briefly. I will not go into detail or list terms that are not important to this discussion.

GENERAL TERMS

ARCHERY:	GOONG DO
ARCHERY CLUB:	JUNG (SA JUNG)
TARGET:	GWA NYUK
SHOOTING LINE:	SA DAE
PERFECT END:	MOLGI
PERSON MAKING PERFECT END:	JUB JANG

BOW TERMS

BOWYER:	GOONG SA
HORN BOW:	GAHK GOONG (HWAL)
BOW COVER:	GOONG DAE
BOW STRING:	GOONG HYUN
UNBRACED BOW:	BU RIN HWAL
BRACED BOW:	UNJEUN HWAL
BOW HANDLE:	JOOM TONG
SIYAH:	SAHM SAHM

ARROW TERMS

FLETCHER:	SHI JANG
BAMBOO ARROW:	JOOK SHI (HWA SAL)
POINT:	CHOK
FLETCHING:	GEET
SHAFT:	SHI NU DAE
NOCK:	OH NEUI

ACCESSORIES

THUMB RING:	GAHK JI
ARROW CASE:	JUN TONG
BRACE RING:	SAM JI GGEUN
SA JUNG FLAG:	SA JUNG GI
ARROW RETURN:	SAL NAL
TARGET JUDGE FLAG:	HOIK JUNG

There are so many more terms, but these are the most basic.

Now that you have joined the club and learned some basic terms, it is time for you to start your training. I will add new words and old Korean sayings in italics. As a beginning archer, a *shin sa*, you will not start shooting yet. First, you must learn how to hold the bow. We will use a modern bow for training. Grip the bow firmly, but not tightly. *Grab the bow as you would grab an egg*. The middle, ring, and little finger are held together around the bow grip. The index finger is held a little higher and is crooked downward. The thumb is held near the top of the grip and is crooked in a little. There should be no gap between the thumb and index finger.

Next, you should learn how to properly draw the bowstring. For beginning training, you will draw with a three finger style, as it is easier than the Mongolian style. Pull straight back and hold for five seconds. After that, slowly let up on the string. Check the bow nocks to be sure the string is still centered. If not, keep trying. This practice should continue for a couple of days, preferably under the auspices of a trained archer. *The hand with which you hold the bow should be like pushing a high mountain; the string hand should be like pulling a tiger's tail.*

The bow should be pushed using the ball of the palm of the hand, with power being shared equally with the arm holding the bow from wrist to shoulder.


Mr. Bak Dong Sub, ready to draw.


At full draw.


Ready to release.


The arrow is on its way.

If the bow is grasped so that the hand is bent back, power will not be distributed equally in the bow. This incorrect arm position will often make the arrow go wide of its mark. In this case, the bow should be regrasped. The knuckle of the middle finger grasping the bow should be pushed toward the target. The bow arm elbow should be straight, with the inside of the elbow perpendicular to the ground. After you are able to consistently draw and relax the string, you are now ready to shoot a tethered arrow.

The tether pole is usually made from a tall (20 ft.) bamboo shaft. A long line is attached to it and an old arrow is attached to the line, through a hole drilled in the point. Before shooting, you need the correct stance and the correct way to hold the string. Your feet should be positioned at a two o'clock position (ten o'clock if left handed). *The standing position, when shooting, should neither be a Tshape, nor a ^ shape.* The weight of your entire body should be evenly divided between the forward and backward feet. Your abdomen should be tight. If your abdomen isn't strained to its fullest, it'll cause a loss of balance due to your haunches being pushed backward. Your abdomen can be naturally strained by standing with power in your legs.

Correct breathing is essential. Take a deep breath, then release it slowly, emptying your lungs. your chin should be positioned by your left shoulder (if you are right handed). Your neck should be held as straight as possible. Now you should put on your thumb ring. Fit your thumb through the outer side of the ring and twist it so the pointed end is toward the end of your thumb. Draw back on the string with it resting against the ring. Wrap your index finger around the end of your thumb, as though you are going to flip a coin. Be careful not to rest your finger over your thumb nail. Raise up your bow hand to the height of your forehead, straightening out your bow arm's elbow. Your eyes should steadily gaze at the target, at the same height as the lower bow nock. Your jaw should be close to your bow shoulder armpit. When you draw the string, you shouldn't give power to the hand holding the bow first. Draw the string first, then apply power to the bow.

This should be practiced until it becomes a steady, fluid motion. The string should be drawn back slowly to your thumb ring shoulder. When at full draw, hold the position for about three seconds before releasing. The angle at which the bow should be held will depend upon the cast of the bow. Some archers shoot at a forty-five degree angle, while others have a more flat trajectory. The angle can be adjusted individually. Release is made simply by relaxing the thumb-ring hand. Don't jerk it. The follow-through should be a slow back and downward motion.

Now you are ready to practice shooting the tethered arrow for several days.

Now that you've practiced shooting the tethered arrow, it is time for you to shoot a live arrow at the target, positioned 145 meters (158 yards) away. Remember a few basic rules:

1. Check the wind.
2. Stand straight.
3. Breathe from your lower abdomen.
4. Draw slowly.
5. Hold at anchor for three seconds.
6. Release smoothly.

The targets as seen from the sa dae (shooting line). Chinese characters carved in the rock admonish the precept "Don't talk while there is shooting."

When you first arrive at your jung, you will stand in front of a sign with the Chinese characters "Jung Gahn" carved into it. The meaning of the characters is literally "Righteous Space." The meaning is varied, depending on location. Generally, it is understood to mean you should be upright in both mind and body. Next, you will give a slight bow. As for clothing, Korean archers dress nicely. It is a widely held belief in Korea that the clothes make the person. In competitions, archers are required to wear white shirts, white pants, and white shoes.

You should now prepare to shoot. First, brace your bow. As you are using a modern bow at this time, bracing is not a problem. It can be braced in a similar fashion to a western recurve. The horn bow will come later. Next, your bow cover should be tied around your waist. The tie should be made on your thumb-ring side. Start by tying it as though you were tying your shoe. Then loop the long end, bringing up the middle of the loop around the other side (ending up with half a bow, as though you tied your shoe and pulled too far). After you have accomplished the last feat, it is time to tie your arrows in the bow cover. Take five arrows and slide them under your bow cover on the thumb ring side, points in, feathers out. Twist them in the cover once, so they are firmly in place. The arrows should routinely be tested for straightness and soundness. The former is done first simply by sighting down the shaft; another way is to balance the shaft on your thumb nail and middle finger nail pressed together–spin the point as though you were snapping your fingers. If it spins easily, it is probably straight and balanced. Soundness can be tested by either bouncing the arrow on its point or dropping it flat on the ground, listening for a crisp, sharp sound. If the sound is flat, don't use it.

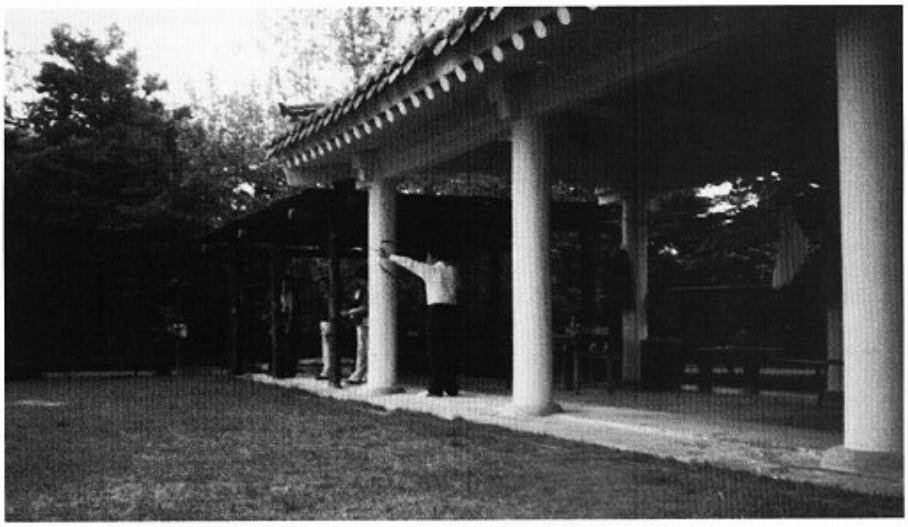
Before releasing the first arrow of the day, a Korean archer will say "*Hwal bae oom ni da*," which means "*I'm learning the bow*." If other archers are present, they would reply "*Mani ma chu sayo*," which means "*Have many hits*." Whether others are present or not, you should still say this phrase, which is a reminder that, no matter how good an archer you are, you are always a student.

After you've practiced for a time, you will eventually reach certain milestones in Korean archery. The first one is the first hit. When an archer hits the target for the first time, it is a special occasion (A hit is defined as an arrow hitting the target without breaking the plane of the target). First, you should bow towards the target (a practice that all novice archers must follow after making the first hit of the day). The next time you visit the jung, you should bring refreshments for the other members. For the second, third and fourth hits, congratulations are in order, nothing else. However, when you have a perfect score of five arrows hitting the target in a row, you have reached a very special level. This event is known as a *molgi*. The date and time should be noted. There should be witnesses. You should bow to the target whenever you make a *molgi*.

You will now be given a nickname, known as a *muho*. Usually, this name is given by the director of the *jung*. The name will usually describe something out of nature. When I reached this level, my director gave me the *muho* of *Chung Ho*, which means "Blue Lake." This was thought to be appropriate, as my hometown is in Michigan, the Great Lake State. Other members will call you by this name from now on. You will also be given an elaborate ceremony by the other members. During the ceremony, many rituals are performed and you will receive a certificate and trophy commemorating your achievement.

OFFICIAL RANKING

Korean traditional archery has ranking similar to other martial arts, such as taekwondo. The *dahn* level system is used. At special ranking competitions, archers try to advance in rank. The first *dahn* level is reached when you hit the target twenty five out of forty five tries.



The next levels (second through ninth) are 28, 29, 30, 31, 33, 35, 37, and 39 hits, respectively. Only two level advancements are allowed per year. Rank is signified by *moogoonghwa* (Rose of Sharon) flowers embroidered on the archer's bow cover. When an archer reaches fifth dahn, another milestone is reached. This level is known as *Myong Goong*, or "Famous-name Archer". At this level, the archer will be given another ceremony and the archer's name will be registered nationally.

THE GAME

The archery competition is divided into team and individual events. At some competitions, only *dahn* holders are allowed; at others, the competition is open to all. The competitions are further divided between city, province, and *jung* matches. In the city match, seven members will represent a city; teams from other cities will send their representatives. In the provincial match, the top five archers from the province will compete against the other provinces. In the *jung* matches, the top five from the *jung* will compete. We will concentrate on the *jung* match. Only in the *jung* match are modern glass fiber bows and carbon arrows allowed; in city and provincial meets, only the horn bow and bamboo arrows can be used.

We should, at this point, talk about the opening ceremony. Usually, several ends (*soon*) will be shot beforehand. At the ceremony, a moment of bowed silence is given to the national flag. Next, the precepts of Korean traditional archery are read aloud by an emcee, a pledge is made by a chosen representative, and short speeches are given by VIPs. The whole thing takes fifteen to twenty minutes (members will be standing in front of the *sa dae* in rank and file. Now, we can begin the competition in earnest.

First, there is the individual event. All members of all participating jungs can compete. The individual event is divided between the Men's Division and Women's Division. There is no difference in the rules between divisions. In individual competition, archers will be arranged in shooting groups called *dae*. Each *dae* willshoot three *soon* (ends) of five arrows, for a total of fifteen arrows. The archer with the best score out of fifteen, wins. In the case of a tie, there will be a playoff. In team competition, the top five archers from each jung will shoot one soon of five arrows. This is the quarterfinal event, usually involving eight *jungs*. The semifinal event will be between the top four and the finals between the two winners of the semifinals (Is there any other way?).

After the competition is finished (most will take several hours), it is time for the closing ceremony. Many awards will be given, from grand prizes (usually large trophies and pennants) to honorable mentions. Certificates seem to be everywhere. When it comes to traditional events, Koreans tend to be more geared to honors than to cash.

Now would be a good time to explain Korean manners, both archery-specific and general. Korea is a country with a very ordered society. This attitude comes from ancient Confucian teachings. You will find that many attitudes that are held in Western

countries don't hold up in Asia. The opposite is also true. Let's look at some customs in Korea.

- Never beckon someone with your index finger; use your hand, palm down, similar to a wave.
- Don't drink directly from a bottle; use a glass.
- Don't lick your fingers while eating.
- Never give or receive anything with one hand; use two hands.
- Stand when elders or superiors enter a room.
- Pour drinks for others and let others pour for you (two hands).
- When entertaining out, try to pick up the tab, if possible (usually, everyone will try to be the one to pay for the bill)

The above-mentioned customs are just a few of the many. They are representative of those you will find in Korean archery.

PRECEPTS

Korean traditional archery was founded upon traditional values, much like that of the Hwarang of the Silla Dynasty. There are nine major precepts in Korean traditional archery that mirror those values.

1. ***In Ae Duk Haeng***
   Be seen as a model of love and virtue.
2. ***Sung Shil Gyum Sohn***
   Act with humbleness and honesty.
3. ***Ja Joong Jul Jo***
   You should solidly protect your integrity through discreet behavior.
4. ***Ye Eui Um Soo***
   Be courteous.
5. ***Yum Jik Gwa Gahm***
   When in a position of power, act with integrity and bravery.
6. ***Sub Sa Moo Un***
   Don't speak while there is shooting.
7. ***Jung Shim Jung Gi***
   Have a straight mind and straight body.
8. ***Bool Won Seung Ja***
   Don't resent someone who wins.
9. ***Mahk Mahn Tah Goong***
   Don't touch another person's bow.

INTERVIEW WITH A MYONG GOONG

Now that we've looked a little at what Korean archery is like, let's have a talk with a true Korean archery master. His name is Mr. Bak Dong Sub (His *muho* is *Duk Sahn*). He passed *Myong Goong* level a couple of years ago. I'm very lucky to have him both as a friend and as my mentor.

What type of equipment do you prefer to use in Korean traditional archery?

I will only use the traditional gahk goong (horn bow) and jook shi (bamboo arrows).

Is there any particular reason you like this type of equipment?

Yes. Nothing can beat the performance or feel of the gahk goong and jook shi. When you shoot this type of bow, you don't get hand shock and the feeling upon release is fantastic. Another reason is I love traditionalism. Anything else just wouldn't be the same.

When did you first try Korean traditional archery?

I first started in 1987, after a friend of mine introduced it to me. Shortly thereafter, I was hooked. I've been practicing this art ever since.

Do you have any special methods of training?

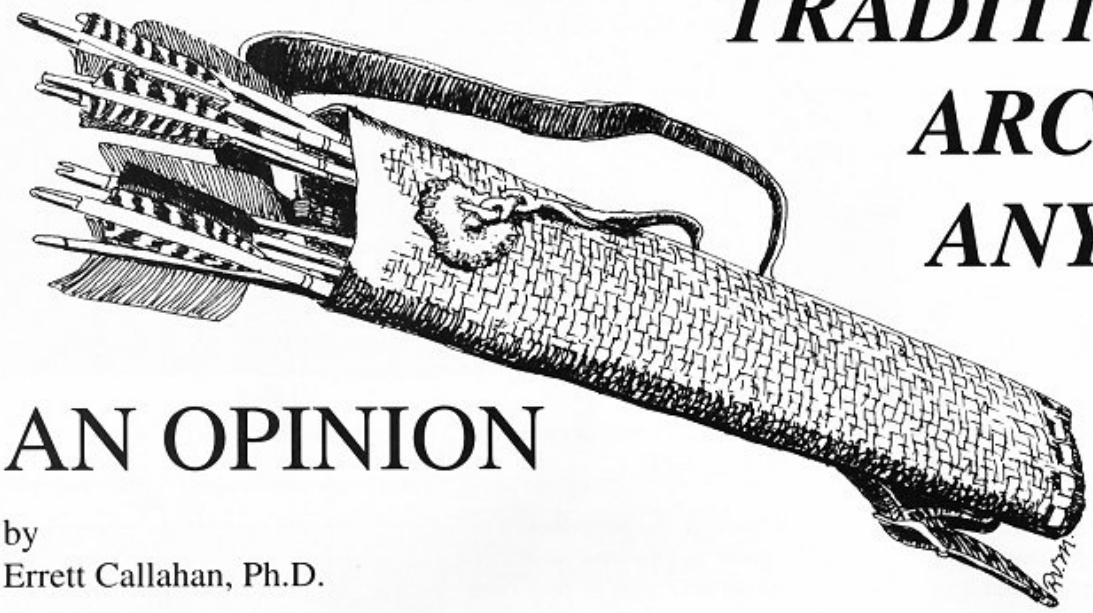
Practice, practice, practice. Nothing can replace practice. However, you have to practice correct form, not mistakes. To do this, whenever I'm at a national competition, I spend any free time I have studying the forms of other Myong Goong. I have learned many new techniques that way.

What do you like most about Korean traditional archery?

The tradition involved. ***Tradition is everything.***

AUTHOR'S NOTES: One thing about Korean traditional archery I have found appealing, besides the sport itself, is the camaraderie. Korean archers are like family members. It seems that everybody from one jung to another knows each other. They always show a genuine interest in you. Although archery is a competitive sport, Korean archers will go out of their way to help another archer improve. Even when one archer passes another in rank, the only words you will hear are those of congratulations. Go on–give it a try. Anyone who would like to start a *sa jung* is welcome to contact me at: **Dong Guk University, Suk Jang Dong 707, Kyonju City, 780-714, South Korea**. You can also contact me regarding obtaining traditional Korean equipment. I am presently working on a book and video. Stay tuned.

JUST WHAT IS TRADITIONAL ARCHERY ANYWAY?



AN OPINION

by
Errett Callahan, Ph.D.

Traditional: that which has visible connection to the past. As I see it, traditional archery embraces four main areas: (1) Primitive, (2) Classic Traditional, (3) Post-Classic Traditional, and (4) Neo-Traditional. Since the different meanings are often confused, I'd like to explain what each of these is then say a few words about the concept of traditionalism today. Perhaps this discussion will help in clarifying some of the confusion.

PRIMITIVE ARCHERY is the archery that was either practiced by primitive tribes in the past or is being reconstructed by primitive technologists in Western society today. It is the archery of Ishi. Materials for bows, arrows, strings, etc. were those found in the local woods. Activities centered around subsistence. Hunting was the principal activity, the point being to bring home food to eat, not trophies to mount. Warfare was also an activity from time to time. You cannot say you are practicing primitive archery unless you use the same tools, raw materials, and designs known in the past. It's not "primitive" if you make a copy of an authentic primitive design using modern tools. That's just following primitive design, not process.

CLASSIC TRADITIONAL ARCHERY, as I see it, is the type of Western archery that was practiced from the Middle Ages up to about 1950. It is the archery of Saxton Pope. It's also the archery I was raised on. Bows were of wood, predominantly of two types—the "longbow" (i.e. the English longbow, 70-72" long with flat back, rounded belly, and horn nocks) and the "flatbow" (shorter, with flat back and belly and handle riser). Yew, osage, and lemon-wood were the predominant bow woods used, though companies like Ben Pearson used hickory a lot. Use of other woods was not encouraged.

Arrows were wooden, with Port Orford cedar, Norway pine, and birch predominating. Real feathers were used, usually barred turkey in America but gray goose, peacock, and swan in Europe. Many fletching cuts were in style. Plastic nocks were unheard of, but a wide variety of other nock types, some superior in strength to plastic nocks, were used instead—self, bound, horn or fiber inserts, tubular, and footed. (Ok, so celluloid nocks came in toward the end.) Cresting was usually of bright, colored rings placed below the feathers. Paint was usually enamel toward the end of this period. Each archer had his own distinctive crest. Shafts came in a variety of shapes—parallel, tapered, bob-tailed, and barreled. Beautiful two- and four-point footings were common. Finish was of shellac, varnish, linseed oil, or wax. Broadheads were two-bladed while target points were pile or bullet. Roving used metal, wooden, or rubber blunts. Bow strings were of linen or hemp (for light bows) and were fashioned in the Flemish style or variations thereof. Three-ply twist predominated. Two-ply was rarely seen. Belt quivers were seen much more than back quivers.

Classic period archery included a wide range of activities—target (lawn archery), roving, clout, wand, flight, turtle back, archery golf, hunting, and novelty. In the earlier centuries, warfare was the principal activity. Roving was practice for warfare while stump shooting was practice for hunting.

POST-CLASSIC TRADITIONAL ARCHERY was the archery of Howard Hill—the late Hill period with all his imitators. It was the principal archery seen in the mid 1950s and into the 1970s, when the compound bow-machine started taking over. Bows were now being laminated with

fiberglass. Recurves predominated. The laminated straight bows (now called "longbows," which is an incorrect term, according to classic period terminology) were in design nothing more than classic flatbows with laminations and a sight window. Wooden bows virtually disappeared. Wooden arrows were being rapidly replaced by hollow fiberglass and aluminum tubing. All were parallel. Plastic nocks were all you ever saw. Barred feathers started giving way to dyed white feathers (following turkey marketing practices) and then plastic vanes started replacing feathers. The shield cut predominated, Cresting started to cover the whole shaft (monocolored), with total dipping or fletchment dipping predominating over the traditional minority crest. Personal cresting all but disappeared. Paints and finishes were now of lacquer. The field point replaced the pile point and broadheads started sprouting wings with razor blades being stuck all over. Strings were of dacron and other plastics, being wound into a continuous loop instead of being wrapped Flemish style. Back quivers predominated over belt quivers, and bow quivers started coming into fashion. Activities zeroed in on field archery (as practice for hunting) and hunting. All other forms of fun archery all but disappeared. But popularity reached an all-time high, for awhile.

NEO-TRADITIONAL ARCHERY is the traditional archery of today, skipping over the compound period. It's a very healthy movement in my opinion. It embraces the primitive, classic, and post- classic periods, yet it is somehow different from each. There are purist primitives and classicists out there to be sure, my hat's off to them, but most of what I see is a mishmash blend of several of the above philosophies. Wooden bows and arrows are making a real come-back and that's good. But they are coming back in a way that didn't exist in the past. I'll explain in a moment. Bear in mind that back during what we now call the classic or post-classic periods, there was no "traditional" archery. There was just "archery".

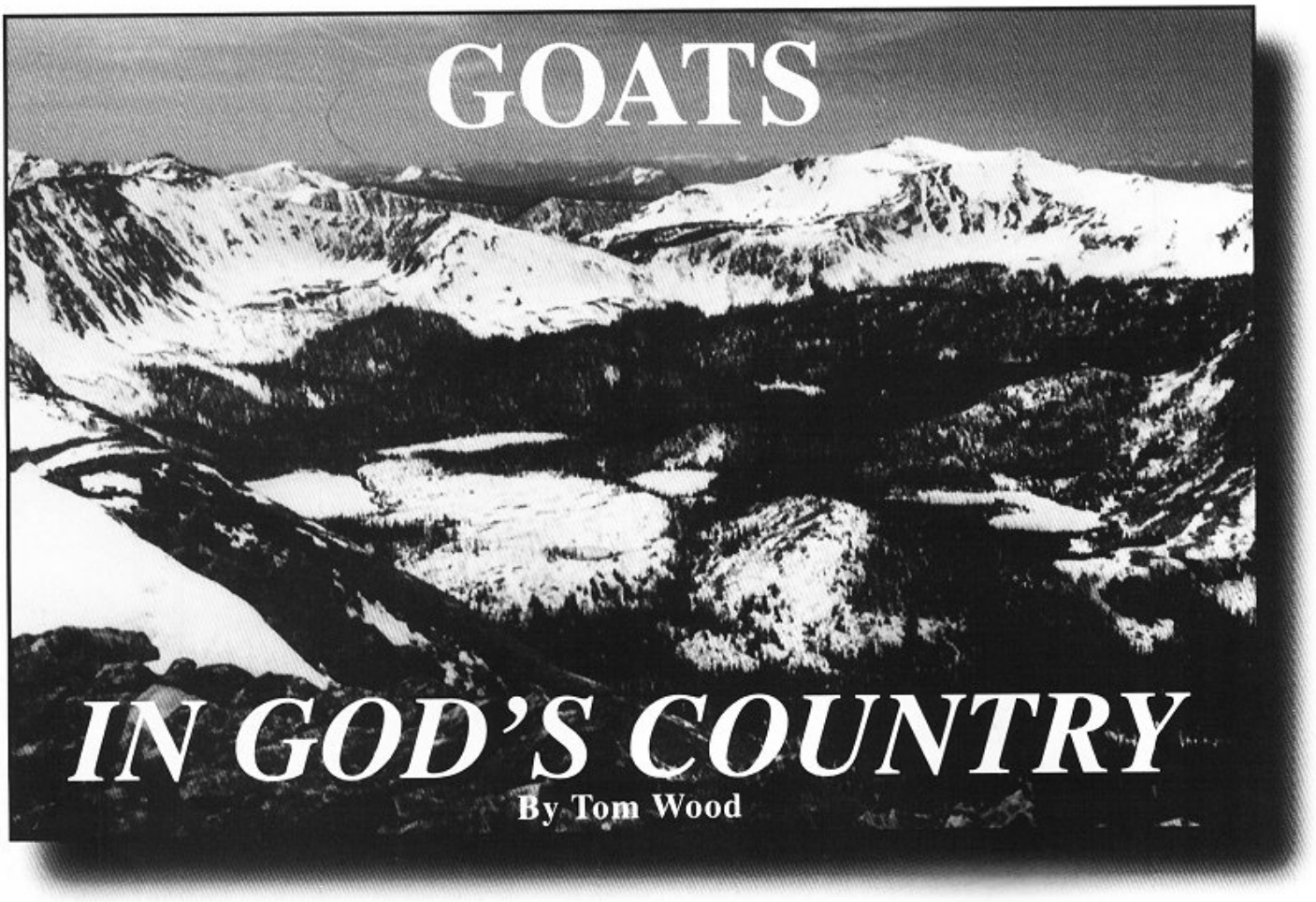
No one stopped to think about what would be lost by following the latest fad. But in the present period we are reacting rather than acting. We are stopping, looking back at what we lost, and stepping back to the old ways. Such was never done in the past. It's a luxury reserved for those who have gone too far. What I see today is an unfocused, "traditionalistic" spirit at work, historically somewhat confused. This may have both positive and negative consequences. What I would call the positive innovations are those practices which, while not actually practiced in the past, would have fit in comfortably then. They include the use of many new bow woods (see *The Traditional Bowyer's Bibles* for examples, especially the research of Tim Baker and Paul Comstock), new arrow woods, the use of fake barred feathers, ring cresting within the fletchment, dual tone feathers, and numerous other details.

Negative innovations, those which seem to me inappropriate to the past, include stained arrow shafts (you did all you could in the old days to insure an arrow's visibility; besides, when we look at old arrows, the stain we see comes from time, They were not that color when new), camouflage paints, plastic fiber being used for "Flemish" strings (it's not

Flemish unless it's linen!), and multi-colored strings. These practices don't do any real harm, but I never saw them in use in the old days. "Wooden archery" is a good term we might use to embrace some of the primitive, classic, and neo-traditional interests. However, we shouldn't fool ourselves into thinking just because it's wooden that it's traditional. A lot of what is practiced today is not traditional at all—it wasn't done in the past—but it is "wooden." Under this umbrella, we can come up with all the outrageous bow designs we want to and not be worried if they fit into this period or that. It's just that we should use the correct terminology.

One thing that bothers me, however, is a kind of anti-traditional attitude I see out there among some neos. Some writers seem bent on ridiculing the classic period traditions. Traditions are not always based on cold efficiency but sometimes evolve as a means of simply perpetuating values. That's why Ishi didn't want a woman's shadow to fall on his bow—not because he was anti-woman. It's respect for tradition that makes me place the top of the tree up in the bows I make, even though it has nothing whatsoever to do with efficiency,

I just like traditions because they are traditional. If it's efficiency you're after, you'll have to end up with the compound bow. So my bows are a little slower. So what? I just aim up a little bit higher and have just as much fun.



GOATS IN GOD'S COUNTRY

By Tom Wood

In late June of 1994 the gods of the hunt smiled on me when my mailbox coughed up one of the coveted Mountain Goat tags for the Flint Creek Range in southwest Montana. I stared in disbelief for a moment, then let out a yell and headed for the phone. My longtime hunting partner and friend, Tom McNeely, congratulated me over and over. He was as excited as I was about my good fortune and by the time we hung up, plans for the coming fall were already whizzing through our heads. Tom had drawn a goat tag in the same area the previous year and had taken a beautiful billy with his rifle. He had hunted hard to take his trophy, so he was a little skeptical when I announced my intentions to fill my tag with the longbow. I knew it wasn't going to be easy, but bowhunters are driven by challenge and my mind was made up.

I began preparing myself for the rigors of the majestic places that are inhabited by the mountain goat. I started a daily routine lifting weights to tone and strengthen my upper body along with 4.5 mile hikes with a 60 lb. pack to condition my legs and cardiovascular health. I spent time at the library finding books that would help me learn everything I could about goats in 3 months. The opener was slated for September 15th but I had already decided that I would wait as long as Mother Nature would allow before heading into the high country. I felt this was most likely a once in a lifetime opportunity and wanted to take a goat with full winter hair. At the same time I heeded a silent warning not to wait too long. A heavy snowfall in high mountain country can spell the end of your access to the goats and leave you cussing yourself for not taking an early-season animal. After the library, I spent evenings pouring over back issues of bowhunting magazines reading everything I could find on the subject. There weren't many stories on goat hunting, but the ones I found stoked the fire and made waiting seem nearly impossible.

I had been shooting my 76# Wilderness "White Buffalo" longbow for several months already, but my intensity shifted gears. I shot as much as my schedule would allow. There is nothing like a good friend and shooting partner to push you to your limits and increase your shooting skills. Charles King provided that companionship with countless hours of target practice in his yard and in the field behind his home. Charles is one of the finest longbow shots I have met and my skills began to improve just trying to compete with him.

Revenge is an excellent motivator and when he kept breaking my nocks and tearing off my feathers, I wanted nothing more than to get even. We spent our practice time shooting at plastic golf balls suspended on a string or at kicked nerf balls or rolling bicycle tires in his field. We laughed together and spoke seriously of philosophies, ethics, and dozens of topics archers mull over in search of answers. Charles was doing his part to contribute to my hunt. His health would not allow him to accompany me to the mountain

peaks but I knew part of him would go with me. He is that kind of friend.

