



Aiming the Arrow

by Jim Ploen

Aiming the arrow is the most important aspect in shooting a bow. The arrow must be aligned from the string, to its tip, to the target, and have a trajectory to match the distance. This is regardless of the shooting style, be it with a sight, bare bow, string walking, shooting three fingers under the nock, or from any anchor location. The arrow must be aimed at its intended target. If the arrow missed its mark and the next arrow was a match to the first, an adjustment in the aim must be made for the arrow to hit its mark.

To support accurate aiming, an archer needs the following basics:

- a solid stance
- a comfortable grip that allows the archer to hold the bow with the proper string
- arrow alignment to match the amount of build out in the sight window
- solid bow arms with a steady draw
- a solid anchor from which to align the arrow
- proper trajectory-based on the distance to the target
- an efficient in-line release that does not disturb the alignment of the aimed arrow.

There are many ways to aim an arrow, but there are set basics that are the same for every shooting style—the pointing of the arrow with vertical and horizontal alignment combined with a trajectory to match the distance. This includes the use of a fixed or moveable sight, snap shooting, trick shooting, bare bow, or shooting by feel. Each method has a learning curve that takes practice to develop the tech-

nique of aiming the arrow to match the shooting style. Shooting style refers to the location of the anchor that is used, the stance, snap shooting, trick shooting, gap shooting, etc.

Once an aiming technique is learned, very little conscious thought or awareness is needed when shooting bare bow (that is without the aid of a fixed or movable sight). This class of shooter is often referred to as the Instinctive Class. A definition for the term “instinctive” in many archery circles is almost like a religion, in that shooting the arrow by feel is a natural phenomena that ignores the basic physics of aiming. That has come to mean, when shooting “instinctive” you do not see or use the arrow as part of your conscious effort in the act of shooting the arrow. To many archers, any use of the arrow is frowned upon as cheating and not very macho. Therefore, the idea that if you are conscious of the arrow, you are not a true “instinctive shooter,” has become a belief.

To some, it's ok to miss the target if the arrow was said to be shot instinctively. When a good score is turned in that was better than the true “instinctive” score it was because the archer

aimed his or her arrow, he or she used the point in setting a gap for a trajectory, or shot three fingers under so the arrow was easier to see and aim, or multiple anchors were used to set a trajectory as opposed to raising or lowering the bow hand.

I see no difference as to which end of the arrow is moved in elevating it for a trajectory. It seems as though a lack of understanding the basic principles of the physics that are needed to align the arrow to hit where we are looking, is an excuse for writing rules. This type of thinking just confuses the common-sense approach that makes the best use of all of our senses when aiming the arrow, either in a hunting situation or playing a target game. I feel it would be more appropriate to rank archers by their ability to score, rather than trying to create so many classes based on variations in shooting styles.

Archery is a shooting sport, and in all shooting sports aiming is of prime importance. Most archers are familiar with the shooting of a rifle. The rifle has a front sight and a rear sight, which are used for alignment and for a trajectory. In archery, the arrow is like the rifle barrel, the point is like a front sight, and the nock and string is like the rear sight. If the rifle barrel is canted, the shot will hit wide of its mark because the sights are mounted above the barrel.

In archery if you cant the bow from a pivot point using the center of the grip as a fulcrum or axis, the arrow will go wide of its mark. But if you cant the bow using the arrow as an axis point, it will be less likely to cause the arrow to go wide of its intended mark. So when you cant your bow from the grip's pivot

point, remember the arrow is about 3/4" to 1" above the pivot point of the grip, and that results in an arc that moves the arrow out of alignment.

It is felt by some that canting is a solution to shooting arrows to the left, and the cant to the right will move the arrow to the right for a right-handed shooter. This is true only if the string/arrow alignment places the arrow more in line under the dominant eye when canted, or moves the arrow tip to the right of the spot, adjusting for the misaligned arrows that went left.

