

ARCHERY

A man and a woman are standing on a beach, both dressed in archery attire. The woman on the left is wearing a white sleeveless top and a long, patterned skirt with large white floral designs. She is holding a bow. The man on the right is wearing a light blue short-sleeved shirt, a white chest protector, and plaid pants. He is also holding a bow and a blue hat. They are standing in front of palm trees, and a boat is visible in the background under a clear blue sky.

**Cline
on
Barebow**

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on
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**Hawaiian
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**Individual
Instruction**

NOVEMBER 1973 60¢

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ARCHERY



Official publication of the National Field Archery Association, Route 2, Box 514, Redlands, Calif. 92373. Phone (714) 794-2133. Published monthly by the National Field Archery Association.

Dan Gustafson Editor
 Ruth Hathaway Advertising Coordinator

NFAA OFFICERS

Ervin G. Kreischer, President
 827 Floretta Dr., N.W.
 Albuquerque, New Mexico 87107

John W. Durham, Vice President
 2604 So. 19th St.
 Ft. Pierce, FL 33450

E. Pat Wingfield, Immediate Past President
 1123 Los Palos, Apt. 4, Salinas, California 93901

Wm. H. Wadsworth, Bow Hunting Chairman
 Boy Scouts of America
 New Brunswick, New Jersey 08904

Ervin W. Belt, Executive Secretary
 Route 2, Box 514, Redlands, California 92373
 (714) 794-2133

Subscription rates: \$5 per year in U.S.A., Canada and Mexico. Foreign subscriptions: \$7. Special rate to dealers (U.S.A. and Mexico only): \$2.50 per year per subscription in lots of five or more sent to one address. Order must appear on dealer's letterhead or order form. Single copy 60c.

Advertising rates on request.

Second class postage paid at Redlands, Ca., and additional mailing offices.

Articles, stories and club news must be submitted for publication showing name and address of the writer. All statements are those of the writers, and may not conform to the editorial policy or views of this magazine — or the editor. Deadline for copy: six weeks prior to the month of publication.

Postmaster: Please send Form 3579 to:
 National Field Archery Assn.
 Rt. 2, Box 514, Redlands, Calif. 92373

NOVEMBER 1973 VOLUME 45, NUMBER 11

COVER: Why are Eva Troncoso and Gary Lyman smiling? These NFAA pros have won again, this time the Hawaiian Invitational. See coverage on page 40. (Photo by Fred Troncoso)

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RAP UP

Dislikes optional round

Editor:

Bah humbug on the new optional indoor round. When I go to a tournament, I know that I'm putting skill against skill to hit the bull. If I wanted to gamble, I'd go to a fair and shoot at balloons with a warped bow and crooked wooden arrows.

Competitive archery is a sport for individuals to pit skill against skill and is not a spectator sport such as golf. To prove a point, the next time there is an archery exhibition, go to it and see what the general public wants to see, sensationalism, balloons popping, candles shot out, etc. The public could care less whether or not you can put five arrows in a 3 in. or 1 in. circle at 20 yards, but burst one 8 in. balloon at 20 ft. and the applause is enormous.

To promote archery . . . each club should start an exhibition team and show off the skills of the bow and arrow. This, I feel, would do more to promote archery and is the spectator side of it, and it would interest more individuals in joining.

Larry E. Frazee
Sellersburg, Indiana

The camel committee

Editor:

So! A camel is a horse put together

by a committee? (ARCHERY Forum, June 1973) Well, dawgone if I don't have to agree with Mr. Simms. That's the way things are these days and I'm not suggesting that we go back to the good ol' days, but I would like to reflect a little and see if we can find out what happened to those 18,000 missing NFAA members.

Let me take you back to 1940 when a freestyler (that was me) was a novelty on a field course, and "barebow" was a word unknown. Almost everybody shot pure instinctive, and anyone who tried gapping was looked upon with suspicion. Any archer could go to any tournament he chose and he was welcomed with open arms. No class cards, all he needed was a bow and some arrows.

At the end of the tournament, they piled the score cards up with the highest score on the top and so on down with the lowest score on the bottom. Then they divided the number of shooters by four. If there were forty shooters, the first ten shooters were Expert Bowman A and the three highest got a ten cent ribbon. The next ten were Expert Bowman B and the three highest got a ten cent ribbon. The next ten were Bowman, three highest — same way. The last ten were Archers, and the top three got a ten cent ribbon.

Sometimes there were merchandise prizes, a bag of groceries, a ham, a sack of flour or maybe a hunting knife, but

usually these prizes went to the guy that came the farthest, the oldest or the youngest shooter. And the winners got ribbons.

Many years ago I was at an NFAA tournament when out of the blue they handed us a card to sign stating that we were amateur or professional. Heck! We had all won a knife or something and didn't know what to do, but — if I remember correctly, we decided to say amateur to play it safe. We could not understand why they were throwing a monkey wrench in the works for the sake of a very few people who wanted to shoot in the Olympics. That was the beginning — of the end.

Today, as you know, things are complicated with class cards and handicaps and you gotta join this before you can join that, and if you don't belong to that, you can't do this. And 18,000 NFAA members said, "no thanks."

Through the years we have emphasized the top shooters. While they deserve our applause and admiration, you just cannot run an organization with top shooters. Which would you rather have, a couple O' hundred top shooters or eighteen thousand lousy shots? I think you'll find the lousy shots are the ones that are out on their range building bridges and cutting grass. I don't see that many top shots our there building bridges or cutting grass. They are the stuff committees are made of.

We can't go backward. Heck, this is the computer age. So let's forge ahead. Get your committee on committees together and have them appoint a committee to formulate a new class which we could call the "classless class." No cards, no handicaps, no nuthin'. How about that?

Dr. M.B. Hopkins
Chicago, Illinois

All favor "T-Bone" system

Editor:

Peterson's "T-Bone" system makes a darn sight more sense than the current system. Unless there is something better on the stove, let's get on with it while some clubs are still solvent. At the same time let's initiate the 15-30 target 300 round and really get into the 20th century.

Harry Williams
Orlando, Florida

Editor:

In reference to the article "Our ARCHERY

classification dilemma," in the September issue, I feel this is a step in the right direction. I personally see no reason why male, female, freestyle and barebow cannot shoot in the same class.

I also feel that archery is and will be at a standstill unless something can be done about the classification system which is getting worse as new classes are being added.

In order for a small club to set up a shoot, they have to have a CPA just to figure out classifications, and the cost of trophies and prizes is such that the club usually loses money. I also feel that an effort should be made to bring the score spread closer together, not necessarily at the top, but from the top down to the beginner. Enjoy your magazine.

Vernon E. Mack
Cyclone, Pennsylvania

Editor:

Hooray for Blair Peterson's article on our classification dilemma. He expressed my sentiments and those of the Valley West Archers in a most enlightening way. We have been using his T-Bone system for several years. Of course, our breakdown is not the same as he presented, but the principle is exactly the same. We are firm believers that there is absolutely no difference between, for example, a 300 barebow shooter and a 300 freestyle shooter, or any other 300 shooter, even if he were to shoot standing on his head. Our system has never recognized a difference except the very top shooter in each style and division.

When we started our club in 1966 we had a small area in which to hold our weekly Tuesday night shoot. Our "range" was not conducive to holding any established game with the possible exception of the Flint round. Most of our members did not care much for the Flint, so we devised our own "Valley West Round," whooting the original 16 in., 5-ring, black-faced pro target.

We shot 14 ends of 4 arrows each starting at the 50 yard line and then in successive 5-yard increments up to 10 yards and then repeating a second time. The bulls-eye counted 5 with each of the other rings counting 4, 3, 2 and 1. A perfect end was 20 and a perfect score was 380 — same as a field round.

We then devised an award system whereby we gave bronze, silver and gold medals as a person progressed in ability.

Continued on page 46

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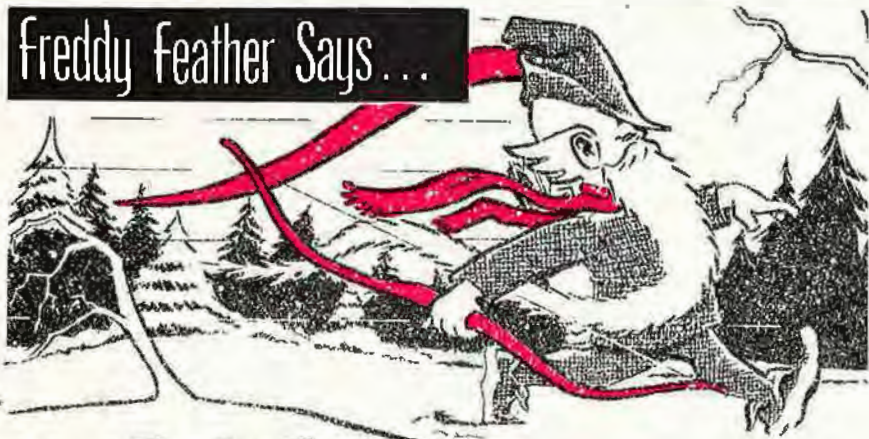
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The value of professional Is archery any different than any

Recently I was approached by an individual who had just become interested in archery. He asked what I thought was the most important thing that a beginning archer should do to learn to shoot well.

In reply, I asked him what he would do if he were to take up bowling or golf and wanted to learn about those games and how to play them well. Without hesitation he answered by saying, "I would go to one of the local professionals and arrange for some lessons."

Needless to say, this young man answered the question he had asked me. The most important thing a person can do if he wants to learn to shoot a bow and arrow well is to seek help from a qualified professional.

Unfortunately we archers tend to think of our sport in a different way than we would if we were participants in activities such as golf, bowling or tennis. It is true that archery is not as commercialized and more often we cannot drive to a local pro shop to obtain professional instructions. However, there are any number of fully qualified professional archers throughout the country willing to teach interested archers how to shoot correctly. In many cases these individuals will provide instructions free of charge or at a moderate cost.

Even if an instructor does charge for the service he offers and the time he spends, should we expect to receive a service from a qualified professional without any charge just because that individual happens to be an instructor of archery? Would you expect to receive free instructions from a golf pro or a professional in another field?

Our sport is no different

It has always amazed me how archers, including myself, tend to think of archery as somehow different than other sporting activities. We seem to think that we are being "soaked" when we have to buy our equipment at retail prices or pay for professional instructions. Why can't we understand that archery is no different than any other sport and that we should expect to pay to play? I believe this obvious lack of commercialism retards our growth more than any other single factor.

Back to the topic of instruction. It is interesting to note the relationship between the time it takes for an individual to learn to shoot well with and without the help of a qualified instructor. Individuals who try to teach themselves to shoot have fools for students and often will spend several years before they become proficient. Not only does an archer who tries to teach himself how to shoot experience many difficulties and frustrations, he may also never develop his potential.

Individuals who learn to shoot without the help of a qualified instructor will usually develop improper shooting habits. As time goes by they will continue to practice improper actions and the execution of those improper actions will become so automatic that it will be very difficult to correct them.

Each of us has experienced this unfortunate fact of life in our own shooting. Recall if you will an occasion when you were having problems. Once you realized a problem existed and you understood whatever you were doing wrong, you began to correct yourself.

You probably discovered that to force yourself not to execute the shot in the improper manner was very difficult. You had developed an improper shooting action, and every arrow you shot you practiced that improper action until it finally became automatic and habitual. When you tried to correct the problem, the same old habit was so well implanted into your shooting routine that it could not easily be corrected.

Avoid pitfalls

When someone seeks help from a qualified professional, he avoids many improper habitual pitfalls that plague so many archers. The instructor will usually be able to point out what the shooter is doing wrong and suggest ways to correct the problem. In addition, he will be able to explain why one shooting method is good and another is bad. By understanding what makes things happen to the shot, the individual shooter is in a much better position to continue his development once he leaves his instructor. The guesswork and trial and error that the shooter must go through can be reduced to an understanding of cause and effects, thus allowing him to more readily pinpoint and correct his problems.

Eva Troncoso, wife of Freddie Troncoso who writes the monthly column "What's Your Problem" in *ARCHERY Magazine*, is a candid testimonial of the value of professional instruction. Eva established a new all-time record high score in the Women's Professional Division at the 1973 NFAA National Championship Tournament.

In addition to her most impressive victory and unprecedented score of 2741 at the NFAA National Championships, Eva has also won almost every tournament she has entered this year. All these outstanding accomplishments have come after a thirteen-year absence from active shooting. She has the drive, ambition and burning desire for success, but that in itself did not bring her to the top.

Eva also recognized and believed in the importance of professional instruction, and she was fortunate enough to

instruction other sport?

have one of the country's finest instructors, her husband Freddie, work with her. Under his expert supervision, Eva was able to develop her shooting talents by learning the proper shooting methods initially, thus avoiding the problems of correcting bad shooting habits.

One caution is worth mentioning here. Many shooters seek the advice of fellow archers and that is as it should be. However, the advice given is not always good advice. Although the persons giving advice usually mean well, it can be very detrimental. After all, would you go to your friend if you needed to have your teeth worked on or if you wanted legal advice?

Beware your friend's advice

The point here is that the professional is qualified to give you the right help, and that is why he is a professional and your friend is not. His instructions will usually be what is best for you and for your particular problems and capabilities. Your friend may mean well, but beware of his lack of experience and understanding for it will be at your expense if he gives you bad advice.

Besides the valuable guidance a shooter can obtain from a professional instructor, there are also several fine articles written each month in various archery publications that are most informative and helpful. If an individual is truly interested in developing his shooting talents to their maximum potential, he should seek out every available source of information that can help him obtain his objective. Problems that are encountered by shooters are not new problems and assistance in solving them is available through instructors and printed material.

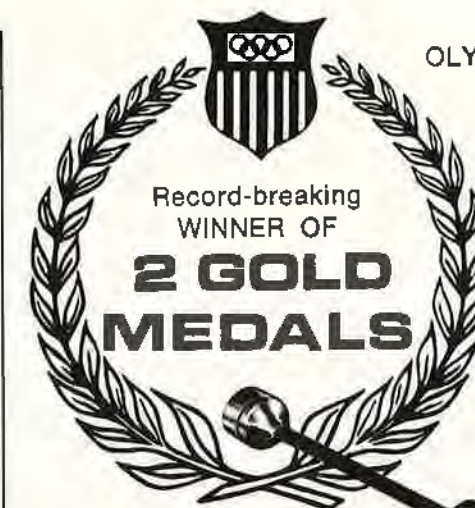
There is an old and very appropriate proverb that I think each of us would be wise to remember when we encounter difficulties with our shooting. It goes something like this:

*Fools learn from their own mistakes.
Wise men learn from others.*

If you discover that you have a shooting problem or if you are new to this game of archery, I hope you will heed the advice contained in this proverb. The few dollars that you might spend to obtain quality professional instructions will save you more grief and frustration than you might believe.

After all, what better investment could you make than one that could bring you piece of mind and a sense of accomplishment. Experience, indeed, is a dear teacher and you can most certainly learn to enjoy archery so much more if only you will draw upon the experience of the professional.

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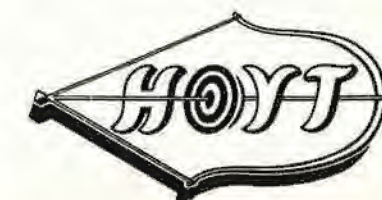
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THE MAN AND...

THE 1973 Aurora Nationals won't soon be forgotten by a lot of proud Illinois archers. They not only conducted a second successful NFAA Championship, but also produced four division winners this year, claiming three national amateur titles and one open division title.

That open championship is one that folks in Aurora take special pride in, for it belongs to 1973 barebow champ Dennis Cline of Sugar Grove, a member of the home club Auroraland Archers.

The Iowa-born Cline joined the Aurora club about five years ago, when he and his bride Sharyl moved to Geneva, Illinois, and Dennis started work for the Masonite Corporation. A bachelor of science degree in forestry plus graduate study in wood-plastic composite chemis-

try led to the position Dennis holds today in Masonite's research laboratories. But the 29-year-old wood technologist's arrival in Illinois marks the beginning of a second career, too -- one that has brought him two national barebow titles.

That summer of 1969 found Dennis journeying to Watkins Glen, New York. What made the 1969 Nationals there unforgettable for most people weren't the achievements of one Dennis Cline, who finished third in open barebow, but rather the record-smashing scores of Texan David Hughes, on his way to the second in a series of four national barebow titles.

This same Texas archer and his amazing scores made a lasting impression on Cline, who was competing in his first Nationals. In Dennis' own words: "Over the past five years I've gained an unbelievable amount of incentive and knowledge of archery and barebow shooting, but the first time I went to a Nationals, and the first time I watched that damned Texan shoot a bow and arrow, gave me more incentive than anything else before or since."