In mid August I took a day-trip to scout an area that had proven to hold a good number of goats in the past. At the end of the road, I began hiking on a trail that would eventually lead me to the craggy peaks above. After a long climb I topped out on a hogback overlooking an expanse of broken country. Several mountain lakes shimmered in the summer sun. As I picked my way along the top ridge, I glassed and took note of the many goat trails and droppings that littered the area. I never saw a goat that day but left the mountain convinced that they were around somewhere, sheltered from the mid-day heat. They had left their sign and I would be back when the weather began to change. As I descended the mountain I could feel the effects of the long climb, the heat and the ruggedness of the country. I began to wonder exactly how difficult it would be to reach this area in the late season. "*Hmmm... I wonder if I should... NO!! I want a goat with a full winter coat.*"

As the season closed in I began the process of mentally preparing myself for the hunt. I knew I was shooting well and had put the hours of practice in to achieve confidence. I had learned as much about the animal as I could without actually spending time with them. Because I had a limited amount of vacation time from work, I chose to save it for the hunt rather than to scout.

I knew I could find the animals, getting close would provide the challenge. Finally, I needed to pre-determine what type of animal I was going to hunt for. I needed to decide, before I got on the mountain, if I wanted a billy or if I would be happy with a nanny; if I wanted a record book animal or if I would shoot any mature animal. After some soul searching, I decided that I would try to take any mature animal as long as it met my one and only criteria: a full winter coat. With that decided there was only one thing left to do... WAIT!

Video frame of Tom doing his best imitation of a rock while waiting for a good shot angle. Note the nearly horizontal position of his longbow.

The opener came and went with warm weather. I occupied my time chasing rutting bull elk but could not fully focus. I was waiting for cold weather and it finally gave in to my prayers and settled over the mountains. By the third week of October I knew it was time to go. The peaks were covered in a thick blanket of white and the cold temperatures had been holding steady for the better part of a month. I felt confident the goats would be carrying a good winter coat.

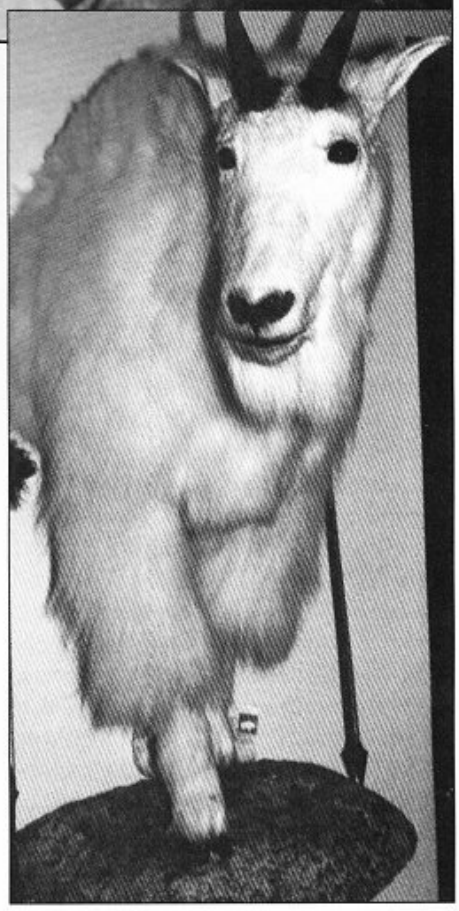
Tom McNeely and I left town in the truck around 4:30 a.m. on October 24th. I was thrilled to finally be on my way to hunt the mountain goat for real. The cab buzzed with our chatter as we both tried to plan and prepare for the unknown that lay ahead of us. As the mountain road turned to snow and ice, we parked the truck, unloaded our equipment, and headed up through the deep snow. We were still several miles from the pass we needed to reach. The snows were heavier than I thought, it was going to be a tough climb.

We began our climb and as expected, the higher we climbed the deeper the snow became. Soon, we found ourselves pushing thigh deep snow and thanking ourselves for getting into good condition. Without that step of preparation, our hunt would have been over. About 3.5 hours into the climb, we spotted four goats in a swale about a mile away. Since we were near the top of the mountain, we planned to climb up and use the backside of the ridge to cover us as we tried to close the distance. As we topped out on the hogback, Tom dropped to his knees and motioned for me to get down. I crawled up to him and he pointed over the ridge and mouthed "GOAT."

I eased my head up to peek over the ridge and my heart pounded in my chest as I saw the long white mane of a mature goat. The animal's head was down and it was feeding up the hill toward us. I pulled an arrow from my quiver and started crawling on my knees in an attempt to position myself to intercept the feeding goat. I moved as far as I dared on the open ridge top and readied myself for the shot. I could now see that the animal was a mature billy with a beautiful heavy coat and respectable horns. The billy was still 40 yards away but slowly feeding up the hill toward me. I peeked over my shoulder to see my partner video taping this whole event as it began to unfold.

The goat stepped into range and presented me with a picture perfect broadside shot. I eased my bow back to the familiar anchor point while burning a hole in the long hair just behind his shoulder. Before I realized it, yellow feathers disappeared in that tuft of hair and then I heard the arrow clatter in the rocks beyond. The goat jumped and trotted about 50 yards down the mountain. I watched as he unsteadily lowered himself into a bed on the very edge of a cliff. Soon, he lay his head down and just when I thought I could collect my trophy, his muscles relaxed and he rolled off the cliff edge. I stared in disbelief at the bed previously occupied by the goat and then moved my eyes to the empty air behind. I could only envision my goat with broken horns, torn hide, and missing clumps of rich white hair.

The animal had tumbled about 500 yards down a snow slide and my binoculars picked him out against a small scrub pine. It took us about 30 minutes to pick our way through the deep snow and loose rock to finally reach the goat. I said a silent prayer of thanks as my hand touched the soft winter coat. I was elated to find the only



Upper left: Deep snow and a deep winter coat. Lower Right: Tribute to a beautiful animal. In true traditional fashion, Tom studied under a professional, and then performed his own taxidermy work on what I think you'll agree is an excellent mount, which even includes the arrow and the long-awaited goat tag (near the left hoof).

damage was a small nick in the skin over the right eye.

After a firm handshake and warm congratulations from Tom, we took two rolls of pictures and prepared ourselves for the work we had ahead. We had discussed this part of the process many times, so the skinning and deboning went very quickly. There was little talk and no wasted motion as we both knew what needed to be done. With boned meat in backpacks and the hide strapped to my back, we began the steep climb to the top. With deep snow, loose footing and the steepness of the slide, it took us two full hours to travel the 500 yards to the top of the hogback. We reached the top at 4:50 in the afternoon. With very little daylight left and about a 3 mile hike down to the 4-wheeler, we quickly ate a sandwich and began our descent on weary legs.

We moved quickly in an effort to reach the main trail before nightfall. Resting often because of the heavy packs and tired legs, we made little conversation on the way out; each in our own thoughts of this once in a lifetime experience. We sat down on a log not far from the 4-wheeler for one last rest before we could ride. As we sat there in the fading light, a bull elk bugled out a challenged not far from us. Tom and I looked at each other and a big smile spread across our faces. What a perfect ending to a day as special as this. God's country, a great hunt, a special friend, and music from the mountain. What more could a man want?

BARÍ ARCHERY:

PAST, PRESENT, AND FUTURE OF A SOUTH AMERICAN RAINFOREST PEOPLE.

by
Manuel Lizarralde*

As well as being the best archer among the Barí, Akirida is also wise and knowledgeable about plants and medicine. His mind is a library full of information and stories.

The Barí Indians, a group of 1,800 people living in northwestern Venezuela, still hunt with bow and arrow. They live in the tropical lowland rainforest with a subsistence economy of slash-and-burn agriculture, fishing (which provides 75% of their protein), hunting (which provides 25% of their protein) and gathering of forest products (Beckerman 1983). Their bow was and still is important for hunting, fishing, and defending their territory. Although many Barí hunt with shotguns, nearly all Barí have bows and arrows in their huts. In fact, almost all the Barí use bows. In this article, I will discuss Barí history, tradition, and technology, and offer ethnobotanical insights on their archery.

While most Indian tribes in the region were defeated and dominated by the early 1700s, the Barí were never conquered by the Spanish explorers. After 200 years of warfare, they accepted peaceful contact with the Spanish in 1772, but only for fifty years (Beckerman 1978, Lizarralde and Beckerman 1982, Lizarralde et al. 1988). After 1818, they maintained total autonomy and rejected all outsiders until 1960, when Roberto Lizarralde (my father), made the first peaceful

contact in this century. Throughout these years, the Spanish, Spanish-speaking people and other Indians were quite terrified of the Barí archers. The Barí were notorious for hitting any outsiders in the torso or head at a fair distance. In 1920, oil was found in their territory. Oil exploitation started quite soon and the trains running into the oil fields had to have metal shields on their sides because the Barí were shooting arrows at the passengers. Moreover, the newspapers of the time carried accounts of Barí shooting arrows to hit light bulbs from long distances in order to raid the camps and steal metal tools and pots. The employees of the oil company were so frightened of the Barí that they had armed guards, fences, and lights all night long in the three camps that existed in their territory (Lizarralde and Beckerman 1982, Lizarralde et al. 1988).

The Barí made many raids and shot many Spanish-speaking people. However, a remarkably noble side of these archers is that they would not shoot randomly at any outsider. The Barí archers knew who should be hit by an arrow. They learned to recognize the Spanish who killed their women and children. By observing all the intruders carefully, they would learn their routines, and where and when to ambush them. In one case in the late fifties, a truck driver who was carrying many people slowed to climb a muddy hill carefully and avoid holes, and was shot with an arrow in the chest. The Barí archer approached the driver to see if he needed one more arrow, but the driver was mortally wounded. The passengers were quite terrified but were not harmed. As for the driver, it turned out that he had participated in a previous raid that killed Barís (personal communication from R. Lizarralde).

Young Edgar Achirabu shooting an atakarii bow and sangbaa arrow.

Traditionally, the Barí use two types of woodbows. The big longbows are called "karii" in their language, meaning "bow." The other bow is a short flat-bellied type generally used for shooting fish, birds, and small game. It is called "atakarii" in their language. This second bow is much lighter to pull and easier to make. Children tend to learn to shoot their first arrows with these bows at age three or four. By five they are quite good at hitting cockroaches or lizards. According to the Barí, they got them from "Sabaseba," their creator. After Sabaseba finished creating their world, he cut open a pineapple and the Barí came out of it. Then, because the Barí had nothing, Sabaseba gave them bows and arrows, among many other things. He taught them how to make and use them. Since then, before all the other people came to earth, the Barí have had bows.

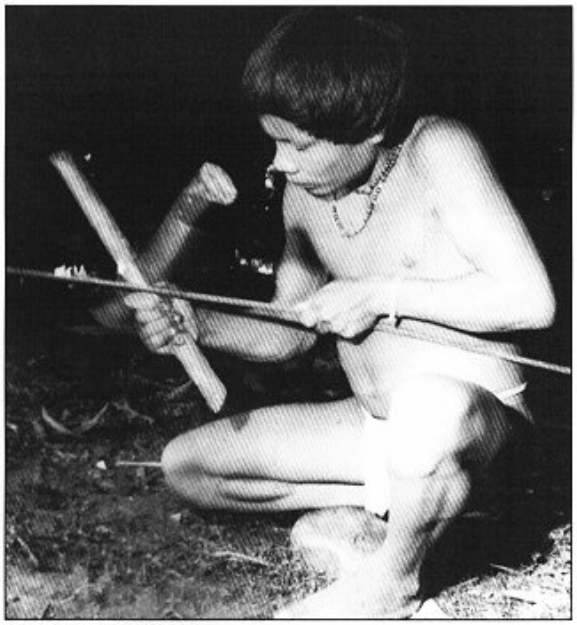


Photo by R. Lizarralde

A Barí youth using a scraper (machete blade inserted into a slot in a palm trunk). He became a headman twenty years later.

Barí longbows are rather heavy and long compared to many other South American indigenous bows. They are similar to the bows used for hunting large mammals and monkeys and for warfare by many other South American peoples, such as the Yanomami. The karii bow is generally 70 to 80 inches long, 1 1/4 to 1 3/8 inches wide at the handle and 3/4 of an inch thick. The bow gradually tapers to just before the nocks to be 5/8 of an inch wide and a bit over 1/4 inch thick. The nock is small: 1/4 inch long by 1/4 inch wide and thick. The heaviest bows pulled to about 24 inches draw are 90 pounds (measuring 80 inches long, 1 3/8 inches wide at the handle and 3/4 inch of an inch thick). The weight of a Barí bow is up to about 2 5/8 pounds for a heavy 80 inch long bow and 1 1/2 pounds for a light 70 inch bow. Its draw weight is proportional to its length (40-50 pounds for 70 inches; 80-90 pounds for 80 inches).

The fishing bows (atakarii) are shorter and flat bellied, and are also used for small and medium birds. The atakarii bows (for adults) tend to be 45-50 inches long by 1 1/4 inches wide and 1/4 inch thick. The atakarii bow for children is generally 35-40 inches long. Their weight is 3/4 pound for an adult atakarii and less for a child's bow. They are not strong, and at 15-20 inches the draw weight is 15-30 pounds. The string of the atakarii bow is always a split piece of the root of a climbing plant, known as menda (an Asplundia species whose leaves provide the fibers for the well-known Panama hat). This bow has a good design: flat-bellied all its length and no more than 1/4 inch thick, with wide mid-limbs that taper to very narrow nocks that are between 1/8 and 1/4 inch wide.

For the Barí, the bow is an essential tool. The main use of the bow is for hunting, but it is also a defensive weapon. In the past, every man took a big bow with him to the forest. According to the Barí, "*If you did not have a bow, you were a prey to superior forces.*" Therefore, the bow provided the superiority needed in the forest. One Barí recounted that four people were eaten by jaguars around one village forty to fifty years ago. One of them was trying to shoot an arrow before the jaguar killed and ate him. They found

his body half eaten and his bow with an arrow across it lying next to him. In another more fortunate case, one Barí told me that he survived a jaguar attack by climbing a tree with his bow and arrow and shooting down at the jaguar while it was climbing the tree behind him.

The general rule is that the Barí will not go to the forest even today without a bow or shotgun. Due to the inflated prices of western goods, buying a shotgun is becoming nearly impossible, and Barí are relying more on bows again. During my last day in the field last summer, I saw with great pleasure three Barí men going to the forest to hunt with their bows and arrows. The bow not only is important in life but it is also important in the afterlife, where there will be plentiful game to hunt. Every dead Barí man is always buried with his bows and arrows.

How are these bows used in everyday life? The karii longbow is used for many purposes. Besides self-defense, it is used for hunting medium to large mammals and large birds. On the ground, the Barí will shoot rabbits and small dog-sized rodents like agouti, paca, and capybara. They hunt four types of monkeys that live in trees and move quite fast, especially spider monkeys, which move as fast as a person running on the ground. The largest animal is the tapir, that can be more than 6 feet long, 3 feet tall, and weigh as much as 700 pounds. Tapirs and peccaries require a group of people to hunt them successfully. Hunting with the bow is done almost every day.

Barí mostly use a 12-foot-long spear for fishing, but also employ the small atakarii bow. They use it with a long arrow, walking by the river and trying to hit fishes. This is an impressive skill, given the refracted image of fish in the water. The rate of atakarii bow use among fishing Barí is usually one out of four or five.

The atakarii bow is quite useful, not only for fishing but also while hunting birds. The Barí tend to hunt birds on trees that produce fruits that attract many individuals and species. They will build a platform and blind in the branches. Because many arrows are lost in the trees, the Barí use simple straight stick arrows called shinshii. They will typically shoot 30 to 50 shinshii arrows, bringing home a good score of toucans, macaws, and parrots.

The Barí also use the atakarii bow to eliminate house pests. On several occasions I observed that the head of the household where I stayed had a little bow by his hammock. At night, when the rats came to look for food, he would shoot them with little bird-arrows. It was remarkable that he could see them at night and aim with deadly precision, although he did sometimes miss. Growing up with a bow and using it regularly gives these people the ability to aim well in difficult conditions.

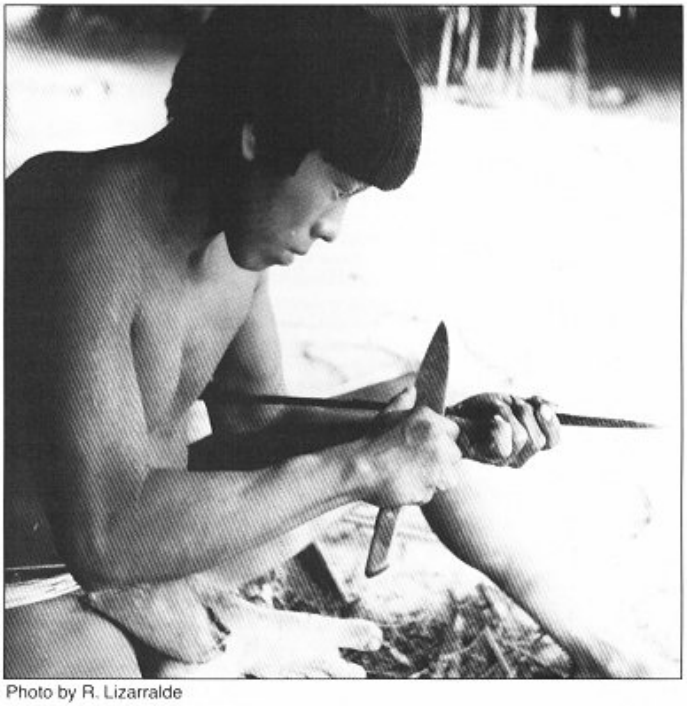


Photo by R. Lizarralde

Making arrow points is a leisurely activity done on hot afternoons.

The longbow string is made of a plant that looks like a pineapple plant with thin dark green leaves about six feet long. The Barí use the inner fibers, which are quite long and easily removed from fresh leaves. This plant is called bii (probably a wild Bromelia pinguin Linne, not yet properly identified by botanists). The bii plant is restricted to specific forest patches or cultivated in the slash-and-burn gardens. Its fibers are rather poor in relation to linen, but the best growing in the region. If bii is not available, three other plants can be used for longbow strings. The fibers can be extracted from the young leaves of two palms: téchi palm (Bactris macana), or another palm called techí abama (Astrocaryum standleyanum). The other plant is karigkogbai (a wild pineapple).

To provide a complete picture of Barí archery, the description of the arrows is essential because this is the other side of the coin in archery. The shape, size, length, and design of the arrows is appropriate to the type of bows. The arrows are quite unique among South American Indians. They do not use feathers and the Barí feel no need for them. A possible explanation is that the foreshaft of the arrow is twice as heavy as the shaft, making the light shaft function aerodynamically like the feathers. Also, because the Barí hunt in heavily-forested areas, the foliage of the trees might also affect the trajectory of the arrow if it were feathered. This could also explain why the nock is a very simple "V" shaped cut in the base of the arrow cane and reinforced with twenty loops of cotton thread. It makes the back of the arrow much lighter than other South American Indian arrows, which are reinforced with another wood and heavier loops of fibers.

The Barí make five main types of arrow for hunting (chii, sangbaa, dohkwe, karakdongsaa and shinshii). The chii is the most common, made with a barbed point of téchi wood. It weighs slightly more than 2-2 1/2 ounces and is 52-54 inches long. It is composed of two parts: the main shaft is made from the flower stem of arrow cane (Gynerium sagittatum), and the foreshaft and point from the dense and very hard téchi wood.

The sangbaa arrow is for birds. It has a flat tip to stun the birds. This front

Photo by R. Lizarralde

Barí archers by their longhouse in 1963.

surface is about 3/4 of an inch across. This arrow weighs 2 ounces and is 44-48 inches long. The "point" is made of téchi palm wood and is about 10-11 inches long, six of them hafted in the shaft.

The dohkwe arrow is used for medium-sized terrestrial animals such as agouti (an 8 pound rodent), paca (an 18 pound rodent) and peccary. It is normally 3 to 3 1/2 ounces and 48 to 50 inches in length. It is a harpoon type of arrow. It has a shaft like the previous arrow and a foreshaft of chirabu wood (Guatteria amplifolia) 22 inches long and 3/8 inch in diameter. This chirabu wood, used in the region for ax handles, is hard and heavy but easier to work than téchi. The dohkwe arrow has a five inch long, one inch wide metal point (made from a piece of a discarded knife). It is hafted to a piece of chirabu and has a conical hole that connects to the foreshaft. A six foot (sixteen strand) bii string is used to attach the foreshaft to the base of the metal point beautifully.

The long metal-pointed arrow, called karakdongsaa is the dagger of the arrows. It is used for killing tapirs and jaguars. This arrow is 3-3 1/2 ounces in weight and 47-50 inches in length. Its point, made from a machete blade cut horizontally in half with a metal ax, is 10-13 inches long and 3/4 of an inch wide. It is hafted to a 14 inch foreshaft made from chirabu wood. The main shaft is also the light arrow grass.

The shaft of most arrows, called chiikaa is 1/4 inch diameter and 40 inches long. This shaft is made from the flower of a very large grass also called chiikaa (Gynerium sagittatum). It is quite light, about half the weight of cedar wood. The spine of these arrows is quite stiff and effective for 70-90 pound bows. A Barí hunter will have about one hundred of these shafts dried, straightened, and hanging on the ceiling ready to be used for making arrows.

When going on a hunt, a Barí's kit consists of his long woodbow, five or six chii arrows, two sangbaa, two dohkwe and one karakdongsaa. With it, they will generally carry a knife or a machete. Some arrows, like the chii and sangbaa, will get lost. However, they rarely lose the metal-pointed arrows, although they do break. They are fixed quite quickly to be ready for the next hunt.

The Barí also use a very simple quickly-made disposable arrow made from the hard, straight part of palm leaves (the petiole). For this arrow, called shinshii, they use three types of palm leaves: Arakta (Attalea butyracea), Aruu (Jessenia polycarpa Karst), and Logsou (Socratea exorrhiza). The Barí select young palms whose young leaves are accessible, because they are straight and easy to split. In half an hour, with the use of a machete, the Barí can produce three or four dozen arrows. The shinshii arrows are straight, 36 inch long and 1/8 to 3/16 inch thick sticks (literally). The nocks are just a simple perpendicular cut and the tip is the sharpened shaft.

All the palms used for bows and arrows grow wild in the area. The téchi palm is found all over their territory, but unevenly distributed. One might find one téchi palm in every 110 trees. I calculate that the Barí territory might hold around 250,000 téchi palms. This is enough for making around five hundred bows per Barí. As long as the Barí have access to this beautiful rainforest, they will be able to make and use bows to hunt.

The arrow shaft is from a plant that does not grow wild but is cultivated. The Barí in fact have to prepare a special field, a slash-and-burn garden to cultivate their precious chiikaa (Gynerium sagittatum). A sandy brown, very humid soil is selected to yield the best quality of chiikaa. Each village has at least one chiikaa field shared by most men.

To conclude my story with a woodbow tale. One Barí once told me the "real" story of the origin of the spider monkey (sugshaa). Long ago, a group of Barí went to the forest to look for food. They found a great tree full of fruit and two of the Barí went to climb it. The remaining ones stayed on the ground and asked the Barí in the top of the tree to share some of the fruits. The two in the tree replied that they would not and that they wanted to eat all the fruit. The people on the ground asked again but did not get any fruit. One of the Barí on the ground lost his patience and shot two arrows that brought them down. He stuck a bow on each of the rear ends of these selfish Barí, and covered their skin and the bows with silk cotton to convert them into spider monkeys. Then, he tossed them back into the tree and told the other Barí that these guys could eat all the fruit they wanted. However, as this Barí said, "*we will eat all the spider monkeys we want, too, from now on*" (story told by Akiridá [see photo on page 25]). As this tale implies, the Barí value sharing highly. Finally, I should also state that woodbows appear to be a tool that the Barí will not give up for a long time in the future, because it symbolizes a freedom that most humans have lost. This is the ability to live independently and autonomously.

* Manuel Lizarralde is a woodbow archer and bowyer, but is also a Ph.D. candidate finishing his dissertation on Barí ethnobotanical knowledge of the rainforest. His plan is to continue in academia and to assist the government in developing policies through USAID that will ensure the survival of indigenous peoples, sustainable development, and conservation of the rainforest environment.

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THE ROYAL COMPANY OF ARCHERS

—THE SOVEREIGN'S BODYGUARD FOR SCOTLAND

By Hugh D. Soar

"Your great forefathers fought the field,
Confiding in their arms address,
They made insulting Nations yield,
Who, labouring to be great, grew less.
The Roman Eagle, towering in her pride,
Foiled by their arrows, disappeared and died!"

From a poem by A. Robertson of Struan.

No account of Scottish archery would be complete without reference to the Royal Guard of Scottish Archers in France, a body which preceded the Royal Company by many centuries and of the stuff which legends are made.

There have been military links between Scotland and France for almost a millennium; from the days of Charles the Great (Charlemagne), to the accession of James IV of Scotland to the English throne, as King James 1st.

Prior to this regal union, the foreign wars of England were primarily to recover lost territories in France, and to subjugate Scotland; two aims incidentally in which they signally failed! French and Scots were thus natural allies in adversity and sought help from each other against the common enemy—England.

As early as the mid-thirteenth century, during the reign of Alexander III of Scotland, King Louis the IX of France seemingly recruited selected Scottish men of rank and position to guard his person. However, the permanency of the Scottish Archer Guard, "La Compagnie de la Garde du Cops du Roi," established originally in 1418 under the Captaincy of John Stewart of Darnley, was not formally recognized until after the disastrous battle of Verneuil in 1425; an encounter between French, Scots, and English forces which by any account the French should have won, but which turned into a massacre of such proportion that the Scottish Division was all but wiped out.

Photo: Members of the Royal Company competing in 1893 for the "Sovereign's Prize." The winner is drawing his bow. The man in the top hat in Andrew Gordon, Bowmaker to the Company.

Following the decisive defeat of his army, but impressed by Scottish gallantry, and saddened by the actions of his own troops who fled the Field, Charles VII of France appointed Scots to guard his person at all times "in perpetuity."

This proved an astute move; rather as Henry VIII of England created the Guild of St. George, Charles, by establishing his Guard, thus had a nucleus of serving Scottish Captains, capable of organizing and disciplining the mercenary Highland armies provided by Scotland to help out in times of trouble.

Although the French history of the exploits of the Scottish Archers does not mention Verneuil (understandably perhaps, although their bravery was never in doubt), credit is given them for their valour at the battle of Bauge, in Anjou during March 1421, when against a Force led by the English Duke of Clarence, they gained a notable victory. Incidentally, English accounts of the 100 Years War maintain a discreet silence about this one! But such is military history!!

Those who have read Sir Walter Scott's fine adventure tale *Quentin Durward* will recall his description of the Guard . . .

"Each man acting as a gentleman in place and honour; their near approach to the King's person gave them dignity in their own eyes as well as importance in those of the French. Whilst still retaining the title 'Archer,' they had, however, renounced the bow as a personal weapon during the 15th Century; for as their esteem rose, so they became more sumptuously equipped as Gentleman at Arms, and well mounted."

Each received an allowance for a squire, a valet, a page, and two yeomen, one of whom was a "courtelier" or knife-carrier, whose job it was to dispatch anyone whom his master had knocked down. Although suffering indignity, both real and imagined, during the early years of the 17th Century, this anachronistic Body survived until around 1660, when all trace of them vanishes. What fighting strength remained was absorbed into the British army in 1662, or so we are told. A wry ending for a Body formed expressly for defense against England.

We turn now to the Company of Archers formally established in Edinburgh during 1676, from which evolved the Sovereign's Bodyguard in Scotland, the Royal Company of Archers. But, we must not move too fast!

Scotland is generally credited with the final use of the bow in warfare. The last great Clan Battle, between the MacDonalds of Keppoch and the Mackintoshes of Moy which took place in 1688 (twelve years after the formation of the Company) is said to have employed bows and arrows to considerable effect. Whilst earlier during that Century, James Graham, Marquess of Montrose had, with Alasdair MacDonald's Irishmen and the Atholl Highlanders armed with bow and arrow and broadswords, fought and won against Covenanter armies of superior strength and, some would say, better armament, at Tippermuir, Aberdeen, and Inverlochy.

"May God bless our swords,
Our bows handsome of yew,
That would be braced in the face of battle.
And the arrows of birch that splinter not,
In their quivers of badger gloomy . . ."

A translation from the Gaelic poem "Birlinn Chlann Raonuill," written by Alisdair, MacMhaighstir Alasdair during the 17th Century.

The origins of the Company of Archers are obscure, depending partly on legend, and in part upon circumstantial evidence. The former has it that after Flodden Field (one of the last two great English/Scottish battles in which massed archery featured significantly), the body of the Scottish king was found covered and surrounded by his head archer guard.

Be that as it may, when Mary Stuart, Queen of Scots, returned to Scotland from France, she brought with her a number of the Scottish Archer Guard to protect her person. As an aside, a precautionary Corps of Gentleman Archers was also formed to defend her cousin, Queen Elizabeth 1st. following the defeat of the Spanish Armada.

Circumstantial evidence for an earlier Company of Archers relies upon a Council Minute of 1677, recorded a year after the inception of the Company, and which reads in part.

"...The whilke (which) *day the Council of Archers taking to their consideration some former acts made by them anent* (about) *the way or manner of shooting for publicke prizes at Edinburgh, Kelso, Stirling, and other places, to which placed they have been in use to send some of their number..."*

It is fact that the Musselburgh Arrow, one of the Company's most coveted prizes, was shot for as early as 1603, over seventy years before the Company's "formal" appearance and forty years before Tippermuir saw the bow used in war.

Illustration: The Treasurer of the Royal Company. From the "Archer's Register."