This article is about using the arrow to aim in bare-bow shooting, and not about an instinct that is generally referred to as an animal behavior, whereas human behavior is mostly a product of learning. The fact that you can shoot the flame off a candle in a dark room is a learned behavior. It's the same for being aware of your surroundings, closing your eyes and then picking an object from your memory to point at. If you had the right feel, you were able to point right at the object. Shooting that hat out of the air or a rolling disk on the ground is felt by some to be an instinctive gift. I wonder how many who have learned this technique hit the first four out of five moving objects they tried to hit. If they did, I have to admit that their hand/eye coordination is remarkable. It does not take the brain very long to recognize the need to lead a moving object—and that is a learned behavior.

When shooting bare bow, there are two basic methods which all other aiming techniques are based upon. The eye is the window to

the brain and we can use all or only part of the information from the picture seen with the eyes. When we focus on the target and pick a spot, we can learn to move the bow, draw the string, anchor, and release with little conscious awareness of the bow or the arrow. That is one of the basic techniques and is referred to as shooting pure instinctive, but it is really just a learned behavior and not a great gift such as being a descendant of Robin Hood. With a lot of practice it may become like an instinct. Think of it as learning to ride a bicycle. When we start, we are aware of the handle bar, the front wheel, and the street. As our balance and muscle memory goes through its learning curve, we become less aware of each component until we can actually look over our shoulder and hold a fairly straight course, like an instinct to a learned behavior.

Archers who like to be conscious of where their arrow is being aimed do the same thing. They look at the target, but are also conscious of the bow, the arrow, and the arrow alignment. That is the only difference between the two basic techniques. You can expand your awareness of the arrow and use it as a reference point to match the distance if known, or be aware of the arrow's full length when anchoring below your dominant eye (the eye the brain pays the most attention to).

How you use the arrow will vary regarding the anchor point or the game being played. If you have marked

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yardage and known distances it's only natural to develop a gap system. This is simply being aware of all of your senses and making use of them, rather than relying on nothing but feel to direct the hand/eye coordination while you focus, being only conscious of the spot. Another way to compare the two styles would be to look at the target, close your eyes, then by feel, draw, hold, and release. Or look at the target, draw, anchor, and pause (being conscious of the alignment and trajectory), then close your eyes and release. Which basic technique do you think will be the most accurate? Or the easiest to learn? I personally would like to know where the arrow is pointing with some degree of accuracy before I close my eyes and release.

There are many techniques that can be used for aiming when you are conscious of the arrow, and I will describe one that is being used by a lot of archers who are shooting very well. It is also a very good way to pre-aim in hunting situations that require very little movement of the bow that could alarm the game being hunted.

- Start with a comfortable stance and with the bow in a pre-draw position, arms at shoulder height with a slight draw. You will be able to hold this

position for a long time in a hunting situation.

- Pick your spot or target, and align the arrow so that you can see the full length of the arrow aligned to hit the spot, then set the trajectory so that you can see the arrow pointing at the target, being aware of the arrow in your peripheral view.
- Draw the bow string to a solid anchor and tip your head over the arrow so that your dominant eye can align the full length of the arrow with a trajectory that is aimed at the target or game.
- Maintain the feel of drawing in line with the shoulders and back.
- Concentrate on the target but also be conscious of aiming the arrow.
- When it feels right, relax your fingers to release the arrow. The tension of the draw that is felt in your back muscles will be your in-line follow through.

You can use a mirror to help you to visualize arrow alignment. Pick up an arrow (you don't need your bow for this exercise) and place the shaft in the V of your thumb and index finger of your bow hand. Hold the arrow nock between your index and middle finger of your drawing hand and simulate the

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draw. Hold the arrow at full draw and point at a spot on the mirror. Does the image in the mirror and the actual arrow converge into one straight line? Or do you see the point only in line with the spot, and the arrow pointing to the left? That is exactly where the arrow will go for a right-handed archer, to the left, unless some compensation in the aim is made that places the tip of the arrow to the right of the spot. But this requires the

brain to make two calculations—one for vertical placement to set alignment, and one for trajectory.