... HIS METHOD

ONE thing to be said about barebow shooting -- not everything works for everybody. The barebow division includes shooters using several methods -- instinctive shooters, point-of-aim shooters, gap shooters, semi-stringwalkers and full stringwalkers all compete together in barebow.

National champ Dennis Cline falls into the stringwalking category, a method he's got working almost to perfection. His form is the product of years of experience and hard work, of trying things that didn't always work out.

Perhaps there are so many different methods of shooting barebow because it's a style that depends very much on the individual. Many of the working parts of Dennis' setup were determined largely by his physical build and capabilities. The high wrist handle suits him so well because he feels more solid with

his back and bow arm tension concentrated in the upper part of his back.

Another example is finger tension, Dennis finding that shooting with equal tension on all three fingers works best for him. He once tried shooting with very little tension on the bottom finger and discovered that while any one or two of his fingers aren't nearly strong enough to support consistent finger tension and a strong, smooth release, all three of them together are. But he has to use all three fingers because two of those fingers are less than physically perfect, one being injured in a high school basketball game, the other slightly bend during an unofficial volleyball contest at the 1971 Cedar City Nationals.

Anchors play a big part in successful stringwalking, and for Dennis this is another aspect of shooting that he's designed around his physical build. As Dennis says, "Everybody has a different face," and for consistency, a barebow shooter has to anchor in spots he can locate easily and settle into comfortably and solidly. It doesn't matter at all how

Cline's interest in the sport actually dates back a decade to bowhunting with his brother, but he recalls 1969 as a turning point -- the year he got serious about competitive archery, made his way into A class barebow, and became a shooter to be reckoned with.

From then on, Cline's scores rose progressively each year, starting with the 1970 Nationals in his backyard at Aurora. There Dennis averaged just over 490 during the five days of shooting to take third in open barebow by one point over Indiana's Larry Watkins. The following year, at Cedar City, Utah, Dennis came in fourth as the tables turned and he lost third place by one point on the last target of the last day to Tom Kababik of New Jersey.

But his scores looked more promising -- Dennis' average for that tournament week was just over the 500 mark, something he considered to be pretty decent because he had never shot much over 500. Promising they were, because Cline returned home to wind up the 1971 season by winning a Fox Valley shoot with a 522 -- his first over 520 ever.

Come 1972, Cline began believing he would shoot a 520 again. That he did, not only breaking 520 but shooting a 520 season average and winning his first national title on the last target at Ludlow for a two-point victory over four-time champion David Hughes. The year didn't end at Ludlow for Dennis Cline -- there were a couple months of shooting left, and before the year ended he had shot a 538.

After that it's common knowledge what Dennis has been up to, winning his second consecutive national title at Aurora with another 520 average, and recording his highest single round score ever, a 542 field round shot in the 1973 Buttercup Open in Ludlow, Massachusetts.

But it was the 1969 Watkins Glen tourney that steered Dennis in the right direction and in more ways than one. Incentive, yes; shooting on target 1 with



by settling in to that little valley, then tilting his head into the string. That head tilt effectively reduces the distance he gets at his high anchor, but it is more stable and solid. Tilting his head into the string also gives him maximum accuracy on his short targets in that he doesn't have to crawl down the string very far from the nock for distances up to and including 35 yards from that high anchor.

Dennis' head position on his low anchor under his chin is somewhat

a champ like Hughes in your first national tournament would be a great inspiration for any archer, and as Dennis puts it, "right then and there I decided I'd be back next year." And the equipment and form that enabled Dennis to fulfill that incentive in championship style also had their beginnings the summer of '69.

What about form? Shooting with Hughes had something to do with it. Says Cline: "I looked at his form and kind of half copied some of it, maybe not consciously but subconsciously. I ended up with not really an exact duplicate but in certain places I shoot like he does." Finally that year was Dennis' first exposure to the bow he now shoots and with which he has won two national titles -- the Groves GS-300II.

Dennis credits that bow for the major part of his success. In 1969 and 1970, Dennis was shooting a low wrist handle and experiencing problems with torquing his bow hand and breaking his wrist and arm tension. At that time Dave Hughes was shooting a high wrist

different. Here his head is straight up and down as he settles into the anchor with his fingertips and places the tip of his nose on the string. Touching the nose is pretty unusual for a barebow shooter, most of them bring the string just to the side of the nose.

Forty yards on up are the distances Dennis covers with his low anchor, shooting point-on at every distance except 70 and 80 yards. For 70 and 80 he uses his low anchor and aims with the shelf of his bow instead of the point of the arrow. Some barebow archers put little beads or similar aiming devices on their bow shelves when they can't use the arrow point, but Dennis hasn't gone to that, commenting: "Aiming with the shelf may not be as accurate as with the point of the arrow -- but it works -- it's good enough for 542's!"

For distances between 35 and 40 yards Dennis plays it by ear. Depending on which anchor he decides to use, he can either walk the string a little more or aim a little higher or lower. In fact,

INSIDE DENNIS CLINE

by Phyllis Butters

THE MAN

Groves, and by the close of the 1970 nationals, Dennis had shot it twice, once at Watkins Glen and again at Cedar City.

The first time he shot it, he noticed that with the high wrist handle he had no tendency whatsoever to torque his bow hand. And as soon as the 1970 nationals were over Dennis had his order in for one. It's a high compliment to the Groves product to hear Dennis say, "If anything has helped me, that was it — just shooting that bow and deciding to change to it. That particular grip just suits this particular nut."

So Cline bought the bow and developed his present form around it, a point he stresses as being very important for any archer shooting any kind of equipment to develop a shooting form that fits your bow. Shooting high wrist has its limitations, but for Dennis everything worked out to best advantage when he changed bows, then changed his form to fit.

For example, there are a very limited number of ways to get into a high wrist handle, and the high wrist grip makes you keep your shoulders and bow arm high. Whereas a low wrist shooter uses the lower part of his back muscles to shoot, a high wrist shooter is forced to keep both bow arm and shoulders high and thus uses the upper back muscles. Dennis found that he felt much more solid and natural up high. "I bought the bow and developed my present form around it, with, of course, a little knowledge from seeing Dave shoot," says Cline. But he credits only about 10% of his growth to advice given to him from top barebow archers; the other 90%, he says, is the result of "slow evolution and hard work."

That's not to imply that Dennis feels he hasn't learned much from fellow archers: "All the way through my shooting in the last five years, since I've really gotten serious about it, I can pick out little times along the way when someone has said something that helped." He does feel that the best way out of a shooting problem is to experiment for himself because "ninety percent of the time when I ask someone about my form it's a deadend alley — what they tell me is what works for them." On the other hand, sometimes those little hints can come in handy

weeks or months later, and Dennis offers a good example.

Since he moved to Illinois, Cline has done most of his shooting and practicing with the same bunch of guys (namely, Moose, Hoss and Vince) who watch and talk about each other's shooting. Fellow archer Dan Morehead commented to Dennis early this year that he didn't look like he was maintaining enough bow arm tension. At the time Cline thought Morehead was crazy, but two months later "I tried it and it worked!" Bow arm tension is what Dennis concentrated on during the Nationals, and by the end of the week he was shooting smoother than ever.



When Cline attributes his growth to evolution and hard work, he isn't kidding, especially about the hard work. When the weather turns warm enough in the spring, Cline embarks on a practice schedule that's the equivalent of a second full-time job, going straight to the field course from work every weekday and practicing until dark.

Weekends are more of the same practicing on Saturdays and tournaments on Sundays. And Dennis wishes spring would come earlier so he'd have time for more shooting. One thing he won't do is practice in cold or windy weather. His reason: practicing under uncomfortable conditions can lead to

the development of bad shooting habits.

Since Illinois doesn't warm up until April or mid-May, that doesn't allow for much practice or many tournaments until the sectional event rolls around in June, and the Nationals follow in late July. Cline feels he's never really been up for a Sectional, using this year as an example when he only had three scores on his card before the Great Lakes tourney. He was still making changes right up to the time of this year's Nationals, and Dennis doesn't feel his form reached its peak until after Aurora.

Lots of little things constitute form, and even Cline is often changing things. He changed his set up twice early in the season, getting nocking points and Berger Button set for good arrow flight. He won the Sectional with what he describes as "dissatisfying" arrow flight, then improved through the Nationals.

Dennis is currently shooting a 69 in. 38 lb. model (high wrist handle, of course) Groves GS 300 II from which he has eliminated the extension blocks. He's shortened his draw length by one inch and has gone to heavy points on his 28 in. X7 1914 shafts. Three feather fletch and bjorn nocks plus a Berger Button with heavy sping, a cut-off Hoyt Pro-Flex rest and a homemade clicker complete the set up. Dennis' stabilizer is a 24 in. Groves rod, and for a nocking point, he uses double nock-sets positioned slightly less than 1/16 in. apart. His serving is 35 lb. test monofilament.

That homemade clicker has undergone some changes, not without some effect on Cline's shooting. This year's required stationary clicker, as opposed to adjustable models, has made things a little tougher. Dennis has had to work harder with the stationary clicker to shoot comparable scores, and apparently, so has everyone else, which probably accounts in part for the surprising first few days of barebow competition at this year's Nationals.

Both Hughes and Cline were struggling this year to shoot just over 500. While the clicker was a factor, Dennis accounts for his own faltering field round scores at Aurora as a failure in an area he considers most important — a positive mental attitude. He took a 2 for 8 on his first target the 80 yard walkup — and never let it stop bothering

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on the 38-yard animal target where he won the national title at Ludlow with the last arrow, he didn't even decide how he was going to shoot it until he got there. Since he felt he was shooting his low anchor a little better that day he went to that one for 38 — and he won.

Speed in a bow is something that's of great importance to a shooter who uses various anchors and walks the string, but Dennis cautions against being overly concerned about speed. "A lot of guys make that mistake — they want to get a bow and see how many yards they can get up under the nock, and they think that should determine whether or not they buy the bow." There's really no point in being able to get 65 yards at the corner of the mouth, says Dennis, and while it's O.K. to have a fast bow, you don't necessarily want to shoot it that way — you want to shoot it so that you don't have to walk down the string too far.

Dennis has a 28-inch draw length that gives him optimum poundage out of his 38-pound Groves, and he finds the speed of the Groves product is more than adequate for him at that weight. He doesn't crawl down the string more than a couple of inches from the nock at either of his anchors to cover every distance he needs for field shooting, and that's most important — not to walk the string so far that there's unnecessary danger of torquing the bow. In fact, Dennis coordinates his distances at each anchor with the speed of the bow he shoots to accomplish just that, resulting in a smooth shot and perfect arrow flight.

The stringwalking phase of barebow is solidly based on individuality. For the novice stringwalker, however, Dennis offers a few words of advice. The beginning barebow archer, should find the bow that suits him and then learn it as well as he can. And the way to learn is to get someone to help you set it up. Dennis recommends that the beginner work toward setting up his equipment so that it's not erratic, by getting good arrow flight at at least one distance.

For starters, about one-half inch down the string from the nock at the high anchor should do it, and once the bow is properly tuned so that the

arrows fly well and group at that point, the archer can work from there to develop his own stringwalking system and gaps by experimenting with different anchors and techniques. The important thing to remember is to try to avoid walking the string too far; try to work out a system that allows you to stay as close as possible to the nock to ensure proper string alignment.

Once the bow is set up so that the arrows are flying well, and if the archer has some idea of how to aim, then the rest is just pure and simple shooting the arrow — by keeping back and arm tension, releasing smoothly, and following through.

Dennis himself has amassed his knowledge of barebow shooting by keeping his eyes and ears open and by experimenting with different things. It's his strong personal feeling that: "A guy can learn better and it'll last longer if he develops it himself." However, he does suggest that beginning shooters go to tournaments, watch how the other shooters do it, and "If you like it, try it."

Cline strongly suggests that the novice shooter have someone available to get him started and help him along. Just as Dennis learns a lot from his shooting buddies at the club in Aurora, so can the novice learn from the people he shoots with: "We practice together, make mistakes together, and learn together. What every novice needs is to find someone who shoots a pretty decent barebow score to help him along; from there on it's up to the individual."

And another thing to remember is this — don't expect to shoot 500's overnight. Says Dennis: "You'll be shooting in the low to mid-400's for what seems like forever, until you hit on that little something that clicks." Which is just what happened to Dennis back in Watkins Glen in the summer of '69.

That year at Watkins Glen got Dennis started on a serious program — mostly just plain hard work. With five years of experience behind him, he's come pretty close to doing just that, and here's a look at how he does it:

- The first thing Dennis does in preparing to shoot an arrow is to check his stance. It should allow him to follow through with his body in a straight line through the target, including bow arm, shoulders, release hand and elbow. To



Low anchor



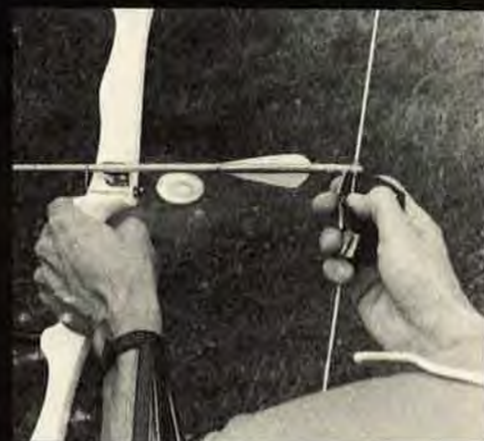
High anchor

Meditation





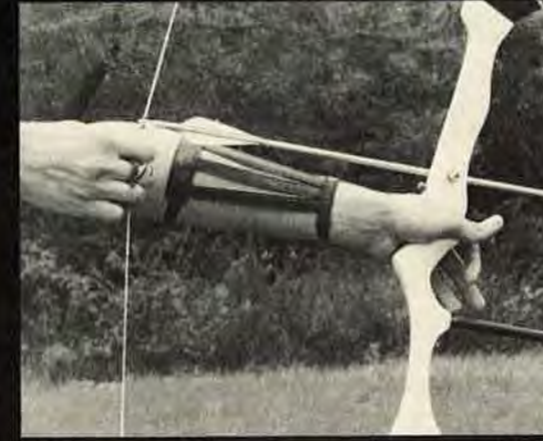
Dennis places his tab snug against bottom of arrow shaft . . .



Two views of measuring crawl down the string and marking with thumbnail. Note that top of tab stays snug against bottom of arrow shaft.



Next, Dennis slides fingers and tab down the string to the point marked by his thumbnail; then he sets finger tension, equal on all three fingers . . .



Front view of Dennis positioning bow hand. Note thumb extends straight past handle and hand is full around behind it . . .



Back view of bow hand position. As Dennis begins to draw back and sets his bow arm tension, the back part of his hand begins to lift up and off the handle . . .



Bow hand and string tension are all set as Dennis raises his bow to the target and begins to draw back to his anchor . . .



Full draw at high anchor. Note position of bow hand and extended finger; finally, the followthrough — the right way.

THE METHOD

accomplish this, he's made a change in stance from when he first started shooting.

As a low wrist shooter, Dennis stood more or less straight up and down with a fairly wide spread between his feet as he addressed the target. Now shooting the high wrist handle, he's found it to his advantage to lean backward from the waist and to quarter his body almost 45 degrees into the target, giving him a smoother, straighter followthrough.

• Next Dennis consciously does something most archers do only subconsciously, if at all — step 2 is called meditation. This is where mental attitude plays a big part, because what

Dennis thinks about is usually a good indication of what his mental attitude's in, whether it's a positive or negative one. What he doesn't want to think about, says Dennis, is his score, or who's ahead, or what happened on the last target or the one before it.

What he does think about is this: "I concentrate completely on how to shoot that arrow, because unless you're a machine, you're not going to shoot each arrow the same." Meditation before each shot helped Dennis make it through the nationals this year, and it also taught him a lot about attitude. "I learned a lot about attitude on the first day of the nationals this year." And what it did for Dennis is obvious from the scores he shot the rest of the week.

• Now Dennis is ready to nock his

arrow, and he does this by bringing the nock snug up against the top nokset — he uses two — and he then butts his tab right up against the arrow. That tab goes right next to the bottom side of the shaft, not under the bottom nokset as a good many other shooters do it. Dennis doesn't believe in using the bottom nokset to place his tab on the string for one very good reason: "Those little things can move!"

• For any barebow shooter, the next step is to count down the string as far as you want to go for the distance you're shooting and how you do it depends on your method of measuring. One way is to count the strands in the serving, but Dennis rejects that as taking too long. What he does do is to use the stitches in his tab as a guide in measuring how far

down the string he wants to go. Then he places his thumbnail right on the mark, and it stays there.

