FITA Coach's Manual

LONGBOW
Module

Intermediate Level

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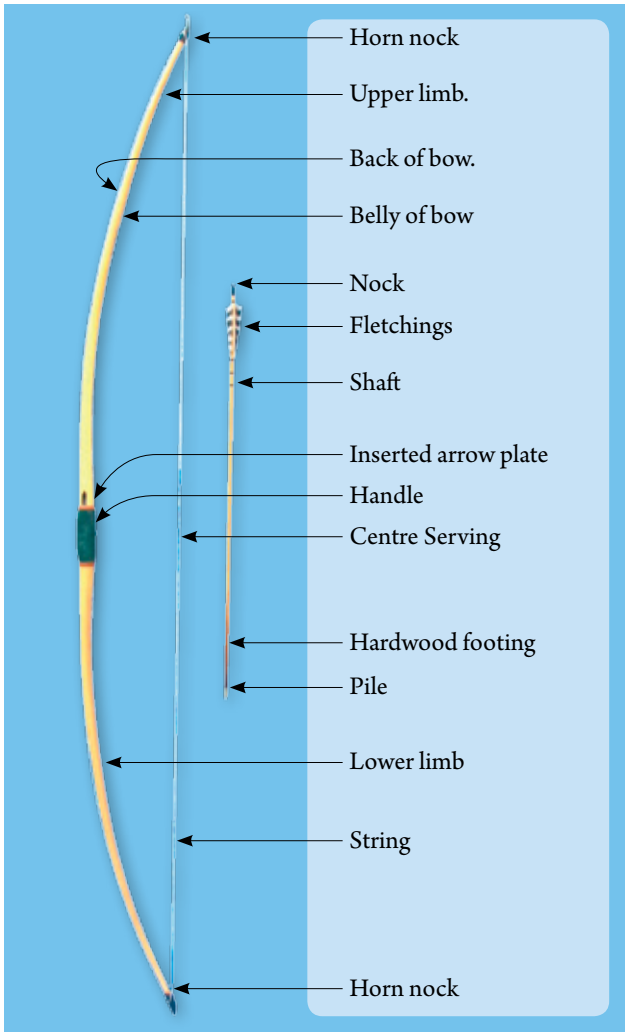
Contents

Note: Within this document we use the term "loose"; this is because during ancient times the command when shooting a longbow en-mass was "nock – draw – loose" and the term "loose" has stayed with the longbow ever since. In modern day archery the term "release" has replaced the term "loose" but I hope you will enjoy the document and accept the term "loose" within.

Chapter 1 Equipment

The Bow

This is made of wood or laminates of wood. Its belly is to be of a 'D' shape cross-section, the depth is not to be less than 5/8ths of the width. The back must be flat or slightly convex and the sides convex. The handle is about 5 inches (125 mm) long in the approximate centre of the bow and may be covered in any material of your choice. The length of the bow may not be less than 5 feet when shooting arrows up to 26 inches long and not less than 5ft. 6 inches when using arrows longer than 26 inches.



When a bow is made, the bowyer tries to use a well seasoned wood, even so most bows, but not all, will follow the string to some degree. It means that the wood of the bow has taken a set towards its strung position, so that after the string has been let down and the bow is held horizontally, belly down, it looks vaguely like a bird in gliding flight. If the archer holds too long at full draw the set may not only happen quicker, it will probably cause the bow to take a deeper set. A small set taken by a bow may well enhance its use, being sweeter to shoot. A bow that retains its straightness can give a vicious kick in the hand at the time of the loose. My 55lb. self-yew bow went into a small set during its first year and has not increased too much in a further eight years of use.