Be that as it may, Ordinances for the proper regulation of the Company were compiled and agreed, based upon *"...the many Laudable Lawes and Acts of Parliament which were made in the Reigns of his Royal Majesties* (King William III's) *Renown'd Ancestors concerning Archerie, Shutting* (shooting) *with Bows and Arrowes; and how much the said exercise of Archery and Ancient Armes of Bows and Arrowes is decay'd, and come in Deswetude, in times of, and since the late rebellion and usurpation, to the great Prejudice of this Kingdom...to be called His Majesty's Company of Archers..."*

Rules were set, requiring amongst other things that the Council appoint *"...knowing Archers to be Judges, to cognesce, desyde and determine..."*

The Company assumed complete control of archery within the City of Edinburgh *"...none shall be licensed to Arch (sic) within the City or Suburbs thereof, but such shall (en)list themselves..."* Instruction and subsequent coaching were catered for *"...to teach and train Intrants, and Beginners who desire to (en)list themselves in the said Company..."* Public Butts were to be erected and *"...accessible to Strangers and Young Archers, who are (en)listed, or any of the Company without payment of the Butt Mail (target fee)."*

One does not employ a cat to look after a mouse!!!

Finally, there was to be *"...ane Public Weaponshawing of the Haill (whole) company once every year..."* At this the Company would be drawn up in military order with drums beating, and Colours flying; evidence perhaps that at this time at least, the Company regarded itself as quasi-military in origin and nature.

Unlike its earlier English counterpart, the "Sovereign's Bodyguard of the Yeomen of the Guard," (Valecti Garde [Corporis] Domini Regis) formed in 1485, whose Battle Honours include the "Battle of the Spurs" (1513), Boulogne (1544), and finally Dettingen (1743), the Company has never seen active service as a military Unit; although individual members have served with distinction during its 300 year history.

As an aside, earlier even than the Yeoman of the Guard, is the Corps of Serjeants at Arms. No longer now a military body in any sense, they were formed originally as a Guard to King Richard II. Their present duties are virtually confined to Security at the Palace of Westminster.

The Company's Rules were duly put to the Privy Council, and on their approval the following year, the Treasury was authorized to grant money for the purchase of an Official Prize for annual competition.

There are several references in the early Records to the way in which the Company shot. Although some mystery remains about these, one of their regular Annual Meetings was to enjoy the *"...ancient sport (!) of shooting at the goose..."* In this, a living goose was buried up to its neck in earth and at *"a convenient distance"* (about 100 feet), the unfortunate creature was shot at! At the first such Shoot, the Captain General hit the thing in the left eye, the arrow solemnly recorded as *"...going out a little behind the right eye, above four inches right through, so as she never mov'd after she had received this shot..."!*

This "sport" was continued for many years until in 1964 either pricked consciences, public concern, or a shortage of geese, substituted a glass ball for the live goose. The re-arrangement involved the ball, just 3/4" in diameter, being fixed centrally within a 4" diameter card *"butt mark."*

By 1703, the Company, now buoyant and well thought of by Authority, resolved to have Royal favour substituted for that of just the Privy Council and Queen Anne—last of the Stuart Succession—having now ascended the throne, they successfully petitioned her for recognition as a "Royal Company of Archers," and were granted their Charter in the following year.

In their new, elevated capacity as Bodyguard, the Queen put an obligation upon them to render, **if asked for** *"...to us and our successors, one pair of barbed arrows (a pair being three by ancient practice) at the time of Whitsunday..."* The "Reddendo" as this came to be called, has been called for and presented some ten times since.

With its Jacobin connections strong, (for many were Jacobite by persuasion if not by birth) the aftermath of the 1745 Rebellion brought considerable suspicion upon the "Royal Company" from the Hanoverian Establishment, and there is little doubt that their credentials as bodyguard to the King's person were looked at most carefully! One does not employ a cat to look after a mouse!!!

Time is a great healer, however, and all turned out right in the end. The Company resumed its duties; but with the bow by now a military anachronism, musters and weaponschawings became "sporting occasions," at which all appeared in immaculate uniform.

The original of these was a splendid affair in *"...Stuart tartan cloth, lined with white shalloon: white stockings, white linen bow-case with green tassel, worn over the shoulder when not in use in the fashion of a forester's baldrick."* A blue bonnet trimmed with green and white ribbons with Scottish Saltire badge completed the outfit (see drawing on page 32).

Noteworthy in the Company have been Sir Walter Scott, whose design for a subsequent uniform included a ruff! "Rabbie" Burns the Poet, who although accorded membership—which is prized—never signed the Muster Roll, and Sir Nathaniel Spens whose portrait by Raeburn is a National treasure.

Nathaniel Spens was one of the longest serving "shooting" members of the Company and, in 1810, to celebrate his sixtieth year in archery, he donated a prize bow to be shot for. This bow still exists. Probably made by George Lindsay-Rae, the Company's bow-maker at the time, it is of self-yew and around 50 lbs in drawweight. There is a silver plate on the back which reads *"...Prize Bow..."* Presented by Dr. Nathaniel Spens upon the 26th May, 1810, the Anniversary of his sixtieth year as an Archer and won by Mr. James Millar, Advocate.

An unpolished patch of wood above the handle is evidence for an original

"belly-wedge," a feature of Scottish bows of that period; whilst the original handle covering has been professionally replaced during the 19th Century by braid. For all its alteration, it still remains a proud and distinctive weapon, and through its association, a link with early 18th Century Scottish archery.

The Company has ever been connected with distance shooting, and its principal Prizes reflect this. Prime amongst the long-range trophies, shot for at 180 yards, is the "King's Prize", first contested in 1787 when it consisted of £20 in cash—a considerable sum for those days. Originally paid for from the Revenue of the Crown in Scotland, since 1871 it has been approved annually by Parliament, and paid for by the Exchequer as a charge to the tax-payers! It has been practice for the winner to use the £20 towards the purchase of a Prize of his own choosing, although a Gold Medal now goes with this Prize as a Perpetual Award.

The photograph featured at the beginning of this article shows the gathering in 1893. The Prize that year was won by George L. Macfarlane who is shown shooting. Also present in this unique photograph are tophatted Andrew Gordon, the Society's "Officer," and William Fergie the bow-maker who assisted Gordon at his bowyers bench.

For very many years, there has been close but friendly rivalry on the Tournament Field between the Woodmen of Arden, the senior English longbow Club, and the Company. This takes the form of reciprocal visits every three years alternately to Meriden, in Warwickshire (the home of the Woodmen), and Edinburgh, at which the nine-score Clout is shot.

The history of the Woodmen of Arden will appear as a later edition of *Instinctive Archer*; but meanwhile, to end this brief story of the Royal Company of Archers, is some advice given to members attending the first post-war "triennial" Meeting.

"...Remember your shooting manners! Don't tread on arrows...Don't stand BEHIND the Clout...Don't question the Judge's decision...Don't stand too near an archer who is shooting...Be ready to shoot when it is your turn...Keep clear until the Judges have done their scoring...!"

Protocol, dignity, and discipline thus properly combined, we will conclude with the lines written in 1677 by an anonymous contemporary Scottish poet.

Archery may be termed the noblest art,
Which human genius ever did impart.
It so approaches Nature, 'tis the same.
And differs from't in nothing but the name.
The bull with horn, the lion with its paw,
Defends himself and fights by Nature's law.
And Man by the same rule, his bow doth draw.

Anonymous Scottish Poet...1677

In addition to being our British Editor, Hugh Soar is: The Honorable General Secretary of the British Longbow Society; Clerk of the Craft Guild of Traditional Bowyers and Fletchers; County Coach of the Grand National Archery Society; a Contributing Committee Member of the Society of Archer Antiquaries; and a Freeman in the Worshipful Company of Fletchers.

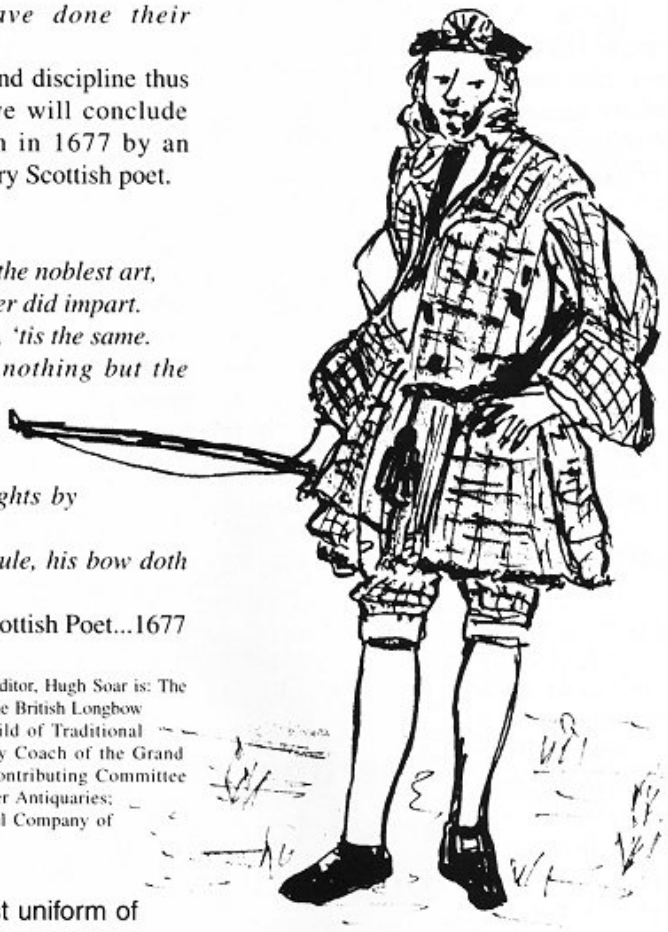
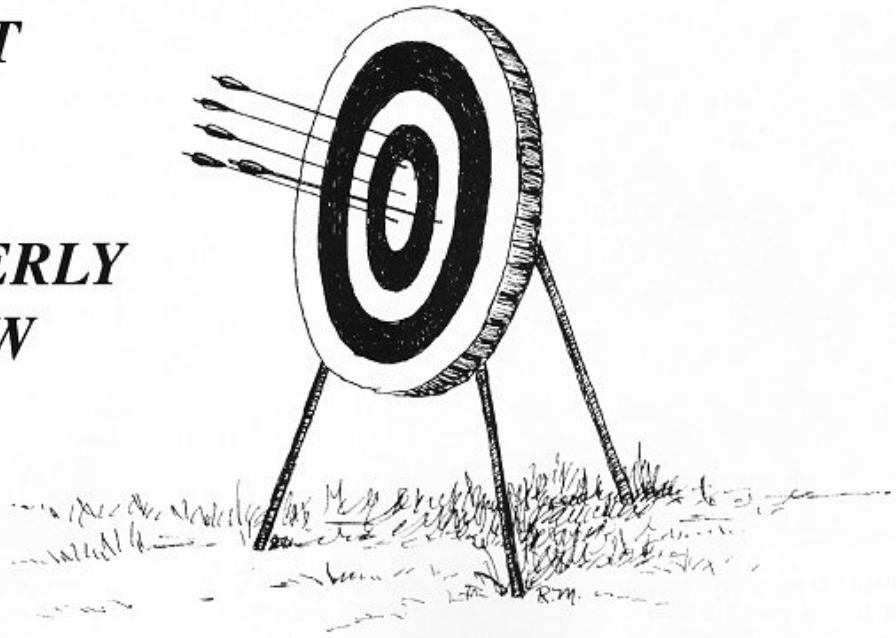


Illustration: The first uniform of the Royal Company. From the *Archer's Register*.

YOU'LL SHOOT BETTER . . .

WITH A PROPERLY SPINED ARROW

By Dan Quillian



In the English language the surnames "Arrowsmith" and "Fletcher" were handed down from people who derived their income throughout their entire lives from making arrows. They knew that an arrow is far more than just a stick with feathers. In the early 1500s every Englishman was required to practice with his longbow. Each village was required to have its own archery range and a common man could gain status by becoming a renowned archer. Competition must have been rampant. The arrowmaker who made the most consistent shooting arrows was a much sought-after individual who knew the secrets of making good arrows, and guarded them closely.

In the 1930s, several physicists, primarily Drs. Klopsteg, Nagler, and others, became interested in archery physics and solved those secrets that had been closely held in the arrowmaker's guilds of the past. Their work was compiled and published in 1947 in a book called, *Archery: The Technical Side - A compilation of scientific and technical articles on theory, construction, use and performance of bows and arrows, reprinted from journals of science and of archery*, as so ably stated on the frontispiece.

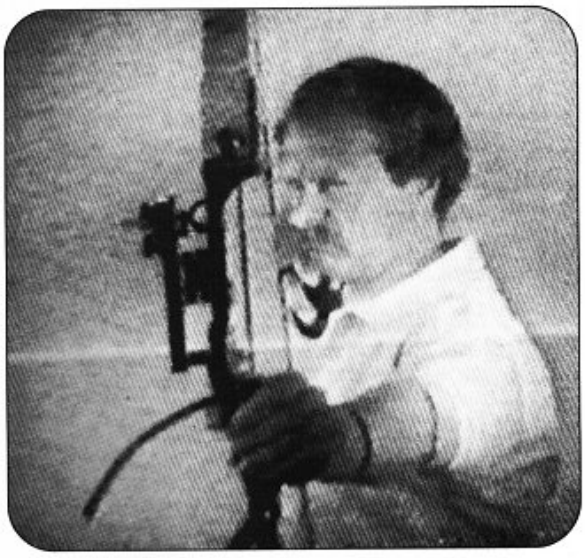
The "archer's paradox" became common knowledge to those of us who shot in the '50s and '60s, before the compound bow came into common usage. We knew that arrows had to be matched to ***both spine and weight***, to each other, to the shooter, and to the bow from which they were to be shot, in order for the archer to attain the accuracy of which he was capable. So, what is the "archer's paradox?" What is "spine?" Why are they so important to accuracy?

When people refer to the archer's "paradox" they are usually referring to the oscillations an arrow makes when shot from a bow. When an arrow is released from the fingers (or thumb-ring) it immediately begins to bend from the energy imparted by the string. For right-handed archers shooting with fingers, a properly-spined arrow bends first to the left and then to the right as it begins its flight to the target.

The drawings on the following page show how an arrow of the correct stiffness makes one complete oscillation from the time the string leaves the fingers until the nock passes the bow. If the arrow is too weak, then the fletching, and possibly the shaft itself, strikes the bow, deflecting the arrow and making a poor shot. If the arrow is too stiff, the arrow will kick off the bow to the left. Either of these two cases can cause the arrow to wobble and destroy your accuracy. Arrows that are not of the same stiffness, or spine, will scattered across the target.

So, what is the "archer's paradox?" What is "spine?" Why are they so important to accuracy?

Some arrow makers have tried to match arrows by weight alone and, as a general rule, heavy wooden shafts are stiffer than lighter ones, but there is still a wide range of stiffness in shafts of the same mass weight. What this means to you as a shooter is that arrow "X" may hit three or four inches left or right of arrow "Y" if the two arrows vary in stiffness, although the mass of the two arrows may be the same. An instinctive shooter would have a hard



Despite their graininess, these freeze-frame photos from an EASTON slow-motion video clearly illustrate how the feathers completely clear the bow (and all of the other miscellaneous "can't shoot without it" equipment attached) with a properly spined arrow. Right or left helical fletch makes no difference if they are all the same and properly spined to the bow. I would suggest that any archer who wants to learn more contact EASTON for "Technique Video Bulletin #1" (slow motion video showing arrows flying from various types of bows and releases).

time learning to shoot well if his arrows will not shoot in the same place.

Also, heavy bows are much more critical to spine variation than light bows. This is the reason spine testers and spine charts show much less allowable variation in arrows for heavy weight bows than they do lighter bows. Likewise, faster bows require a stiffer arrow than slower bows, even though the bow weight may be the same. This is why you often hear someone say that such-and-such bow requires a stiffer arrow than the spine chart shows.

The original spine charts were made in the 1930s and really match only self-longbows. The modern spine chart shows spine deflections in thousandths and how they vary for the different types of bows. Although there are no new bow designs (they have all been used before), improved materials have made possible bows that are much more efficient than the same designed bows of old.

Finally, there is no magic in instinctive shooting. Good shooting results from properly matched equipment and good technique. If you don't have both, you will never be as good as you could be. If you do have both, you will be better than 90% of the archers out there. If you have any questions, give me a call at 706-543-1893 and I'll be glad to talk with you.

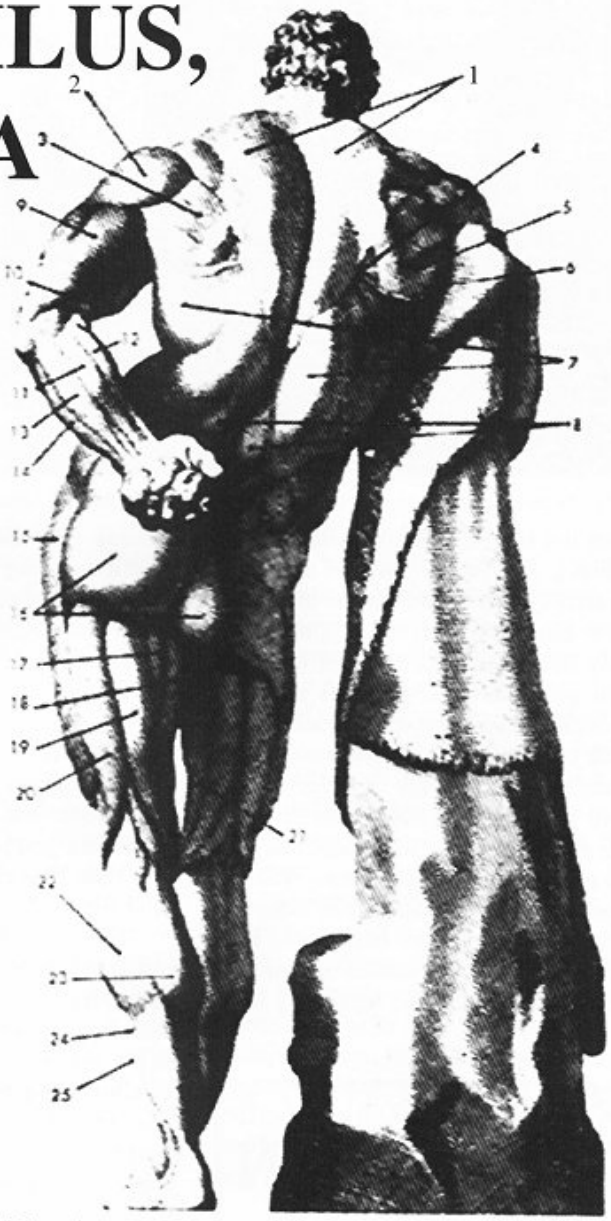
Perfect Spine

Stiff Spine

Weak Spine

FORGET NAUTILUS, JUST GIVE ME A STOUT BOW

by Price Ebert



The above illustration of Hercules displays the two primary muscles used to draw a bow: (1) the trapezius, and (2) the rear deltoid. Intense focus on these muscles while performing the bow exercises is a must.

First, I'd like to say it is an honor to be submitting an article for the premier issue of Instinctive Archer Magazine. I hope this is the first of many issues for many years to come. Also, I hope this is just the first of many articles on archery fitness. Not just by me either. I encourage any fellow archer who may be a strength coach, personal trainer, physical therapist, orthopedic surgeon or the like, to submit articles. Just do everybody a big favor, make sure you have the facts, and make sure you've done your research. As fitness professionals we have two main responsibilities. First, and foremost, don't get anybody hurt. Exercises done improperly can cripple an archer, and end their archery career. Secondly, get optimum results. I don't believe there is a single archer who has time and effort to waste.

Traditional archery and bowhunting is, in my opinion, an "Extreme Sport," whether pulling a stout bow for forty targets or chasing elk in the mountains and then trying to control your breathing to get that shot of a lifetime. If you've been there I'm sure you'll agree. So, extreme conditions call for extreme measures, right? Everyone I talk to agrees, "*The better shape you're in, the more fun this sport is.*"

The very first thing you need to do to get in shape is make a commitment. If you've made a commitment to be a good archer, this should just be a part of that commitment. To my knowledge there has never been a traditional archery legend who didn't or doesn't train. In all my research of traditional archery I've found that all it takes to become a traditional archery legend is TRAINING, TRAINING, TRAINING.

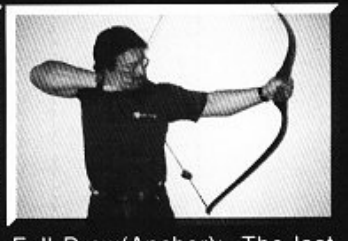
Now we've all seen good intentions fade away. For me the best way to keep those commitments is to start small, by this I mean don't try to get in great shape in one day, or one month for that matter, go slow. Even the most gifted athletes take years to reach fitness, besides, going too hard too fast is the main cause of training injuries. You can't make any progress if you can't train. You can't shoot your bow if you're hurt. The opposite of progress is regress, and that is the result of overtraining.

I believe training should be fun. It's hard to commit to something that you dread. Since we all love the bow, that will be our primary piece of exercise equipment. It's also a piece of equipment I assume we all have. Before we start exercising with our bows there are a few things we need to consider. First, how much do you love your bow? It might be a good

First Quarter Pull: I get a good piece of the bow on the first quarter. This engages the main motivators right away. The first quarter pull measures about 6" with my 27" draw.

Second Quarter Pull: This pull measures about 4" as I focus on my rear shoulder and trapezius muscles.

Third Quarter Pull: This pull measures about 4" also. My shoulder blades are beginning to come together in the center of my back.



Full Draw(Anchor): The last pull also measures about 4". My shoulder blades are now pinched together, with maximum back tension from shoulder to shoulder (I'm squeezing for all I'm worth). I admit my drawing elbow is a little bit high—I'm working on it.

idea not to use your favorite bow for training. Absolutely don't use a selfbow. I certainly don't want anyone to damage their bow. If your favorite bow is your only bow, then there are two ways you can go. What I suggest is to use a facsimile. There are several nice models sold commercially. I prefer making one from an old longbow or recurve riser. Ask your favorite bowyer to save you the riser and about four inches of limb on each end from a failed bow. Tell him you'll pay for the materials he has in the riser. This way your friend will have some pocket money instead of Niemann-Marcus firewood. The best thing about building your own facsimile is you can build it as strong or as light as you want. You can add or take off surgical tubing to accommodate different family members. You can also add a stabilizer bushing and screw on a stabilizer that will accommodate some small weights, and you've added another dimension to these exercises. If you are like me, and like to use the bow you are going to hunt with, make sure you're not going to dry fire your bow. If your fingers are tired, get a good grip on that string!

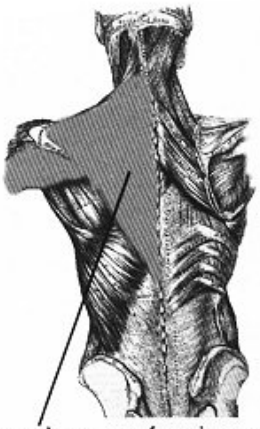
The way I like to exercise with my bow is to pull it after my archery practice lesson, that way I'm already warmed up and my muscles are stretched out, so I don't have to go through another stretching routine. Before I start my bow exercises, I re-examine my bow string. If your string breaks during the exercises you will most likely knock yourself out. Two or three seconds and a new string are a small price to pay for your teeth. I start the bow routine with what I call "quarter pulls." These can be done either with an arrow on the shelf or without. If you are just starting out, try it without. This exercise is very difficult to do with an arrow on the shelf and should be a goal to strive for.

To begin, pick a spot, hold your bow out in front of you like you're aiming at that spot. Pull the string back a quarter of the way back to your anchor and hold it at least five seconds. Don't let it back down, pull it half way and hold for another five seconds. After you have counted to five again, pull to three quarter draw, hold five more seconds. Now with your back muscles (rear deltoid, trapezius muscles), pull to full draw and hold for five seconds, WITH YOUR BACK MUSCLES!

Now let the string back down in the same fashion, back to three quarter and hold for five seconds, then half way and hold, then one quarter and hold. I like to do five reps with each arm. (**It's very important to pull the bow with both hands to develop both sides of your musculature equally. This way you can avoid most of the orthopedic problems associated with shooting the bow.**) In the beginning you might find three repetitions for three seconds with each arm are better.

Next, do what I call "Negative Pulls." To begin the exercise, pick a spot. If you swing-draw, swing up. If you raise your bow before you draw, then raise your bow just like you were going to shoot. Draw the bow back crisply (with power) to anchor, and hold five seconds. Now let the string down ever so slowly under complete control, while aiming. Take at least five seconds to return the string—the longer the better. Try to do five repetitions with each arm. During the exercise concentrate on these aspects:

- When at anchor continuously pull with your back.
- Try to touch your shoulder blades together.
- Be careful not to loose the string!
- Upon the return try to keep tension in your back. In other words, don't just let it down with your arm.



The muscle area of major concern is highlighted. Focus your effort on this area of the back.

Since I've been doing this exercise awhile I've developed a little change to keep it interesting. I begin by pulling the bow back ever so slowly, constantly increasing my back tension. I hold anchor and return the string in the same way as described above. Again, five second intervals is a good place to start. Some of you can start out a little longer. Some may want to start out a little less.

Know and accept your limitations. Everybody would like to shoot 80 lb plus bows, or be the world record holder. The real fact is most of us never will. Take myself for instance, I possess great muscular strength, unfortunately I am cursed with weenie joints. My ligament and tendon strength is at best average. I accept this as a fact of life and structure my training accordingly. I'm not worried about what pound bow my friends are shooting or what poundage they're using on a certain exercise. I take pride in the fact that I shoot my bow well, and I look good doing it. Besides, a 50# bow will kill any deer in America. A good 60# bow will kill almost everything else. (*If you shoot an 80 lb bow or better these exercises are especially important. It is imperative that you develop both sides of your back. That kind of strength on just one side of your back will eventually twist the spine.*)

Most bowyers and myself agree that most archers are over-bowed, physically. Shoot a bow you enjoy. Don't try to shoot big bows because Rik Hinton does, or Bob Wesley does, or your best friend does. Take time to train smart and hard, and eventually you'll be shooting heavier bows and shooting them well.

How much exercise and when? Exercise without rest is overtraining and we've already determined overtraining is a big waste of time. The "when" part is easy, let's discuss that first. If you're a weekend shooter who goes hunting once, maybe twice, a year, or if you're satisfied with the poundage you're presently shooting (in other words, you just want to refine what you already have), I think a regimen of 15 minutes every other day would do nicely. Doing five reps with each arm of each exercise every other day after an archery practice session (or after a good stretch, for those of you doing these exercises at the office). Give yourself 90 seconds rest, and move to the negative pulls doing them in the same manner.

Now let's say you're going to Africa to hunt Cape Buffalo or Alaska to hunt big Brownie: your training will need to be much more intense. Intensity is what determines your progress in any exercise program. Intensity is in direct relationship to how fast and how much one will achieve. To increase intensity with these two exercises, you need merely to increase the duration of the exercises and their frequency. For instance, instead of holding quarter pulls for five seconds, hold them for ten or fifteen. Do all your pulls with one arm to muscular failure then do the same with the other. Taking less time between pulls will also increase intensity. Doing sets of these exercises will also increase the workload. In other words, do five negative pulls with each arm, take 90 seconds rest, then do five more negative pulls with each arm.

Okay, how much can you do and not overtrain? This is the tricky part, especially if you are new to these exercises. With any exercise program you have to keep it challenging. That doesn't mean challenging yourself till you're a cripple. Challenge should equate fun. I suggest stopping or taking a rest whenever you are shaking too badly to keep aim on that imaginary spot. When the muscles you're training are burning too badly to continue, that is far enough, take a break. Challenge yourself next time to go a second or two longer, maybe do one more pull with each arm.

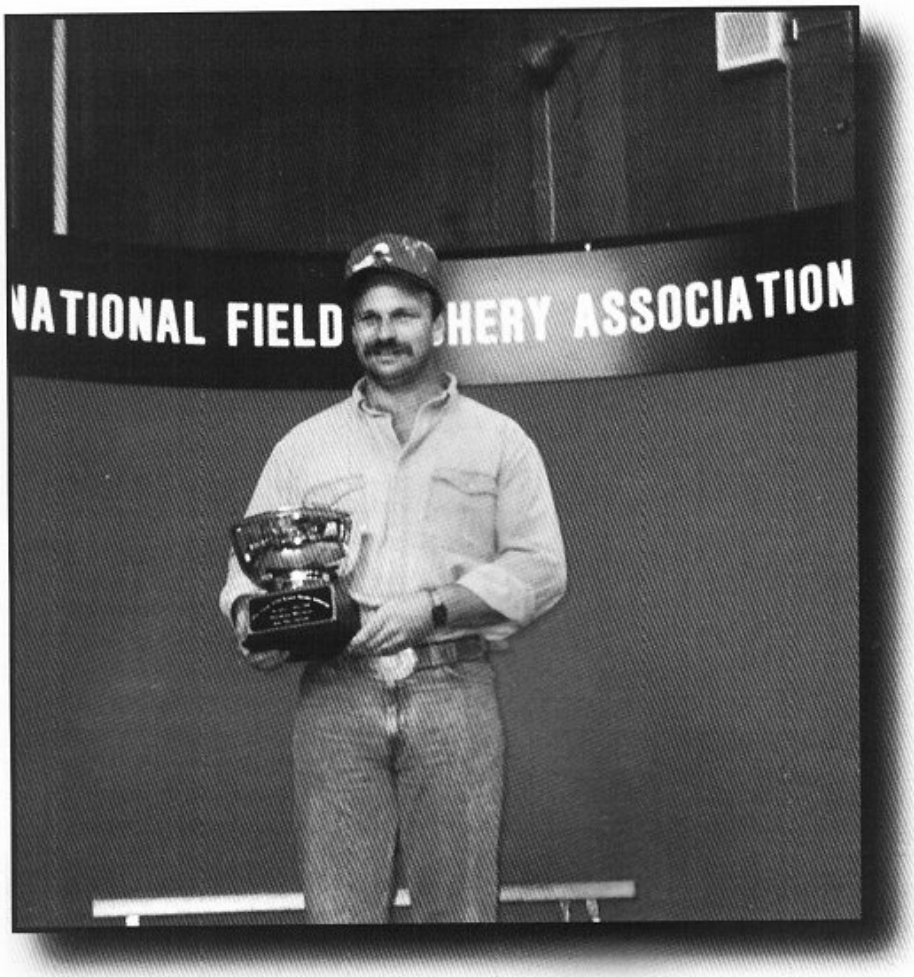
At the end of an exercise routine you should feel spent, yet charged up. It is a very satisfying feeling. The next day you should have some soreness but not to the point of being immobilized. If you are so sore the next day that it keeps you in pain, then that is too much. Again the soreness you do experience should be somewhat satisfying. If your soreness is debilitating the day after, cut back just a little. Using the Africa/Alaska example you may want to endure a "little" more soreness to keep your intensity level high. These persons may want to train two days in a row then take a day off. One thing is sure, your body will tell you when it needs time off. ***Learn to listen to your body, it can tell you more than anyone.***

Before I summarize, let me say this about these two exercises. I train with some of the bigger names in strength and fitness. I'm also lucky enough to train on the best gym equipment available and absolutely nothing does more for my archery than these two exercises! When I'm trying to go up in poundage I do my upper body weightlifting on the same day as I'm going to do my bow exercises. The next day I go for a run or just peck on the keyboard.