• Once the thumbnail is solid on the string to mark the correct crawl for the distance being shot, Dennis slides his fingers and tab down the string to that point, so that the top of the tab lines up with the point marked by his thumbnail. Then he's ready to set his fingers into the string with proper tension, which for Dennis means equal tension on all three fingers.

• The top finger goes dead even with the top of the tab, and the other two are crowded up next to it so that all three are close together, covering as small a space on the tab as possible. This crowding of fingers creates a few problems Dennis didn't have when he was

shooting with his fingers conforming to the tab and the slot — now one finger is riding the slot and coming straight across the monofilament serving upon release.

To take care of that, Dennis modified his tab by inserting a small piece of tape to cover up the slot and protect his fingers. And at this point, along with that equal tension in the three release fingers goes just a little bit of tension in the entire string hand.

• Positioning the bow hand is the next step in Dennis' setup, and since that's something unique with his particular handle, let's let him describe how he does it: "This handle's different than anything you ever saw. A lot of guys come off to the side, with their hands clear out and off the handle. I don't like

that because it causes me to torque my wrist. When I come into this handle, I plump my thumb straight past it and I get into it full around behind it so that the main part of my wrist is behind the handle in a straight line."

Probably one of the reasons this handle works so well for Dennis is something he said himself, that he's a bony individual: "This handle is made so that a person with a small hand, or not a real fat or meaty hand, can use it well."

• The next step, once his hand is positioned correctly, is for Dennis to draw back into his anchor, and he brings the back part of his hand off the handle so that all the pressure is forward.

Continued on page 18

Bowhunting British Columbia

After the ball . . . some excerpts from my notes . . . And a ball it was! Fifteen days in northern British Columbia while New York City sweltered in record heat. Up early, eat like a horse, to bed bushed by 9 p.m.

Air so clear you couldn't begin to guess how far away the next mountain really was. New snow on the high peaks every night, usually gone by noon except for the year-round patches.

Game surprisingly wary to scent and sight. Wood fire each morning to heat water and warm the cabin; each night to dry out the inevitable wet clothing. Eleven rainy days out of fifteen. Raingear most essential item, but still hate to wear it. Snow cover on peaks eliminated goat hunting first week; later, rain and sun cleared away snow so we could see the goats.

Moose scarce at our camp — Don had to move out to another area but, with three days to go, he downed a beauty that will come close to Pope and Young minimums. My mountain caribou was big in body but the rack was well below the minimums.

Cliff having foot troubles plus some leg problems. Result was grounding for several days as far as goats concerned. Problems are aggravated by perpetually wet feet from rain, snow, streams, beaver swamps and what-have-you. His spruce grouse was his only success. Good eating, too. He had only one running shot at larger game, a goat up in Lick Basin. Used binoculars so often our eyes bugged out. Good glasses are an absolute must in this country. Next time I'd consider lugging along a Fox spotting scope as well.

Won't forget that food. Steak, pies, cakes, tarts, pancakes, slab bacon, eggs, everything good and in huge quantities. In spite of overeating at every meal, lost four pounds on the trip. Banging up and down those mountains burns up the calories. Physical exercise program before the trip sure paid dividends though — no sore muscles on entire trip.

Great fishing for rainbows. Biggest was three pounds (by Cliff). On my lightweight fly gear those aerial acrobats were fun to handle and delicious eating as well; flesh was firm and salmon colored from feeding on freshwater shrimp. Fished every evening the wind was reasonable after we came in off the mountains. Usually used the boat to reach some hunting spot each morning so kept fishing gear in boat permanently. Netted 25 cents from Cliff on a "first fish biggest fish" bet each day we fished. Heavy rains during second week ended the fishing for some reason. Drew blanks on the last four days.

Game accessible from the lake was scarce, except for goats which we often couldn't see because of snow. Did see some big caribou 8 or 9 miles away using the spotting scope in camp, but couldn't work out the logistics for getting there except via the spike camp which was in use.



Al Bristow of Palos Verdes, California displays a fine set of goat horns and a big grin after his B.C. goat hunt at Kitchener Lake.

Aiming principally for a goat anyway. Goats much more wary than anticipated. Climbed about them three times without getting chance for shot. Only shooting opportunity developed when goat on ledge below me began game of hide and seek. He won. When I was close enough to shoot, I couldn't see him; when I could see him he was too far away.

Beautiful country and friendly people but otherwise, a mighty inhospitable place to life. Snow five or six feet deep in the winter. Ice out in the lakes in late June, freeze-up around mid-October. Lots of animals sighted but those distances are mighty long. On game sighted list were: wolf, grizzly, lynx, wolverine, black bear, stone sheep, beaver, marmots, ground squirrels, and, of course, moose, mountain caribou and goats. Saw both golden and bald eagles and wide variety of waterfowl including many Canada geese. On one goat stalk a golden eagle soared by not 20 yards away from my perch on the ridge rocks. A startling experience.

One thing about a rack below Pope and Young minimums, it's easier to transport. Sawed off one side below burr and packed in my oversize duffle bag. At home refitted to skull with two lag screws. Don's moose rack rode in a crate (recent airline regulation we were told) two feet by five feet by four feet. There were some raised eyebrows when he checked in at the airlines but no hitches in getting the antlers, some meat and the cape all the way to Kennedy Airport on Long Island.

On layover day going in, rented car in Smithers, B.C. to do some sightseeing. Wound up watching the coho and humpback salmon jumping the falls at Manricetown. What a sight; got some fine pictures. Tried fishing for a coho but only one hooked stripped my light spinning gear pronto. Don

caught a small one.

B.C. license system very fair. License cost is moderate. Hunter then buys tag for each species to be hunted at low rate. If successful, hunter pays trophy fee (moose \$60, caribou \$60, goat \$40, etc). Avoids gouging implications associated with high basic license fees prevalent in some states and provinces. Does involve a lot of paperwork though.

Departure for home from camp delayed 24 hours by fog and rain making it impossible for the float plane to make the 330 mile round trip. Also lost our last hunting day because of snow and heavy rain. Outfitter claimed "worst weather in years" and we didn't argue. Suspect this country never blessed with fine weather but what we had certainly had to be below average.

Kept our fletching dry with homemade cover of plastic bag plus camonet held on with rubber band. Simple and very effective. Cliff has used one for years. Tear drop shaped alpine pack worked perfect. Bottom section contained down vest, raingear and gloves; top held two cameras, flashlight, rope and spare archery gear plus emergency supplies. Entire pack light; no interference with shooting. Down vest was a real joy when sitting out rainstorm or glassing ridges for goats. Should have acquired one sooner.

Spent rainy afternoon testing ways of sharpening broadheads. Honesteel worked best of all but heavy and bulky to carry. Small file still hard to beat for resharpening in field but have ordered a honesteel for my workbench sharpening efforts. Vaseline kept edges from rusting in almost perpetual wetness.

Sad to see trip end, but glad to be home again, too. Won't soon forget either the country or the people and would sure like to go back. Will work on it.

So much for the exotic places. Have copious notes and hope to do a broader description of the hunt when the time develops. Right now, of course, the local hunting seasons are upon us. It's probably too late to pass along a few hints about how to do in one of those big whitetails or mulies, but it's the right time to make your notes on what you did wrong.

It's a humbling experience to strike out one year for the same reason you did in a previous year because you forgot to correct your earlier mistake. It does happen and now is the time to conduct that post mortem and make the change.

My own resolve is never again to reach the beginning of the whitetail season without a few vacation days left for local hunting. Without doubt I enjoy the deer season and the early small game hunting more than any other hunting. Yet, this year I'm without a single day of vacation left. Result — no hunting in Pennsy, or New York or Vermont. Possibly the latter would be ruled out by their rule against compound bows. Just found out about this and am trying to run down the details. Pennsy had a similar law but this is due for repeal, possibly by the time you read this.

Meantime, check the game laws. It is not sufficient to consider whether a law is logical or not. Be sure and be safe and don't wind up putting bowhunters in an unfavorable light with the local law enforcement officials. Often all they need to correct some anomaly is some help from knowledgeable people. You could be that person.

Colorado in '74. Here's your ticket.

Yes, for every new Bowhunter Member you sponsor, your name is put in the pot again for the big drawing.

Remember, for every member you sponsor we contribute a dollar to the Bowhunting Defense Fund. For your convenience we've included this Bowhunter Member application. Be sure to include your name on it as sponsor. It may be your ticket to Colorado!

APPLICATION FOR BOWHUNTER MEMBERSHIP

I desire to enroll in the National Field Archery Association as a Bowhunter for the primary purpose of establishing a NFAA Bowhunting Defense Fund for funding the defense of bowhunting rights in the United States.

I understand the initial fee shall be \$3.00 for the first year with \$1.00 to be deposited in the Defense Fund, and that additional family memberships shall be \$1.00 each, with 50¢ being deposited in the Defense Fund.

Also it is understood that renewal fee shall be \$5.00 per year with \$2.00 being deposited in the Defense Fund.

Mail to
NFAA Headquarters
Route 2, Box 514
Redlands, CA 92373

A check for \$_____ made payable to NFAA is attached to cover one year dues in accordance with the provisions of the NFAA By-laws.

Date _____

Applicant _____

Signature _____

Address _____

City _____

State _____ Zip _____

Additional Family Members _____

SPONSORED BY: _____ (name)

_____ (address)



Dr. Phillips and Mr. Ploen team up to study muscle coordination in shooting.

Relax off that string?

EVERY archer has heard the advice "shoot with your back muscles," and "let the string pull itself off your fingers, don't pull your fingers away from the string."

We've all probably tried to follow the advice. Disturbingly often, though, good shooting seems elusive. Reading articles on technique may help, but different authorities have surprisingly varied recommendations. Looking at top archers also gives on the impression that good shooting can take many forms. Most of us feel that, surely, there must be some underlying basic points in common, but what are they?

When Jim Ploen and I began discussing what went on in shooting, we soon found that neither of us was using words in quite the same way as the other, and our very different backgrounds led us to surprisingly different ideas of what various muscles might be doing during the act of shooting.

We decided, therefore, to measure the activity of various muscles of an archer as he shot a series of arrows. Our idea was to learn what muscles were active during a shot and how they coordinated at the moment of release. The purpose of this article is to share with archers our preliminary findings.

In trying to figure out a way to get objective information on the roles of

different muscles, we concluded that electromyograms would be the best records. Anyone with a little knowledge of anatomy can simply feel which muscles are hard and which are soft in another archer as he draws and holds, but the timing at the moment of release can't be determined that way.

The information that we most wanted was muscle tension, but about the only way to get measurements of the tension developed by individual muscles is to cut their tendons and hook them to appropriate transducers. Jim, who was to be our subject, decided he didn't like that method — besides we could never use the same archer twice that way! Electromyograms seemed to offer good measures, at least for timing.

Whenever a muscle contracts, it generates electrical potentials or voltages, and these electrical signals can be detected with suitable electrodes. By amplifying these signals sufficiently to drive recorders, you can produce records that accurately reflect changes in muscle activity over time.

Most readers are probably familiar with one form of this sort of recording in the electrocardiogram. It is simply a record of the voltages produced by the heart (a muscle) as its various parts contract and relax. A more recent popular application of the same sort of



Left: Jim Ploen measures the time of relaxation of back muscles from the EMG records. Above: Dick Phillips adjusts the gain on the pen recorder.

technique is "bio-feedback". In that case, however, it is brain, not muscle, electrical activity that is amplified and presented in a form that can be heard or seen.

How did we go about making EMG's during shooting? The usual technique is to stick needles into the muscles to be studied. Such electrodes make it clear that the activity recorded comes from just one muscle and not from more distant ones, but we figured to get few volunteers (starting with Jim!). So we used small silver discs taped to the skin over the muscles that we wanted to study. Adhesive tape works well, but some of the newer plastic tapes are even better at holding the electrodes still. Records taken from the skin aren't as good as those from within the muscle, especially for muscles which are covered by others. Then the one closest to the electrode masks the more distant one, so we had to confine our attention to the muscles just under the skin.

Our procedure was to tape four pairs of the silver discs, one pair for each muscle to be studied, to the archer after scrubbing the skin with alcohol to remove any oils. Smearing a dab of special conducting paste on the skin under the electrode ensured good electrical contact. The archer then drew and shot as normally as possible while we

recorded muscle activity with a multi-pen event-recorder on a strip of paper moving at standardized speeds past the pens.

The idea seemed straightforward enough until we began to look at the first records. What were we to look for? As you can see in the photos, the records are simply ink lines that are more or less squiggly. The height of the squiggles is proportional to the electrical voltage produced by the muscles (so you can think of our records as simply those of a recording voltmeter).

As the muscles begin to contract, the squiggles come more often and become bigger, and they slow down and get smaller as the muscle relaxes. Our first expectation was that we would easily see sharp beginnings and endings of activity in one or more sets of muscles that would show us which muscles were pulling and which were relaxed.

The two of us had rather different interests in the results: Jim was particularly concerned with the questions of symmetry of action on the two sides of the body, while I was most interested in which muscles were most active just prior to the shot and which initiated the release.

Altogether we looked at twelve muscles for a starter. These were the trapezius muscles of the right and left sides of the back between the shoulder blades (turn your head sharply to one side or

This is the first in what promises to be a series of articles on scientific investigations of shooting by Dr. Phillips and Mr. Ploen.

Both men are archers. Dick Phillips is Professor of Animal Science at the University of Minnesota, has degrees in forestry and wildlife management, and made his first bow in 1941 from a Ben Pearson semi-finished hickory stave. Phillips provides an extensive background in scientific research.

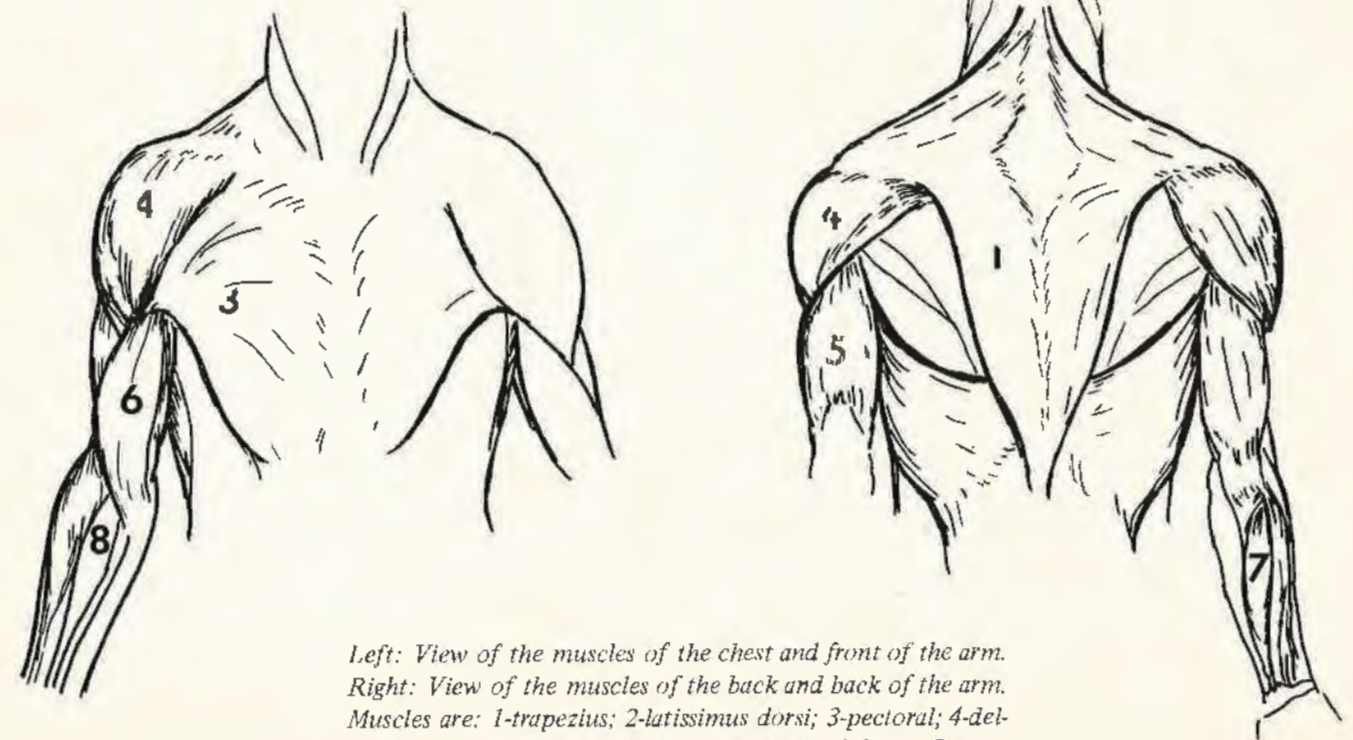
Jim Ploen, of course, is a top championship calibre archer who is involved full-time in the sport, as a coach and a consultant to Wing Archery Company.

the other as far as you can and you'll feel them pull down there); the latissimus dorsi on both sides (the muscles that cover the back below the shoulder blades and bulge under your arms when you squeeze your elbows to your sides); the pectoral muscles on the front of the chest; the deltoids that cover the top of the shoulder; the triceps that extend and the biceps that flex the elbow; and the extensors that straighten the fingers were recorded from the back of the forearm while those that bend the fingers could be recorded from the underside of the forearm.