Among timbers for bow making Yew is most universally agreed upon as being the best, when made into a 'self' bow. Such a bow is made with the sapwood left on to form the back of the bow, with the darker heartwood forming the belly. This arrangement takes advantage of the natural attributes of the wood, which effectively forms a natural laminate, the characteristics of which combine to produce the flexible resistance to bending sought by bowyer and archer. In appearance the self yew bow has a light reddish-brown belly with a near-white back, making it a most attractive item. The heartwood of Yew is also used as the belly of the bow with a Hickory back glued in place which takes the place of the Yew sapwood. Hickory is a hard springy timber used extensively for backing bows. Belly woods, apart from Yew, include Lemon wood, Osage and Beefwood. Although the latter makes a handsome looking bow it fails to stand up to continuous use and is better used in the middle of a triple laminate. Other woods used in this way include Greenheart, Purpleheart and Ash, and more recently English yew. A 'self' bow of English Yew rarely makes a long lasting bow, since the annual rings in the timber are too coarse. Even way back the Yew bows used by the armies were nearly always Spanish or Italian Yew. There are lots of other woods which may be used these may be comprehensively listed in other publications but not always easily obtainable.

The String

The string may be made from any material, traditionally linen, hemp and silk were some of the materials used. However, bearing in mind that a broken string almost invariably means a broken bow, the modern man-made alternatives are safer. Having said that, I have seen only one string break, made of hemp it seemed to break almost gently at the top loop and did not cause any damage to the bow. Better safe than sorry, say I, be cautious over the use of some new materials, choose one that does not have a tendency of breaking too readily, the string may still look perfectly good but be aware of unseen stresses going on within. I have no doubt that a broken string will result in a damaged bow. The new material, Fastflight, is almost guaranteed not to break, looks promising, I have one bow fitted with it for the past year with no adverse affects. The best that can be said for it is, that at 180 yards it

gives about 10 yards extra distance to the arrows. Trying it on one of my older bows gave me the impression that it caused the wood to follow the string more, maybe I was looking too hard for adverse effects. I still think that caution is advised when using modern man-made materials.

At this point it is only fair to tell you why I prefer the double loop string to the single loop. First, I have not made it my priority to become proficient in the making of the latter, though I do use one when making new bows, it is very handy in the tillering stage where the string length has to be altered several times. Also, if the bow is for myself, during the first dozen or so shots I can make adjustments quite readily to achieve the correct bracing height.

Which brings me to the second reason; because of the way it is made the loop cannot be protected with a whipping/serving, so any wearing effect on the loop is taken by the string material, which cannot be good for the string or for the bow should the string break.

The correct length for a double loop bow string is obtained by measuring from the nock to nock along the back of the bow and deducting 2 inches from this measurement. The string, when made, has the allowance for at least the manufacturers recommended number of twists. It is better to have more twists than less – knowledge from experience.

The string is adjusted, by twisting, to produce the correct bracing height for the bow. For most longbows, this will give a 6 to 7 inch (150 to 175 mm) gap between the string and handle of the bow. Traditionally this is referred to as the 'fistmele' and is supposed to be measured using the fist with extended thumb, see figure 1 – this could be a dubious measurement given the variation in human hand sizes.

Figure 1

Although in my early days of shooting the longbow I did have trouble with the bowyers knot, I soon located the reason when I realised that it was in fact nothing more than a straight forward timber hitch, the fault lay in the fact that the inner turns must go with the lay of the whipping along the string ending, I've never suffered slipping since.

Making the Knot

Hang the string from a nail; now take hold of it in the left hand at where the knot has to be formed. With the right hand, take the bottom end of the string and pass it from right to left behind the string, taking the end from the left hand side of the string, leave a smallish loop where the turn has been made, figure 2; now pass the end of the string down through the loop, it is at this point the need is to ensure that the free end of the string is going to lie in the groove formed by the twisted strands of the string, figure 3; having made sure that it is correct, pick up the loose end from the other side of the loop, passing it once again down through the loop, figure 4; a third turn should be made if a heavy poundage bow is used.

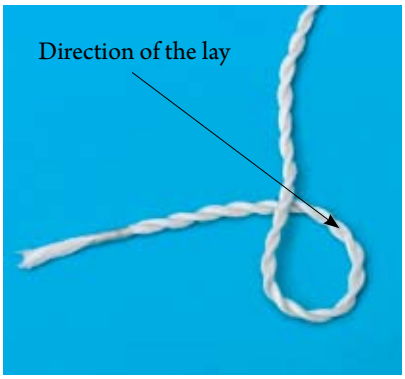


Figure 2

Figure 3

Figure 4

Note: It is essential to have the loose end of the string that is making the knot running along the turns of the lay as it is twisted round, and through, the loop to make the knot in the string.