Look at the arrow in the mirror and adjust the nock at anchor so that you can see the arrow in the mirror converge in line with the arrow in hand. You will also be able to adjust your shoulder alignment to help with the arrow alignment and this is the alignment you should be looking for at full draw with your bow.

Hold the bow so that you can point the full length of the arrow at the spot using an anchor that places the arrow under your dominant eye, and not to the outside of the eye, using only the tip of the arrow and shooting more by association and feel, and calling it "instinctive."

A good aim is a very precise learned behavior from which we can learn, and a mistake in alignment or the execution of the shot is readily made aware to us with the conscious execution of the act of aiming and releasing. There is nothing wrong with making a mistake, but it's nice to know the cause and how to correct for it with the next arrow. This is easier to do with a conscious awareness of where the arrow is pointing. How often I have witnessed archers miss when shooting by feel, and try to correct on the next shot—only to have the second arrow go almost in the same spot as the first! This happens because it felt the same, and they have no other reference with which to correct their aim.

What you focus on with the most awareness should be clear or correctable to 20/20 vision. Your peripheral vision will only be about 20/45, but with practice you can become very acute at using both, and with patience and practice, aiming can be very rewarding. This not only increases your enjoyment of shooting the bow and arrow but helps with target panic and "gold fever." That's for another article.

If you choose to use the conscious awareness of the arrow as seen in your scenic view, and you judge the distance correctly, you will have to set a trajectory, and release the string without disturbing the alignment or the trajectory. That becomes the challenge of aiming—getting the picture right and then executing the release so that it does not disturb the aim.

You will find that the challenge of shooting by feel has its own problems when you are only aware of the target with little or no conscious awareness of the arrow. If the feel that the shot is right comes while you are still drawing, you will not draw to anchor and will shoot low, or try to help with the bow arm on release and shoot high, or as the draw



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stopped an inch or two short of the anchor the string was plucked so the arrow went wide of its mark, or the bow arm softened in its alignment sending the arrow left for the right-hand shooter.

The above errors will also create the additional problem of not pulling your full draw weight, which could now be three to seven pounds less than what your arrow is spined for. The arrow spine will now be too stiff for the bow and send the arrow left for the right-hand archer. But if the string and arrow happen to be in line when you release, you could still get a good hit, but would have poor penetration.

All styles have the same problem—executing the shot. Just because someone else is using a different style of aiming or shooting from a different anchor is not the basis for creating a rule or another class. It simply means this archer has practiced more and is in control of his or her executing the shot. How long they can keep on winning will be based on their executing the act of aiming and releasing with control.

So don't be a sore loser to a person who wins or consistently fills their deer and elk tags using different shooting style or "aiming awareness." Practice "your" style, understand it, and perfect its execution. Remember, every arrow must be aimed with the correct

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alignment and with the correct trajectory to match the distance, with the proper execution of the release, to be able to hit its mark.

Being so concerned about marks on the bow, or the use of one-color serving, or center-shot is just another excuse for a lack of practice or poor execution on the loser's part and not because the winner has a better system—just better execution of the shot.

Start your shooting sequence by holding your bow so that the arrow and your drawing hand are in a straight line with your anchor. Pick your spot to hit

and focus on the spot. Be conscious of the arrow in your peripheral vision, and with your mind draw a straight line with the arrow to the spot that you want to hit and a straight line with your eye to that same spot so that the two lines intersect at the target. This is referred to as the "dead gun principle."

Draw to your anchor using your shoulder muscles and align your drawing hand with the arrow (you should be able to feel this alignment). With your focus on the spot, be conscious of the arrow alignment and reference to the target. Envision a vertical line through the spot you are focusing on and somewhere along this line you will see the tip of your arrow in your peripheral view.

With practice, you will develop a feel for the distance and set a trajectory for the arrow. As you move back from the target, at some distance the point of the arrow will converge with your focal point. This is your "point-on distance." If you missed the spot, you will have a reference to refer to on the next shot. It's called aiming the arrow.



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