These seemed to include most of the major muscles that we thought were likely to prove important in shooting. We couldn't record from them all at once, so we had one pair on the right side of the back (trapezius) for every combination to let us compare the timing of all the muscles with one another. Once we got the idea of using the microphone to pick up the twang of the bowstring, we also had that timing

point. First we looked at activity involved in simply raising the bow and drawing an arrow. As expected, the left deltoid, especially (that of the bow arm) was very active during lifting and holding. The trapezius muscle between the shoulderblades of the bow arm side also became active as the bow was raised, but that of the drawing side didn't contract until the start of the draw. Its activity then increased steadily throughout the draw. The latissimus dorsi were almost completely relaxed unless the elbow of the drawing arm was dropped. They then became active, especially on the drawing arm side. The forearm muscles of the bow arm were likewise silent or nearly so.

The most striking thing that we saw when we first looked at the records of actual shooting was that none of the muscles seemed to relax suddenly at the time of the shot. The back muscles sometimes seemed to keep on firing right through the shot and until Jim let



Left: View of the muscles of the chest and front of the arm. Right: View of the muscles of the back and back of the arm. Muscles are: 1-trapezius; 2-latissimus dorsi; 3-pectoral; 4-deltoid; 5-triceps; 6-biceps; 7-finger extensors; 8-finger flexors.

down the bow between shots. At other times they did relax, but so gradually that it was impossible to say which one started first or even to be sure whether the relaxation began before the twang or not..

Careful measurements on the records, however, showed that 30-40% of the time the right side of the back relaxed slightly about 0.02 to 0.20 seconds before the left (right-handed shooter). It more often relaxed abruptly than the left side did, too, but both tended to begin to relax at about the time of the shot..

Relaxation was rarely more than slight until after the microphone signal indicated that the shot was away. Here we had an objective demonstration of keeping tension in the back through the shot. We couldn't detect signs of build-up of contraction that might be expected in pulling through the clicker. It will be interested to look at poorer shooters to see how they do..

Jim teaches that archers should shoot with the trapezius muscles, not with the latissimus dorsi, because pulling with the latter seems to cause the release hand to fly out and the arrows to group poorly. Our EMG's indicate clearly that he practices what he preaches, for we found little firing in the "lats" and movement or sudden contraction only after the shot had been made.

Remember, though, that these tests were made with a 35 pound bow. Pulling a heavy hunting bow with just



Electrodes in place on finger-flexor muscles.

the trapezius muscles would be more difficult, so we would expect to see more activity in the "lats". In fact, Jim and a friend worked at pulling heavy weights off the floor with a pulley arrangement to translate the motion into a horizontal one, and they found that they simply couldn't lift heavy ones without bringing the "lats" into play. For unknown reasons the right "lats" seemed to show a sudden burst of activity about 0.05 to 0.10 seconds after the left, which, in turn, first gave a burst of action about 0.08 seconds after the shot. The most likely explanation of this is that the activity reflects letting the arms and shoulders down after the shot.

Like the "lats", the deltoids and the triceps and biceps all seemed to be only slightly active in shooting. We could see no evidence that they might be important in controlling the shots.

The most surprising, and therefore the most interesting, finding so far has been that the old advice to "relax and let the string pull itself from your fingers" doesn't seem to hold, at least

for Jim's shooting. Instead we consistently saw a burst of activity in the finger extensors *before* (by about 0.2 seconds) the first signs of relaxation in the flexors.

We have checked repeatedly to see if the burst might be a result of the sudden movement as the fingers are flipped out by the string, but the burst precedes both the microphone record of the bowstring sound and the relaxation of the flexors. It is difficult to imagine how this could be an artifact under these circumstances. Films that Jim has taken at 70 frames per second of top archers in action reveal a slight forward movement of the fingers as the first sign of the release. This may be what the EMG's of the finger extensors show.

These preliminary results show that EMG's can provide valuable new information on shooter performance. The most promising point in this regard is the amount of variability shown in the relative timing of the action of different muscles — even in an expert.

We are hopeful that we will be able to correlate these variations with where the arrows hit the target. We also hope to be able to compare archers of different shooting styles and of different degrees of skill in our search for what makes an expert archer.

The records were all taken from Jim Ploen shooting a 35 pound Wing Competition II with 66 inch limbs, a pair of stabilizers, a cushion plunger, flipper rest and clicker.

BOWHUNTER BULLETIN

WHAT CAN HAPPEN

On December 1, 1968, three weeks into the regular deer season, a small tract of choice never-before-hunted public land in West Texas was opened for the first time to bowhunting only. This was accomplished through the efforts of approximately 25 bowhunters, but most of the leg-work — the correspondence, petitions, meetings, and countless preparatory tasks — was done by the one person who had instigated the action.

During the two and one-half seasons that this land was open to bowhunters, only three bucks were taken, but many bowhunters had the opportunity to hunt an area having excessive deer, mant fox, rabbits, squirrels, bobcats, raccoons and at least one long-tailed cat. All this time, the opposition never rested. On at least two occasions, bowhunters were called before local governing bodies to defend themselves. Each time the same individual — the one who did most of the original work to open the land — was the only bowhunter to appear. Both times he successfully refuted the charges and defended the cause, while all the other bowhunters were just too busy, or for some reason couldn't make it. Then, one day it happened. The individual doing most of the work moved away. The opposition was overjoyed, and almost immediately, the remaining bowhunters found their hunting paradise closed, in all probability never to be re-opened. Why? Simple. All these bowhunters had become accustomed to someone else running interference and, as usual, they just didn't bother.

Unfortunately, not only did these bowhunters suffer a distinct personal loss, but their sport suffered a severe blow as well. When the area was closed and bowhunting declared illegal in the future, *public sentiment favored anti-bowhunting, for it was assumed that if bowhunting had been outlawed, it must be bad.* Moral: we all have to make a living, but we all should be able to find a little time to help those few doing most of the necessary work to perpetuate our sport. — *Jesse Cannon.*

COMPOUNDS O.K. IN PA

On October 4, Pennsylvania's Governor Milton J. Shapp signed into law a bill which makes bowhunting with a compound bow legal in the Keystone State, effective immediately. With estimates of the number of special archery licenses sold there this year running as high as 200,000, a substantial number of bowhunters could be affected.

QUESTION: What would happen if sport hunting were stopped?

ANSWER: Game herds would build up in great numbers for a few short years. Then death due to starvation and disease would occur, followed by severe damage to habitat which would take many years to recover, if ever. There would be a loss of over 6 million dollars each year used for waterfowl management, research and land acquisition. State conservation agencies would lose 100 million dollars per year from hunter licenses used for wildlife management and conservation. The hunter also provides over 40 million dollars annually from an 11% federal excise tax on guns and ammunition, which would be lost. Almost all wildlife law enforcement is financed through hunter funds. Who would be the real losers — wildlife itself.

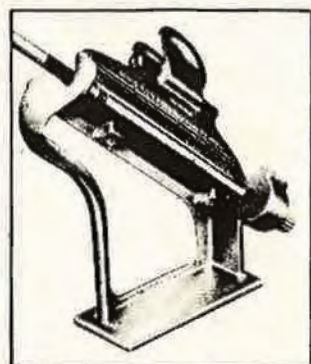
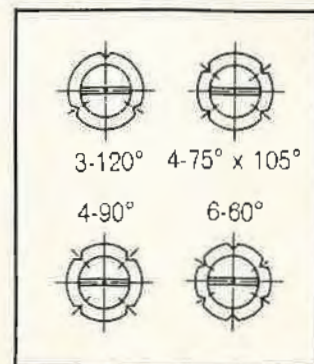
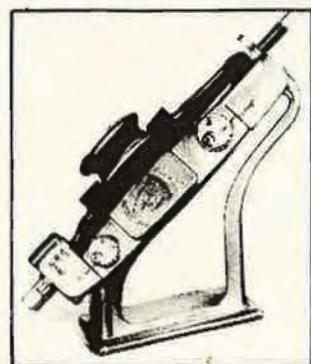
QUESTION: How can a hunter compare his sport to the domestic stock consumed by modern man?

ANSWER: Factually, only a sustained yield is taken from livestock and the exact same policy is followed by sport hunting.

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Bare bow set up

Freddie:

I am a barebow shooter. It disturbs me that an article on this method is seldom seen in any archery magazine. I am interested in how top shooters in this class set up their bows and their aiming methods.

Last November I changed from a 66 in., 37 lb. Wing Presentation bow to a 69 in., 37 lb. Hoyt Pro Medalist. The Wing bow was about ten years old and was beginning to show signs of glass separation in the upper limb. From the Wing bow I shot 26½ in. 1816 shafts with soft plastic vanes. They never bare shafted well (too stiff) but always grouped with the vanes. The Hoyt bow with 26½ in. 1716 shafts with heavy points bare shaft very well even at 20 yards. However, with the vanes they slap the bow and often do not even hit the target face at 20 yards. Why? Feathers fly true but the bottom feather always wears off. Any ideas?

I walk the string and use an under-the-arrow clicker. I don't particularly like the clicker because sometimes I can't hold back when I'm not on target when the clicker goes off. I stay with it because I let down before the end of a

tournament and start shooting low. Since I aim with the point of my arrow I can see the clicker and at times I catch myself aiming with the clicker instead of the arrow point. Is it better to concentrate on the spot and see the arrow in my peripheral vision or the other way around? At times I do both.

Steve Hayes' article (August ARCHERY) on the "All Important Bow Hand" is excellent. This, I am sure, has been one of my problems. I know I tend to change my hand position. Is there a similar article in print somewhere on string alignment and releasing the string with the fingers? String alignment plagues me with every anchor.

How do you feel about arrow rests for my method of shooting? I used to use a Hoyt Pro Rest but had trouble with the rest finger breaking off up inside the leather where it can't be seen. I changed to the Hoyt Super Pro Rest. I have had trouble with the hook part of the rest finger breaking off and the flexible arrow plate wearing down. Do you know if the cushion plunger is legal in barebow competition? What advantages would it offer?

I am shooting in the low 400's now and hope to be able to

shoot a 500 field or hunter round next year. Any help you can offer will be most appreciated.

John A. Briley, Jr.
Barnesville, Georgia

• Thank you for your letter. Look for an article on string walking and technique in this issue of ARCHERY.

If your arrows occasionally miss the target face at 20 yards, chances are you may be applying a counter-clockwise torque into the bow which may account for the slap on the bow and erratic arrows. When shooting vanes, the bow grip, or hand hold, should be completely relaxed with no grabbing or torquing of the bowhand in anticipation of the release. Have a shooting buddy or qualified instructor watch you shoot with particular observation of your bowhand.

The choice of aiming methods is strictly a personal choice. One point I do emphasize is stick to one and solely one method during a tournament.

I will ask Steven Hayes to write an article on string alignment and releasing using the finger method. Steve is a very knowledgeable and gifted archer.

I believe that the majority of bare-bow archers, including string-walkers, fail to recognize the importance of aiming the back-end of the arrow. I have asked numerous BB artists if they align their bowstrings. To my amazement, the majority do not know where their string is in relationship to the edge of the sight-window, plunger or outer edge of the bow.

As for arrow rests for your particular style of shooting, I recommend the Hoyt Pro or Super-Pro rests. Yes, they will break, for string walking is brutal on arrow rests regardless of who manufactures them.

The cushion plunger is legal in barebow competition, but requires some experimenting in setup. The plunger allows the arrows to come out of the bow straighter due to partial elimination of the archer's paradox, the bending of the arrow shaft around the bow. You may notice, however, that use of the plunger will make you shoot and group to the right. To eliminate this phenomenon, simply align your string or visually sight outside the bowstring (see illustration).

Figure 1 illustrates aligning or shooting inside of the string. This will cause arrows to group or move to the right. Figure 2 illustrates aligning or shooting outside of the string. This alignment position moves arrow impact to the left. You may visually align the string alongside the right edge of the sight window or at various locations according to arrow impact or direction.

Remember — it is of equal importance to align and point



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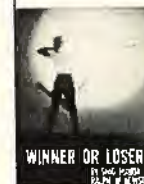
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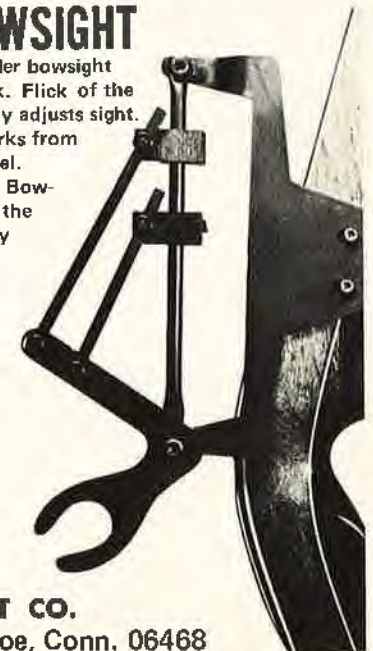
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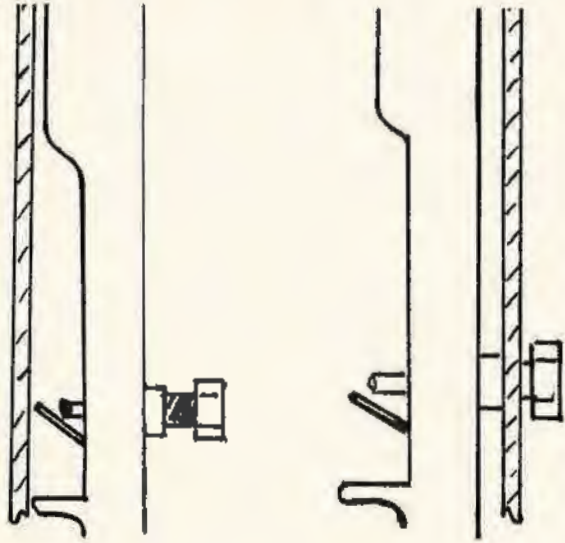
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the back end of the arrow as well as the front tip of the arrow.



Arrow entry with release

Freddie:

Let me congratulate you on your fine technical information appearing in *ARCHERY*. Also my congratulations to your wife for her outstanding performance at the National Tournament.

Your new rope release appears to be an improvement on the flight strap or double flipper as many call it. My experience with the flipper has been filled with mixed emotions. Although I like the principle of this method, I find it difficult to set up the bow for proper how entry.

Using a 36 lb. bow and both rigid and yielding arrow rests, I find that my arrows (1814, 1816 and 1914) bounced it to the right. (I am left-handed). Consequently, I made another bow, 38 lb., and equipped it with a cushion-plunger. This gave me much better results although I did have some trouble with the plunger caused by the spring stiffness being too heavy. I managed to get one that was slightly softer but

could not get the locking nut to hold because of the short length of threads engineering into the plunger design. Shooting bare-shafts at 6 ft., I managed to get my arrows to enter almost straight. The majority of shots entered with the nock end slightly to the left.

Naturally, I would like to adjust this perfectly and am hoping your new release will do the trick. I feel that a properly turned set up should allow you to shoot bareshafts into a bale with the nocks slanting both left and right with enough adjustment to zero in perfectly. This I cannot do. My adjustment varied from extreme right to almost zero or straight. I would sincerely appreciate your opinion on this matter and best set-up for your release.

George Allston
White Plains, N.Y.

• The problem you describe deals with arrow entry and matching arrow to your particular bow.

The adjustment flexibility you seek does not exist. If you cannot correct a left entry bare shaft, you should try the next weaker spine arrow or 1714 in your case. (for left handed archer). The function of the plunger is to absorb any opposing pressure caused by arrow paradox which is especially prevalent with the finger-releasing method. Since you are using a release, your shaft should be centered or placed on absolute center of bow. This refers to sighting visually with bowstring bisecting arrow shaft on the bow in the nocked or resting position.

The use of my release, or any other release for that matter, will all give you the same approximate results. The accomplishment of perfect set-up and functioning is up to you.