Nocks

In the long past the nocks were all self nocks, that is the nock would be cut into the wood itself but, it needed to be strengthened to stop the wood from splitting when the string pressure at the time of the loose was applied. This was overcome by making a short cut down the centre of the end of the shaft parallel to the grain; a thin piece of horn was then glued in. When it is set another shorter cut is made, this time across the grain, still in the centre through both horn and wood. The cut would then be filed out to fit the size of the string of the bow for which the arrow is intended. I was once shown a set of arrows made with self nocks and strengthened with brass, very beautiful they looked too; how they performed I have no idea. Having never seen any like them since I should think they were more for decoration than anything else.

After archery became a sport rather than the fighting method it had been, nocks started to be made as a separate item being secured to the arrow shaft by pinning and/or gluing. They have been made from horn, plastics, aluminium and many other suitable materials. Modern moulded plastic nocks are easier to fit and are in almost universal use. There are still quite a lot of traditionalists around who prefer to make their own self nocks.

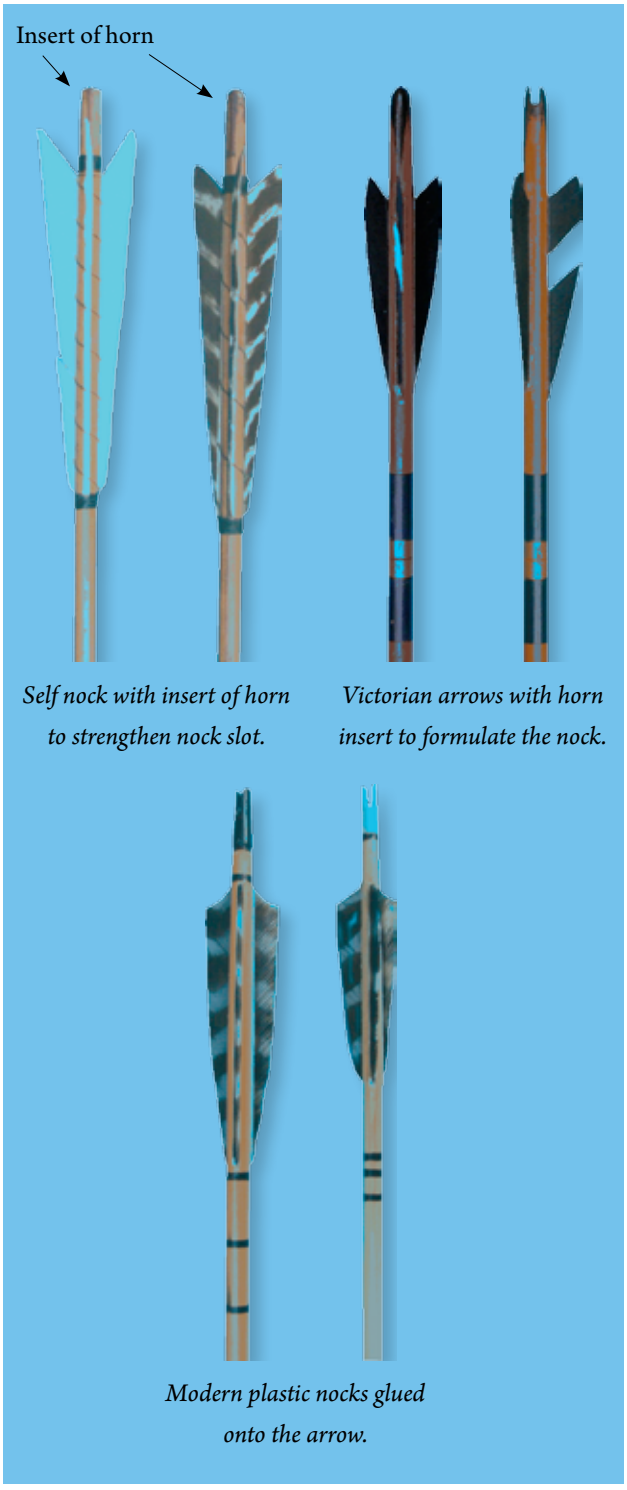


Figure 5

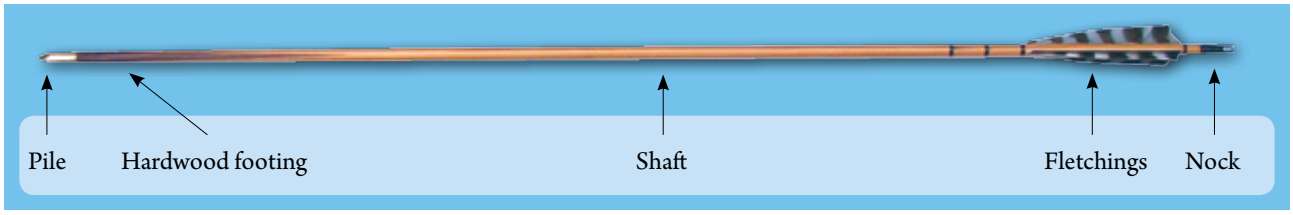


Figure 6

The arrow

This must have a wooden shaft, to which may be fitted a brass or steel pile (point), a nock and with natural feathers as fletchings.

Shafts

The shaft may be of any wood but most are unsuitable, being either, too heavy, too light or too brittle. Arrows made from brittle timber may well break in the bow with disastrous consequences. A fairly light, stringy wood is needed and that known as Port Orford Cedar is used in vast quantities. Arrows made from timber recovered from old floorboards have achieved a kind of mystical acceptance as being 'the best'; certainly the timber will be well seasoned and most probably is of some form of pine.