To sum it up, if you want to improve as an archer you must do archery exercises. The bow is the best piece of equipment for that purpose. Overtraining with your bow will have a negative effect. To avoid overtraining, take regular days off to assure adequate healing. Bow training should be challenging and fun. As with any exercise program, train smart, train safe!

Interview with David Eatmon, 1994 NFAA National Champion

By Robin Buck



David Eatmon, 1994 National Field Archery Association (NFAA) Barebow National Champion

It is my great fortune that during my thirty plus years of field archery and bowhunting I met and became a friend of David Eatmon. The accomplishments in his career of field archery and bowhunting are unmatched, not only in modern times, but in the history of archery. To my knowledge, Dave has the best collection of trophy elk ever taken by one hunter using bow and arrow. His collection includes many other lesser game animals, including deer, bear, antelope, cougar, and an array of small game. I believe he is one of the best game shots with the bow and arrow that has ever lived, even though he is not one to brag.

With most of his collection well within the top percentage of the Pope and Young records, not one has been entered. As Dave puts it, "I love hunting and archery for what they are, not as a means to further my goals in a popularity contest." I believe his word to be true. Dave only kept his trophies for a reminder of the great hunts he has enjoyed and the close friends he has shared them with. Dave has achieved great success in hunting, but he has also set all state and national records in target and field archery. All these records have been set without the use of modern gadgetry. I have seen him at many tournaments, where he will not only win in his division of traditional recurve, but he will out-score the top compound shooters. With three generations of archers and bowhunters in my family, dating back to the first National Field Archery tournament in 1941, we have never witnessed such precision in instinctive shooting accompanied by a competitive nature only a champion can possess as we have seen in David Eatmon. The following is an interview with Dave Eatmon.

Dave, how old were you when you started shooting the bow?

I was seven years old when my dad first got me a bow. I shot every day and dad would take me to the range almost every weekend when we were not hunting.

Who has been the biggest influence on you as far as traditional archery and bowhunting?

My dad, Del Eatmon, without a doubt. He encouraged me and provided an environment that made shooting the bow really great. Even to this day he shoots in many of the northwest tournaments along with my mother, brothers, and sister. My dad is also a great custom bow maker.

In your archery competition, what type of bow and arrows do you prefer?

I shoot a bow made by my dad, called an "Eatmon 66". It's a full working recurve with a specially designed sight window and balance handle. I have shot all the top recurves on the market, but I still prefer this model because of it's stability

David at 17 years of age with a hard-earned Pope and Young Antelope.

and speed. I shoot aluminum carbon arrows because they are the most stable. They are not affected by heat, cold, or wet conditions as other shafts can be. Shooting around the country, you never know what the weather will be.

How does your equipment differ from your competitors?

All the top competitors shoot similar types of equipment, but I feel shooting the Eatmon 66 gives me the little extra edge to stay on top.

You broke several traditional records at the 1994 Nationals in Darrington Washington, which records were they and what was it like as you competed that day?

I broke four records at the '94 nationals. The records I broke were the FIELD ROUND, the old record was 865 points, my score was 946; the HUNTER ROUND, the old record was 894, my score was 917; the ANIMAL ROUND, the old record was 508 points, my score was 532; and finally the TOTAL AGGREGATE RECORD of 2267 points, my score was 2395 points. In this type of shooting the competition is tough. You are shooting against the top shooters in the nation. You must shoot multiple arrows at each target, so your concentration must always be focused.

Whenever I shoot I don't just shoot against my competition, I figure I am also the competition and shoot against myself and always strive to improve my score. I feel that by placing second in a tournament, I have lost.

Now that you are a national record holder, what is next for you in the competitive arena?

My next real goal is to become the U.S. competitor to represent our country in the World Archery Championships, Bare Bow Class. The tryouts are at the National Archery Association tournament in Ohio. It is my hope to become World Bare Bow Champion.

There is a common misconception that target archers make poor hunters, yet you seem to have great success on big game. What are your thoughts on this?

There is also a misconception among target archers that hunters make poor target shots. Neither are true. Many of my hunting partners are good target shots, and I have friends that are target archers who would make excellent hunters. I think it is more personal preference on which sport you choose to practice.

As for myself, I was born into a archery and hunting family. I consider myself both an archer and hunter. To become good at either you must practice. It's just that most people usually pick one or the other. To become a champion at either you must practice, practice, practice.

What training methods do you employ to improve and hone your archery skills?

I use physical training to keep my upper body in shape. I lift weights and stretch three times a week. The upper body, arms, and particularly the back muscles must be in good condition. To perform the task of shooting several hundred arrows a day you must be in good physical shape. Along with physical training you must practice, there is no substitute.

I usually practice three times a week in the off season, October through February. During tournament season, March through September, I practice every day. That means three to four hours each and every day. During my practice sessions I use a routine to shoot every arrow. I count in my head every step needed to perform a shot:

1. to nock the arrow,
2. to set the bow arm,
3. to make the draw,
4. to calculate and take aim,
5. to hold tension, and
6. to perform an automatic smooth release and keep a steady bow arm.

You need a routine and you need to practice good form, without both, you can never become a good shot. After years of practice, using your routine and counting will become second nature. Another part of my training is to visualize each target just prior to the beginning of a tournament. I close my eyes and make every shot at each target in my mind. This can take up to an hour prior to the competition. It prepares me mentally, to block out my competitors

Dave's hunting success on bull elk alone proves that top target archers can AND DO make great hunters.

and settles my nerves. Being a champion, not only in archery but in most sports, is ten percent physical and ninety percent mental.

What is the most important part of the shooting process, (draw, aim, focus, release, etc.) and how can an archers interested in becoming better shots improve that part of their shooting?

Each part of the shooting process is of equal importance. If you fail in any part of your routine, you will make a poor shot. My best advice is for an archer to develop a routine and stick to it! You can usually find help at your local archery club to develop a shooting routine. There you can have an experienced archer and good shot help you out. He or she can watch you shoot and give you advice on your draw, anchor, release, etc.

Another thing to do is to watch other good shots. You can learn much just by observing. You should also be careful of the advice you receive; once learned, poor shooting habits can be tough to break. For mentors, I would seek those who can hit the target consistently.

Does your target archery form differ from your hunting form?

Only in my mental state. The act of shooting is the same: draw, anchor, release, etc. When hunting you have no spot to concentrate on. You must visually make your spot on the animal. The spot is developed mentally and projected in your mind onto the animal. You must also judge your distance and in most hunting situations, you must do it all in a matter of seconds. Whereas in target archery, you have unlimited time, you know the distance, and you have a spot to focus on.

Here again is where your routine can help. You practice so much that your routine becomes second nature, you don't even think about the draw, anchor, or release. Many times while hunting I only realize I made a shot after the fact. I do not recall the draw, aim, and release, but I have practiced my routine so much that it becomes as natural as blinking my eyes.

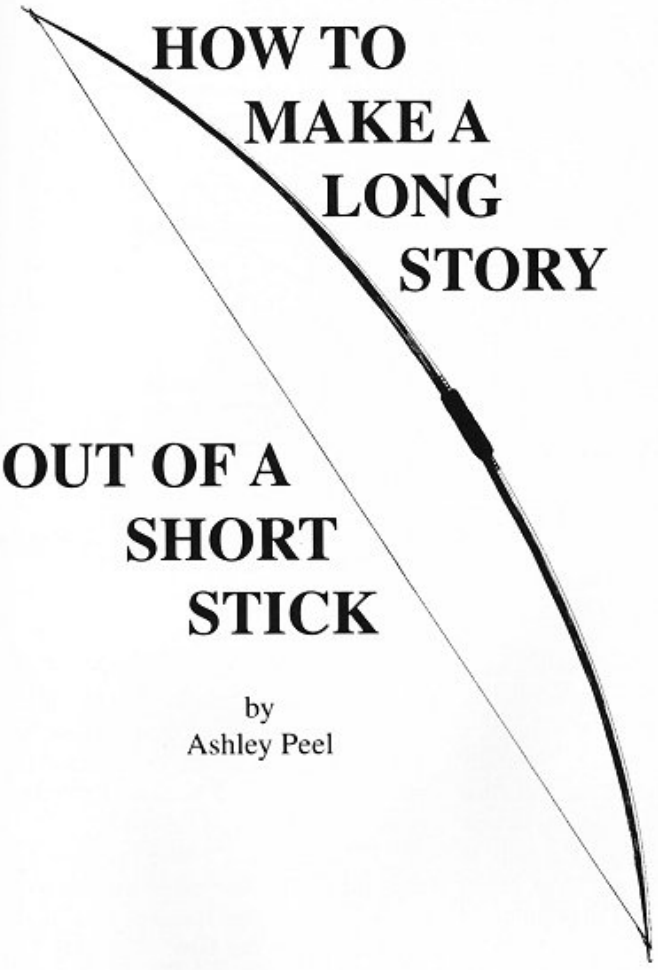
I think this is what some hunters call instinctive shooting. It all comes back to routine and practice.

Of all the animals you have taken, what is your favorite and why?

I would say elk has to be the most rewarding. I have spent countless days living with elk, learning their habits, and pursuing them throughout the Western United States. The thrill of a close encounter with a raging, record class bull in the rut is like no other. When you witness the power of two bulls fighting and then get within spitting distance, it makes the hair on the back of your neck stand up. These moments you do not ever forget.

Editor's Note:
GOOD LUCK DAVE! We wish you luck and success in reaching your goals of representing your country and becoming World Champion.

HOW TO MAKE A LONG STORY OUT OF A SHORT STICK



by
Ashley Peel

It is difficult to know where it all began. Perhaps it was that day in Portsmouth with my family in 1989. We had gone to see the Mary Rose, that beautiful remnant of King Henry VIII's fleet of 1545. The wreck had lain on the seabed in Solent for over 400 years, but was now suspended in an enormous hanger, being washed by a continuous spray of cool water. My memory of it now is of her great hull appearing and disappearing through the mists of time. Raised with the ship were many fascinating artifacts from that time, but what took hold of my imagination were the longbows found on board. (Did you know that in that same year, 1545, Roger Ascham presented ***Toxophilus*** to King Henry? Also, it was the first academic book to be written in English, all other learned books having been written in either Greek or Latin.)

I was at that time a target archer, shooting a modern take-down recurve bow; metal-alloy riser, laminated limbs, stabilizers, and a target sight. What I saw in the exhibition, alongside the ship, looked more like giant-sized broom handles. How these sticks could have been used in battle shocked, and then intrigued me. For Christmas that year I received a present from my wife, it was Robert Hardy's book, ***Longbow***, and I haven't put it down since then. Over the next couple of years I read all that I could find about making bows and arrows. My letters, phone calls and occasional excursions took me from Yorkshire to Avon, from Ayrshire to Cambridgeshire. My quest had begun in earnest.

Through Hugh Soar of the British Longbow Society I was directed to the Guild of Traditional Bowyers and Fletchers, and from one of this excellent company I was able to purchase my first stave. The natural qualities of yew, its combination of heartwood and sapwood, make it the ideal bow wood. The heartwood is the spring and puts the power behind the arrow, yet withstands repeated compression as the bow is drawn over and over again. The sapwood on the other hand absorbs stress and prevents the heartwood from breaking outward on release. It is a difficult wood to work as it has an uneven grain and should this, my first bow break, a risk one takes with all woods, I would certainly be disheartened. It is also expensive to buy.

Guided by the bowyer, Chris Boyton, my choice was a laminate of lemonwood and hickory, approximately 1-1/4" square by 72" long. Lemonwood on its own will make a good bow and it is easy to work, but hickory applied to the back acts in the same way as the sapwood of yew and absorbs stress. As Chris spoke of bow making he showed me some examples of his own work; how I wished then that I could make wooden bows as beautiful as those I saw and handled that day.

In figure 1, I have sketched the initial tapered shape of my bow and achieved these dimensions by using a smoothing plane. When I began this project I had only one of those small portable work tables that can be collapsed and folded away. Apart from its being rather too low for comfortable working over long periods (I am six feet tall), this workbench was more than adequate. It was also easily moved from the garage into the garden, when I wanted to enjoy the light and warm summer evenings. I used an old blanket to wrap around the stave each time it was in the vise.

The next step was to bend and shape the stave. This required a tiller (Figure 2), simply a block of wood screwed to a wall about six feet from the floor, on which to set the handle section of the bow. Finding a clear wall in my garage took some planning, but after removing some shelves I found just the space. (It's funny how new goals can override current realities. Goodness knows why all of those shelves were full of things I didn't need). Directly below the block, but a few inches off the floor, I fixed a pulley, one of those gadgets for setting up a washing line . . . I knew I'd kept it for a good reason.

Next a string had to be made. This first string had to be the same length as the stave, and of a strength that would endure the great stresses and strains of tillering. Not being adept at such things in those days, I called upon my good friend Derek, who, being knowledgeable in all things archery and more, makes a very fine string. (It was not long after this time that he packed his bags and left the country for a better life "sur le continent." I'm sure this move had nothing to do with my request for an oversized string. . . "*Bonjour mon ami, c'est comblien la douzaine?*"). Then, using a rat's tail, I filed out two temporary nocks and when the loops were fitted into these, my twenty-strand string lay loose along the length of the stave.

Now back to the tiller. I placed the stave onto the block and having found a sturdy rope with a hook tied to one end, I positioned the hook over the centre serving. The other end of

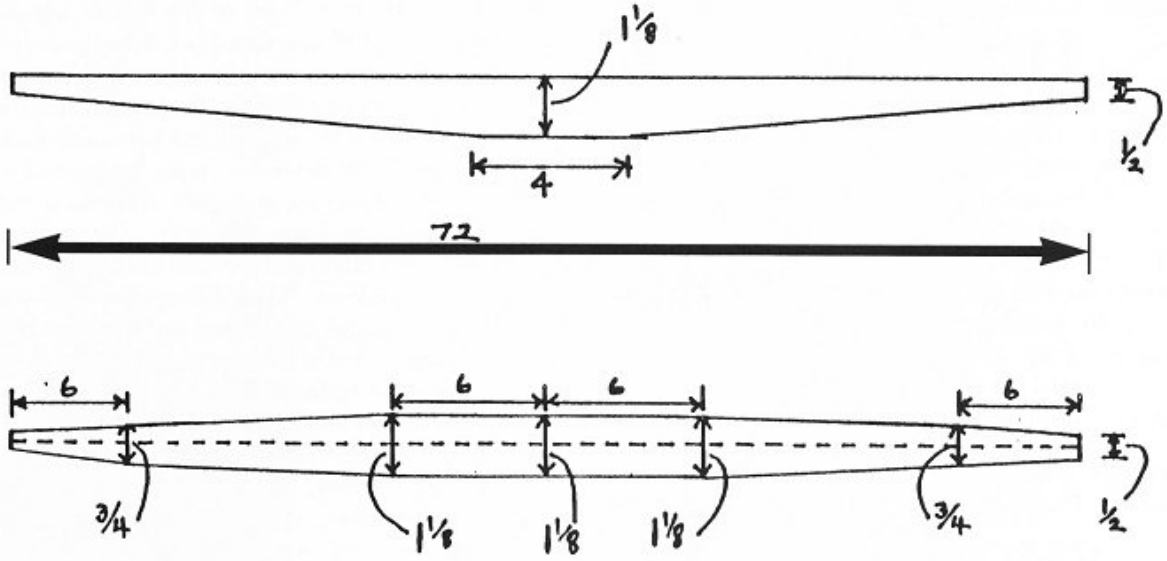


Figure 1.

the rope was dropped down to the floor, threaded through the pulley, and extended on the floor to about six feet from the wall. Tillering could now begin. By pulling the rope, bending the stave little by little, putting the stave in a vise (wrapped in cloth to protect the wood), taking wood off with a drawknife or rasp, and repeating this over and over and over again, I was eventually able to pull the string back to my required draw length. Since I was on the end of a long rope, on the other side of the garage, I found it useful to have marked on the wall, a graduated scale, in inches, so that even with both hands pulling on the rope, the increasing draw length could be measured accurately and clearly. In my mind I pictured the stave bending in an arc, (Figure 3) but straight or flattened in the handle area, with the tips also straight for about six inches.

At first I used a spokeshave to remove the wood, but I found that it took off more than my nerve could cope with. Never having done this sort of thing before, my inexperience made me cautious. The spokeshave and then a drawknife, both wanted to work faster than my confidence would allow. By coincidence at that time, Bill, a colleague, at work had recently been to a house clearance sale. He turned up one Monday morning with a carrier bag which he gave to me. He knew I was short of tools and had brought these for next to nothing. Goodness knows what he thought I was making, for inside the bag was a set of very sharp chisels, a large mallet, and a heavy rasp. Naturally I was very grateful but didn't tell him that I couldn't use a mallet and chisels in bow making. However, I did use the rasp, in fact, it turned out to be my most useful tool. I found that I could manipulate it successfully to take off as much, or as little wood as I wanted.

This was probably the most exciting part of making my bow. Each time I was able to pull the string back by another half an inch, it felt as if I was stepping back from the edge of a cliff, relieved that I hadn't fallen over, but what a view! What a feeling of exhilaration! This feeling was heightened by the force that was beginning to flex within the wood. To start with I thought that my arms would be pulled out of their sockets, but as more wood came off, and I flexed the stave even more, I became fitter and more able to continue the chase.

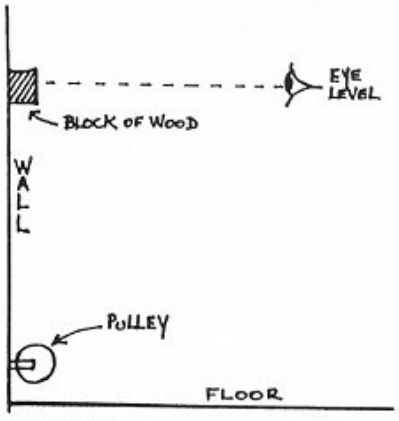


Figure 2.

If I am honest, I have to admit that once the first outline measurements were arrived at, my tape measure was rarely used again on the bow. Tillering has more to do with judgment; my instincts and my eyes were certainly tested to the full. Imagine this: the bow is on the tiller and I have already weighed the draw on the last pull. The spring balance read 60 pounds as I strained on the rope and glanced at the scale on the wall, it read 20 inches. This time I pull again to 20 inches, but hold for perhaps a couple of seconds before letting down. In those two seconds I have pictured a section of limb that looks too stiff, and that is where I now need to remove wood.

The whole process of tillering was then repeated with a string of the correct length, giving the correct fistmele or bracing height. Remember that once wood is taken off it cannot be put back on again and so this painstaking process should not be hurried.

A few years ago whilst on holiday on the Isle of Wight, I contacted the bow maker, Ian Saxcoburg. So as to not upset my family too much, I arranged to visit him on an evening when the girls

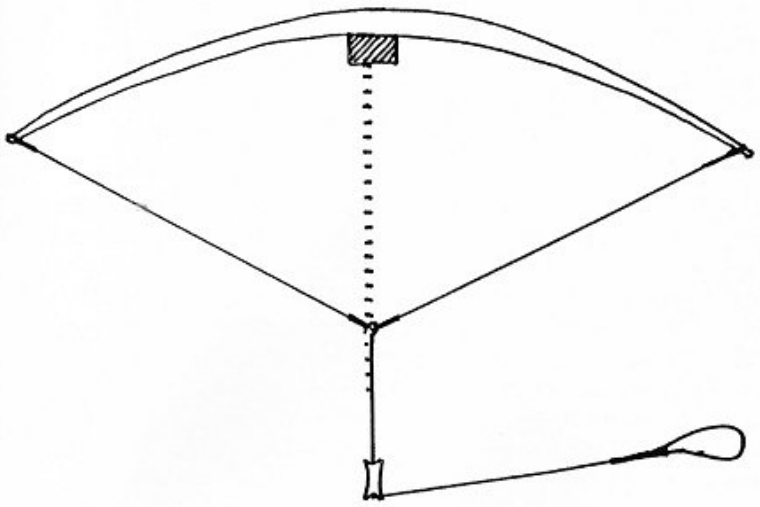


Figure 3.

all wanted a quiet early night in the hotel. It was a small hotel, so I mentioned to the hotelier that I would be out for the evening, returning around 10 o'clock. Ian and his wife were most hospitable and I recall spending a most enjoyable evening talking of bows and archery, and life in general. Over a mug of tea, Ian produced a book, ***The Archers Craft***, by A. E. Hodgkin. It was full of everything I might want to know about making bows and arrows by hand. However, published in the 1950s, it was no longer in print and as a consequence it was now a much sought-after book, making it also rather expensive if I could find a copy. The evening just flew by and it wasn't until after 10:30 p.m. that I left. Taking a wrong turn down an unlit country lane I ended up in an old derelict farmyard. Of course, by the time I returned to the hotel, the lights were out and everyone had gone to bed. It was certainly a memorable evening.

Some weeks after returning home to Hertfordshire, I related this story to our next door neighbours in the hope that, since they spent much of their spare time seeking out and browsing through second hand bookshops, they would stand a better chance than me of spotting a copy of this book. Over a year later, long after my neighbours had moved away up north to Yorkshire, I received my copy of the book in the post. They had remembered! It's funny how these things have happened.

There are some excellent books on the subject of bowmaking and I would advise reading these first, before any wood is removed. I have listed some of these at the end of this article, I read and re-read everything and constantly referred back to these books, the authors' experience and knowledge guiding me through this critical stage.

Now I reckon that with a few interruptions and a good old fashioned "normal" working week, the process of making my bow should only have lasted maybe four weeks from beginning to end. In fact, it has taken four years and what a journey it has been! Not being backward at coming forward, so to speak, I'm sure I told most of my friends and colleagues that I was making a longbow, and what glimpses they may have had of it, it probably looked just the same each time.

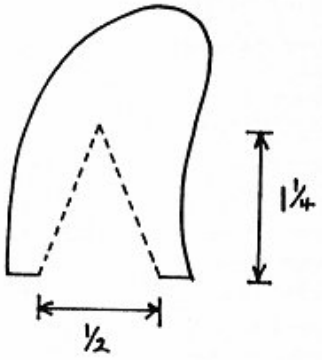


Figure 4.

I am happy to announce that it is now complete, and it is beautiful. It was the horn tips that caused me the most heartache and by the time I had succeeded in shaping and attaching them, I had reduced the overall length of the bow by some twelve inches, meaning I had to re-tiller.

The cow horn had come from Kilwinning in Ayrshire. Charlie, another colleague in work, but based in Scotland, was friendly with a man who carved trinkets in all sorts of materials, including horn. Charlie did a deal whereby I received about half a dozen cow horns for the cost of a dressing gown. Sometimes working in the clothing industry has its advantages.

Some of the horns were already drilled out, but the holes were much too broad to fit my bow. For some reason this part of my project caused me great confusion and it was only with the help of my new neighbour, John, an engineer, that I eventually overcame this obstacle. He ground down a large drill bit that would produce the tapered hole that I required. Then, using the outline of the drill bit, I was able to file the tips of the bow to the same dimensions (Fig. 4).

A strong glue such as Araldite is necessary to hold the nocks in place. Horn is easily shaped using files, but I preferred to keep mine simple: A short stubby one on the bottom and slightly longer, pointed one on the top limb.

My short five foot stick weighs in at 65 lbs at my 28" draw length, with another inch of draw length to spare, for safety. I am unclear about British Longbow Society rules but I believe my 28" draw length on such a short bow means that I cannot participate in competitions organized by the British Longbow Society. I need to check this out, but in the meantime I have bought another stave and will begin again. I just hope that it won't take another four years, otherwise I will never get to shoot.

In the spring of last year when my bow was almost complete, I was fortunate enough to find and attend a weekend course in making longbows; "From Bough to Bow," run by Don Adams. This was the pick-me-up I needed and confirmed in my mind that with a few changes to my own methods I

was on the right track. It was an exceptional two days and gave me the confidence not only to finish my bow, but also to set myself some new goals.

String-making has not come easily to me, but I have now produced several longbow strings, of various lengths, only one of which actually fits my bow. Even after tying myself in knots, literally many times, I have found string-making satisfying and therapeutic. However, if you are like me and don't make strings regularly, it is handy to keep a finished example close by to refer back to. My example is made from very thick cord, so that I can easily see how to have twisted and turned it. At this time I have only made strings in Dacron, but would like to experiment with other materials, such as flax.

Thank goodness for archery friends, so many people willing and eager to help. Another archery fiend.....(definitely a Freudian slip) is Stuart, who produces some fine leather work in his spare time. Over a couple of beers I managed to relieve him of some pieces of leather. With his advice I was able to fashion a handsome hand grip. First I cut a paper template, slightly smaller than required, and used this to draw out the shape onto the leather. After punching out the holes for lacing up, I used two coats of dark brown leather dye to colour the grip. When thoroughly dry I laced it up with ribbon, then soaked the grip in clean water to make it supple. This allowed me to slip the leather into the right position on the bow. Some days later the leather had dried out and was tight around the wood.

Go back several paragraphs to where I mentioned new goals, here lies the heart of my story. Whatever your dreams, whether to shoot for your country, or simply to achieve higher scores, whether to make a bow or produce a string, just do it, follow your instincts, and do some more. Be very clear about what it is you want to achieve, set your sights and shoot for gold. On your journey always be willing to learn, you will be surprised by your discoveries.

Having made my first bow, my passion, my four year affair, has not diminished. It has grown and evolved. Now I need a set of fine arrows, a dozen new lives to pierce the sky.

Booklist:

Longbow, by Robert Hardy
Published by Mary Rose Trust
ISBN 0 9511747 0 3

Making the Boughstave Longbow, by Don Adams
Published by Lincoln.
ISBN 0 946853 05 3

Making Wooden Longbows, by Stuart Homer
Published by Quicks

Making Composite Woodsman Style Longbows, by G. N. Strang
Published by Quicks

The Archers Craft, by Q. E. Hodgkin
Published by Faber & Faber

Dear Readers,

Archery has a way of enriching the lives it touches, and the younger the archer, the more they seem to love it. Because today's young archers represent the future of archery, we have incorporated a ***YOUTH SECTION*** into our magazine. Each issue of Instinctive Archer™ Magazine will feature one or two articles in the *Youth Section* written by authors between the ages of eight and eighteen. So if you know any young archers out there who love to read and write, and who might be interested in submitting an article (with photos) on any aspect of traditional archery, please encourage them to do so. We think they will enjoy seeing themselves in print as much as our readers will enjoy their unique perspectives.

Our future issues will also feature another interesting section; the **READERS' SHOWCASE**. In each issue, we will ask our readers to send us photos of a different aspect of archery. In some issues, we will ask you to send us your funniest archery photos, in other issues, we'll showcase specific animals harvested with traditional equipment, camp scenes, club photos, etc. So readers—your first assignment is to send us close-up photos (black and white or color prints) of your **FAVORITE HOME-MADE BACKQUIVERS**. We'll feature as many photos as we can in the next issue. Make sure to include your name, address, and a brief one-sentence description of materials, design, etc. The deadline for photos is June 15, 1996. We look forward to hearing from you and seeing the results of your creative talents.

—The Staff

MEDICINE BOW

by
Jay Massey

Photo by Brian Brockette

A fellow bowyer recently made a comment about the creative process which I found interesting. *"If God made man in his image, then He clearly intended for man to create, using the talents we're blessed with, and using the raw materials He put on earth."* Sounds like the Creator intended for us to build bows, doesn't it?

The task of bow-making, I've always felt, should be approached almost religiously, showing reverence for whatever materials we utilize. I've also noticed that certain raw materials seem blessed with unique qualities. So when I made plans to build a special bow of pignut hickory, I hoped to construct it from such materials.

First there was the stave, which came from a small pignut hickory sapling growing amongst the oak, blackjack, and flint-covered hills of eastern Oklahoma. The woods where I cut the little four-inch tree fairly reeked with history. Countless peoples had traversed and hunted these woodlands—originally the Quapaw and Osage and later the Cherokee, Creek, Sac, and Fox. If you stand quietly in these woods on an autumn afternoon you can feel the drama and the adventure which once played out here.

I had spotted the little smoothbarked sapling from a distance and it caught my attention immediately. This was unusual, for at the time I was still a die-hard advocate of Osage orange and had long held the view that as a bow wood, hickory was somehow second-class.

But there seemed to be something unique about this little tree. It stood tall and proud, as straight as a ramrod. It had a particular look about it—a look of toughness and durability. The little sapling seemed to say *"I may bend, but I will never break; I will never fail you."*

Perhaps the little hickory conveyed that message because it was growing on land belonging to my older brother, Buck, a man I truly believe was, in his younger days, one of the toughest men who ever walked upon this earth. A personable and likeable man, and with a heart of gold, but not one you'd want to cross. I remember the story of a fight (related by my sister-in-law) which took place outside a Japanese nightclub, when Buck charged into five G.I.'s, fists flying, for having pinched her rear end. All five went down and out under his assault; two had to be sent to the post hospital with broken ribs, broken collarbones, and head injuries.

Quick hands, as strong as a bull, with pure animal ferocity. A big man, six-two and nearly two hundred, but fast enough to win a European-wide U.S. Army track and field competition in the 100-yard dash and 100-yard high hurdles. But more than that was his die-hard attitude, almost scary because it was so absolute. A die-hard spirit that would have gotten him nominated for a Silver Star in Korea when he was a 19-year old staff sergeant and B.A.R. team leader. Earlier, Buck had rescued several wounded members of his platoon after they were cut off, and then as his company began pulling

back, he volunteered to remain alone with a .30 caliber machinegun to hold off several hundred attacking North Koreans. Despite the danger Buck had put himself in, the C.O. who said he planned to do the nominating never followed up on his promise. Buck didn't pursue the matter because, in his words, he *"hadn't gone over there just to win some trophy."*

Anyway, I hoped that some of Buck's character and toughness and fighting spirit (his gift from the Creator) might have rubbed off on this little hickory tree that was growing only fifty yards from his house.