The setup should not present any problem providing the arrow is resting on true center to begin with. Using a release, the nocking point is about the only truly important variable you have to worry about. I have watched archers shoot many tremendous scores with their arrows sitting way off center.

In summary, I find that the horizontal adjustment is not critical when using a release. Trying not to be repetitious, I still recommend placing the shaft on true-center for optimum arrow flight.

A high anchor release?

Freddie:

Do you make a release that can be used with a high anchor? I am shooting in barebow class but am starting to play around with a sight. I have a Jennings Compound 42 lb. peak, 31 lb. relaxed. I shoot 27 1/4 in. arrows using three fingers under with a tab and clicker, not walking the string — you know why with a compound bow.

When I am playing with the sight, I use the under-the-chin normal freestyle anchor with a rope release, rear peep and the same clicker. Arrows seem to fly well, but I get no more score than shooting barebow. I just think I would be more comfortable with an anchor near my barebow anchor. By the way, I am left-handed. Thanks.

Don Caswell
Tujunga, California

• I do not make or know of a release which works well with a high anchor, other than the Wilson strap-tab. I recommend using a low anchor and using a "surprise" release.

The rope type you use is a "command" release which will not raise your score unless you master a technique which allows you to aim and release on the element of surprise. Since you live in my area, you might call me if you are interested in private coaching.

Good finger release

Freddie:

I have been reading your answers to people for some time now and decided it was time for me to turn to an expert. My problem is that I get an occasional fletch strike below the arrow rest. When this happens I get poor arrow flight even though the shaft is still in the five up to 30 yards. My gear is a Hoyt Pro Medalist, 70 in., 33 lb. I have a Berger Button and a Flipper rest by New Archery Products. My arrows are X7 1716's with plastic fletch.

I have tried more pressure with the hutton, but still get some arrow slap. I shoot with my fingers. I have thought because it is only an occasional arrow that hits, my release could be off for that one. But what in my release could cause this — top finger, low finger pressure, pinching the nock or what? My scores have been in the 460-470 range this past summer. Next year I want that 500. Can you help me?

Grant Patton
New Hampshire

• I believe your problem lies in your method of releasing the bowstring. The release should be executed using good tension or proper use of the back and shoulder muscles. The drawing hand should be relaxed to a point where the fingers are serving merely as holding hooks for the string. When you release the string, the drawing hand should recoil automatically alongside the neck providing you are using

Continued

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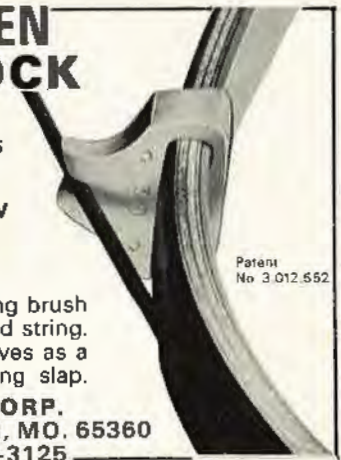
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POINTS by ERV KREISCHER

An acceptable

WE ARE again indebted to Mr. Blair Peterson for his discussion of tournament classification systems in the September issue of *ARCHERY Magazine*.

Ron Manist of Canton, Ohio, in correspondence with me reported excellent results from a similar system which has been in use for several years by North Central Ohio Archers. This is not a club, but an association of clubs. Like Blair Peterson's system, theirs offers recognition to the highest scoring individual in each style of shooting as the Division Champion and provides classes from AA to + for all others regardless of sex or style of shooting. Briefly, a 300 shooter shoots in the 300 class regardless of style or sex.

Bill Miner of Chatsworth, California, was quick to report that Valley West Archers has been using the same system, excepting that additional flights or classes were added to allow narrower scoring breaks.

The NFAA system for classifying archers in field competition was removed from the by-laws during 1969 when the handicap system was adopted. This was done to encourage clubs and associations to develop systems for making awards which could be tailored to suit any tournament. Justification for the change lay in the concern that our rigid class system provided for well over 100 awards and that any tournament with NFAA sanction would have to guarantee each award should there be an archer present to claim it.

Now, at a glance, it would seem that allowing all clubs absolute freedom in making awards would be the perfect solution. In reviewing the issue, I believe several observations can be made.

"pecking order"

1. Archery associations like to relate to a national system because it authenticates their procedures and lends substance to their decisions. Also, it adds to the meaning of their affiliation.
2. Variations of national procedures are often met by opposition from a segment of membership, thereby serving to perpetuate controversy.
3. After five years of undaunted freedom, some organizations have developed satisfactory systems and are recommending them to others. But, also, a significant number of groups, for a variety of reasons, have not done so and would welcome guidance.

Class distinction in archery is no different from class distinction in any social order. Social studies in human behavior indicate that people are psychologically uncomfortable when forced out of their "pecking order." Confusion and unrest prevail until another *acceptable* order is established.

Believing these observations to be valid it is my intent to *explore* the possibility of re-establishing such an order. We may find that our most successful groups are now using a common system. Should this prove to be true, it is entirely possible that a new order could be established on a mere recommendation.

Both Ron Manist and Bill Miner felt that the classes or flights could be adjusted for local application, but more important is the total concept. Both of these people report total acceptance and recommend it to you. They believe it would again provide a reasonable conformity to our sport. What do you think?

HEADQUARTERS REPORT by ERV BELT

Defense fund

THE NFAA wishes to express their appreciation and acknowledge the following recent contributions to the Bowhunter Defense Fund:

Sandia Crest Bowhunters Association of New Mexico \$146.00; Indian Hills Archery Club of Kentucky \$50.00; Longhorn Archery Club of Texas \$25.00; New England Field Archery Council \$131.22; Lunenburg Sportsmen Club of Mass. \$65.00; Bald Eagle Bowhunters of Indiana \$21.00; Blue River Archers of Indiana \$25.00; C.F.G.C.A. of New York \$36.00; Marz Bow Co. of New York \$5.00; Valley Bow Archery Club of New York \$10.00; Massachusetts Archers \$90.92; Woburn Sportsmen Club of Mass. \$27.50; Enfield Archers Club of Connecticut \$25.00; Winona Archers of Minnesota \$32.40; Michigan Bowhunters of Michigan \$300.00; Manahoac Bowman of Birvinia \$10.00; Palo Duro Bowhunters of Texas \$133.00; Sequoit Bowhunters of Illinois \$23.00; North Suburban Archery Club of Minnesota \$12.00; Tioja Bowhunters of New York \$92.00; Orlando Archery Club of Florida \$10.00; Kitsap Bowhunters of Washington \$10.70; Dale and Pam Rankin of Michigan \$5.00; Dr. Arthur Heise of Kentucky \$10.00; R. Scott Withers of Alaska \$6.50; Richard Wilson of California \$12.00; Robert Puhl of Pennsylvania \$10.00; Robert Behrent of New Jersey \$5.00; W. Devonmiller of New Jersey \$10.00; Charles Fisher of Iowa \$20.00; Alwin Buerkle of New York \$5.00; George Moerlein of Alaska \$7.00; Chuck Crislip of W. Virginia \$5.00; Keith Flint of California \$15.00; Larry Noel of Missouri \$10.00; Marilyn Jorges of Minnesota \$150.00; Dr. Donald Reed of Tenn. \$25.00; Archery Central of Kentucky \$25.00; Ned Rud of Kentucky \$25.00; Jerry Rafferty of Iowa \$3.00; Donald Ewers of Iowa \$3.00; Wayne Lamoreaux of Iowa \$3.00; Terry Tobin of Iowa \$3.00; Don Secory of Iowa \$3.00; Jim Conray of Iowa \$3.00; Verland Faught of Iowa \$2.00; Donald Allen of Iowa \$2.00; Keith Luehmann of Iowa \$2.00; Kathy Hackbart of Iowa \$2.00; Marv Hackbart of Iowa \$2.00.

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The individual donation from Marilyn Jorges was a memorial to her late husband, Robert, who was a very active member of the Rapids Archery Club of Coon Rapids, Minnesota.

With these contributions the NFAA Bowhunter Defense Fund now totals \$9,525.00.

Public information flyers

In this issue are the first two flyers of a series being produced by the Bowhunting and Conservation Committee in an attempt to inform that part of our population (65%) that are not involved in the current hunting and anti-hunting issues.

The finished series will be made available in large quantities to sportsmen organizations at cost for mass distribution to civic groups, schools, etc. These copies may be ordered from your NFAA Headquarters, Route 2, Box 514, Redlands, CA 92373. A small fee (see table below) should accompany the order.

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Continued on page 26

- Paul E. Murphy
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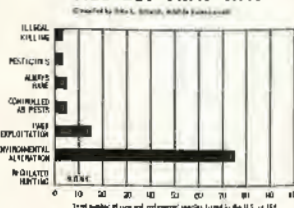
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THAT ENDED IN DEATH BY STARVATION

By Tom Clavin, Jr. and Jerry Wolfe
THE PROBLEM
ACCIDENTAL FOOD & WATER
CONFLICT WITH PROTECTION & SHELTER
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RESEARCHING WILDLIFE HABITAT
WILDLIFE RESEARCH

In the National Tournament coverage which appeared in the September 1973 issue of ARCHERY, the scores of the Class C Amateur Barebow Men shooters were omitted. Those scores, including field, hunter, animal rounds and aggregate, follow:

Donald Taylor, W. Frankfort, IL, 736-778-386/1900; Lyle Burch, Hoffman Est., IL, 510-644-372/1526; Eugene Michalik, Chicago, IL, 602-563-308/1473; Paul Jacobs, Arlington Hts., IL, 488-490-310/1288; Larry Sendelbach, Princeton, IL, 350-511,314/1175; Marvin Muller, Dix Hills, NY, 481-412-270/1163; Edwin Hendrickson, Batavia, IL, 308-339-222/869; and Frank Haefelin, Aurora, IL, 264-114, Inc.



Mike Fedora, Wayne Woerdich

Barebow money tourney draws top shooters

TWO major archery companies and a host of other manufacturers, dealers and lane operators contributed to the success of a "first-ever" archery event held in Ludlow, Massachusetts over the Labor Day weekend.

The first Buttercup Open barebow money shoot offered a guaranteed cash purse of \$500.00 plus \$200.00 in merchandise handicap prizes. The one prerequisite for participation made the Buttercup Open unique -- only barebow shooters could compete.

The money event was held in conjunction with the 1973 New England sectional tournament, traditional archery event of the season in the area and one of the nation's longest-running tournaments, with a 25-year history. Three 28 target rounds were shot in the sectional competition, a field, hunter and animal. The field and the hunter were used as the official Buttercup rounds.

Current NFAA national barebow champion Dennis Cline, former national champion David Hughes and other top barebow archers came from just about everywhere to compete for guaranteed money awards in a tournament designed especially for them.

Not only were Cline and Hughes there shooting, after finishing one and two at the NFAA Nationals, but number three was there, too. Wayne Woerdich brought a pack of top barebow shooters from New Jersey along with him.

So with the nation's top three barebow archers, the best from New Jersey, and New England's own worthy representatives ready for action, a great tournament was in the

Continued on page 32

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WHAT'S YOUR PROBLEM?

proper back tension.

It sounds as if you are plucking the string occasionally. If you tense your drawing hand and fingers, the fingers will pluck the string and the hand will fly away from the face causing the arrow to fly right or low right.

Another example of improper use of back tension results in collapsing forward which gives you low left arrows. I believe that if you become analytical about what you are really doing on each shot, your problem will disappear.

Three or four fletch?

Freddie:

I have a Jennings compound with 45 to 60 lb. limbs. It peaks at 60 and holds at 40 lb. at my 29 in. draw. My arrows are Herter's 2020 aluminum cut to 29½ in. for broadheads. I use the Copperhead Slicer broadhead with a 5 in. right wing helical three fletch. I have heard from many hutners that a 4 in. four fletch straight down the shaft might work better. If so, explain the difference.

Would Herter's Resinol fletch work in four fletch using a 4 in. fletching set straight down the shaft? What do you think of Bear Razorheads and screw-on broadhead adapters?

Reymundo Guzman, Jr.
Monahans, Texas

I do not personally favor the use of four fletch, although many bowhunters like them. This, again, is a highly personal choice. The "Resinol" or urethane vanes will work best in three fletch (or four) if placed on shaft using helical fletchers.

Bear Razorheads have indeed taken their share of game although I believe the steel or metal used in their manufacturing is a little on the soft side. The adapters work well if you install them properly.

Fletching with plastic

Freddie:

I would like to know the correct way to fletch with plastic vanes, hot to prepare the aluminum shaft, type of glue to use, and also, can a multi-fletcher be used? Also, what length plastic vane do you recommend to handle a broadhead

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- 125 grains, 31 in. shaft for a 75 lb. bow?

I've shot four fletch feathers for better than twenty years. I recently acquired a compound bow and it ruins the fletch. Tried some three fletch plastic and they seem to hold up better, but they won't handle a broadhead. How would four fletch plastic work with a broadhead?

E.J. Rhea
Portland, Oregon

The preparation and application of plastic vanes requires very basic know-how and is fairly simple.

The preparation of aluminum shafts requires cleaning the shaft by using either Ajax or Comet cleanser to remove all oil and dust. Be sure not to use detergent of any kind. Thoroughly scrub the fletching area and rinse the surface with warm water or preferably warm distilled water. Shake off excess water, and allow to dry in a clean dry place or force dry with a warm air stream using electric blower type hair dryer.

The above method is superior for plastic or soft urethane fletching providing if vanes are glued on using Fletch-tite cement.

Yes, the multi-fletcher workers well providing you take care in being sure the vane is seated properly and making contact with the shaft all the way.

I recommend using three 5-in. helical soft-urethane hunting vanes for your hunting bow. Be sure to fletch these using helical fletchers. The helical fletching does indeed help to stabilize most any broadhead. There are many hunters who successfully use four-4 inch soft vanes and acclaim total satisfaction using them. Be sure to use a yielding arrow rest and proper build-out to prevent striking the arrow rest or side of the bow.

New spring rest

Freddie:

I have been hearing a lot about the Williamson spring rest for compounds - some good, some bad. Most of it was good though, so I thought my question and your answer could be very useful.

I heard from several people, and also remember reading it somewhere, that the Williamson rest has to be installed at the factory. I certainly don't want to ship my Jennings off again.

I would like your answer concerning installing the rest on my compound. Could a layman, like myself, install the rest or should it be done at the factory? I would like to thank you again for all your help in answering my questions which I send you from time to time.

Neal A. Klump

It is my pleasure to once again answer one of your questions.

I believe that the Williamson spring rest can be easily installed by the average layman if he follows the instructions furnished to the letter.

The use of a good drill press is highly recommended since you will be drilling specially treated impregnated wood. The rest is secured in place by the use of two metal screws which are furnished with each rest. I have seen many archers using these rests with excellent results. This type rest is a special blessing on strong windy days!

For better shooting Instruction for Individual Differences

LAST month we discussed equal and opposite forces. This article will attempt to explain by vectors and pictures the basic principles involved. I will continue to play the role of a fool by asking myself questions and trying to answer them.

Question: Pictures I know, but what is a vector?

Answer: A vector is a straight line that points in the direction of a force. A simple vector for a bow at full draw is shown in Figure 1.

Question: What does this have to do with individual differences?

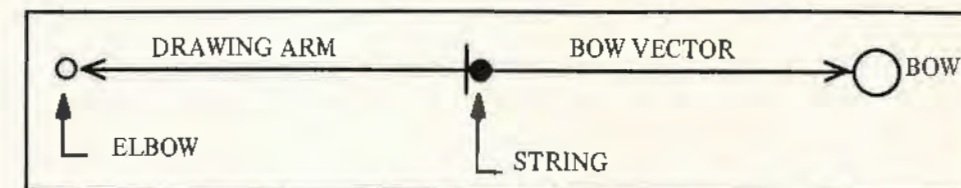
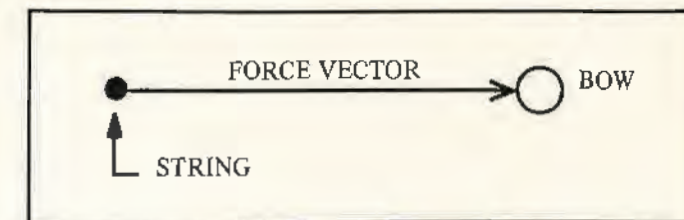
Answer: This is the only constant when an archer picks up the bow. Even this will change if he or she does not pull back the same exact distance as each arrow is shot.

Question: Do you mean to tell me that every arrow I shoot is shot differently?

Answer: Unless you are a machine and continuously shoot perfect scores the answer is *yes*. Every time you miss the center of the spot you have made a small or large deviation in your form.