Self-wood arrows are in the vast majority of use, but they do have disadvantages. It seems impossible to find straight shafts and although one may be told "just heat them up and they'll soften enough to take out any bends"; my experience is that this is often a waste of time that it is just not worth it.

Shooting and spectacular results can be obtained with wooden arrows which are "chested" i.e. the balance point is to the back and sometimes past the centre line of the arrow. Barrelled arrows can use the same principle of keeping the weight low whilst the spine rating is kept at a reasonable figure.

Chested arrow.

Barrelled arrow.

Fletchings

Fletchings are to be of natural feathers. They can be obtained in various shapes, sizes and colours. There are also left and right wing feathers and never the twain should mix! The usual method is 3 feathers at equidistance spacing around the shaft and at a distance from the nock such that the fingers will not touch them during the loose. When the feathers are secured to the shaft one is at right angles to the slot in the nock. This, the "cock feather", is often coloured differently from the other two and always points away from the bow when the arrow is nocked onto the string. Modern adhesives are very handy for fletching, as they are waterproof and feathers rarely come off in the rain.

Piles

A fault which can occur with time and use is the weakening of the wood about 1 to 4 inches (25 to 100 mm) from the pile. Sometimes the arrow will recover with a year or so of rest but usually the arrow will "take a set", just as a bow may do, and will not be worth shooting. The old time archers recognised this fault and footed arrows evolved, in which the shaft is fitted with a piece of hardwood for those few vital inches. The hardwood may be Greenheart, Beefwood or even Mahogany but its higher density and weight necessitates compensation with a lighter pile. See figure 7.

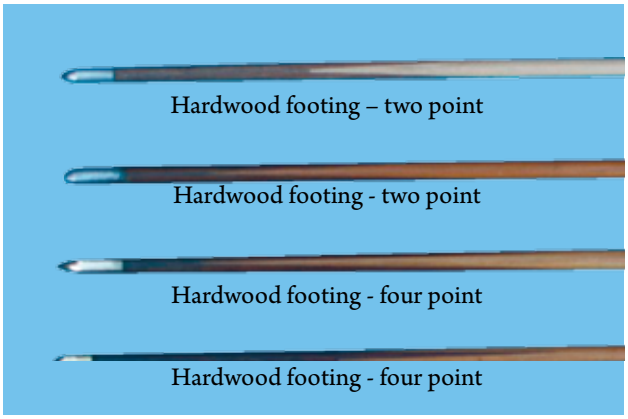


Figure 7

The number of points of the insert depends on the type of joint being used. If a "V" joint is used a two point insert joint will result. If an "X" joint is used a four point insert joint will result.