And then there was the sinew backing which I glued onto the back of the little bow—sinew which had been stripped out and cleaned and sent to me by Bart Schleyer, one of the finest archers to carry a bow since Arthur Young.

Bart who? That's exactly the response I would expect out of all but a handful of archers who have met him personally. Bart is not a man to toot his own horn, and so you don't hear much about him, but trust me when I predict you'll be hearing a lot more about Bart Schleyer in the future. Bart, who originally hails from Wyoming, by way of Montana, was a close friend of Paul Schafer, who accompanied him on a trip to Kodiak Island several years ago when Bart killed a big Alaska brown bear with his recurve bow. Two men, both exceptional archers, athletes and hunters—cut from the same cloth.

I fancy myself a good judge of people, and I swear the first time I met Bart Schleyer I had this peculiar feeling of seeing Arthur Young as a young man.

Oh, I almost forgot to mention the sinew Bart sent me from Russia (he's been capturing, tagging, and tracking Siberian tigers there for several years) that came from the legs of a bull elk that had been killed by one of his radio-collared tigers, a 500-pound male named Zheny. That ought to impart some special "medicine" to the little hickory bow, shouldn't it?

But back to the actual construction of the bow: I sawed down the little hickory tree and immediately split it into halves and dipped the ends with a thick coat of wax for seasoning. I put the two staves aside in a barn just outside the little town of Stilwell, nestled at the foot of the Ozarks in eastern Oklahoma. Four years passed.

Then one day I brought one of the staves back home to Alaska, where I took a drawknife and began reducing it to a round-backed/flat-bellied flatbow. This shape, according to Al Herrin, was typical of many bows built by the old Cherokees, who said this design produced the fastest bow. So the shape of the hickory bow was a gift from the ancient Cherokees, through Al Herrin, an exceptional archer/hunter and one fine human being.

The overall length of the hickory bow was 58 1/4-inches, with a maximum limb width of 1 3/4-inches roughly six inches above and below the 4 1/2-inch handle section. Maximum limb thickness - measured six inches from the handle, at its widest part - is just under 5/8-inch. That's the maximum thickness of the wood, the sinew and the thin deer rawhide which covers the sinew backing.

But I'm getting ahead of myself. In tillering this bow I took extra, extra care, reducing the wood slowly, bit by bit, calling upon all of my experience as a bowyer. The weight came off slowly—the hickory was the toughest piece of wood, for its dimensions, that I'd ever seen. A yew bow of similar dimensions would have drawn maybe 50-lbs; the little hickory, however, was hanging tough at nearly 80-lbs at 25-inches.

By being extra careful with it I was able to get the tiller exactly the way I like it: a smooth bending throughout, beginning at the tips and extending to within an inch or so of the handle section. The limbs had just a small amount of natural backset from the handle, and the lower limb had a slight natural string-follow bend at about mid-limb. I kept a close eye on this during the tillering to avoid weakening the bow too much at that point.

After the bow was tillered and shot several dozen times at half-draw I applied a single thin layer of the Siberian elk sinew (provided courtesy of Zheny and Bart) taking care to keep it evenly distributed so as to avoid throwing off the tiller. After drying for a couple weeks I began shooting the bow, testing it, abusing it, seeing just what it would handle. One of the first things I noticed about it was that, unlike some other hickory bows I have built, this one showed almost no string follow. For this I have to thank Dan Perry, who recently wrote an article on the merits of thorough drying of hickory for obtaining top performance.

As a side note, the backing probably wasn't necessary with the hickory, for this wood has incredible tensile strength. But I've never liked taking chances with a bow I really value and so I back them with sinew. To date I've never broken a sinew-backed bow.

Several hundred shots later I was ready to finish the bow by gluing on a thin layer of deer rawhide, using hide glue. Then I painted a colorful, quasi-Indian design on the back and added the arrow plate, which was a thin strip of water buffalo horn - provided to me by Tim Baker, who is one of the last true gentlemen, and with a spirit that reminds you of an Indian shaman or holy man. Should be some more good medicine there, for a part of his spirit is in this bow. And also that of Paul Comstock, who has opened my eyes to the attributes of bow woods other than Osage and yew.

To finish the grip, I first built it up to a round shape with cork and then laced on a thin covering of cowhide — about the only parts of the bow which might be considered ordinary. So, practically every element of this bow contained something special, from its design right down to its bowstring - which, incidentally, I made from the same polyester material Howard Hill used in his strings. Not a natural material, perhaps, but one which might be expected to contain certain properties. Some Native Americans believed that every object has a spirit, and deep-down, I suppose I believe it too.

Then came the fall hunting season, and I carried the little hickory bow out to my guide camp so I could practice for an upcoming Idaho elk hunt. The bow saw no action in Alaska, however, as the guide regulations here prohibit a registered guide from taking game once he has hunters in the field.

So at my camp the hickory bow was used only for stump and flight shooting. One of my hunters showed up with a custom laminated longbow, severely

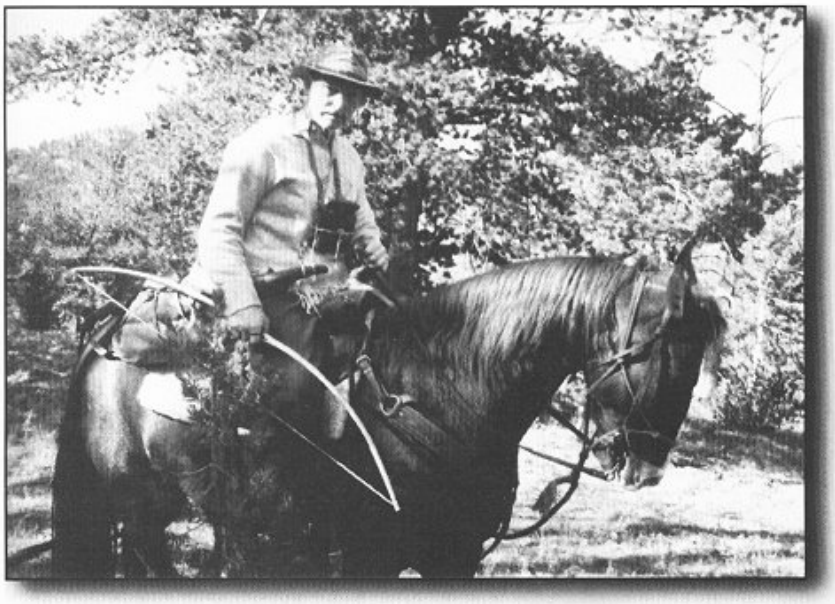


Photo by Brian Brockette

Up on Stoney, a Missouri Fox Trotter trained by Brian Brockette.

reflexed, that cost $1,200 and was supposed to shoot 212 feet per second. We flight tested his bow and my little hickory flatbow, using hunting arrows (his) weighing nearly 800 grains. I was getting a strong 180 to 190 paces; his bow, at about the same draw weight, was averaging about 20 paces further. The little hickory bow was in fast company, and standing tall.

Around the middle of September, Dick Hamilton, Jeff Loffert, and I flew down to Boise and drove to the mountain town of Hailey, where we met Brian Brockette, who already had our camp set up at an elevation at about 92,000 feet in the Sawtooths. Did I say 92 thousand? I meant 92 hundred. Freudian slip, there.

Unless you're in good physical shape it can seem a chore just getting on a horse at 9,200-feet, especially when you live at sea level. Alaska's mountains are spectacular, but most of the game habitat here is at fairly low elevations; even when sheep hunting we're rarely above 6,000-feet. Moreover, the horses were used only to get to and from our hunting areas; once there, it was all on "shanks-mare," much of it straight up and down. Those mountains are not called the Sawtooths for nothing.

For ten straight days we would get up at 5 a.m., eat a light breakfast, and then saddle the horses (Missouri Fox Trotters, by the way; the finest trail horses you'll ever find) and ride out of camp in the dark. At first light we'd be up on the ridges, bugling in hopes of locating a bull or two. Then we'd "park" the horses and go on foot, usually putting in 1,500 to 2,000 vertical feet each morning and then a lesser amount in the evening.

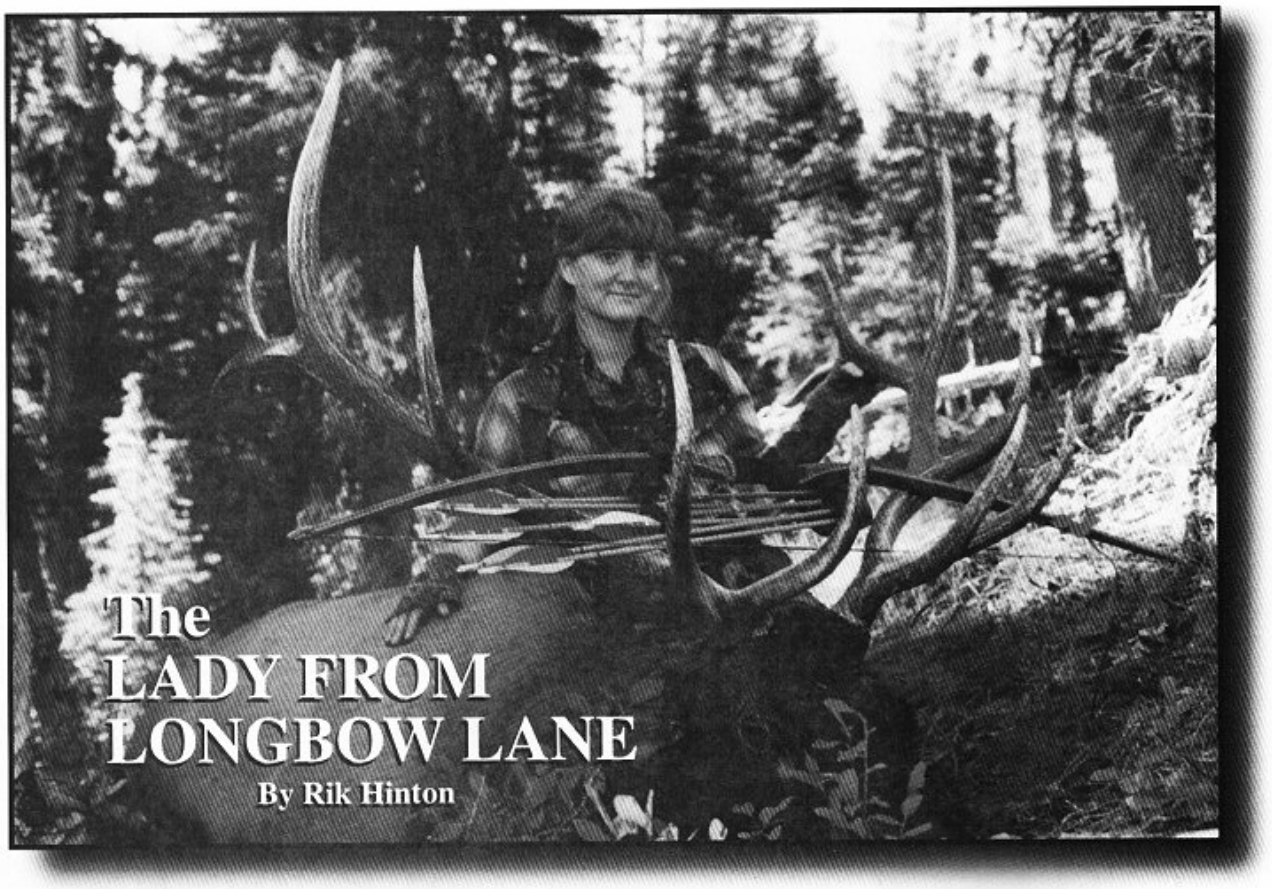
The weather was hot and dry, and most of the time our efforts at calling brought only silence. Then one morning, about eight days into the hunt, we called in a nice 6-point bull. Though the situation was less than perfect (we were out on an open ridge, and the bull circled downwind and scented us) I still managed to get almost within good bow range. In fact, I had him within 60 yards for something like half an hour. The best I could do was an open, broadside shot at 45 yards.

I'll have to be honest and admit that I briefly considered it. But I didn't take the shot. My shooting was pretty good at 20 yards and okay at 25. But at 30 yards it was fair to mediocre. And at 45 yards? With stone points? Don't even think about it.

So I passed up the shot. I also passed up another chance the very next morning at a little raghorn 5-point that I called to within 35 yards.

Could I have made one or both of the shots? I felt there was an excellent chance, given my faith in the little hickory bow. But why risk wounding a fine animal, causing unnecessary suffering, and possibly creating a bad image for primitive/traditional archery tackle—not to speak of the bad taste such a thing would have left in my mouth? These are things all hunting archers must consider at that particular moment.

Twenty years ago I was hungry enough to have done it. I don't do it anymore, unless it's one of those do-or-die situations when I have no other choice. I've been in those situations and have been lucky enough to pull off some "gotta-do-it" shots, like the time I needed to put a second arrow into a bull moose - and did so, at 70 paces. Or the 35 yard running shot I once made on a buck deer which had been badly hit by another hunter. But there was no "desperation" shot called for on the elk hunt. I was glad, for the little hickory medicine bow deserved a better start than that. There's always next year, and another hunt. Besides, I have a feeling about this little bow. . .



The LADY FROM LONGBOW LANE

By Rik Hinton

When she isn't llama packing or enjoying weekend 3-D shoots, Tracy Hinton (pictured above with her 1995 bull) lives with her husband in Idaho at the end of a dead-end road on a long, dirt lane. . . "Longbow Lane."

The same haunting phrase echoed in my mind for a full year. "*You shot my bull.*" Although they were my wife's teasing words, they were in part true. In the fall of 1994, my wife Tracy and I had packed our wall tent and small camp far back into the wilderness of North Idaho. The weather was mild for the season, dropping barely below freezing at night, and warming to over 50 degrees in the afternoon.

The cool frosty mornings and cold blue skies were the perfect backdrop for the now heavily-rutting bull elk, who were bugling with reckless abandon. In the same way that we have hunted together since before we were married, Tracy and I took turns with each bull that I called in. First, Tracy would carefully sneak about twenty yards in front of me as I called back and forth with a bull, and try to ambush him as he walked past her to investigate what he thought was a trespassing bull. The next time, I would put myself in the front and try to call a bull directly to me.

One cool morning I saw a very respectable six-point bull walking downhill through the heavy brush right to my wife. If he continued on his path, she would have a two-yard broadside shot. I swished my foot back and forth on the huckleberry brush and made quiet elk noises as the bull slowly walked ever closer. Then, without warning, I heard a small branch snap behind me on the steep ridge, and as I slowly turned around, I was surprised to see a second bull only twenty yards below me, standing broadside. My emotions battled mightily within me for a few seconds, as I agonized over whether to shoot this bull, or pass him up so Tracy could have a chance at the larger bull above. I slowly, imperceptibly turned my head back uphill, and I could see that Tracy's bull had stopped, and was staring at this new bull.

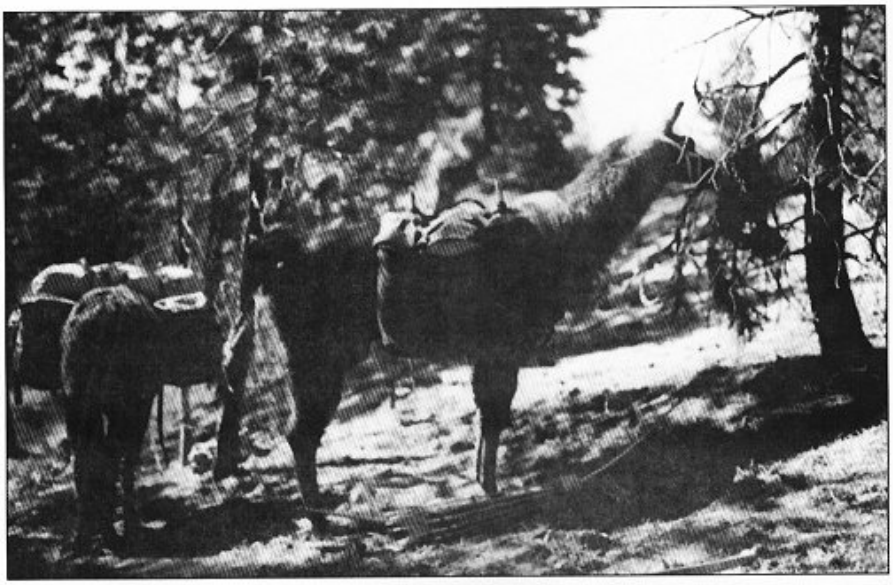
As I ever-more-slowly glanced back to the bull below me, my longbow somehow (without my knowledge) came to full draw and drove a heavy fir shaft deep into the rotted stump on the other side of the bull, missing him by at least a full inch, and prompting both bulls to perform their finest imitation of heavy earth-moving machinery crashing through the forest at high speed. I won't describe the look I received from my wife as I looked back uphill at her, but you experienced married

men probably know the one I am speaking of—the look that takes at least two days of hugs and kisses to remove. I tried to explain that the bow just came up and shot before I could stop it, that it was pure instinct, but she wasn't buying it.

Two days later, she had almost forgiven me, and so I decided that the time was right to hunt the deepest, farthest, and most inaccessible canyon in the area. I told Tracy it was a long hike, and that we would need to start hiking at least two hours before dawn, but I didn't elaborate on the difficult terrain we would have to negotiate to get there. I would just claim that after so many years, I had forgotten how hard it was to get there, and that would be that.

Well, to make a long story short, three hours after leaving camp, and approximately one hour after dawn, my wife was loudly whispering things like "*What if we fall?*" and "*We're going to die out here, aren't we?*" I stuck to my story that "*surely there was a bull over the next ridge,*" and then, in answer to my prayers, he answered just as we topped another long ridge. This was my chance to make it all up to Tracy and get myself out of hot water, so I put her right where I thought the bull would walk to from across the small ravine, and began to call like a small spike bull with an oversized ego. It worked, the bull shut-up, pondered the situation, and then moved straight toward us through a huge alder thicket. When he crossed the small creek below us, instead of coming straight up to our location as I had planned, he circled to my right, which was not good, because Tracy was set up on my left. I saw antlers moving over the huckleberry brush, counted six points on one side, and then suddenly, there he was, walking above me only fifteen yards away. I drew my 80-pound longbow as his head passed behind a small lodgepole pine, held it at full draw while he slowly walked through a large huckleberry bush, and released when he stepped into the opening.

He instantly bolted five yards uphill as I quickly nocked another shaft, and as I again came to full-draw, he began to topple over backwards. My second arrow was on the way and made a second fatal hit just before he hit the ground. He had only ran five yards! I couldn't believe it, he was down in less than three seconds! I turned to my wife, who was fifteen yards from the bull, and mouthed to words "*Did you see that?*" Her eyes were as big as saucers when she nodded excitedly. We both looked back at the bull, and waited in stunned silence for a few minutes, not really believing that the bull was actually down for good so quickly. But he was.



The author's faithful elk packers Dreamer and Charlie (Charlie is happily munching on his favorite treat—dried, long-dead pine needles!).

It was sometime during the skinning and quartering process that she looked at me, smiled innocently, and said the words that haunted me for the next eleven months: "*You shot my bull.*"

She was only teasing, but the words struck home, and the next day as we were packing the bull back to camp with our two young but eager llamas, I promised her that next year, she could be in front on every bull, and that I wouldn't take a shot until she harvested an elk. As always, the plans for the next hunt began formulating in my mind even before we were done packing the meat out.

Eleven slowly-passing months later, I stood on the dark, wet soil of a steep, heavily-timbered ridge, clothed in light wool, and surrounded by a thick veil of dense, white fog. I had packed our camp to the top of the mountain with two of our llamas, Keeper and Charlie, and since Tracy wouldn't arrive with Dreamer, our other llama until evening, I had hiked out before dawn to see if the bulls were bugling yet. They were. Unfortunately, the fog was so thick that I had great difficulty locating them. But as I hiked through the seemingly impenetrable fog, I would bugle at the top of each finger ridge that I crossed, and the bulls would bugle back, sometimes in groups of two

and three. I smiled all the way back to camp, knowing that I had brought my wife to the right place.

She arrived with Dreamer (her favorite llama) just as the now visible sun was setting, and I regaled her with tales of the many bulls that had answered me during the morning "scouting" mission (*I really wouldn't have shot one—honest*). Tracy was probably as excited as I was when we arose before dawn, shouldered our heavy daypacks, strung our longbows, and began hiking through the timber. We went to each of the locations where the bulls had answered me the day before, but only two of them halfheartedly answered. We contented ourselves with a fine day's hike, and stump shot our way through the spectacular high mountain scenery.

The following day, we moved even farther from camp, hunting what I call the "middle ridge." Actually, it's a quite nasty place, difficult to get to, and difficult to walk through once you get there. The brush is as thick as fog, and blowdowns force you to lift your knees to your chest with each step, but it's also full of elk. We worked several bulls that morning, and by noon, Tracy was ready for a rest. We found a soft, grassy spot in the sun, and made ready to rest and recuperate for a few hours.

It was then that I thought I heard a bugle just over the next ridge. I'm sure Tracy thought I was on another wild goose chase with a head full of wishful thinking, because she just smiled and said "*I'll stay here, you go ahead.*" Ten minutes later, I crossed the top of the ridge, and was immediately swept into a bugle frenzy with five bulls who were contesting a small herd of cows in the alder thicket fifty yards below me. I crawled through the rocks and mud, staying below their line of sight, and move to within thirty yards of the herd.

I still hadn't seen any of the bulls, so I quietly mewed like a cow one time. "EEEEEEUUWWW." A medium sized five point screamed and grunted, then walked out of the brush and came right to me! Again, my emotions battled mightily within me as he stood twenty yards away, totally broadside, with his head hidden behind a tree, but those haunting words again echoed through my mind, "*You shot my bull*" and I let him walk away. The other bulls were screaming back and forth not forty yards away.

Crawling backwards on my belly through the mud, I slowly reached the crest of the ridge, and as soon as I was out of their sight, I jumped up and ran for all I was worth to get Tracy, who hadn't heard a thing. "*C'mon, C'mon, let's go. There are five bulls going crazy right over there! Get your pack, you're not going to believe this!!*" Our hearts were thundering in our chests as we ran to the top of the ridge. The five bulls were still going at it, screaming, grunting, and running as they tried to outperform the other bulls in the eyes of the small herd of cows. In all my years of hunting these massive ghosts of the forest, I've never heard such a bugle-frenzy. One of the bulls was actually losing his voice from screaming too much. And the cows were giving them fits by wandering all over, mewing back and forth, and generally ignoring the bulls. It was truly a sight to behold.

We set up fifty yards from where most of the action seemed to be, and almost immediately called a nice five point in, but the brush and trees were just thick enough that Tracy couldn't shoot. I was kneeling five yards behind her, bugling and grunting, when I saw movement to my left. Moving only my eyes, I saw a cow walking only six yards away. She stopped five yards to my left and offered me the perfect point-blank shot. I respectfully declined. Then she stepped forward a few yards and walked right in front of Tracy, who would have loved to take the shot. Unfortunately, she heard the footsteps and didn't look, thinking that it was only me coming over to discuss strategy. She didn't realize it was an elk until the cow passed by five yards in front of her, but it was too late to shoot.

The author successfully stalked this bear in it's bed near the end of the hunt.

The bulls kept screaming, and I called another cow in to twelve yards twice, but the brush was always in just the wrong place. We slipped out of the small basin without spooking the bulls, never getting a clear shot, but having experienced an almost dream-like moment of elk heaven. What a day!

When I checked the llamas the next morning, thick frost gleamed off their backs in the small flashlight beam, and as I looked up into the black sky, I could see bright twinkling stars from horizon to horizon. This was they type of day we had been waiting for—clear and cold! We left camp long before daylight and hiked along the narrow trail for several hours. At each vantage point or ridge crest, we would stop and bugle, but for some reason, the bulls wouldn't respond. The sun was just beginning to warm the cool mountain slopes as we hiked up a steep trail near an even steeper ridge top. The blackened trees near an old lightening burn offered stark contrast between the vivid blue sky and the long green meadow grass that grew in profusion near the old fire. Fifty yards before we reached the top of the ridge a long, whistling bugle whispered through the pines. Tracy and I shared a quick smile as we both whispered "*Did you hear that?*" The bull sounded like he was less than one-hundred yards away, just below the crest of the ridge ahead of us.

With Tracy running right behind me, we crashed through huckleberry brush and jumped small deadfalls as we covered the fifty yards to an ambush site on the edge of the ridge directly to our left. We knelt down, breathing heavily, as I pulled out the grunt tube and bugled softly. Three seconds later he answered from only seventy-five yards away. Tracy was already nocking an arrow on her forty-seven pound Wilderness

There are some places you just can't pass by without taking a picture. This is one of them.

longbow as I motioned for her in the timeless gestures of the hunter to move up to the edge of a small fifteen-yard wide clearing. With my head kept low, I walked backwards in my footsteps for five yards, then stepped to the right and disappeared behind the trunk of an ancient tamarack snag. I wonder now if that ancient old tree had watched this scene unfold before. . . the age-old contest between archer and prey.

Tracy knelt with her back to a wide brushy tree and no obstructions in front for at least fifteen yards. She had learned well over the last few years. The time had come. . . I snapped off a small dead branch and whacked a nearby lodgepole sapling hard once. Then I swished my feet loudly back and forth through a huckleberry bush as I bugled again—softly like a small five-point bull. Not expecting to see anything yet, I glanced around the left side of the ancient snag to check on Tracy. The dark beams and long white tines of a bull were moving through the brush less than thirty yards from her. She couldn't see him yet, but if he continued on his present course, he was going to walk right past her.

I smiled uncontrollably and my heart was happy as I once again slipped from view behind the ancient snag and began scraping the dead branch on the nearby sapling. All the bull needed to know now was my location—he was already convinced that I was an intruding bull. I had only glimpsed one antler, and that one glimpse told me only that he was a six point, I had no idea if he was a big bull coming in for a fight, or just a little bull coming in for some light sparring. I hoped for the former as I scraped a few more times, stomped twice, and then, once again slid my head out to the left to check on Tracy. My left eye had barely cleared the tree when I froze. Tracy had her longbow held straight out in front of her as though she were ready to draw at any second, and I could tell by her intense posture that the bull was right in front of her. I couldn't risk moving another inch, I dearly wanted to see the bull, but there was no way I was going to risk being seen. Tracy held her position, kneeling, with her bow canted and ready to shoot for nearly a minute. It was then, as I waited, that I saw her limb tips begin to shake as her bow arm tired and as the excitement mounted. I'll let her tell you what happened in her own words:

"He sounded like he was coming in, but I wasn't sure. I heard Rik bugle again, then he cow called a couple of times, I was watching intently and willing something to show itself when a leg appeared to my left, and then the adrenaline kicked in. My whole body felt weak and started shaking. When the bull's body came into view I'm sure my mouth fell open. All I could see was this beautiful chocolate face and a seemingly very wide set of antlers. I knew that any second he would see me and dash off, but he kept coming. . . walking steadily right to me.

"My mind was flying. Would he walk over me? What would I do if he kept coming? He finally stopped about eleven yards away. Still facing me head-on, he tipped his head back and let out a wonderful bugle and grunt. His head was moving as he looked the area over, then it stopped moving—he was staring right at me. My heart was in my throat, so it couldn't sink.

"I knew that he would be gone for sure now, but he just kept staring at me. It seemed like an eternity. He knew something was there, but he didn't know what.

"My mind was flying again. Could Rik see him? Could this bull see my twitching as I tried to control my shaking? Could he hear my loud, uncontrollable breathing? Was he as wide as he looked? It finally got to the point where I was wishing he would do something—my feet were tingling and threatening to go to sleep and the shaking wasn't getting any better. The impatience in me said 'Lord. . .just let him run away or let Rik get a shot, because I can't stay in this position much longer.'

"Then, all at once, he turned completely broadside, but he still had his eye on me. I didn't move, I just started picking my spot. Every ounce of information regarding what to do in a hunting situation started to flow in my mind—pick a spot—don't move if even one eye can still see you—wait for the head to turn or go behind a tree.

"I wondered if Rik could see what was going on? Then he did it, the bull looked over his shoulder away from me. I knew I had only seconds before he turned and walked away. I pulled back to full draw, anchored, picked my spot, released my fingers, and watched in slow motion as my red and white feathers sailed toward the lungs. . . 'he heard the release. . .he's spinning away. . . oh no! OH YES! A quartering away hit!' He disappeared down the hill. I wanted to scream!"

From my hiding place behind the ancient snag, everything seemed to focus on one small moment in time as I watched the string come slowly back to

A few days after packing out Tracy's bull, the author called in a 350+ bull to 20 yards. . . unfortunately he failed to miss the one small sapling between himself and the bull!

Spectacular scenery, togetherness, and success. . . It doesn't get much better than this!

the corner of her mouth, pause, then drive forward as she released her fingers. I heard the soft thump of a wooden shaft driving through fur and thick skin, and then the unmistakable sound of thundering hooves. Time stood still as we listened and waited, then I quietly stalked up to Tracy. "*Did you get him?*" I whispered as I scanned through the trees for any sign of the bull. "*Yeah, he spun right as I shot, but the arrow went in almost all the way*" she whispered nervously. We both looked back to where the bull had ran through the trees. "*Show me exactly where you hit him*" I whispered as I knelt down and scraped a clean place on the ground. I drew a rough outline of the bull in the dirt and asked her to show me where, EXACTLY, her arrow had hit. Using a small stick as the arrow, she showed me how the arrow had struck just in front of the right thigh, angling steeply forward toward the far front leg.