Question: What does a perfect vector or vectors look like for an archer at full draw?

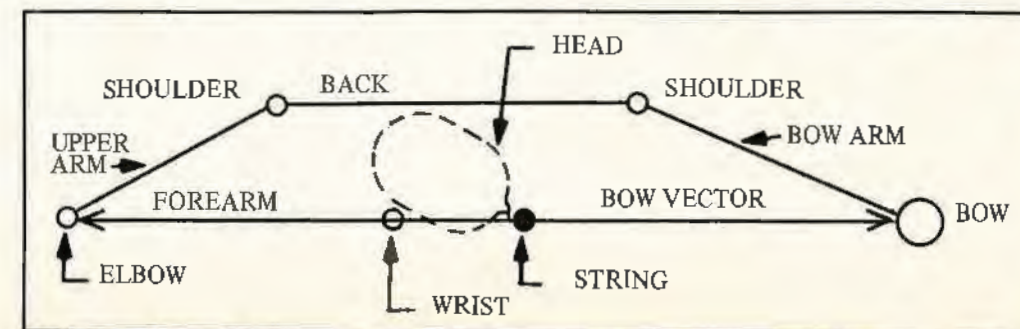
Answer: To answer that question we need two diagrams and two pictures. Figure 2 illustrates a side view vector of an archer at full draw getting equal and opposite to the pull of the bow.



Look only at picture 3 and notice the black line drawn through the picture. The line intersects the main pressure point on the bow handle and passes straight through the middle of the drawing arm. The pictures refer to the last part of this article, so don't get involved studying them yet.

Question: What does the other diagram look like?

Answer: This is a little more difficult to draw. However, look at Figure 3 which is a top view looking down on the archer. Also, look only at photo 7 and notice the black line drawn



by Ray Neideffer

through picture. This line passes straight through the arrow and blots it out.

The greatest amount of deviation in form occurs in the two shoulder joints and the muscle tension in the back. For a right-handed shooter, the single point that usually gives the greatest deviation is the placement of the left shoulder.

When drawing the bow the left shoulder will tend to plumb itself by rotating in so that a straight line could be drawn from the bow through the left elbow, left shoulder joint to the right shoulder joint. When this happens it places the bow arm very close or in the path of the bow string. Hence, the string makes a welt on the bow arm or strikes the arm guard.

In either case the arrow probably missed the center of the dot. Tucking the left shoulder toward the string cause the chest to be rotated towards the lower portion of the string. A large chested man or a woman will get string deflection and another miss of center.

Question: Hey, what if I can't get this "Mr. Perfect" form?
Answer: This is what it's all about. Past experience (35 years) reveals that only about one out of four archers can approach the form of Mr. Perfect. However, this doesn't mean that you can't shoot top scores.

Too many people are dropping out of archery because they don't know how to help themselves. American egoism stresses "look how smart I am," and if we have to seek out help it deflates our egos. Philosophy: A pat on the back is only about a foot short of a kick in the rear.

There is no way to learn all there is to know. Don't become frustrated, just resign yourself to being a professional student.

Check Points

Photographs 1 through 9 are of my youngest son David. David is not "Mr. Perfect" at this time. He has performed very well this year by setting new state records for youth at both our state indoor and field. He also placed third at the NFAA National Championship. He competed in the Youth A division with his fingers against release aids and compounds. He shot his first scores over 450 at the Nationals, including a 500 on the hunter round. He set a new state record after the Nationals of 514 on the field round.

I have included these nine photos to illustrate the many check points required for good form. While discussing the check points, I will point out his strengths and corrective measures required to improve his shooting. These photos were not posed to get the desired effects. They were taken impromptu for teaching David his strengths and weaknesses or areas of improvement. He knew we were taking pictures, but he didn't know what we were emphasizing in his form.

Photo 1 depicts drawing of the string but not to the chin. It illustrates an in-line draw.

Photo 2 expounds on Photo 1 by showing the chin extended out over the in-line drawing of the bow. This keeps the forearm of the drawing arm in line with the pull of the bow. This is a strength as it ininimizes tensions in the drawing figures and wrist and minimizes problems of the release.

Photo 3 shows a strength and a weakness. The horizontal forces are all in line with drawing forearm. However, a weakness that needs correcting is the high left shoulder. This



4



5



6



7



8

9



will cause the bowarm to fall away at release. It will take a lot of shots by the archer and the trained eye of an instructor to determine if it occurs before the arrow clears the bow. It's better to have the left shoulder under the black line in the picture. This insures support of the bow on follow through or aiming after you shoot. This will be a very difficult correction with David because of his individual difference — a crooked (downward pitched) elbow. One consolation is that the black line from the center of the bow contact passes only a little low through that left shoulder. This minor correction should improve his score.

Photo 4 demonstrates a good hand placement on the bow. I will not go into this as Steve Hayes already wrote an excellent explanation in the August issue of this magazine, one main point being "keep the heel of the hand off of the bow." Another strength is the intense concentration. He is in his own little world at this time. Two weaknesses noted: again the high left shoulder and the bow string against the chest. The shoulder is also tucked in under the chin — a distinct no-no.

Photo 5 brings to light another strength — good string clearance in bow arm even though shoulder is tucked in and the string is against the chest.

Photo 6 shows relaxed wrist and thumb and good center force line through relaxed wrist.

Photo 7 was previously discussed and illustrates almost perfect vector for the force. The elbow needs to come around the fulcrum point just a little bit more (about 1/2 inch on the elbow).

Photo 8 brings up another point about relaxed wrist, thumb and little finger on the drawing hand. All our lives we have learned to pull more with the fingers to lift heavy objects. It's better to make hooks of the fingers and let them out slightly as we draw the bow. This pulls the arrow into the bow and not off the arrow rest. It also sets up the proper tension in the drawing fingers for a relaxed release and not a forced, out-stretched or popped release.

Photo 9 illustrates action / reaction. The ultimate moment of truth has already passed. Did the sight stay on the middle until the arrow cleared the bow? I didn't see. You can bet your sweet cookies that by the time he starts next year on the tournament tour I will know that he is keeping it there. Bow arm looks good, though the extended left shoulder may have been a pushing toward the target. I hope not as that left shoulder can set itself at any one or more of the 360 degrees on the circle and cause a lot of missing. Corrective action is to let the shoulder come back, don't push, just keep the bow from coming back when you pull on the string — minimum action / reaction. The drawing arm is excellent as the release was accomplished by the feel of relaxing the fingers while trying to pull the string through the chin. The shot was executed with no loss of drawing tension in the right shoulder and back.

This month's article is a little long, but we covered most of the basics in good shooting form. The next article will be on Mr. Rick Richey, who has a different and difficult form to master. In eight short months he went from beginner to the Olympic tryouts.

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CONTINUED FROM PAGE 27

making. It all wound up with national champ Dennis Cline earning a well-deserved \$150 for first place, shooting scores that included his first over-540 score shot in competition. Dennis and his Groves gave it everything for a 544 field and 528 hunter round for the winning 1072 aggregate.

David Hughes finished up exactly 22 points behind Dennis again, just as he did in Aurora, shooting a 518 field and 532 hunter for a 1050 aggregate and \$100. They started up again right where they left off at Aurora where Dave beat Dennis on the animals to conclude a week of see-saw shooting. At the Buttercup, Dennis whipped Dave on the first day's field round, then Dave came back to win on the hunters. Everything's happening according to schedule, but that doesn't help Dave any — he went back to Texas still trying to figure out how he can beat Dennis every time it's his turn and still come out in second place!

Wayne Woerdich also made it a repeat performance as he shot 479 field and 504 hunter to wind up with a 983 total, good for \$75.00. Actually, everyone out here was rooting for Wayne to win the tournament, but the fact that Dave and Dennis threatened to throw Wayne and his sneakers in the trout pond may have had something to do with the way things wound up. In fourth place was former New England barebow champion Saul Cusson of Massachusetts with 491 field, 478 hunter for an aggregate of 969 and \$60.00; fifth place and \$40.00 went to Joe Lazar of New Jersey for his 480 field, 464 hunter, 944 aggregate; and Doug Kozynski, also from New Jersey, wound up the men's division money winners just one point down in sixth place.

On the distaff side of the money event, Gloria Shelley of Connecticut and Maryann Cusson of Massachusetts had it out in a see-saw battle that saw Gloria come out on top and \$50.00 richer with a 389 field round and 390 hunter for a 779 aggregate, against Maryann's 405 field and 365 hunter which gave her a 770 total.

This still left six handicap prizes, and the handicap winners are going to be pretty well set for the fall hunting season. First place handicap winner Mike Fedora of Connecticut was the recipient of a Proline Monarch hunting bow, donated by Ed and Nan's Archery Lanes, in conjunction with Proline Company. Second place handicap went to another Connecticut archer, Bruce Shelley who received a Dartan "Valiant" hunting bow donated by Dave Staples Archery Lanes of Easton, Pennsylvania.

Forest Orchard Archery of Northboro, Massachusetts, came through with a dozen Bear Magnum aluminum hunting arrows for third place handicap winner Fred Martinelli of Rhode Island, and bowhunter Bill Cisek of Connecticut took fourth place and won a Wing bow quiver donated by Wing Archery through their sales rep, Bob Goodinan. Fifth place and a dozen cedar hunting arrows went to pretty Maryann Cusson of Massachusetts, compliments of Rose Keith and her traveling archery shop. Doug Uhlman of Massachusetts finished in sixth place in the handicap division and was awarded a 5-gallon Igloo cooler donated by Stuart's Sportsmen's Center. The cooler may not be a piece of hunting equipment, but surely Doug will find some good reason to take it along.

With some 300 New England sectional competitors staying around on Monday to shoot their required animal

round, several of the Buttercup Open shooters decided to stay, too. They shot the animals for their own special award — a pair of fleece hunting slippers donated by Jim St. Pierre's Spitfire Archery Lanes in East Granby, Connecticut. Saul Cusson won the slippers with his 510 animal round score, but what was he really happiest about — winning the slippers or beating national champs Cline and Hughes? At any rate, Cusson made sure he let the Illinois and Texas representatives know who come out on top!

Without the support of sponsors who donated merchandise, and the cooperation of New England Councilman Brad Starrett and the members of the Ludlow Fish and Game Club, the Buttercup Open could not have been a success. Through the cooperation of Bob Carroll of Carroll's Archery Products and Dick Groves of Groves Archery Corporation, the 1973 Buttercup Open was more than just another money shoot.

Sunday night at the Ludlow club found an enthusiastic audience taking part in an informative archery demonstration and barebow shooting seminar conducted by two of the most respected people in barebow archery today — Dennis Cline and David Hughes. Three very happy raffle winners were recipients of top-line bows: a Groves GS-300-II donated by Groves Archery Corporation, Albuquerque, New Mexico; a Carroll's takedown hunting bow donated by Carroll's Archery Products, Moab, Utah; and a Fedora takedown bow donated by Fedora's Custom Bows, North Haven, Connecticut.

Top New England barebow archers are Gloria Shelley from Connecticut and Saul Cusson of Massachusetts.

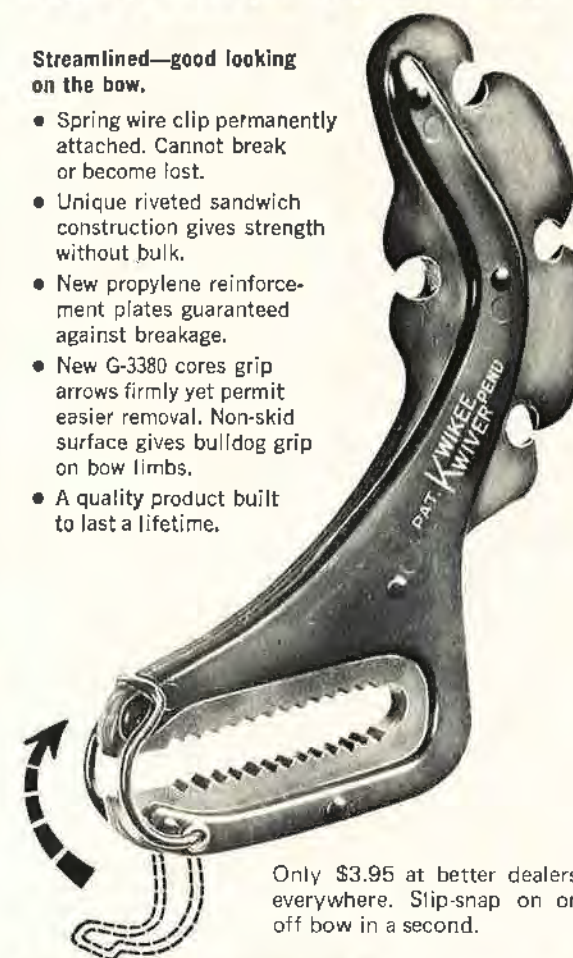


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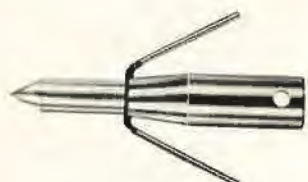
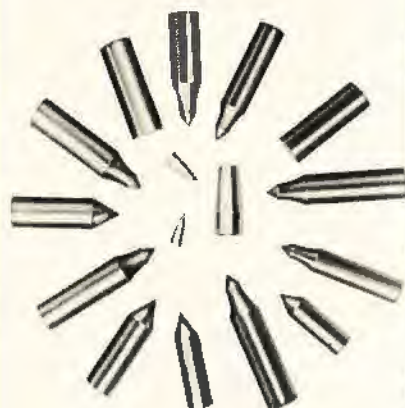
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We'll begin your lessons with some pointers on range safety.

So you wanna teach archery, eh?

(Good! Here's a new column for you)

When utilizing a fun novelty shoot to keep the interest of my young pupils, how long should I run the shoot?

Jane Prest
Elmhurst, Illinois

Good for you! The injection of different events into the regular schedule is the biggest boon to teaching an active, interesting archery class known. It usually is best to stop your novelty event when the excitement is still quite high. This way, your students will eagerly look forward to when they may shoot it again.

When I start a class of archery, how soon should I let my students shoot and from what distance?

Lynda Jones
Niles, Ohio

Start them shooting immediately! Skills can be refined as you go along. Basic safety should be taught and observed from the beginning. I would suggest starting a beginner at 5 yards, thus providing instant participation and instant success. There is an excellent article dealing more specifically with your questions in the October, 1972 issue of ARCHERY written about Margaret Klann.

When should I check my students for master eye dominance, and how do I go about doing this?

Ruth Johnson
South Dakota

Checking for master eye dominance should be done immediately. This will possibly save both you and the archer many frustrating moments. Frequently, a right-handed archer will have a dominant left eye, and when at full draw, with both eyes open, the left eye will dominate the line of the arrow and cause the archer to shoot left.

To check eye dominance in your class, have all students face the target. With both eyes open, have them point with the index finger to the center of the target. Ask them to close their left eye. If they are right-handed, their finger should remain on the center. To double check, have them close their right eye and their finger should then jump to the right. The opposite would hold true for a person who has a dominant left-eye. The PAA, in their BASIC INSTRUCTION FOR CLASSES booklet gives even another method of checking for eye dominance.

The idea for this column was brought to us by the young lady who will write it. She is "Cook" Predika, and she convinced us that there is a crying need for information on how to teach archery.

She should know. Cook has taught archery at all levels to children and adults for the past 15 years. She's not a bad shot either, having placed first in Open Freestyle B Class at the NFAA Nationals this year. But her first love is coaching, and she has been involved particularly at the college level with coed teams and the theory and analysis of teaching archery. Presently, Cook is self-employed as a full-time clinic consultant and instructor.

We hope our readers will share their experiences and problems in teaching archery through the medium of this column. Simply write "Cook," ARCHERY Magazine, Route 2, Box 514, Redlands, CA 92373. - Eds.

How do I measure a class for arrow length?

Frank Pierce
Sharon, Pennsylvania

When measuring the correct length of the arrow for a beginning class, have the students extend the bow arm to full length, place a measuring stick or a dowel stick that has been marked in inches on the arrow rest. Have the student pull the measuring stick to their anchor (corner of the mouth is easiest to find at the beginning).

This same distance can also be measured by placing an arrow (nock end) on the student's chest. Have him then extend both arms straight out, palms touching the arrow, and measure the distance. In both methods of measuring a beginner for arrow length, it would be advisable to allow an added inch for safety reasons.

When should I discard an arrow? We have limited equipment and many archers, so our arrows get good use.

An arrow that has even the slightest crack or splinter should be immediately broken and thrown away. The point can usually be saved and used again. It is a good idea to make it a regular habit of each student checking each arrow they are going to shoot.

One way of checking to see if an arrow is cracked is to hold the nock with the point toward the ground. Snap the middle of the shaft with the other hand and listen for a vibration. If this occurs, the arrow is cracked and should be broken and discarded immediately. If the arrow is sound, you will hear a dull thud. Any arrow splintered at the point may be cut down and a new point inserted.

We cannot afford targets and our equipment is old and limited: thus, our classes are small. Can you suggest an inexpensive substitute?

There are several substitutes that will work in your situation with limited use. Try layers of corrugated cardboard about 6 in. thick, taped together. Plastic bags can be placed over the cardboard to help keep moisture out. Even standard cardboard boxes firmly stuffed with wadded newspaper will do nicely.

With a class of beginning students, how soon should you get a bow in their hands?

Ed Bodenschatz
Rice Lake, Wisconsin

The first day! It is best to quickly demonstrate, then let them shoot from a short distance (five yards). Even shooting one or two arrows into the ground is exciting and rewarding for the beginner. Be sure to use the utmost safety precautions and instructions from the beginning.

Do you have any suggestions on how to make inexpensive ground quivers that my students can help with?

You bet! Take a 3 pound coffee can that has a plastic lid. Simply punch holes in the cover for the arrow to fit into, add sand in the bottom for weight. This is an excellent class project. The homemade quivers can be painted and personalized.

What should be included in the general box of equipment an instructor personally brings out to the range?

The following equipment should be included in the instructor's personal equipment. The items will vary according to various needs.

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THE MAN

him throughout what was to be a 494 round.

"That Monday was a lesson in my archery life. I blanked three arrows on the first half, all because I had a negative attitude — I was worried more about missing than hitting." On Tuesday, Cline went out with one thing on his mind — mental attitude. He started off with a 14 and an 11, but worked at not letting it bother him, and he shot a 20 on the 80 yarder. He wound up with a 513 on the second field round, not real strong, he says, but not bad.

Mental attitude is an intangible quality that Dennis works at perfecting in a very tangible manner. In a sport that's a mental game from start to finish, from practice rounds all the way to a national championship, Dennis decides what he is capable of and is confident that he can do it repeatedly. Sometimes spilling it out in black and white helps, so for the past several years, Dennis has kept a record book of all his tournament scores which enables him to study patterns in his shooting.

He has listed all his 14-target totals and complete round scores; then he computes his current average for the year and the number of points he's shot over 500. The book tells him what he's done and Cline believes ardently that once he's shot a certain score, he's capable of doing it again and moving further on. "After I shot my first 500, I told myself I could do it again. Once you reach a plateau — say you've been shooting a 480 average and suddenly you shoot 500 at a tournament, then you start shooting 250 halves in practice — then you know you've reached the point where you can do it again. The next step is to improve on that." That, he thinks, is a difference between the average archer and champions — knowing what you are capable of and then working at it.

You have to want to win "real bad," says Cline, and you must be honest in judging your ability. "When you talk about attitude, you talk about what you think about openly to yourself, and what's in the back of your mind, too. The important thing is, what do you say to yourself when you go out to a

tournament? You must keep in mind what you have done and are capable of doing. If you know you can shoot a certain score in practice, there's no reason you can't do it in a tournament. You must convince yourself of that."

While Cline keeps track of what he can do in his little book, he makes it a point to set personal goals at the beginning of each season, always establishing more than one objective to ensure attaining at least one. In 1972, his goals were to shoot a 520 average and a 540 round — he missed on the 540 but averaged 520 for the season. This year he set the same goals — he compiled a 518 season average, not bad, and shot a resounding 542 field round.

So what's up for 1974? Next year, Dennis would like to have no scores on his card below 500 (there were two this year), to shoot a 525 average, and break 550 at least once. Chances are he'll do it. After all, 550's not so far from 542, and his notebook tells him clearly that he's capable of it. Says Cline: "This year I knew I could shoot at least 538 again — I did it last year. This year I've shot 274 halves twice in tournaments, and that's a 548 put together. I say if I can do it once, I can do it again — that's what I call positive mental attitude."

Out on the course, his scores aren't the only things he considers — he has to devote some thought to his competition. And right now, Cline is very aware of who that is: "When I go to a Nationals, I know exactly who's going to give me trouble, and that's Dave." Smart enough to know that nobody stays on top forever, Cline likes to scare himself into shooting well. "I have to temper a positive attitude both consciously and subconsciously with the knowledge that I may get beaten. When I know somebody's going to give me a rough go, I'm scared enough that I shoot a little better."

Cline comes from a state where the only other barebow archer consistently shooting comparable scores to his is amateur Mike Flier of Pekin. Dennis practices at Auroraland with his longtime shooting buddies. He comments: "Shooting with guys like my buddies is like walking into a pit of bull snakes and saying, 'Well, maybe one of them's a rattle snake and he's going to get me. With guys like Hughes or Al Tuller or little Wayne from New Jersey, it's different — like walking into that pit of

snakes and just knowing every one of them's a rattler. Beyond a healthy respect for the competition, Dennis sums up his philosophy: "Know what you can do and be confident; you can't daydream about who might beat you or how bad you might shoot or you'll never come close to your capabilities. Think all the time about what you're doing, not how your score's going to be; just know in the back of your head what you can do and let your mind rest at ease. Then spend the rest of the day concentrating on how to shoot each arrow."

Cline's personal rival in barebow field competition is also his rival in another

"I'm not saying form a new class — just be honest. It's not really barebow any more."

aspect of the sport — bowhunting. But the hunting scene is another story, says Cline: "That's one place that Dave's got me beat real bad — he's quite a hunter." In eight years of hunting, Cline has two bucks to his credit, and he got both of those on the same trip from the same tree on two consecutive days.

But Cline gets more out of hunting — he loves being out in the woods and considers sitting out there in the morning just waiting a good half of the hunting experience. He has hunted Wisconsin, Iowa, Illinois and as far away as New Mexico. Even in his hunting, Dennis maintains aspects of his barebow shooting form and experience by walking the string. The method works well for the Mid-west's close-in hunting, but might not help much out west where hunters get longer shots, notes Cline.

After hunting season, Dennis goes indoors to shoot, following the trend of many other barebow shooters by shooting freestyle on the 20-yard indoor rounds. But, just as his hunting, Dennis' freestyle form is largely based on his

enjoy the devil out of that style — it's a challenge. You can show me dozens of guys who have shot 560's freestyle; name me a shooter who has come within 20 points of 560 and I'll show you a champion." Dennis doesn't claim that barebow shooting is more difficult than freestyle, but he does feel that it takes a lot longer to develop a system of shooting good barebow scores than a system of shooting good freestyle scores, and therein lies the challenge.

Dennis has objectives other than just winning tournaments. Someday he'd like to take a shot at breaking some national barebow records, or achieving his ultimate goal — shooting a perfect 560 field or hunter round. And why not? It all gets back to mental attitude, and that 560 is just 10 points away from Cline's current goal.

One more major concern of Cline's is the current status of the barebow division — it's losing archers little by little and is becoming overshadowed by the freestyle divisions. Cline doesn't object to losing archers to releases and sights; he recognizes there are good reasons for shooting freestyle. What Cline would like to see is a more competitive barebow division: "Sure, we still have a lot of barebow shooters, but they are not competitive as they used to be; they're out there for the fun of it."

Right now there aren't more than a handful of barebow shooters who can shoot scores on a par with Hughes or Cline, and that's what Dennis means about the loss of a competitive aspect.

Among all of the barebow shooters combined, you'll find all kinds of variations on the barebow style — including gap shooters, point-of-aim shooters, semi-stringwalkers, full stringwalkers and instinctive archers. According to Dennis, "It's all in what you define as a barebow shooter. In the last 20 years we've had a lot of archers get their own ideas — and it's obvious that not everybody agrees on what barebow is, isn't or should be."

What can be done to keep barebow alive? In Dennis' opinion, be honest about it. Barebow shooting today is a bastardized form of the original style. It's not really barebow anymore, it's stringwalking. And true instinctive shooters are rare today. "I'm not saying form a new class, just be honest. When you talk about barebow archers, you're

talking about stringwalkers, because the best barebow shooters are stringwalkers. Even so, stringwalking is a challenge in itself; there's a lot of enjoyment there and it's a useful way to shoot."

Cline obviously enjoys it. In five years of competitive shooting, he's garnered an enviable collection of titles and honors. Cline particularly treasures a rivalry and personal friendship that began back in Watkins Glen with David Hughes. That gave him the incentive and the means to recognize and develop his own capabilities, and it has provided the archery public with an exciting annual battle.

The friendship takes precedence over the rivalry of these two champions, and Cline will resoundingly defy anyone who can't believe that a pair of archers in such close competition don't bother to try to psyche each other out. "Archers who try to psyche each other must not shoot too well, because they need some kind of advantage to win," Cline comments. "I believe in playing a straight game, and Dave will tell you the same. Dave has helped me a lot on the line, as much as he can, and that's the sign of a true sportsman. We just try to shoot the best we can, and we try to help each other do it. And that gives me more gratification out of this sport than anything else."

If Cline is concerned about his future, it may be reflected best in this honest statement from a very honest guy: "I only hope that I enjoy archery as much when I'm not winning as I do right now." But Cline has a long way to go before he reaches that stage — he still got that ultimate plateau to reach — a 560 barebow.

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THE METHOD

Bringing one finger down toward or touching the stabilizer helps to keep his hand up and his tension forward.

From this point on, there can be a little variation in setup depending on which anchor Dennis is using. For his high, or corner of the mouth anchor, Dennis will bring the point of the arrow onto the target, start to stretch back to get his back tension, and pull through the clicker very slowly.

- At the point when he comes up to anchor and settle in, the clicker should be just over the tip of the arrow. And as he's settling into his anchor, he tilts his

the picture out even a little further to the left.

Then Dennis stretches until the clicker goes just over the shoulder of the arrow, and as with his high anchor, that last quarter inch is all stretch, concentrated mostly in the bow arm shoulder. And when the clicker clicks, the arrow's gone.

Watching that bow arm shoulder imperceptibly yet powerfully move as the tip of the arrow comes off the clicker is an amazing sight and a beautiful thing to watch, and according to Dennis, that shoulder movement is something he picked up from Dave Hughes. When Dennis first tried it, it didn't work too well; when he really put

About his release Dennis had this to say: "It's hard to change your release — that's something I intend to work on. But you experiment with it; like last year was the second year I used the adjustable clicker and it worked well then. This year I couldn't have it, and I had to do things a little differently, experimenting with my form, not my equipment, to make up for the lack of that clicker."

- What about followthrough? Only one comment from Dennis: "Followthrough is something I wish I could do consistently." Dennis recognizes the importance of having a consistent followthrough pattern, and he also recognizes a lack of that consistent pattern as one

The follow through that Dennis considers ideal and that he works at perfecting is this: release hand coming back fairly close to the face and relaxing in back of the neck somewhere, and bow arm tension being held straight forward and through the target. Dennis feels that when the release comes off smooth and back away from the target, and the bow arm stays solidly forward, then he's applying all the energy in the right direction — that straight line.

No matter what the variations in his followthrough after the shot, he is consistent with followthrough at the instant that the arrow leaves the bow. His tension at that moment is all in the right directions.

Those once-in-a-while variations that occur after the shot Dennis explains this way: "I'm not as strong as most archers; there's 40 pounds of tension wrapped up right here, and when I let that 40 pounds loose there's bound to be a recoil, and my body has to absorb that recoil. The important thing is that nothing moves in the wrong direction until the arrow clears the bow. But that arrow's gone before I make any of this recoil." And the only other remark Dennis has to make on that subject is this: "I've seen pictures of myself shooting and honestly, I look so bad."

That tells us how much you know, Dennis — lots of guys would love to look so bad!

What usually happens at this point is about the same thing every time — the arrow goes in the center of the target and Dennis collects a four-for-twenty. And he does it all with one high wrist Groves bow and that self-proclaimed bony body. Does Dennis take part in any other sports or physical exercise programs to keep those bones in shape? Not at all. Says Dennis: "Some guys have a lot of muscles on their shoulders and arms and they need to exercise to keep it tuned up. I don't have that much extra muscle so what I do have I keep in shape just by shooting." A couple of years ago Dennis played some basketball, but he doesn't play much any more for lack of time and because basketball doesn't really do anything to help the muscles he uses to shoot with. And he gave up another sport, volleyball, for a different reason: "I played a little volleyball at the nationals one year

and that about wiped me out." That sounds suspicious — maybe when they couldn't catch up to him on the course, our lively barebow gang decided to use other tactics!

Tied in with the subject of muscular ability and physical strength is an important aspect of barebow shooting — bow draw weight. Dennis finds that his 38 pound bow gives him enough speed to shoot consistently and well, but there's one side of barebow shooting about which draw weight causes him some concern — the women's division.

While he cautions male barebowers not to sacrifice good arrow flight and string alignment for excessive speed, one group who he feels need all the speed they can get is the women. Dennis thinks back to spring of 1970 when he was in the hospital for a week, got out, and didn't have a bow to shoot because his was being repaired.

So he shot his wife Sharyl's 29-pound bow, getting about 31 inches of draw, and his reaction was this: "Now I really know what it means to have to loft an arrow up in the air. Shooting that bow taught me the value of having some speed — I'll never go that way again."

What does this mean for our top women barebow shooters? Says Dennis: "The women need to get away from those real low anchors and arrows that arc a lot — they'll start shooting better groups then. A woman needs the fastest bow she can shoot; if she can handle more weight, she ought to try it."

One solution to that might be the compound except for the fact that it could be too critical to shoot with fingers and walking the string; another of Dennis' suggestions is that possibly the new overdraw bow introduced by Dickie Groves in the national competition at Aurora might hold something for the barebow bow women archers.

Dennis, in fact, has already given some thought to both the overdraw bow and the proposed Groves compound for next year, but all he came up with were the following sentiments which he made sure to convey to Harold Groves: "That high wrist handle has been a major part of my success. I know Harold's been thinking about a compound, he's got an overdraw bow, but I already told him — 'whatever you do, I want that pistol grip handle.'"

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head into the string as he looks just barely to the right of it and shades it into the target. At this point he can just see that clicker over the shoulder of the arrow, and that last quarter inch is all stretch.

Dennis' low anchor, for the longer distances, is a little different than his high one — here he's holding his head more straight up and down as he comes back and settles into his under-the-chin anchor with his fingertips. He looks through the string and to the left side of it as he lines it up against the side of his bow, and for some distances he moves

it to good use was when he started developing that high back and shoulder tension.

- Release is something Dennis comments on as one part of his shooting that he's never been able to do very much with. But somehow his release always seems to be working fine, probably because he's got the proper hand and bow arm tension solidly maintained in a forceful straight line, going forward on a line with and through the target with his bowhand, and directly back into a continuation of the same straight line with his release hand and elbow.

of his weak points.

Though you'll often catch Dennis with some weird variation in his follow through you'll also find that when the arrow leaves his bow he's not doing anything wrong — that bow arm moves out straight forward and everything's fine. Sometimes Dennis does break away in a followthrough action that many people consider to be the "right" way for a barebow shooter, with the bow hand moving down and out to the left with the bow, string fingers moving back. And by the same token, sometimes his release fingers do fly out rather than

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HAWAIIAN INVITATIONAL

Lovely Eva Troncoso rode the crest of one of the winningest years ever in archery right onto Waikiki Beach, or more precisely, right into Honolulu's Kapiliani Park, site of the 1973 Bonnie Bowman Hawaiian Invitational.

Eva won again, and joining her in the winner's circle (and on this month's cover) was a young man of exceptional skills, Gary Lyman. These two gracious NFAA pros joined 94 other top archers for a week of exciting shooting and sightseeing in the Islands, where \$12,000 in cash and merchandise were up for grabs.

From the headquarters Kaimana Beach Hotel, it was just a short walk to the tournament site, but it was a hard road to victory in the men's championship

flight, where the lead changed hands frequently before the two 28-target field rounds ended.

The wind was there again, not as capricious as it was in Diamond Head Crater last year perhaps, but blowing constantly and sometimes gusting up to 25 or 30 miles per hour. But a big factor in the see-saw battle was the experimental multi-colored target face, which was something of a surprise to the shooters, and which did some surprising things to their scores.

The multi-colored face was scored 5-4-3-2-1, equivalent to a standard field round, but the five-ring was approximately 25% smaller on a target twice the overall size of a regular field face.

The anticipated effect of the new

On target one after the first day of competition were Jack Lancaster (defending champion), Rich McClintock, Gary Lyman and Clayton Sargeant.



That's not Steve McGarrett, it's Pat Norris, Tournament Director.