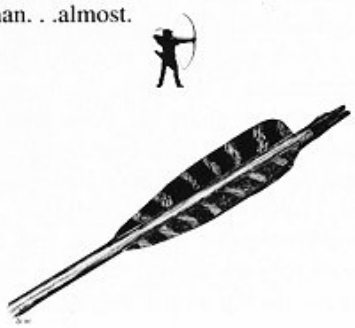
With a combination of pride and excitement I whispered an emotional "*You got him! With that kind of penetration and that angle, you got him!*" I'm sure my smile was as big as hers, and then she began telling me how wide he was. "*Really wide*" she kept repeating as we waited quietly, keenly aware of how close the bull still was. We remained very quiet and waited, listening intently for the slightest sound, and then, a few minutes later, we heard a loud crash. He was down!

We hugged tighter than most hunting partners should, and then we waited for a few more minutes before quietly sneaking out to where the bull had stood, a mere eleven yards from where Tracy had knelt in front of the small bush. The bull's tracks were huge, and I began wondering if he might actually be as big as Tracy was insisting, or if the excitement of having a six point bull bugle in her face from eleven yards away had just made him seem that big.

Ten yards from where the arrow had struck the bull I found the feathered part of the ramin shaft. The five-hundred and fifty grain hardwood shaft had penetrated nearly to the fletch. "*So far, so good*" I thought as I slowly followed the bull's tracks, which were now accompanied by the occasional moist signs of a well-placed, deeply driven broadhead.

I momentarily lost the trail in the granite rocks forty yards from where I had found the feathered part of the shaft. As I searched the rocky ground for sign, I heard Tracy quietly whisper "*There he is.*" I looked up, and saw one half of a very large set of antlers sticking up over a small mound of dirt ten yards in front of us. Tracy slowly walked forward to the bull, and as she stood there looking at him, the weight of the world seemed to lift from her shoulders. I will cherish the look on her face at that moment until the end of my days—a mixture of wonder, sadness, and joy, tinged with the feelings of high achievement and adventure. Moments like that shared between a husband and wife make, as Jay Massey would say, "*Strong Medicine.*"

I remember seeing my father's eyes moisten with pride in the woods many years ago when Tracy arrowed her first bull, and I have to admit, my eyes were becoming a bit moist now too. It's an emotional thing, this elk hunting. The urge to hunt the dark forest comes from deep inside, and it is deeply felt. Almost as deeply felt as the love of a man for his woman. . .almost.



Building a Durable Hickory Bow, Quickly

by
Murray Gaskins

First off, thank you for taking the time to read this article. I write it with the assumption that you may already have a hickory stave in hand and possibly are wondering where, exactly, to begin. I hope these instructions are to the point and will be helpful to you.

If the bark is not off the stave at this point, hit the stave on the bark side with a hammer, near the end until the bark lifts (see photo above). Next grab the bark, pull up and it should come off in one piece. I don't usually have any problems debarking hickory, but if the bark breaks and doesn't come off cleanly, you may have to use your draw knife. Take care not to go below the soft, clothlike cambium layer since the first clear layer of white wood under it will be the back of your bow. Most staves are sold with the bark already removed, this information is just so you'll know what to do if you receive a bark-on stave or cut your own tree.

I will generally remove the bark from split hickory after about two weeks when moisture has dropped enough that my moisture meter won't peg at 35%. When the bark is removed, moisture plummets in a few days to around 25%, then descends more slowly to about 15% (this may vary depending on your geographic location), where it will stabilize. Generally, unless you drive the moisture out by heat or a dehumidification chamber, you will age before your wood will cure enough to minimize the set and optimize the performance. The truth is, the moisture in this particular wood will stabilize above the point where cast is optimum in the finished bow. I have repeatedly seen people build perfect bows only to achieve poor performance. Failure to understand the implications of moisture in wood will lead to disenchantment, disillusion, and confusion. After all, the dimensions are correct, right? As with most things, there's just more to the big picture than that one thing alone.

If a bowyer understands the need to drop the moisture level, and to make certain it stays there after arriving at the final dimensions, the performance of the bow would rise significantly. The spread for performance goes something like this: for every 1% of moisture, between 9% to 25%, that your finished bow contains, its resistance to bend will drop by about 6%. Do the math, you will quickly realize that if you leave the moisture in the wood, you will not have a snappy bow. The bow will also assume and retain a bend or "take a set." We will not leave the moisture in this bow, because being enlightened in these modern times, we know better. Reduce the moisture to 9% or 10%.

Many of the people who have used, built, and written about hickory bows didn't address moisture control, but simply wrote hickory off as a heavy, slow wood having low cast. This is, I believe, because they used other woods which stabilized by natural character at a lower level of moisture. They simply reduced the tree to stave form, stored it in a dry place, and then waited. They also built narrow, stacked-belly bows as opposed to wide and rectangular.

The moisture factor is certainly tied to durability as well. The wood doesn't care if you dry it rapidly. If you read *The Bent Stick* by Paul Comstock, there are plans for a quickly-built, effective, inexpensive wood dryer. Basically any container that your stave can fit in and have a flow of dry air past it from bottom to top will serve as a dryer. A dryer can be a car, a piece of stove pipe, a wooden box, or even a cardboard box lined with wall insulation, almost anything will do, The point is to dry the air around the wood and create air-flow past the wood. The warm, dry air picks up the moisture in the wood then transports it outside the box. Use a light bulb to raise the temperature inside your container to about 100 degrees, preferably no higher. Leave a vent at the top so the

After you have marked the outlines of the bow on the stave, it's time to begin removing the unwanted wood.

moisture-laden air can escape. Wood will lose moisture to the atmosphere surrounding it much more quickly than it will absorb moisture from the air.

I use a rheostat to control the temperature in the box. Most hardware and light fixture stores sell rheostats (also known as dimmer switches). Install the rheostat in-line, so you can raise or lower the heat generated by the light bulb. Once you get your box wired, put a meat thermometer in the side of the wall, so that you don't have to open your box every time to check the temperature. Use a lamp or a porch light fixture, so you don't burn the house down. Make sure your box is insulated enough where the light is and that the heat isn't directly focused on the sides. If possible, the light should be free standing, not touching anything. I insulate with aluminum foil so all heat is directed up. This device should direct heat from bottom to top and should draw air like a chimney.

The principle is to achieve a warm, dry air flow. Take care not to heat your box and wood over about 150 degrees, for safety's sake. The drying process will take about 12 days at 100 to 125 degrees if your stave is approximately at floor-tillered dimensions (3/4" thick from the fade-outs to the tip). All this preparation is necessary for you to take control of the bow-making process and not let it control you. Your results will be consistently better if you can look at a meter and know if your moisture content is 6% or 26%. The performance spread is tremendous and you really need to know the moisture level. One way to know when your wood is cured in the absence of a moisture meter is to weigh the wood when you get it. Weigh it every other day or so while drying it. When the wood has ceased to lose any weight for 25% of the total time spent drying, your stave should be at or very close to 8% or 9%, where you need it to be.

Now that we know what to do about moisture during the curing process and its effect on performance, let's talk about how we will reduce your now cured stave. To construct a durable bow, I recommend that it be 68 to 70 inches in length. Make your bow almost as tall as you are. That seems long, but in terms of durability and accuracy, you will shoot a longer bow better. The extra length can always be cut off if the extra length worries you. The insurance that the extra length affords in terms of stability will make you want to leave your bow long. If you happen to make a bow that is too light you can always shorten it. Trim your stave to 70 inches or as long a length as you are comfortable with. Mark the middle of the stave all the way around. Measuring from the middle at 2.5 inch intervals, do the same thing again, twice in each direction, toward the ends. This will set you up for a 5-inch handle with 2.5 inch fade-outs.

The band saw is quicker, but the rasp is safer (consider yourself warned).

Next, set the stave on its belly and mark the middle the full length of the handle and fade-outs. This will establish the center for you. On the middle 5 inches which will be your handle, mark 3/4 inch either side of center, on both top and bottom. Connect the dots. You should be looking at a centered 1.5 inch rectangle, mid-length in your stave. Now, at the first line above and below your handle rectangle, on either side, make dots, however wide you want your bow to be, leaving the fade-out. Connect the dots. You should be looking at an outline of handle and fade-outs.

I'd like to express a few thoughts here about measurements. These measurements are to be taken with a grain of salt, particularly the one which addresses handle width. Ultimately your handle will be from 1 1/4 to 1 1/8 wide, depending on your hand size. I always figure some wood can be removed more easily than it can be put back. From outside of the fade-outs, measure toward either end about 20 inches. Make a line completely encircling the stave on each limb at that point. Make dots the same width apart as you did at the outside of the fade-outs. Connect the dots from the outer comers of the fade-outs to the dots you just made. You are now looking at a 20-inch length of limb proceeding from the top and bottom fade-outs. Now find center on either nock end and make a mark. Measure 1/4 inch either side of this mark and make a dot on either side of the center both top and bottom. Connect the dots. You should now be looking at a picture of your bow on the back of your stave.

To reduce your stave to floor-tiller thickness, turn the stave on its side, and on either end make a mark at 7/16 inch. Now go to the fade-out marks closest to the ends and make marks at 7/8 inch. Connect the dots. Now measure 1 3/4 inches from the back to the middle and make marks on the lines which are the ends of the handle. Connect the dots and you should be looking at a profile of your bow. Cut out the bow with a band saw or your rasp, depending on what you regard as fun and how you wish to spend your time. The band saw is quicker but the rasp is safer (consider yourself warned).

You should have a roughed-out bow before too long in either event. I like my bows to bend in the handle just a little bit. The handle can be reduced to about 1 3/16" later, if you elect to have a bend-in-the-handle bow. Go slowly when reducing the handle. Now, bend the roughed-out bow backward over a 2x4 which has a 4 inch block centered in the handle of the stave. Secure the ends of your bow which, because it has a 15% to 25% moisture content, may be noodle-

like compared to how it will be in about a week of drying in your new wood oven.

Tap your wooden bow and remember the sound. Do this in the same place each time when checking (I tap at the end of the fade-out, at the top of the limb, about 4 inches out). The initial sound will be a much lower thump than the higher "tick" that you will hear when the wood is dry at about 9% or less. All this should be done daily for about a week after you start drying your stave. When the tone goes to the higher note and doesn't change for a day or two, take the bow out of the box and let it cool for a few hours before bending it. This is not a precise method for determining moisture. Lacking a moisture meter (and with a little experience) you will get comfortable with this method.

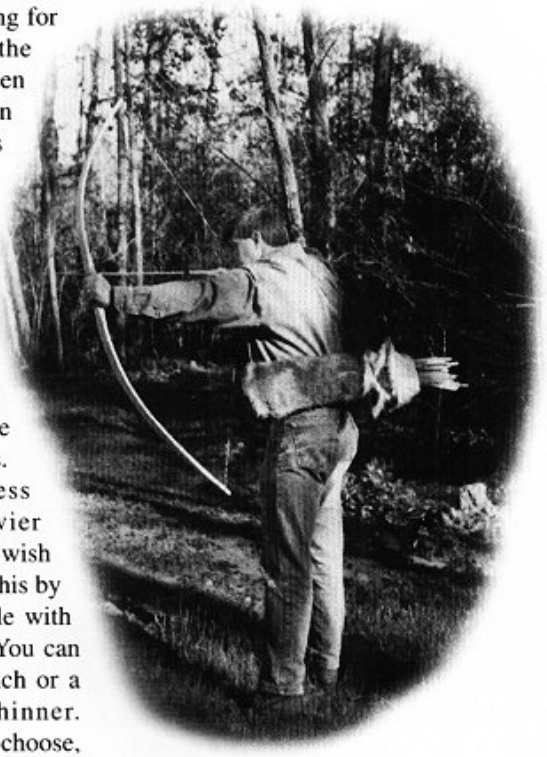
If you have tapered your limbs in thickness and in width evenly, it will need very little tillering after cutting your nocks. At the worst, tillering will be minor. Tiller the bow by sanding the belly's flat spots and by sanding the sides. Initially, lay-out or mark the bow in six-inch increments beginning at the center of the handle with a set of calipers. Match the thickness of the limbs at corresponding measured spots. Number each measurement and write the thickness down. Do the same thing for the width measurements, from the fade-outs to the tips. Sand between the marks and get a smooth, even taper from the fade-outs to the tips in both thickness and width. Remember, make the bow bend smoothly and evenly on both limbs. It's a good idea to tiller your bow to about ten pounds heavier draw weight than you wish it to be when completed. Your bow will probably lose this much draw weight during the break-in and final tillering process.

During the tillering process don't pull your bow to a heavier weight at a longer draw than you wish the bow to pull. You can monitor this by pulling against the bathroom scale with your bow on the tillering board. You can reduce mass of the tips to 1/2 inch or a little less, but not much thinner. Depending on the nock style you choose, sometimes 3/8 of an inch is the final thickness you will have at the nock. This should be done after tillering has been completed and after the bow has been sitting, strung, at a brace height of four inches for about six to eight hours.

If you want to recurve the tips you can still do it at this point. Make your bends while the tips are still wide. If the tips twist, you can adjust them. If you make working recurves, you will need to stiffen them with glued stiffeners (1/16 inch thick). Unless you want to recurve the bow for looks or you need to raise the poundage, I don't recommend it. The standard straight style will usually shoot better. The three inches of reflex that you originally put into the bow may now be a thing of the past, depending on your tillering job, even before stressing the bow by shooting it. Don't worry, they shoot just fine with a small amount of string follow, some think even better.

Now that the bow has been strung for awhile, raise the brace height to 5" or 5 1/2" and shoot it about 400 times before doing the final tillering and sealing the bow. The day before sealing it I let the bow spend the night in the hot box at about 100 degrees. Apply the stain of choice and let it dry. I usually seal bows with a mixture of 50% mineral spirit and 25% each of Tung oil and Linseed oil. It may take up to 25 or 30 coats to seal your bow, and several months time. This formula makes a nice finish which is pretty much water proof. I warm and dry my bows periodically during wet periods. You will probably always be adding some finish to your bow and covering scratches with the oil finish. To avoid the mess of the oil finishing process, you can seal the bow with a polyurethane. Three or four coats will seal your bow. I do that sometimes, depending on the situation. The problem with polyurethane is that if you scratch the bow, it's hard to match the scratch, then you have to reseal it again. I prefer the oil finish, personally.

I hope this article is helpful to you in making your bow. Remember, this is not the only way to build a bow, it's just the way I do it and it works pretty well for me.



Murray Gaskins, shown here enjoying a fine afternoon in his home state of Georgia with a hickory bow and a quiver full of arrows

Murray Gaskins is a bowyer and a stave supplier. He also markets a series of videos showing how to make excellent wooden bows. He can be reached at:
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Enjoying 3-D Tournaments

By
Keith & Edith Bain

Keith and Edith have won a total of eleven World Longbow Championships, in addition to numerous state and local tournaments.

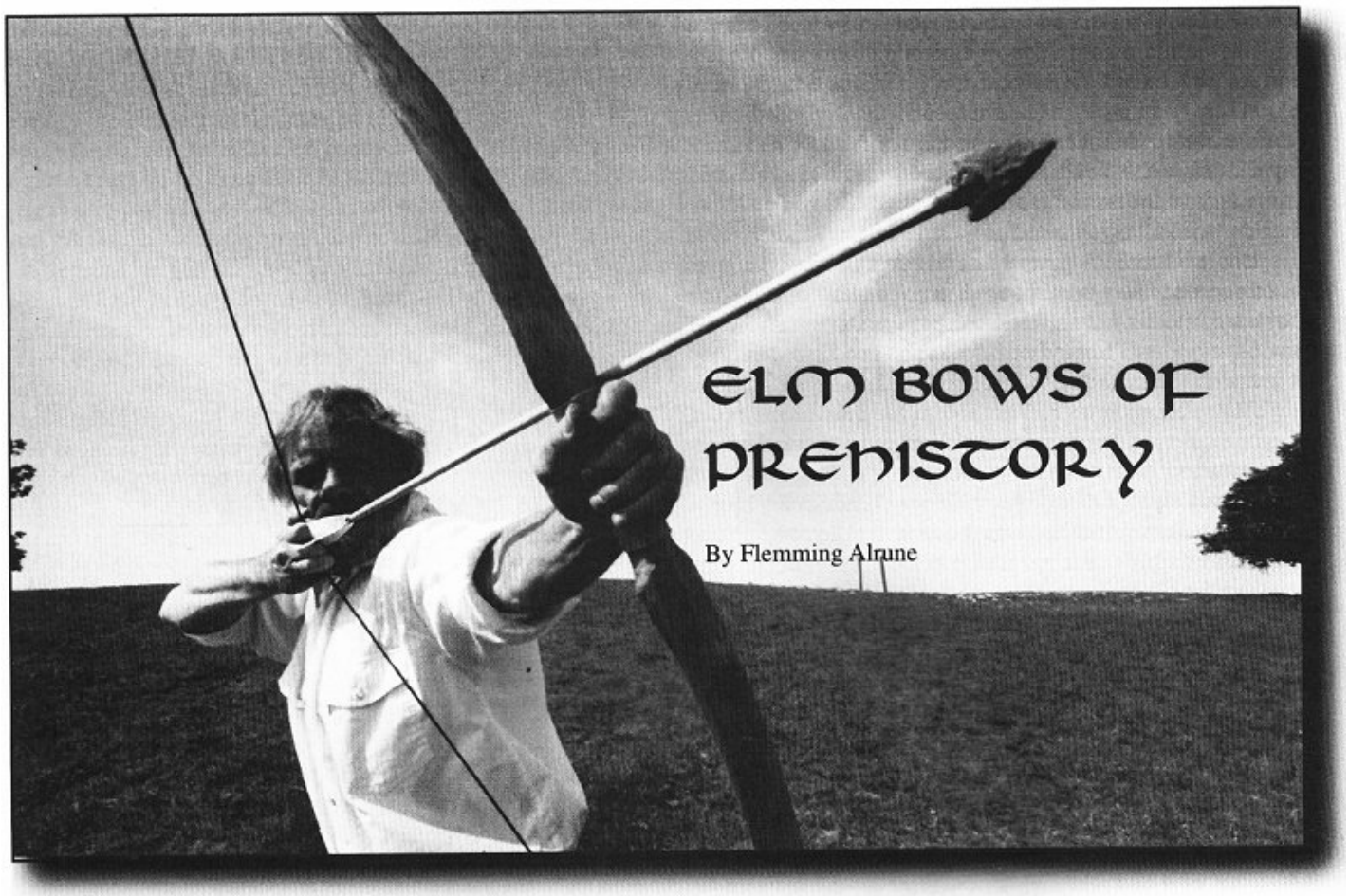
Shooting 3-D tournaments has become an important part of our lives over the past six or seven years, not just because we have been fortunate enough to win our share, but because it tests our skills as archers and as human beings against the skills of others from all walks of life. We love meeting new archers, in new places, almost as much as we enjoy renewing old acquaintances and sharing our experiences, both on and off the archery range.

3-D Tournaments can be a great family experience. They can be as laid-back as you want, or as competitive as you want, that's completely up to the individual. You can shoot by yourself, with friends, with people you just met, with all men, all women, kids, or a mixture of them all; just shoot wherever you feel most comfortable. There's no need to feel uncomfortable because that just adds pressure, and we all know that comes from both men and women.

Most shoots have colored stakes to indicate where you, as a man, women, or child, will shoot from in your division. We think there should be an additional division for beginners, so they could shoot from where they feel most comfortable, without having to worry about competition. This would allow them to perfect their form and build up their confidence, both in themselves and in their equipment.

The main thing "NOT TO DO" when starting out in traditional archery is "over-bow" yourself by shooting too strong of a bow. You should be able to pull your bow to anchor and hold it for a couple of seconds, four or five times, without being uncomfortable; after all, it is supposed to be fun, and it will be if done right.

Remember this: "There is no magic involved in shooting good groups." It just takes a bow, the right arrows, and GOOD FORM!



ELM BOWS OF PREHISTORY

By Flemming Alrune

This is an introduction to a succession of articles dealing with archaeological finds of bows and arrows from the late Paleolithic through the mesolithic period of North West Europe. The geography is confined to the vast lowlands of southern Sweden, Denmark, the northern part of Germany, and a little of coastal Poland. It will take the reader almost 14,500 thousands years back in time.

As the last ice cap began to withdraw to the northeast, life soon took over the virgin land. First, vegetation of the tundra, mosses and lichens, followed by large herds of reindeer and their followers, wolf. . . and man. The earliest finds from this period consist of points made of flint.

The Hamburgian culture was widespread over the Northern German lowland for a couple of millennia (9,500 - 11,500 BC). They lived on the reindeer, and finds from their hunting sites and seasonal settlements are many. Small points made from flakes of flint are the labels from this culture, but whether they were used on arrows shot from bows, or on the business end of spears or darts propelled by atlatls still remains to be clarified. They work well on both types of weapons, and their penetration is similar. Through experimentation it might be possible to tell more from the damaged points. An arrow has higher velocity than a dart, which causes different damage to the point; but an arrow has less weight than a dart and therefore breaks in a different manner.

The tundra was slowly invaded by trees of various species. The reindeer disappeared, then the tundra itself, both heading north. Other species of animals took over, changing the conditions for hunting, weapons, and tools.

The Hamburgians left the savannahs to succeeding cultures such as the Bromme People (11,500 - 10,300 BC). Heavy tanged points from flint flakes are characteristic of those big-game hunters. The problem is still the same: bow or atlatl, or both?

Big game such as moose, wild horse, buffalo, giant deer, aurochs, were their prey. Climate was not at all stable, and during short, multi-century intervals, temperature changes put a stop to developing plants and animals. During such a recession (9,500 - 8,700 BC) the last of the Reindeer Hunters ended the Paleolithic Period.

The rich and overwhelming finds from the Ahrensburg site a little northeast of Hamburg, for the first time, give evidence for the use of bow and arrow.

Here German archaeologist Alfred Rust, in the mid-thirties, discovered what appear to be arrow shafts, pointed arrows (whole as well as fragments) and abundant points and other items dated to 11,500 BP (Rust, 1943). Notches in the

Photo: Flemming Alrune and the big Holmegaard at work, here drawing a replicated Neolithic arrow.

Official photos of the longer partial, and shorter intact holmegaard bows.

rear of these shafts seem to have been meant for a bowstring.

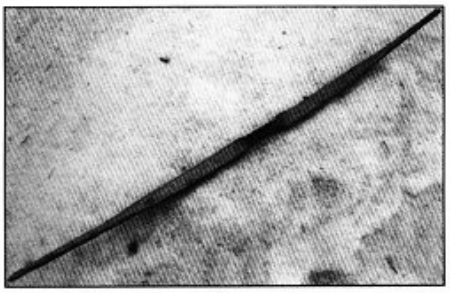
The shafts were quite elaborate. They were made from pine and carefully worked. Some consisted of a main shaft with a shorter foreshaft attached by a fishtail splice, others were of the common one-piece type. The points, very tiny indeed, were fastened with either resin or tar. Nothing can be said about the fletching, but flight feathers from either swan or large birds of prey could have been used.

Among the other artifacts, two pieces of wood were identified as fragments of one or two bows. But this has never been clarified, they were lost in World War II. Most bowyers of today don't believe them to be parts of bows. The wood was identified as pine, an inferior bow wood.

But if you turn to the Lapps of northern Norway, Sweden, and Finland, and start digging in their early history, you'll find complex bows, composite bows, made from two different species of wood, one of them being a conifer, with either spruce or pine used for the belly and birch used for the back of the bow. The two parts were held together with glue from the skin of freshly-caught perch.

Could the two lost pieces have been parts of one or two bows? There are questions we need to investigate before totally discarding the possibility. The technology in the mid-thirties could have misinterpreted the wood.

The species of conifers 12,000 years ago grew under conditions which cannot be compared with any known environments of today. Did it produce trees different from those of today? Did the reindeer hunters demand the same quality and performance from a bow that we do? Eskimos of Western Greenland took reindeer with bows and arrows at distances of around 20 feet. They used shooting blinds while hunting big herds



Holmegaard bow on snow.

during times of migration. We know the Ahrensburg people did much the same. How much impact does it take, not to kill a reindeer, but to wound it enough to slow the animal down for later killing?

I'll not reject the two pieces as possible remains of bows, but leave it open to further debate and study.

THE FIRST BOWS: There is strong evidence for the use of bow and arrow on the Northwestern plains and lowlands over 11,500 years ago. Archaeologists and bowyers await finds which will bring the use of this weapon even further back.

In 1943 in bogs at the old Holmegaard estate in Denmark a beautiful bow again saw daylight. It had been buried in the wet peat of the bog for about 9,000 years.

To me it will always be the beauty among bows. A perfectly balanced design, along with deadly performance. The people who made it belonged to the Maglemosian Culture (8,700 to 6,500 BC). They were spread all over the enormous lowlands, which then were covered with forests. This bow will be described in more detail by Dr. Errett Callahan in the second issue of Instinctive Archer™ Magazine.

The find from Holmegaard gives us two bows of similar design. The first and most famous is in an almost complete state. The second bow, or half of it, is about three feet long. Just enough to reconstruct a valid bow. It is broken on one limb about 5" from the middle of the grip. The other limb ends a small but indefinite distance from its original tip.

I have made many reconstructions of both finds and in my opinion their design, durability, and performance has not been excelled to the present. To me, the ultimate challenge in bowmaking is to achieve high performance during the long dependable life of a bow.

I have among my many bows an "old working horse." A reconstructed Holmegaard, the big one. It has sent about 15,000 arrows flying during 6 years. It has been used in temperatures from minus 8 to plus 35 degrees Celcius, without any complaints and has no compression marks on the belly. Presently it has considerable string follow. The cast has gone down from 160 feet per second to 125 feet per second with an approximately 500-grain arrow, drawn 28". Its draw weight has fallen from 65 lbs to 50 lbs. Much of this set and weight loss may be due to episodes of high moisture content during its life. In addition, perhaps the original weighed 50 lbs (common for hunting bows) and was drawn to 25". At this weight and draw, an always-dry Holmegaard would have taken far less set, retaining much of its original weight and cast.

ELM, THE MAGNIFICENT BOW WOOD: Elm was the wood used by northern hunting cultures for a period of 5,000 years. "*Why did they not make bows from yew?*" That's a question I often hear when giving lectures or demonstrations. The answer is simply because they didn't have it. Yew first came to the lowlands about 3,000 BC (the same time farming was introduced). It was known in Southern Europe 2,000 years earlier. The Iceman (approximately 3,300 BC) from the mountains of Italy and Austria, carried a yew longbow. It was a recognized bow wood in Switzerland at the time of the Iceman. But to Northern hunting cultures it was unknown.

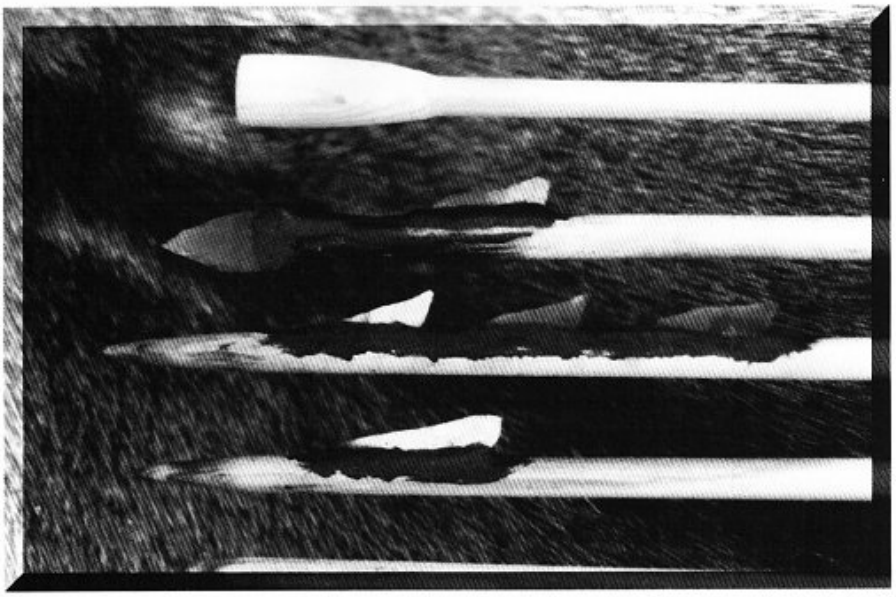
When yew was introduced, the design of bows changed from flatbows to longbows.

The elm bows from prehistory are at the same time both simple and complex. Small diameter 2" to 4" straight trunks were the basis for the bow. The trunk was first reduced by splitting. The outermost annual ring on the best side of the trunk was chosen as the back, and nothing more done to it. The only remaining work was to remove wood from the belly and the sides.

The next article in this series will be about reconstructing the biggest elm bow ever found in the North of Europe. A 78" flatbow from Vedbaek, north of Copenhagen.

REFERENCES:

Alfred Rust, 1943 *Die Alt-Und Mittelsteinzeitlichen Funde Von Stellmoor*, Neumunster



Reconstruction of points found with the Holmegaard bows—flint points and barbs, fire-hardened wooden points, and blunt.