Leading women were Eva Troncoso, Ginger McClintock, Gwen Carroll and Sue Bradshaw.

Archers attending from Japan included Michio Ando, Norio Ohmi, Hiromi Kunisaki, Yoichiro Murakami, Eiji Hashimoto, Kazuyuki Ohtani, and Noburu Yamamoto, editor of Japan's Bow Magazine.



target was that it would bring the classes closer and keep competition tighter. That it did. It broke up potential ties, brought the top shooters down in score and brought the lower shooters up.

Lyman, who consistently posts at least a 556 on a field round on any given day, recorded a 529 for fourth place on the first day, and won by shooting the tournament high score, a 542, on the second round.

Bobby Hunt, current NFAA National Champion in the unlimited freestyle division, indicated he was not mentally prepared to shoot the multi-colored face, and he recorded a 512 effort on the first day. But Hunt rose to the round and the competition by posting the second highest score of the tournament on the second day, a 532.

Defending Hawaiian Open Champion Jack Lancaster reversed Hunt's pattern

and dropped from a first place tie with Rich McClintock on the first day at 539 to finish third with a 524 on the second round.

Despite that 524, Lancaster praised the new round, pointing out that it definitely builds competition. He noted that on his target there were two shooters who would have gone perfect on a standard round with no arrows missing the gold by more than a half inch. That normally would have resulted in a tie, of course, but on the multi-color, it resulted in a six point difference in score. It's definitely a round that works well with a flight system, and which favors the spot shooter.

While the first day found Lancaster and Rich McClintock tied for the lead with 539's, and Gary Lyman ten points off the pace, Lyman turned things around with his 542 for a winning 1071

total, good for \$1,000 first place money.

Finishing second was McClintock (1069), followed by Lancaster (1063), Bob Bringhurst (1054) and John Williamson (1053). In one of the largest pay-backs in a tournament this year, money was paid to 15th place. At last year's Hawaiian Open, the Islands' perennial money shooter, Wally Nagao, finished last in the money in tenth place and collected \$50. This year found Wally finishing last in the money, in fifteenth place, but collecting \$150 for his efforts.

Eight of the top fifteen finishers in the championship flight were NFAA pros, and each pro who finished in the money received a bonus Seth Thomas digital table clock award.

Eva Troncoso started earning her clock and \$450 first prize money on the first target, and she rarely let down. Eva shot scores that beat most of the

men, and, incredibly, she did it in the wind with a 23 lb. bow. The multi-color round may have shaved a few points off her average, but this is Eva's year — if a target has a center, Eva will find it.

Her first day's 515 put her comfortably in the lead, with Gwen Carroll's 470 score the next highest. Ginger McClintock challenged Eva with a 505 to come within four points of Eva's second round 509, but that still left Ginger at a 58 point deficit behind the winning 1024 total. The final tally showed Ginger in second (966), and Gwen in third (924) for \$325 and \$225.

So it was that two well-disciplined archers prevailed over the wind and the new round, and Gary and Eva now wear matching electronic watches as mementos of their outstanding performances.

In the amateur ranks, Honolulu shooters dominated the men's division, with Richard Kawamura coming out on top with a 1038, followed closely by Rodney Bow's 1029. Kitty Archuleta, pretty wife of Hawaii's NFAA Director, shot a 910 to top the amateur women, and Max's wife, Jewel Hamilton, placed second with 823. Sandy Gottlieb took third (814), just ahead of Phyllis Long's 812.

Also on hand were a delegation of Japanese archers, whose presence delighted the other competitors and gave the Hawaiian Invitational a truly international character. Don Stuart, who made the 1972 Nationals at Ludlow a great tournament, commented, "This is one of the finest tournaments I've ever shot in. We've thoroughly enjoyed the combination tournament-vacation package and are looking forward to the next one."

The success of the tournament was due in large part to the efforts of Mike Trotto and John Quayle of the Armed Forces Archery Club on Oahu, who were responsible for laying out the range and keeping things running smoothly. And, of course, after the last arrow there were five days of leisure activities in the Islands. Tournament director Pat Norris put them to good use, scoring on a wild sheep on the big island of Hawaii while hunting with Hawaii's "Mr. Archery," Jimmy Lee. And finally, there was John Williamson's small memento of the Islands — an eight foot, one inch marlin, compliments of the Pacific.

The Original ALLEN COMPOUND Bow with KNOCK DOWN POWER No Other Bow Can Approach



Mr. Howard Benson, McConnsville, Ohio



Cliff Adams, Trenton, Mn., and 400 lb. bear he shot with Allen's Compound Bow

Mr. Howard Benson reports "The Allen Compound Bow came thru like a Champ! I made a shot from about 12 yards slightly quartering away. The arrow entered the Bear's back 6 inches below the spine between the 2nd and 3rd rib. It went thru like a hot knife thru butter and out into 6 inches of sand underneath the bear. Leaving the arrow on the ground the bear took off like a shot for 150 yards, then rolled into a ravine stone dead. Needless to say I am real pleased with the performance of the Allen Compound Bow. It's performance on the Bear indicated that the Compound Bow had a lot more power than the conventional bow."

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1. TITLE OF PUBLICATION ARCHERY		2. DATE OF FILING Oct. 2, 1973
3. FREQUENCY OF ISSUE Monthly		
4. LOCATION OF HEADQUARTERS OR GENERAL BUSINESS OFFICES OF THE PUBLISHERS (Not printer) 51419 Hwy 99 East, Redlands, San Bernardino Co., CA 92373		
5. LOCATION OF THE HEADQUARTERS OR GENERAL BUSINESS OFFICES OF THE PUBLISHERS (Not printer) Same as above		
6. NAMES AND ADDRESSES OF PUBLISHER, EDITOR, AND MANAGING EDITOR PUBLISHER (Name and address) National Field Archery Assn., Rt. 2, Box 514, Redlands, CA 92373 EDITOR (Name and address) Dan Drake, Room 300, as above MANAGER EDITOR (Name and address) Ervin W. Belt, Same as above		
7. OWNER (If owned by a corporation, its name and address shall also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual must be given.)		
NAME National Field Archery Association of the United States, Inc.		ADDRESS Rt. 2, Box 514, Redlands, CA 92373
8. KNOWN BONDHOLDERS, MORTGAGEES, AND OTHER SECURITY HOLDERS OWNING OR HOLDING 1 PERCENT OR MORE OF TOTAL AMOUNT OF BONDS, MORTGAGES OR OTHER SECURITIES (If there are none, so state)		
NAME		ADDRESS
None		
9. FOR OPTIONAL COMPLETION BY PUBLISHERS MAILING AT THE REGULAR RATES (Section 132.121, Postal Service Manual)		
10. FOR COMPLETION BY NONPROFIT ORGANIZATIONS AUTHORIZED TO MAIL AT SPECIAL RATES (Section 132.122, Postal Manual)		
The purpose, function, and nonprofit status of this organization and its exempt status for Federal income tax purposes		Executive Secretary, K.F.A.A. K.F.W. Assn.
11. EXTENT AND NATURE OF CIRCULATION		ACTUAL NUMBER OF COPIES OF SINGLE ISSUE PUBLISHED NEAREST TO FILING DATE
A. TOTAL NO. COPIES PRINTED (Net Press Run)		18,616
B. PAID CIRCULATION		16,721
1. SALES THROUGH DEALERS AND CARRIERS, STREET VENDORS AND COUNTERS		\$
2. MAIL SUBSCRIPTIONS		17,118
C. TOTAL PAID CIRCULATION		17,118
D. FREE DISTRIBUTION BY MAIL, CARRIER OR OTHER MEANS		129
1. SAMPLES, COMPLIMENTARY, AND OTHER FREE COPIES		134
2. COPIES DISTRIBUTED TO NEWSSTANDS, KIOSKS, AND OTHER SELLERS		\$
E. TOTAL DISTRIBUTION (Sum of C and D)		17,252
F. COPIES NOT DISTRIBUTED, UNACCOUNTED FOR, SPOILED AFTER PRINTING		1,364
G. TOTAL (Sum of E & F. Should equal net press run shown in A)		18,616
I certify that the statements made by me are true and correct to the best of my knowledge and belief.		Signature of Editor, Publisher, Business Manager, or Owner K.F.W. Assn. K.F.A.A.

ROY HOFF SAYS

Hunt Colorado with me

FEAST your eyes on the fine Colorado muley bucks on the opposite page. If you don't wish one of these photos had been snapped of you and your prize trophy, just turn the page, perhaps you'll find some interesting tournament scores. They are the real thing, and if your name should be drawn at the annual NFAA Board of Directors meeting come next January, you have my assurance that with just a little luck you can down one of these beauties during the Colorado bow and arrow deer season.

But first, to become eligible for this NFAA all-expense-paid hunting trip, you must sponsor an NFAA Bowhunter Member. As sponsor, your name appears on the application stub which will be put in the pot for the big drawing in January. If you are the lucky one, the NFAA will pay your expenses to Colorado's high country where you will hunt on the nationally-known John Lamicq Ranch, high above Grand Junction near Douglas Pass. So use the application here in the magazine, and write the NFAA for brochures and more applica-

tions. But hurry!

So, who's John Lamicq?

The youngster shown in the top photo is Junior. He will be your guide, and one you will like. He speaks bow-hunting and knows what he is talking about. He should. Several years ago he won the Colorado State Bowhunting Championship. He knows from personal experience the meaning of "hunting the hard way," and will go all out to see that you and his other guests bag their deer. For a time he held the Pope and Young world record for a typical mule deer. The antlers still place high in the records.

In a recent letter, John writes: "Sure has been a busy season. We got several more nice bucks after the ones shown in the photos were bagged. Know what else? Two big bull elk were taken. One was a four-plus-four shot near Roan Creek. Another was a six-plus-six with a 54½ in. spread. One of your California hunters, Bob Gulman, was the lucky hunter. Before deer season we bagged a trophy-size bear. Sure has been a good

year. Let's figure on you and the NFAA contest winner coming for my first hunt next year! Okay? I will save both of you good stands."

Guess what! I have just decided to accept John's offer. Just for the fun of it, let's say you won this contest. Here's what we'll do . . .

Look on your western states map and you'll find a wide spot in the road called Loma. Loma does have a gas station, so Frieda and I will meet you there. The date will be the third Friday in August, somewhere near noon. We'll escort you and your party directly to the campsite. Next morning you and I will be occupying the promised tree stands waiting for daylight. Several years ago, Colorado established the third Saturday in August as opening day for bowhunters. It's a fine law and gives all of us plenty of time to plan on a hunt.

Sound good? If so, you know what to do . . . get busy with those Bowhunter Member applications. One might be your free ticket to Colorado. Now read what Tom Jennings has to offer.



Clint Johnson of Lafayette, Louisiana (left) was one of the first bowhunters to down a trophy buck at the Lamicq Ranch during the past deer season. Smiling approval is guide, John Lamicq, Jr. At right is Tom Garvin of Danbury, Texas, who took this three-plus-three muley later in the season. Below: James Speer of Rockdale, Texas



IN AN effort to promote the sport of bowhunting and to build a national Bowhunter Defense Fund, the NFAA has created its special bowhunter membership. Jennings Compound Bow supports and strongly endorses this program.

The program is more than worthwhile — it is badly needed. We must involve the "unorganized" bowhunter in the defense of hunting rights. And it is you, the readers of this magazine — NFAA members — who can best help this cause by signing up your fellow bowhunters.

As Roy Hoff explains above, when you sponsor a bowhunter you become eligible to win the Colorado Hunting trip. Now you are also eligible to win a Jennings Compound hunting bow. Winners will be drawn from the same pot, but there will be a drawing every month, beginning with this month. If your name is picked, you can go down to your local Jennings dealer and be outfitted with a new bow. And you'll still be eligible to win the hunting trip.

We hope these monthly drawings will provide a little added incentive to sign up your bowhunting buddies. And we hope you'll be one of the lucky ones to hunt next season with The Fast One.

NOVEMBER 1973



TOM JENNINGS SAYS

HUNT WITH A FREE COMPOUND

Colorado in '74. Here's your ticket.

Yes, for every new Bowhunter Member you sponsor, your name is put in the pot again for the big drawing.

Remember, for every member you sponsor we contribute a dollar to the Bowhunting Defense Fund. For your convenience we've included this Bowhunter Member application. Be sure to include your name on it as sponsor. It may be your ticket to Colorado!

APPLICATION FOR BOWHUNTER MEMBERSHIP

I desire to enroll in the National Field Archery Association as a Bowhunter for the primary purpose of establishing a NFAA Bowhunting Defense Fund for funding the defense of bowhunting rights in the United States.

I understand the initial fee shall be \$3.00 for the first year with \$1.00 to be deposited in the Defense Fund, and that additional family memberships shall be \$1.00 each, with 50¢ being deposited in the Defense Fund.

Also it is understood that renewal fee shall be \$5.00 per year with \$2.00 being deposited in the Defense Fund.

Mail to
NFAA Headquarters
Route 2, Box 514
Redlands, CA 92373

A check for \$_____ made payable to NFAA is attached to cover one year dues in accordance with the provisions of the NFAA By-laws.

Date _____
Applicant _____

Signature _____

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State _____ Zip _____

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RAP UP (Continued from page 5)

No consideration was given to style or type of shooting. We did, however, distinguish between men, women, youth and cubs in both boys and girls. Believe me, this produced some of the best field archers known. We have several state and national champions, among them Cal Vogt. Never did we have any complaints because of differing shooting styles.

In 1970, we leased 70 acres for our present field range. Considerable discussions and meetings were held to establish a Valley West classification system for the field round. Realizing that the NFAA system was cumbersome, expensive and not in keeping with our tradition, we then devised a system very similar to Blair Peterson's proposal.

A description of the Valley West system follows. We believe it is workable and in reality classifies all archers without prejudice.

Flight Number	1	2	3	4	5
Field/Hunter	500	450	400	350	300
Score					

Flight Number	6	7	8	9	10
Field/Hunter	250	200	150	100	below
Score					100

This flight breakdown applies to all styles of shooting or any age group. A shoot must shoot two rounds, either field or hunter, to classify in a flight. To advance, a shooter must shoot a minimum of two scores in a higher flight. We then recognize the various styles and classes of shooters by the color of our award medal.

That is, *white* for adult freestyle, *green* for adult barebow, *brown* for bowhunters, *purple* for young adult, *blue* for boy and *pink* for girl. The only time that style, sex or age is considered other than in the color of the medal is in establishing our annual club champions or for any shoot where special

prizes are given. At those times, the top shooter in the style, sex and age is recognized. We have at times taken liberties with the various divisions if our budget and circumstances permit it.

We do not necessarily advocate that our system is best. We do firmly believe that archery had better give some consideration to replacing the existing NFAA classification system with something more practical. We know ours is not a financial burden. We know it does not take an accountant to keep records. We know that the individual archer accepts it. We also know that it is impossible to give out 216 trophies at our Golden Fleece invitational tournament.

On that basis we might as well give every archer who pays his shooting fees a trophy and send him on his way knowing that he actually accomplished nothing or proved that he was any better of an archer than anyone else.

Bill Miner
Chatsworth, California

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by

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Featuring a comfortable sculptured magnesium handle, the precision is over one-half pound lighter than any other compound. And its forward-set design for low torque and easy handling combines exceptional balance and stability to make it the most accurate bow on the market.

Designed to maximize reliability and simplicity, exclusive tuning features, with innovative cable adjustments and sight window cut a full 3/8 inch past center, allow even the novice archer to tune for peak performance.

In addition, the Precision offers attractive craftsmanship as well as engineering expertise; in flat black hunter model or colored target model, it looks as good as it shoots. Compare our super-fast compound with any other bow—we know you'll pick Precision!

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SPECIFICATIONS

Hunter Model

Lightweight Magnesium Handle
Length: 52 inches
Weight: 4½ pounds
Color: Nonreflective Black
Black Glass Limbs
Black Nylon served bow string
Pro-Flex Arrow Rest
Draw Weights: 35 to 70 pounds
Draw Lengths: 22 to 33 inches

Target Model

Lightweight Magnesium Handle
Length: 52 inches
Weight: 4½ pounds
Colors: White, Blue, or Black
White Glass Limbs
Custom Monofilament bow string
Flipper Arrow Rest
Teflon Perfect-Flight Cushion Plunger
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with Stabilizer Pocket
Draw Weights: 15 to 50 pounds
Draw Lengths: 22 to 33 inches

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Shown are Eva Troncoso 1st place, Sue Bradshaw 4th, Gwen Carroll 3rd, Ginger McClintock 2nd place winner. (Not shown was Erma Nelson 5th place who is Gwen Carroll's pretty mother).

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