TRADITIONAL ARCHERY EVENTS

DATE	EVENT	DESCRIPTION/LOCATION
April 20, 21	**Sun Basin Archers Traditional 3-D Shoot**	Held near Moses Lake, Washington. This is a two-day shoot, but prizes will be awarded based on the first-round score on Sunday. Sponsored by Saxon Archery, Raptor Archery, and Jim Brackenbury Bows. For more information, contact Mike Prior at (509) 765-2130.
May 17, 18, 19	**Mid-Atlantic Traditional Classic**	Presented by the Traditional Bowhunters of Maryland and the Baltimore Bowmen. This event had 500 shooters last year. Take I-95 to I-695 Exit 31B Hartford Road, go through 2 traffic lights, then go another 200 yards and you're there! For more information, contact Butch Kane, (410) 444-7993.
May 18, 19	**Quad State Traditional Rendezvous**	The Idaho Traditional Bowhunters, in conjunction with traditional clubs from Wyoming, Montana, and Utah are hosting the Second Annual Quad-State Shoot at Cedar Creek (near Blackfoot Idaho). Come prepared to enjoy the open ranges (shoot 'till 'ya drop), the golf shoot (9 holes) novelty shoots, live music and entertainment, and a western barbecue. For more information contact Ron Parish at (208) 346-4274.
May 18, 19	**3rd Annual Cabin Fever Rendezvous**	Hosted by the Pennwoods Traditional Bowhunters at Powder Monkey's Grounds in Leechburg, PA. For more information, contact Richard (Tim) Claypool at (412) 548-8489.
July 11, 12, 13	**Great Lakes Longbow Invitational XII**	Three days of friendship and camaraderie on the beautiful St. Joseph's River, just minutes from beautiful Lake Michigan. Feel the cool breezes, smell the campfires in the air, walk the woods with bow in hand. Drift back in time, once again with the Great Lakes. Sponsored by the Michigan Longbow Association. For more information, write to Carl Johns, 3394 Beaumont, Ann Arbor, MI 48015.
July 14	**Benefit Shoot (recipient to be announced)**	Hosted by the Horse Creek Traditional Archery Club in Calvary Georgia. 40 targets, free primitive camping. For more information, contact Cathy D. Slaughter at (912) 377-8276.
July 20	**Seneca Tri-State 1st Annual Ground Hog Hunt**	Hosted by the Seneca Tri-State Traditional Archers. All contestants must have a valid Pennsylvania hunting license, and must register by 8:00 a.m. on Saturday. For more information, write to the Seneca Tri-State Traditional Archers, 314 Hainer Road, Amity, PA 15311.
Aug. 18	**Seneca Tri-State 1st Annual Carp Shoot.**	Hosted by the Seneca Tri-State Traditional Archers. Contestants must have a valid Pennsylvania fishing license, and must register by 8:00 a.m. Sunday morning. This is sure to be a fun event, so don't miss it! For more information, write to the Seneca Tri-State Traditional Archers, 314 Hainer Road, Amity, PA 15311.
Aug. 31 - Sept. 1	**Annual Ohio State Traditional Shoot**	Hosted by the Ohio Society of Traditional Archers on Labor Day Weekend. For more information, contact Hoot Gibson at (614) 468-3422.
August 31 - Sept. 1	**Georgia Traditional Championships**	Hosted by the Horse Creek Traditional Archery Club in Calvary Georgia. 3-D targets and novelty shoots, free primitive camping. For more information, contact Cathy D. Slaughter at (912) 377-8276.
Sept. 28, 29	**2nd Annual Seneca Tri-State Traditional 3-D Shoot**	Hosted by the Seneca Tri-State Traditional Archers. Primitive camping, novelty shoots, speed round, long-shot competition, and more! For more information, contact Bill at (412) 883-2520.
May 4	**3rd Annual 3-D Stick and String Rendezvous**	Hosted at the Wild Horse Ranch near Vacaville California by the Traditional Archers of California. Categories: Longbow, Primitive, and Recurve. Shoot begins at 9:00 a.m. For more information, call Bob or Olivia Lawson at (916) 991-5350.

The Black Knight

By Robert V. Martin

The 12 year old boy carefully filed and shaped the homemade arrowheads that he had made by pounding some large spike nails out flat on an old chunk of railroad track. His missiles were fletched with the brown and black feathers he coerced and gleaned from the residents of the family's small chicken coop. He had cut the locust shoot shafts from a thicket near the irrigation ditch that paralleled the five-acre alfalfa field behind his house. After gluing the points in the carefully notched shafts with Elmer's glue, he wrapped the base of the points around the shaft with 100% black cotton thread he found in his mother's sewing box. This thread also worked well in securing the ends of the feathers to the shafts.

He started out with sixteen shoots but ended up with five that he thought were good enough to make into real arrows. The back porch served as his workbench as he cut and split feathers with the pocketknife he got for Christmas last year. Mom's good sewing scissors also helped out a little, although she didn't know it.

The bow itself had also originally come from the locust thicket but actually started its career as a "fishing spear" the summer before. It had been laying in the rafters of the shed since last October after the irrigation ditches were drained for the coming winter. When the boy had recently seen some large carp cruising the shallows again he retrieved his spear, but found that it had taken on a decidedly curved profile that reminded him of a bow more than a good spear. "*Hey—that's it!*" he thought, and set off to build his bow. A couple of judicious hours of hard whittling on the now well-seasoned sapling tapered the ends down good enough. He was sure glad the stave had started out as a spear last year and that much of the shaping had been done when it was still green and much easier to deal with. He worked up a couple of good blisters in the process of shaping the bow. A brown cotton shoelace found in the kitchen junk drawer was wrapped carefully around the bow at its center and served as a grip. He then fashioned a bowstring out of baling twine that he twisted and tied in a knot on one end.

The boy had built little stick bows before, as had almost every other boy that age—but had never before taken so earnestly to the task. He had been a student of archery for some time now, and learned about archery whenever he could. He was captivated watching Errol Flynn shooting the long bow in the Sylvan glens of Sherwood. The boy read with intense interest and studied the pictures of bows whenever he came across the subject in books or magazines. He was mesmerized by the stories his uncle would tell him about bowhunting mighty mule deer bucks in the high country as he would hand him a broken, stained shaft and point to the massive set of antlers on the wall. Oh that was intoxicating stuff for a 12-year-old boy who dreamed of being an archer and hunter.

The bow ended up being about the same height as the boy, and probably pulled about 30 pounds. It felt stout enough to the boy, who figured it was probably powerful enough to down a bull elk. The first few test shots were made with some quickie twig arrows that were both fletchless and pointless. The arrows snapped from the bow with such authority that he was inspired to make some real arrows worthy of this bow. It ended up taking him two days to finally complete the five arrows. Although some occasional daydreaming slowed the process somewhat, it served as inspiration when he would have otherwise tired of his task.

During one of these flights of fancy, the haystack had transformed itself into a castle, and there, from the ramparts with the breeze blowing in over the green hills of Nottinghamshire the vigilant archer spotted his nemesis and arch enemy...The Black Knight!

His black armor glistened like obsidian in the sunlight, along with his long, shiny spurs. Quietly and quickly an unfletched twig shaft sped towards the heart of the rogue. BONG! The twig shaft bounced harmlessly off the wheelbarrow. The Black Knight wheeled, kicked up his spurs and headed for cover, making good his escape. The archer retrieved his shaft and noted it would take a good bodkin to

penetrate the Black Knight's armor. When the scoundrel returned, he mused to himself, he would be ready.

The bow and arrows bore no finish other than the sweat and grimy handprints of their maker. Upon completing his sheath of homemade bodkins, a few practice shots at a hay bale only served to increase his desire to see the feathered shafts fly—and fly they did. He sought to push the limit of his artillery and found that he could arch is missiles nearly to the other side of the five acre field. What pure joy was felt in his heart as he would shoot and watch as the arrows soared free of the surly bonds of earth, darting and dancing through footless halls of air where only larks and eagles flew. Up, up, sunward they climbed. . . into the distant atmosphere and then relenting, turned to hurdle earthward and stick with satisfaction deep into the fertile soil (*High Flight* was his favorite poem).

A few days later, sitting on the back porch while feasting on a cheese sandwich and an ice cold glass of milk, the young archer was deep in contemplation. He stared with intensity across the back yard over the fields towards the steep hills that rimmed the edge of the little river valley where the boy lived. The hills were about two miles from the house. He knew deer sometimes ventured down those hills into the nearby fields and orchards, usually at night. He sat there trying to visualize what route they took as he slowly chewed his cheese sandwich. He reached down and took a deep swallow from the ice cold glass of milk when a furtive movement caught his eye. There he was!

A black form stalked quietly from bush to bush, searching for the unsuspecting serf he could bully. His favorite victim, though hopelessly outmatched, would usually put up a brief but valiant defense, then seize the first opportunity to escape into the undergrowth. The Black Knight seemed to enjoy this game of ambush for the sheer chaos and commotion his forays aroused. He would strut back and forth looking for another victim to punish with a look of unadulterated arrogance that made your skin crawl—but not this time. . . the defender of the realm sprang into action! With the fluid motion of the predator, bow and arrows were scooped from their place and a low, crouching run placed the archer at the backside of the haystack which overlooked the whole of Sherwood Forest. The archer instinctively moved to the elevated stand, giving himself a decidedly tactical advantage.

From the ramparts of the haystack the Black Knight was easily visible as he stalked through the underbrush. The cold steel of a bodkin flashed in the bright August sunshine as the locust shaft leapt suddenly to flight. The Black Knight didn't notice the muffled noise of the bow as the missile was sent on its way. As the adrenaline time warp kicked in and things began suddenly moving in slow motion, the archer could clearly see the spiraling flight of the shaft sailing towards its mark with deadly intent.

The Black Knight had simultaneously spotted his victim and was coiling for the attack just as his intended prey spotted the movement and wheeled to face the tyrant to put up as valiant a defense as instinct would allow. Hopelessly outmatched both in hardware and size, the intended victim reacted with speed and courage. He had been trounced soundly many times in the past by this same adversary. Nonetheless, physical size and strength is no measure of what spirit beats within the breast and he met each new ambush with much the same defense—he attacked.

The battle was joined and the miniature defender met the familiar resistance that reminded him of a blow he once took from a Clydesdale. But there amidst the fray, like a juggernaut unerring, flashed the deadly bodkin, catching the Black Knight squarely at the base of his topknot. The miniature defender was astonished at the effectiveness of his defense. He was unaware that it was not he who had toppled the villain. Leaping back to his feet, he spurred several times at the fallen foe and, once assured of his victory, flapped his wings and cackled as loudly as a proud banty rooster could. In a way he indeed had struck down his foe, for it was some of his own feathers that fletched that fateful shaft and guided it on its mission.

The archer, without uttering a word, ran and retrieved the giant rogue rooster known as the Black Knight, whose exploits at bullying the family's little banty rooster had been legendary. The archer was sure that his lordship, the High Sheriff of Nottingham, wouldn't be too happy about his victory so he thought it prudent to keep the episode quiet. A quick phone call to his best friend arranged a meeting in the locust thicket. The Black Knight was ceremoniously plucked and roasted over a small hardwood fire. The fat ran down the roasting sticks and flamed in the hot coals, and all was well with the world. The two boys feasted and talked of days to come when they would hunt the King's deer.

The two lads sat and watched for a long time on the edge of the canal bank in the tall grass as the current carried away the last traces of the Black Knight's ebony armor downstream towards the sea. A great swirl in the glassy surface caught their eye as some great denizen of the deep passed beneath the emerald surface, but that's another story. . .

YOUTH SECTION

KID'S STUFF

By Ivan Anderson
(with the assistance of John McPherson)

The author with a good handful of simple blades knocked off for scraping.

Ivan Anderson asked to join a group of the local (loco?) youngsters that we have had working with us the past several years. Ivan was twelve when he came up in the summer of 1994, and small in size. In heart, he's proven to be one of the biggest. He joined us when we were beginning on the major project of cutting down a 30" diameter cottonwood tree and chopping it into a dugout canoe with stone tools, so instead of easing into this field by learning some of the easier and more enjoyable skills such as friction fire, cordage, bows, traps, etc., he was handed an axe and told to chop. And for two summers that's just what he did. When things slowed at times during the summer, I took Ivan aside and got him started on some of the other skills (basic flint knapping and bowmaking among them). He showed promise—such promise that we took him on a week-long teaching trip in June, where he befriended and fell under the tutelage of bowmaker Ken Wee.

Living primitively is one thing. Making a living from it through teaching and writing is another, it requires knowledge of the modern world. All that we do in the primitive field is nothing more than applied basic physics—science. And that's how we teach it. Our writing takes place on computers. Since Ivan is having some troubles with computers in school, we gave him an assignment to write his perspective on the task of building a primitive bow—on a computer. The following is the result of that assignment. . .

—John McPherson

When I was approached by John this morning he had a new task for me. This task was different than my usual flint knapping or fire making (that I now realize must be practiced regularly, for the mind easily forgets). On this morning I was told that I was getting my first chance at being an author. This is a dream I had shared with John a few times before, but never thought that my chance would come so soon.

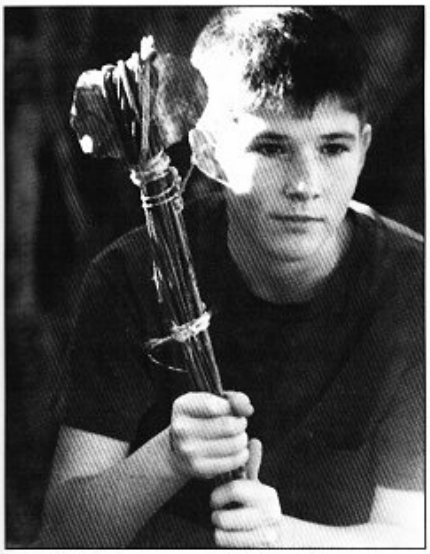
John went on to say that I was to make a new, one-hundred-percent-primitive bow, describe my feelings, troubles, and explain just how I did it. When I finally came to my senses and quit picturing myself being a Pulitzer Prize winner, I said the first thing that I could think of, "*Sure.*"

I got to work that very same day, for my time was limited. First things first: I had to make an axe to cut down my bow stave. For this I used the most available thing for me, and that is Kansas chert. This rock is blueish-gray in color and works fine for what I needed it to do. With a deadline facing us, John helped out a bit more than he wanted to, but we had a responsibility to get this finished.

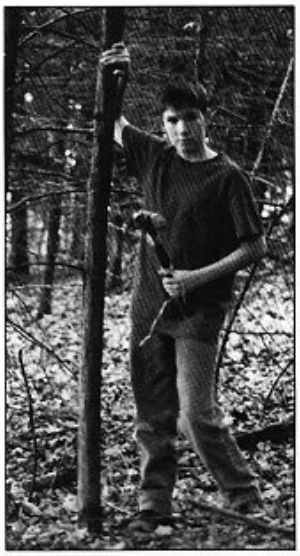
The first rock we picked out broke when I hit it wrong. Soon John and I had another one made and hafted up with dogwood shoots and cordage that we made ourselves on the scene. Within another hour we had an adze. By around 4:00 p.m. we had a tree spotted and cut. We determined the length of the bow by deciding what length arrow I would draw, doubling it, and adding a "bit." During this process the axe started to show signs of loosening and was quickly fixed. After bringing the bow stave up the hill, it was split in another thirty minutes. The stave was then put in a horse tank so it wouldn't crack.

The second day came fast for me because Saturday night I went coon hunting with my hounds until 1:00 in the morning (coon hunting is the only thing that can compete with my primitive skills). I couldn't make it to John's until 12:00 p.m. because of church, which I enjoyably slept through while dreaming of working on my fourth bow. I had made one under John's supervision and two under the supervision of a new friend that I met in Colorado, Ken Wee. I got a lot of experience working with stone tools and wood while working on a canoe that my friends and I built in the time-span of two years. I don't want to try to show myself up, but I had to work a little harder being thirteen years old, 4' 10", and eighty-nine pounds.

My job for the second day was to tiller the bow. NOTE: the bow gradually thins toward the tip for speed. The grip was not yet cut, we would wait until the bow was dry to do that. When the limbs of the bow were finally bending evenly, I knocked large flakes of flint to make scrapers to smooth the belly of the bow somewhat. But since the wood was green, it didn't scrape as well as when dry. Then we left the bow to

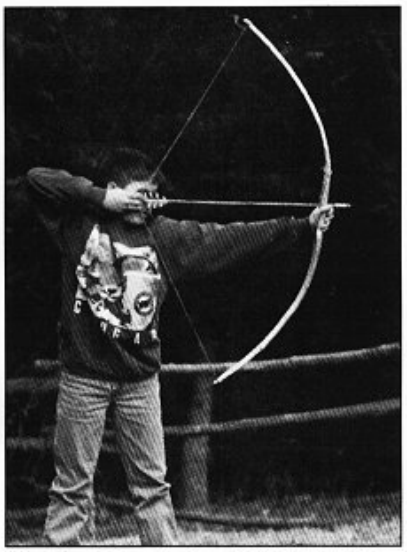


1. The finished Axe.



2. This cedar tree will become a bow! Ivan's hand marks the intended height of the bow, the side facing Ivan will be the back—it has no limbs and has a slight reflex.

3. The adze got most of the work at this stage.



5. Final Product. A 54-inch bow drawing 35 pounds at 24 inches.

4. The green, almost finished bow tied out to dry.

dry. To stop the bow from warping, we tied it down. Green wood is flexible to a certain point, and can be shaped while drying. To give it a slight reflex we wedged 1 1/2" rocks under the tips while it dried. We gave this process five days.

Since wood becomes harder when dried, the work does too. I carefully scraped with stone until the tiller was just right. This required little time since most of the tillering had been done with the adze already. The back of the bow was then rubbed hard to compress the fibers. Any hard, smooth rock would work for this, but John assures me that the petrified tooth of a camel (preferably a blind one) works best. Grips and string nocks were then cut with sharp stone tools. This part was a piece of cake. The string was made of natural fibers during the five-day waiting period, along with an arrow. With some last looks at the bow to make sure it was just right, the bow was done.

I really loved doing this project, and would like to encourage anyone who loves the primitive skills but is having troubles doing stuff right to keep on trying. Since I don't like computers much, this was not only a test of my primitive skills, but of my computer skills too. I think writing this story was the hardest part of all.

Ivan's first primitive woodworking assignment: "tillering" a 30" cottonwood log.

EDITOR'S NOTE: If you are between the ages of 8 and 17 and are interested in writing an article on any aspect of traditional archery, we invite you to send us your articles and photos. Who knows—you may be the next author of the *YOUTH SECTION*.

THE COMPETITIVE EDGE:

Mental Conditioning

By Gary Sentman

As the days get longer and warmer, I begin to think about getting more serious about shooting the bow. In years past I would start by getting in physical shape, working out with springs or a little light weight lifting. I would also take a heavy bow and pull it so I would have the physical strength to shoot a lighter bow in competition. I developed the strength to pull a very heavy bow of 80 to 150 lbs. left or right handed. I could shoot an 80 lb bow all day long with very little physical exertion.

However, there was one weak link in this conditioning program that I neglected. A weak link that led to frustration, poor shooting, and in my case, humiliation, because I set my goals very high and worked very hard to reach these goals, as I'm sure many archers do. You see, what I failed to recognize back then was that once the basic form of shooting the bow and arrow was accomplished, shooting became more of a mental game. Without mental conditioning I would fail at achieving the perfection I desired. Champions in nearly every sport that I know have been gifted with one key ingredient, which is a very high confidence level. Even if they failed, they could ignore failure and continue, knowing that success was on the way.

FOR THE BEGINNING ARCHER:

From the first time you pick up and shoot a bow and arrow, you begin to form passageways in the brain, along with conditional reflexes. Your success or failure will begin at that point. Without proper mental conditioning, negative aspects in your shooting could begin to develop. It is like a disease that will take hold and appear very small at the time. Unless it is eliminated in the earliest stages, it will consume your body and mind until you have lost control over your shooting ability. Mental conditioning starts, as I said, with the first arrow you draw. If you are new to traditional archery, you should begin with as much accurate knowledge on shooting form as you can gather, and not allow yourself to release the arrow for at least two weeks. If you shoot the bow during that time you will possibly have planted the first seed of failure. Have you noticed that when you first set out to accomplish certain physical aspects of a sport, whether it was bowling, golf, or archery, that things were awkward at first, and then after you had "slept on it" and tried again the next day you found you had improved? This is because your brain tries to work out problems when you are asleep, when it is very clear to the brain what the problem is.

The reason I recommend not shooting the arrow for at least two weeks when first learning to shoot is because the brain will have minimal problems to work out if the arrow is not shot. Most of all, the brain will not know failure at that time. It is very important while drawing the arrow that you aim at a small spot, thereby developing focus and mental

strength. You should visualize, over and over again, shooting the perfect arrow with proper physical form. Remember, do not allow yourself to release the arrow until all your mental thoughts are positive. It's not how many arrows you shoot, or how much time you spend shooting the bow that will make you a successful archer. The mental conditioning that develops deep within is your foundation, all else stands on this foundation. Without proper mental conditioning, you are like a house built on pebbles, subject to fall at any time.

You should never allow yourself to shoot an arrow that you are not fully confident will hit the target. Once you have planted failure in your subconscious mind it will be very difficult to re-route that mental passage-way back to a confident level. After two weeks of this mental preparation, your brain should be ready to give you "the green light" to release the arrow.

At this point it is very important to not allow yourself to experience failure. If you cannot draw to the anchor, hold on target, and get a complete message from the eye to the brain, and then to your muscles, you are not yet ready to release the arrow and may release the arrow prematurely. At the first indication of failure it is important to stop releasing the arrow and return to mentally shooting the perfect arrow by pulling and aiming but not releasing. Each person's physical ability, mental capacity, and equipment will determine at what point they should move on.

FOR THE EXPERIENCED ARCHER:

Up to this point I have talked mostly about the beginning archer, but I have gone to archery shoots and stood by the wayside watching 50 or so archers at the practice butts. My observations tell me there are many traditional archers that have problems with their shooting (snap shooting, not getting back to their anchor, freezing, etc.). In brief, their performance is not consistent, therefore, their accuracy falls short. For those of you who fall into this category, and I have been there myself, you will find it harder for you than for the beginning archer who hasn't developed these problems. Once you've been burnt by the fire, it is hard to be convinced that the flame wasn't hot. Once you've known failure, it will be doubly hard to forget that failure. To overcome these shooting problems, you must re-route the passageways in your brain. I can tell you from experience that at the first chance, improper shooting will gather strength and bring back bad habits, simply by destroying your confidence level and implanting in your mind the fear of missing the target. At this point the conditional reflexes are very quick to take over because the brain has rediscovered that you are not pleased with the outcome of your shooting.

If you practice for one hour, and in that hour you shoot 15 minutes properly and 45 minutes improperly, the 45 minutes of improper shooting will have a negative effect on you. Thus, it is quality, not quantity, of arrows shot in practice that counts. If failure occurs, STOP, even in the middle of a 3-D tournament, and go back to basics. If necessary, finish the shoot by aiming at the remaining targets, but do not release the arrow. Return then to a distance and environment in which you are very comfortable and confident. Remember, success is an inch made, not a mile lost.

A TRAINING PROGRAM:

I want to end this article with what I feel would be a very good program for the competitive archer to start the season with. Start with equipment that will benefit your shooting: (1) proper arrows and (2) a stable bow that doesn't stack excessively, or one that it too rough in the hand. Make sure your bow has a comfortable pull weight, one you are confident with. Spend as much time as possible pulling the bow and aiming at targets without releasing the arrow, tuning your physical body along with your mental attitude. When you are ready to release an arrow, stand very close to the target. Make sure at this point your form is excellent and mental thoughts are positive. *One shouldn't take on geometry until he has mastered general math.* Step by step you should continue to move back until you reach a distance of insecurity at hitting the target. At that point work very slowly until the distance can be increased to your expectations. Never allow yourself to end a practice session on a negative note. Always leave your subconscious thinking you have been successful and that you are pleased. Even if this means standing 10 feet from the target and shooting. This is the easy part.

Now, on to the more complex part of mental conditioning which is basically "VARIABLES." Can you shoot an arrow every 2 or 3 seconds with mental control? Can you pull and aim at the target and hold for 10 seconds, if necessary, until releasing? Can you aim at a very small target and hold for 10 seconds, if necessary, until releasing? Can you aim at a very small target with your best arrow with a rockpile in the background and friends heckling you as you make the shot? Can you do it arrow after arrow, any place, anytime?

This is, I feel, all part of advanced mental conditioning. To achieve the competitive edge, one must be able to perform under all these and many other conditions.

Let me say here that it was ignorance on my part to think I could successfully shoot a heavy bow 12 months of the year and not develop bad habits. So don't overbow yourself. From the time you shoot your first arrow you will either feel your confidence level going up or you will realize that you may have a problem. For some of you, progress may be quite rapid, for others it will be slower, depending on what degree of shooting problems you have, if any.

With the proper mental conditioning and a positive attitude you can avoid problems in your shooting and become a skillful archer. Good shooting!

During the last thirty years, Gary Sentman has bowhunted from Alaska to South America and Australia. In 1975 he set the world record for pulling the heaviest handheld bow, pulling an amazing 176 pounds at 28 1/4" as recorded in the *Guiness Book of World Records*. Gary currently resides in Trego Montana, where he manufactures Sentman Longbows.

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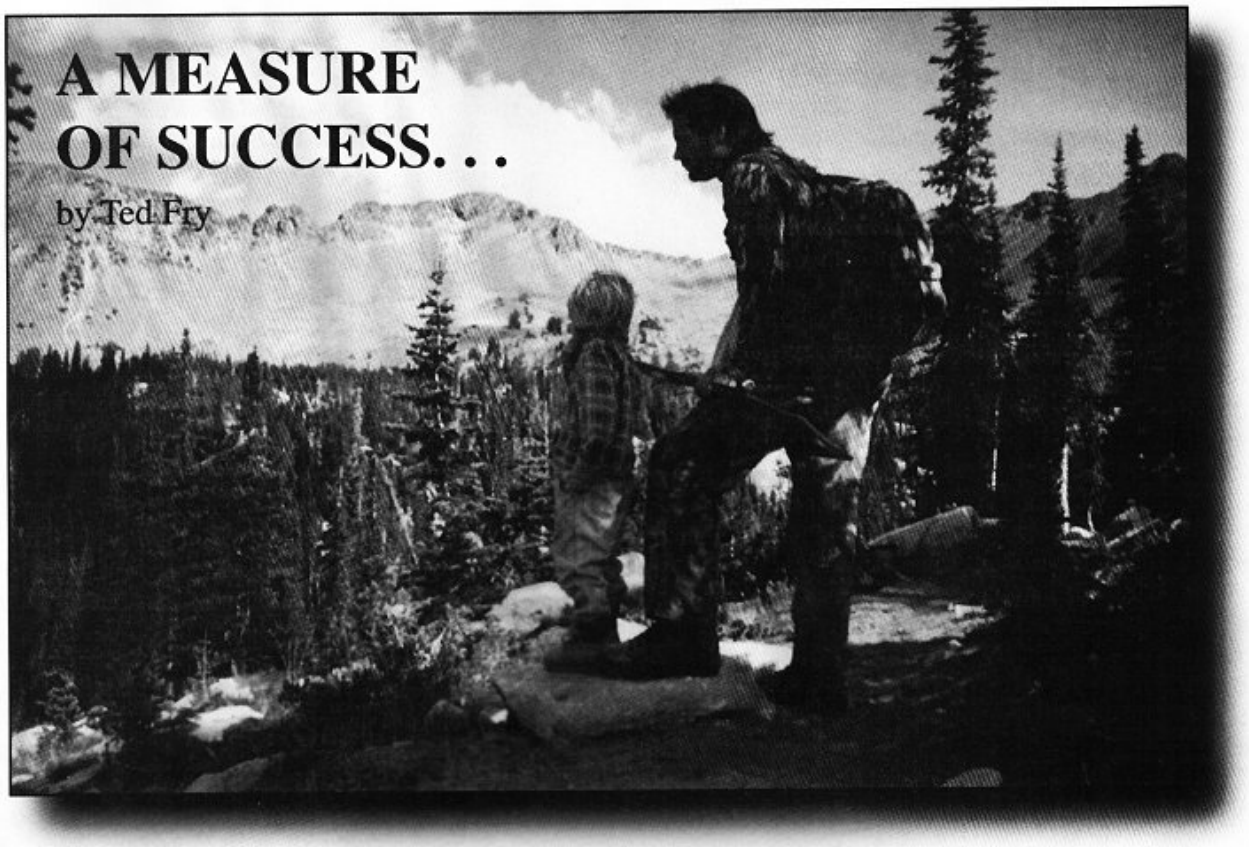


A MEASURE OF SUCCESS. . .

by Ted Fry

I woke early and slipped out of the wall tent as the first sign of dawn appeared on the sky to the east. I grabbed my bow, quiver, and daypack and headed out for the morning hunt. As I crept down the trail I couldn't help but think about all the big bulls I would see this year way up in the mountains, far away from roads and hunters. Once I hit the bottom of the canyon, I turned into the wind and followed the creek, every once in a while stopping to bugle hoping to hear the same in response.

Already it was getting warm and the sun had not crested the mountain peaks. I knew if I was going to find elk I had better do it soon for they would be heading for heavy timber quickly in this heat. I had hoped to have cooler weather by the middle of September and planned my elk hunt accordingly. This year was the hottest and driest that I could remember here in Oregon. In fact, there was a large fire burning to the east of us at this moment, about 20 miles away, that we were keeping a sharp eye on.

By about 10:00 a.m. it felt as though it was 90° so I headed back up to the basin I was camped in. As I walked back I couldn't help but notice how little sign of elk there was. Arriving at camp I was greeted by my two companions: my wife Lois and our four year old son, Joey. That's right, this year I had decided to do things a little different. Even though I had packed in with horses and mules eight miles, I included my wife and son on this trip.

My wife was born and raised in Girdwood, Alaska, and my son was only two weeks old when we spent a month in the Elkhorn wilderness in Oregon, so they were quite used to roughing it. However, neither of them had ever packed in on horses. My son must have been a cowpoke in a previous life. He was a natural and I don't think my wife ever quit smiling the whole trip in. After telling them about my morning hunt and a short wrestle with my son, I had breakfast and bedded down myself. Then it was back out for the evening hunt. I decided to go along the ridge bugling down into the drainage hoping to locate a herd of elk to work in the morning, if they were too far away to move in on that evening. But, no luck.

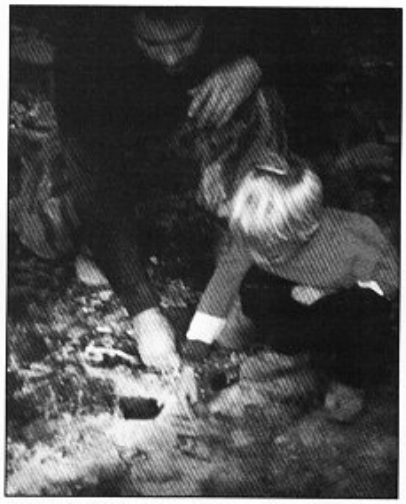
We were camped in a beautiful cirque above the basin at about 7,000 feet on the side of a big granite mountain range known as the Eagle Cap Wilderness Area, with plenty of water in the area, both alpine lakes and small creeks. After another early morning search, I went back to camp, grabbed my family and fishing poles and headed over to one of the lakes to catch some dinner. The fishing was fabulous with 12" to 14" brook trout caught on dry flies. It doesn't get much better than this. Even Joey was catching fish. Catch and release is a hard concept for a four-year-old, but after I explained about keeping only what we can use, he was O.K.

That evening I hunted on a ridge across the canyon from our camp and ventured into a different drainage with the hope of finding where the elk were hiding. On the way back to camp I found an area that appeared to be a natural funnel between the two drainages, and yes, there were elk tracks that had crossed after I had gone by. I knew from experience that it was going to be tough to get an elk when it was so hot and dry. I decided to try one more day of hiking around and if that didn't develop into something more exciting, I would resort to sitting at this funnel (I don't like to sit because I usually fall fast asleep).

I rose the next day before light and started out across the canyon. It was very still this morning and not a sound other

than the waking birds. I found a large wallow that had not been used for several days. Then I spotted something moving–another hunter. I was actually glad to see someone and, even better, he was carrying a recurve. After introductions we sat down to talk awhile and review the last few days hunting. He said that he had hunted this drainage for over ten years and had seen game here, but they just weren't here in the numbers we both had hoped for. He also said that *"these are a special breed of elk, not Rocky Mountain but gopher elk, and that they only come out at night, choosing to live underground during the day."* At this point I was beginning to believe him.

After spending the day around the meadow with Joey, teaching him how to read the sign of the many mule deer does that come through our camp, I set up at the trail by the funnel I mentioned earlier. It was a perfect ambush spot, the wind was drifting from the trail to me and there was lots of ground cover to conceal myself in. All of a sudden a large mountain lion appeared on the trail in front of me, only eight yards away. He was quietly stalking along, mouth partially open testing the wind. He paused at the trail, smelled the ground, and walked down the ridge to my right and disappeared. I could hardly breathe. He moved so quietly and it all happened so quickly it was as though I had seen a spirit. I kept wondering if I had really seen him. Just at dark I got up and walked up the trail to check for tracks.



Father and son, discussing the finer points of tracking deer.

Sure enough, he was real. I found one nice track and covered it up so that I could show Lois and Joey.

That evening on my way back to camp, I thought I heard an elk chuckle so I tried a bugle. Sure enough a bull responded, not very energetically but a bull none the less. He was way down in the farthest basin so I would have to wait until morning, but I knew he wouldn't go far. I returned to camp in the dark and spotted the light coming from the tent and the smell of dinner cooking. Boy is this nice. After dinner, I took Joey and Lois out to the bluff and bugled so they could hear what a bull elk sounds like (Joey still goes around the house pretending to be an elk). I could hardly sleep that night thinking about the elk I was going to find in the morning. But no sooner had I fallen asleep than it was time to get up.

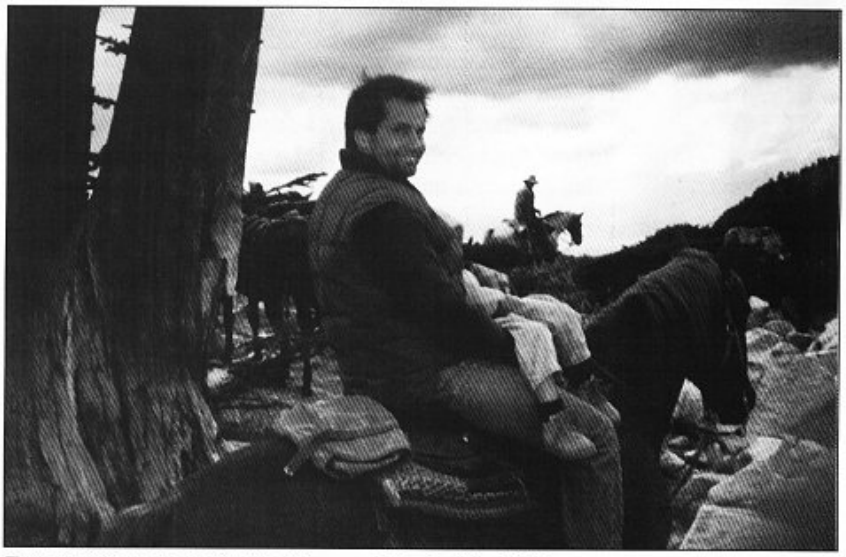
I headed down the trail before light toward the basin the bull was in. I bugled and he responded. "Now this is what it's supposed to be like," I thought. There's something deep inside that stirs when, with bow in hand, you hear a bull elk bugle in the early morning mountains. I kept getting closer and he kept making noise, mostly just chuckles, but every now and then bugling.

As I set up to shoot it sounded as though the bull was moving off, so I took off hoping to get in close enough to get him mad enough to come in. No such luck. He kept moving away and finally I found out why. Across the canyon I saw him with about fifteen cows. He was a small 4x4, and he didn't want to take any chances.

About mid-day I made my way back to camp and spotted my son crouched down practicing his stalking skills. I joined him and showed him how to step around the loose rocks and sticks so as to make less noise. That evening I went back down in the far basin hoping to intercept the elk coming back up to feed, but they never showed up. When I arrived back at camp, my wife told me how Joey had come into the tent and said, *"Mom, there are three deer in the meadow and I'm going to sneak up on them."* Lois said he nearly got right up on them, sneaking very slowly and quietly.

The next morning I took off from hunting and spent it with my family. We were supposed to be picked up today by the outfitter at about noon so we had to break camp. As I sat at the bluff on the edge of camp, I couldn't help but feel disappointed about the lack of elk in the area we were in. Now don't get me wrong, I wasn't upset about not getting an elk, but about the lack of even seeing them and having opportunities.

Suddenly, I felt my wife's hand on my shoulder as she moved to hug me and said, *"Thank you for the best vacation I have ever had."* As we rode out of the mountains, I looked back at my wife and son riding their horses behind me. I couldn't help but smile and realize that I had found a new way to measure success.

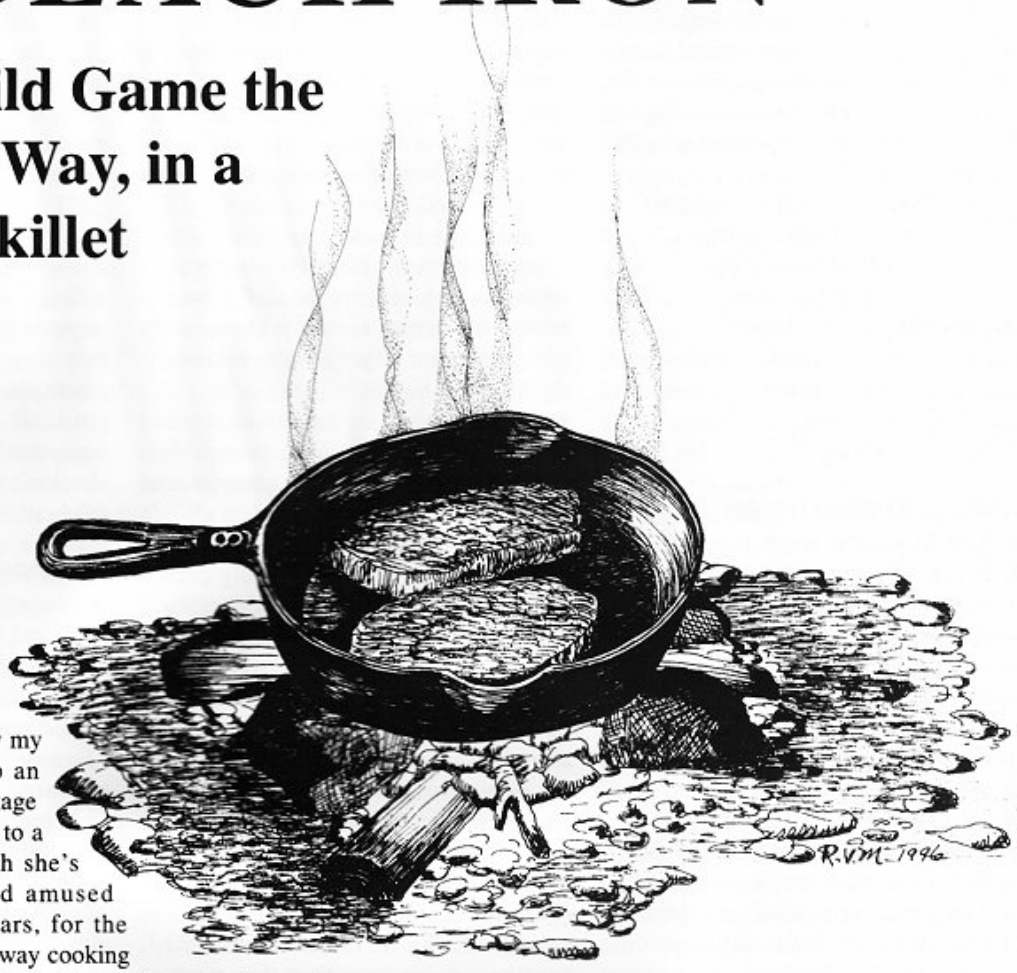


Ted and Joey on the trail in Oregon's Eagle Cap Wilderness.

BLACK IRON

Cooking Wild Game the Traditional Way, in a Cast-Iron Skillet

By Dean Torges



Mary's very good at cooking game, but it's usually my happy obligation to fire up an iron skillet and have at a package of something that succumbed to a hook or an arrow. Although she's offered helpful advice and amused encouragement over the years, for the most part I've found my own way cooking with black iron. After all, with a wife and four daughters, all variously shaded feminists, a man and his skillets had better learn a few domestic survival skills.

Recently I decided that teflon skillets would lead to hassle-free cooking and that in the name of progress I should have one. Retire the old equipment and get something modern. So for Christmas last year, I maneuvered Mary into presenting me with a large, green, non-stick skillet with a textured gray plastic lining, the next generation. It was slick—at first.

But it has proven to be a disappointment, another technological shortcut leading in the wrong direction. Searing venison steaks requires robust heat. My new skillet's thin construction couldn't store enough heat for two steaks at once, and turning up the heat to compensate exposed another deficiency when the non-stick coating burnt off.

I'm sure that technologists are currently at work on the next generation of non-stick plastic. But I now have a rededicated appreciation for a versatile and durable skillet design that hasn't seen or needed a "new and improved" model in 150 years: "CAST IRON."

BACK TO BASICS

Cast iron skillets originated the non-stick cooking surface. Properly seasoned, they clean out with a paper towel, or if need be, with hot water and a vigorously-applied sponge. And their renewable non-stick surface will resist everything but soap, automatic dishwashers, and scouring pads.

Cast iron skillets can be used on the stove top, in the oven, or right up under the broiler. They serve as fry pan, bread pan and griddle or, if lidded, as braiser, slow-cooking crock pot, or self-basting pressure cooker. Beyond skillets, the array of specialty ironware is dazzling, covering everything from muffin pans to woks, Dutch ovens to waffle irons.

Cast iron skillets bake better cornbread, sear better steaks, brown better homefries, crisp better bluegills, cook better pancakes, and make better gravy than any exquisitely-priced cooking utensil displayed in any gourmet kitchen. And they are ideally suited for cooking game because the little bit of greasing they need, which simultaneously browns the meat and restores the cooking surface, coincides with the little bit most people like for taste. Indeed, because of their seasoned surface, they actually require less shortening than steel pots or pans on the same errand.

And they last. A cast iron skillet can cook through generations in one family. Mary brought several with her when we married. One belonged to her grandmother. It's a sentimental family treasure, still going strong after over 100 years of use, and is now serving the household of our thirty-three year-old daughter.

Perhaps you need to replace your kitchen's plastic skillet again. Perhaps it's graveyard, the camp cook box, is already buried full of worn-out plastic skillets. Maybe it's time to turn back the clock. Cast iron skillets can be bought new for half the price of plastic, or picked up used in thrift shops and flea markets as real bargains.

CARE AND MAINTENANCE

If you buy new, give the utensil a thorough scouring with hot soapy water to rid it of its factory rust protection. Lightly grease the skillet everywhere with lard, tallow, or semi-solid vegetable shortening (one works as well as another, but don't use liquid cooking oils), and bake it in a 350 to 375 degree oven until the coating cooks hard. Wipe the surfaces occasionally to smear the grease around evenly, or lay the skillet on the oven racks upside down so that excess grease drains off and does not puddle in the bottom. This process should be repeated several times before a new skillet can handle a full spectrum of use. A stove top burner set on low or medium heat can cook subsequent coats onto the bottom if you don't want to turn on the oven again, but it can't heat the sides well enough to treat them.

If you buy an old pan, make sure the bottom is not warped. I think this sometimes happens from someone putting too much cold water in a hot skillet, but not always, because I've sorted through some brand-new ones with warped bottoms on dealers' shelves. It's only a noticeable problem in larger skillets, or on griddles, large and small alike, but there's no remedy for it. Warped ironware is especially aggravating on an electric burner because it won't heat evenly, negating one of its real virtues.

Do not pass on a used skillet that is crusted and cruddy, but otherwise true, no matter how bad it looks. My mother-in-law, a wizard at cooking with iron, taught me to resurrect these hard-used skillets in the fire box of a wood burning stove. Her family placed theirs in pot-bellied stoves and later, after electricity came, in the coal furnace. Like a Phoenix emerging from ashes, a skillet which has undergone this treatment comes out scaled to bare metal, restored to its original condition, and ready for reseasoning and another cycle of service. The self-cleaning mode of a modern oven works too. A resurrected skillet is very susceptible to rust, so coat it immediately after treatment if you can't reseason it right away.

If you heat your home with a wood burning stove, you can reseason skillets easily by wiping on a grease coat and setting them on the stove jacket. When the stove gets hot enough, the grease sinks into and seals the naturally porous casting, cooking dry and becoming a tough, slick, waterproof film. I like this method because the skillets are easily monitored and quickly wiped at walk-by intervals so the grease won't run and dry like a bad varnish job. *Several light coats are better than one heavy coat.* One hot stove day can yield three good coats, seasoning enough to withstand successive batches of the most corrosive of foods—simmered tomato sauces.

Once the skillet is seasoned, routinely wipe it with a thin coat of grease after every hot-water bath. Cast iron is very porous. The next time you heat the skillet up, the iron will suck the grease into the expanded pores and seal the cooking surface.

I guess the one disadvantage of cast iron cookware is that it's too heavy to backpack. Then again, it's probably a good idea to keep such a powerful draw in the civilized world.

Following are some cast iron recipes as simple and unpretentious as the cookware itself. You can't go wrong with any of them, as long as you don't cook them in a scrubbed skillet. I hope they inspire you. After all, since you arrow your own game, maybe butcher it yourself, maybe even craft the equipment responsible for its demise, shouldn't you then preside over the final celebration?

PAN-FRIED STEAK

If you once trade meat marinades and herbs and spices for a hot iron skillet and a sputtering dollop of butter or some similar shortening, you're on the way toward an appreciation of the superiority of game to barnyard meat. Save the tenderest cuts for pan frying. The technique described here also provides the basis for braising or baking, and once you've mastered it, you'll be able to use variations of it to cook tougher cuts under lids.

There are two simple principles to work with: (1) never place meat in a

cold skillet. Otherwise it will stick and lose moisture, (2) always sear both sides of the steak before you lower heat and cook it through. Otherwise the meat will dry out, bubbling in its lost juices.

Searing is first base in meat cooking. Skillet temperature is first base in searing. Place a small spoonful of shortening in a hot skillet, or spread a little butter on both sides of the steaks. When the skillet is good and hot, lay in an unfloured steak or two, or even more, if they are small, like loin medallions. Don't crowd them so that you lose pan heat. If the steaks are very large or very cold, turn up the heat when they hit the skillet. Keep them moving around and pressed down so that all of the meat contacts all the accumulated heat in the skillet bottom. After a minute or two, depending on thickness, the top side should just start oozing juices. Flip the steak and do the other side. Turn them only once.

If the calories in the shortening concern you, squirt a non-stick cooking spray into the skillet before you heat it up. If your skillet is well-seasoned and if the steaks are marbled, you can dispense with additional shortening or cooking spray. Blot all exterior moisture from both sides of the steaks, turn the flame up a notch or two, sprinkle the skillet with a little coarse salt and lay in the steaks. Use a thin metal spatula to keep them separated from the skillet, and to keep them moving around, proceeding as above.

Whichever way you do it, look for these clues: if juices aren't bubbling into the skillet (too cold), and if smoke (as distinguished from steam) isn't curling from under the meat (too hot), you've zoned into the right temperature.

If you've cut the loins to the right thickness, after they're seared they're done. It's that simple. If the steaks are thick or if you can't force your eating partners to have theirs rare, turn the heat down to medium and cook until you reach the desired degree of doneness. (Few juices leak out on a lower heat once both sides are seared, so feel free to cut open a section for a peek.)

If you want to add a wrinkle, after the steaks are done, remove them and cool the skillet down to medium heat or lower. Pour in some water or wine and work it into the greaves in the bottom of the skillet with a wooden spatula, and serve it over the steaks.

If you want to get fancier yet, before you work up the greaves and after you've removed the steaks, add a pat of butter to the hot skillet and throw in some sliced mushrooms. Same principle. If the skillet isn't hot enough, they'll lose moisture and stew. Sizzle them brown.

Soon you'll be flouring and searing tougher cuts, adding mushrooms, carrots, onions, celery, a little water or a can of condensed soup, a lid, and then braising on a low burner (also known as "smother-frying"), or baking in a slow oven until the meat is tender, the gravy is thick and brown, and the vegetables are cooked. There's no end to the paths leading from basic seared meat.

PARCHED CORN

One of my neighbors raises a truck patch of sweet corn each year. Though his best money lies in an early crop, he staggers several plantings through the season, claiming that a rotating supply of fresh corn-on-the-cob provides a glimpse of heaven. If that's true, then a stockpile of shriveled kernels dried on the cob and shelled into quart jars for winter parching offers a lens with a different view.

Parched corn is an American tradition and stands as a symbol of hard times and perseverance. Indians carried it for gorp. It became a staple of the Confederate soldier. I don't know the parching method either group used, but thoughtful speculation suggests that the soldier parched his in the same campfire utensil kept for melting lead for his bullet mold. If so, this goes a way toward explaining why my neighbor, who apprenticed under his "Pappy" insists that a traditional and natural affinity exists between corn and lead. Soured corn mash distilled through copper plumbing contains less octane, he argues, as evidenced by the lesser likelihood of copper-dripped "squeezins" blinding or killing you. He grins like it's a joke, but his eyeglasses are quite thick.

I parch my corn in a food-grade pure cast iron skillet. Just throw a fistful into a hot skillet and stir it around. The shrunken kernels exude their own oil as they slowly metamorphose, into crunchy plump, golden-brown orbs.

They're best eaten crispy-hot with lots of finely-ground popcorn salt. You will immediately discover that they require the complement of a cold amber beverage floating a creamy thick froth. If the combination does not suggest heaven, it can certainly imbue any pale winter evening with reverent thanksgiving for simple pleasures.

I introduced this combination to my neighbor. In truth he already knew much about the beverage, having seriously pursued it in all its color phases through most of his adult life. Nevertheless, he welcomed the combination and declared "toasted corn" the handmaiden to malted barley, the one sent to prepare the other's journey.

Each fall one of us gleans his patch for several dozen ears apiece. It's good get-acquainted stuff for a newly seasoned iron skillet "toast."

BRAISED COTTONTAIL RABBIT—MEDITERRANEAN STYLE

I grew up on this recipe. It works equally well on squirrels, groundhogs, and probably any other critter you want to put a tooth into, young and old alike.

If you're lucky enough to have an iron pot with a matching iron lid, you're set for braising (or smother frying). If you don't, root around in the kitchen for a stainless steel lid that will close up your skillet. Better yet is a glass crock pot lid, its lip will likely cover the pour spouts to either side of the handle and seal in the steam better than a steel lid. Indeed, you might find that the best part of a crockpot is its lid. Since the origin of flavorful meat is browning, and since you can't brown in a crockpot, why not just take its lid over to the browning skillet, which contains all the greaves, turn the heat way down, and use the skillet for a crockpot? You'll free up some cupboard space with this bit of logic.

Cook young critters together and old critters together. Don't mix old and young in the same skillet because of the disparity in cooking time.

Cut, wash, drain, and dry several rabbits. Saute a few cloves of mashed garlic in olive oil, then increase the heat and add the rabbit. Turn the pieces so they brown all over, but don't overdo it. Remove the browned pieces as you add others.

After the pieces are lightly browned ("tanned" would more accurately describe their color), return them to the skillet, turn the heat to a low simmer, add a bay leaf and some red wine, and cover. If your pot is matched with a heavy wide-rimmed iron lid (mine has basting teats under its dome), there will be no need to add extra liquid during the cooking. If you are using a skillet with pronounced pour spouts that allow steam to escape (they vary in size by manufacturer), or a stainless steel lid that fits inside rather than over the skillet, thereby exposing the pour spouts, check occasionally and add water as needed.

Rather than finish out on the stove top, after the pieces brown, I like to put the covered pot, with its bay leaf and wine, in a slow oven for more uniform heat. Either way works, but the oven requires less attention.

Jab at the pieces with a fork at intervals, and when you find evidence that they are tenderizing, add six or more onions cut into eighths. Cook until translucent and add 1/2 quart of canned tomatoes. Continue cooking until the meat is tender. If there is too much liquid with the addition of the tomatoes, simmer uncovered the last five minutes or so.

Serve with mashed potatoes, or stay Mediterranean and cook a rice pilaf.

EPILOGUE

I hadn't seen my buddy Lew McClain leave the woodlot across the hayfield, so I figured he was still there. It was late morning, and I hoped the explanation for his tardiness was that he got an arrow to the monstrous eight point he'd seen from his tree during our last hunt here. I worked slowly, straddling the deer, keeping an eye out in Lew's direction. It was a long, hilly drag to the truck, the whitetail would weigh over 160 lbs field dressed, and it was Lew's turn to help me drag one out, so I paused often to look about.

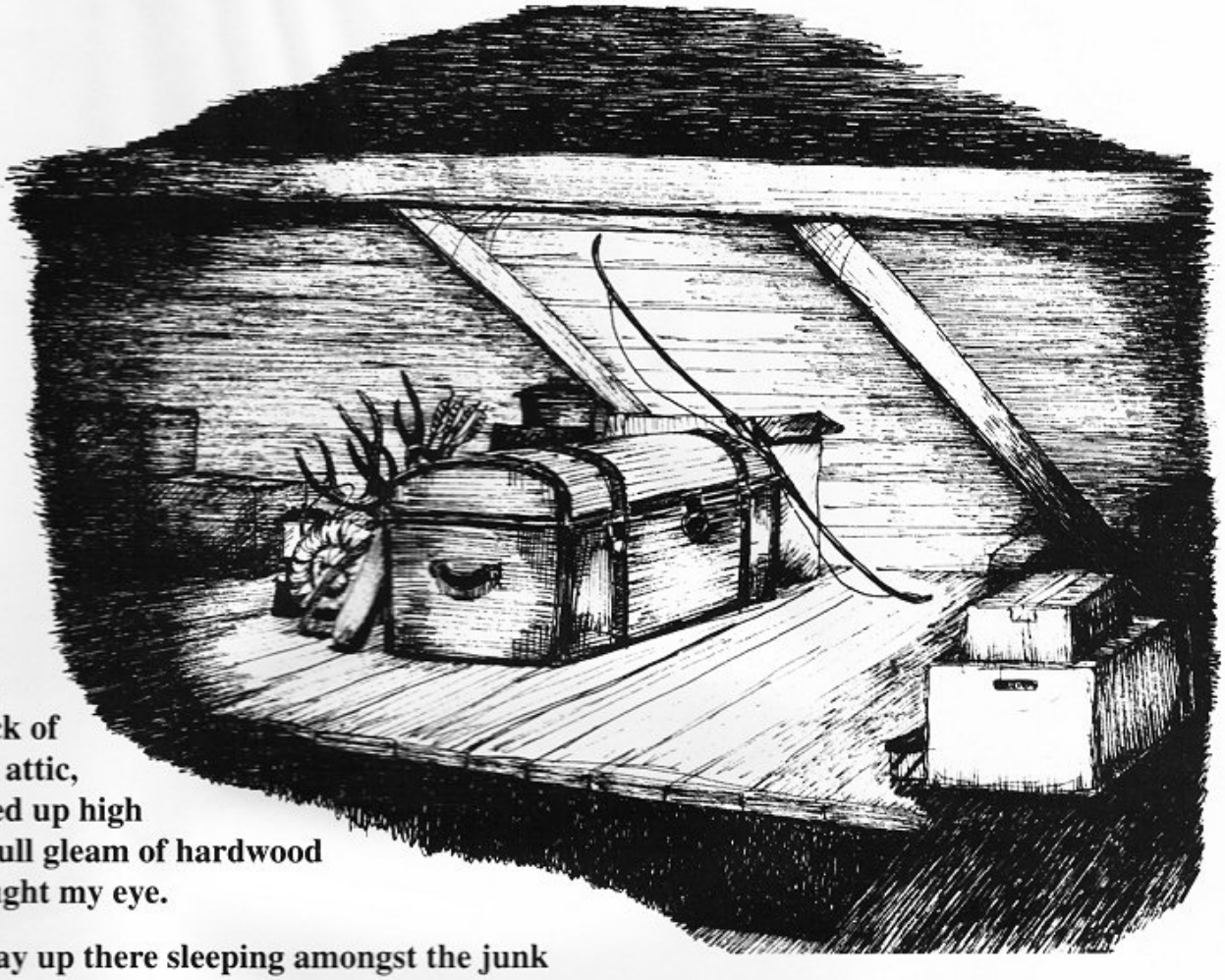
Several times I looked back over the blood trail, still wet and abundant, soaking into fallen leaves, substance returning to earth. Several times I looked past the liver and heart, draped over low branches, into the steam rising and dissolving into the crisp November air, spirit returning to sky. Occasionally I'd glance at the broadhead slit within his heart, grateful for a shot that ended his life quickly, thankful for a self-bow that sent arrows barely hissing. The buck had sensed danger, turned, and was making an uneasy retreat, but the bow was too quiet.

I worked slowly and carefully, parting the pelvic bone with pruning shears, cleanly removing entrails and urine sac (which, with his tarsal glands, went into plastic zip bags). No hurry. I thought back to the first whitetail I'd killed, over thirty years ago, with a gun, when whitetails were new in my country. And I remembered the rush of mixed feelings and how, thinking to bleed him, I had slit his empty jugular even as my blade mysteriously sought out the hand that held back his throat, my blood his. I think of it every time.

I would watch for Lew, pace my work, and wait for him before I removed the tenderloins. And then tonight, after the carcass had been tended, I'd fire up an iron skillet. Two hunters would celebrate the kill. We couldn't do that in plastic.

THE OLD BOW

by Robert V. Martin



In
the
back of
the attic,
piled up high
a dull gleam of hardwood
caught my eye.

It lay up there sleeping amongst the junk
with other lost relics by the old steamer trunk.

To see it sparked visions of bygone glories,
nearly forgotten, full of stories.

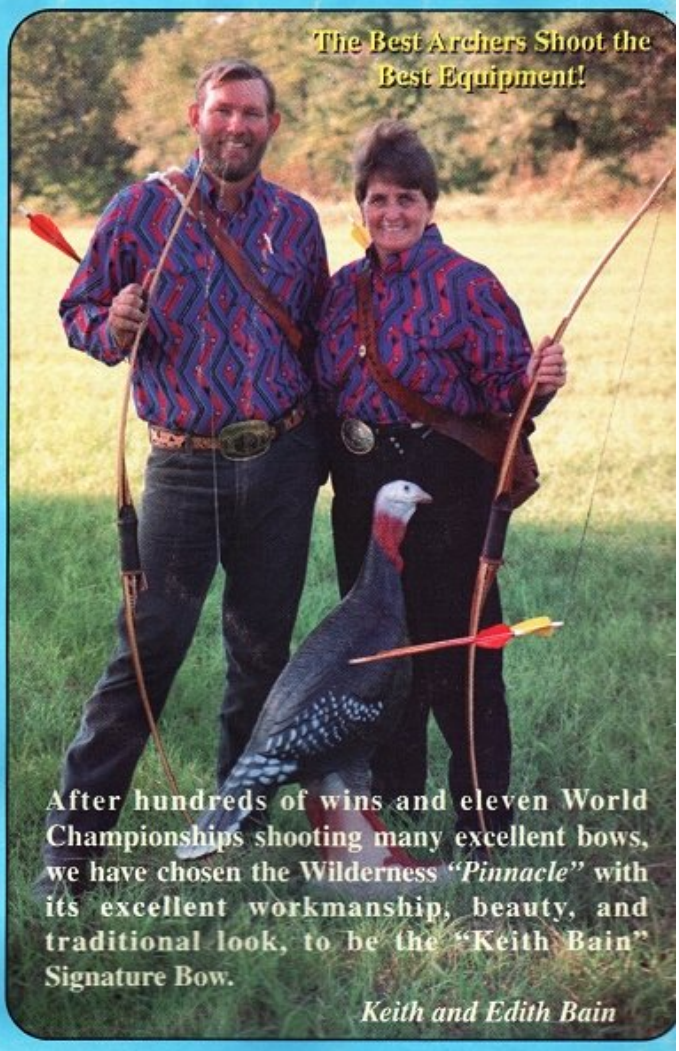
It smells of string wax, old leather and wood
with memories of old friends and camps that were good.

The polished old scars on the faithful old grip
speak of lashings and pack frames and those special trips.

The burnished brown leather of the strikeplate and rest
bear the tattooed colors of arrows bright crest.

The bright painted shafts of the seasons gone by
like wind blown leaves through my memories fly.

Oh those cool peaceful glens slipped so silently through
stalwart friends were me and you.



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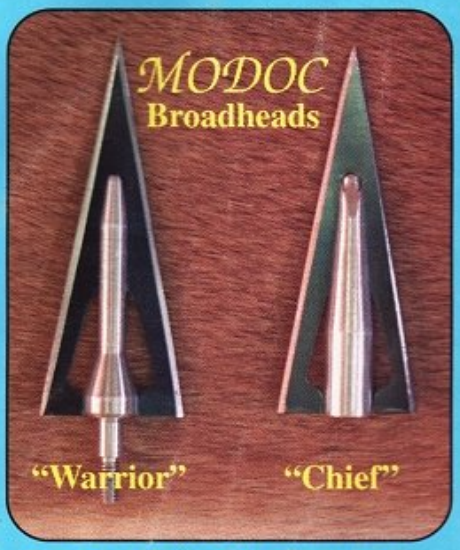

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