Spining of Arrows

Many manufacturers' spine their shafts to suit the recurve bow. For a longbow it is generally reckoned that spine values should be about 1/3rd less, but be careful here; as the user of a 26 inch arrow, shot out of a 55lb bow the spine required is 30/35 group, whereas a friend of mine with a draw length of 28 inches also out of a 55lb bow, uses 40/45 group. The recommendation is, first settle on the poundage of bow needed, and use it with arrows to the formula above until your draw length becomes consistent. Then attempt to fine tune the arrows to the bow.

Shoot several differently spined arrows first, some specialist archery shops used to loan out a set made up like this. When satisfied that the correct group has been found, make up 3 or 4 arrows of that spine or slightly stiffer, shoot one of these at a target set at 40 yards/me-

tres. Also have some medium glass/sand paper with you. Note where the point of aim is in order to hit the centre, if it is well to the right (right handed archers), rub down the shaft but be careful not to damage the fletchings, also keep the rubbing down evenly around the shaft, try again and again if necessary until the point of aim comes onto the target. Not being a centre shot bow it is not necessary to be able to aim at the centre of the target. When you are happy with one arrow proceed to the next. I have found that it is not possible to get some arrows to exactly the same specification; the wood seems to have its own ideas. It is much easier to have some sort of mechanical device to spine arrows once you have one with which you are completely satisfied. Using such a device, one friend of mine measures the depth of bend by rotating the shaft instead of having the grain in each arrow set correctly. I cannot say I agree with this method. Having made up a matched set don't be too disappointed when you find they do not all hit in the same place. The actual weight of an arrow will also have an effect.

If you can afford footed arrows by all means have them but be prepared for some disappointments, they are harder to make successfully than it seems. They have the advantages that the front end stays firmer longer and if the footing breaks it can be replaced.

Quivers

A quiver is used to hold the un-shot arrows while shooting. There are many varieties of three basic designs, side quivers, back quivers and pocket quivers. Which one you use is a matter of personal choice.

Chapter 2 Target shooting

1) Dominant eye

Firstly determine which the dominant eye is. This is because the dominant eye should be above the arrow nock when at full draw, it is necessary to find out in which hand the bow should be held. Here is a simple and quick way to find out:

With **both** eyes open, point with one finger at a small or distant object, then close the left eye and check if the finger is pointing directly at the object looking with the right eye. If it is, the right eye is dominant, if it is not, the left eye is dominant. As further proof, open the left eye and close the right eye, if your finger appears to point to the right of the object the right eye is dominant, if the finger stays pointing at the object the left eye is dominant.

With a right handed archer the bow is usually held in the left hand, it feels natural in the sense that the left arm would be held out steady, whilst the right hand draws the back the string. So **normally** we have –

Right eye dominant – hold the bow in the left hand.
Left eye dominant – hold the bow in the right hand.
We often find people who are right eye dominant but are naturally left handed (or vice versa). For these people, at first, try what comes naturally. That should be, I imagine, the bow being held in the "non-preferred hand" (i.e. a normally right handed person will hold the bow in their left hand) using the dominant hand to draw and loose the string. If then the target is missed because the dominant eye takes over, one of two things can be done – a) wear a patch over the dominant eye whilst shooting, or b) change over handiness and learn to shoot the other way round. Many people in fact have learned to shoot, what feels to them, the wrong way round. There are many archer's who shoot with both eyes open, whilst this is desirable some find it difficult to do. Some archers come to full draw then just half close the eye not used for aiming just to be sure the correct eye is the one doing the aiming.

2) Arrow length

There are many ways to determine an arrow length for the longbow archer; explained below are two such methods.

a) This is established, at first, by holding an arrow with its nock end against the top of the breast bone and the other end of the shaft between the palms of the hands, stretched horizontally forward. An arrow which reaches a couple of inches (50 mm) beyond the finger tips of the outstretched hands should be a safe length to draw to the chin for a beginner. See figure 8.

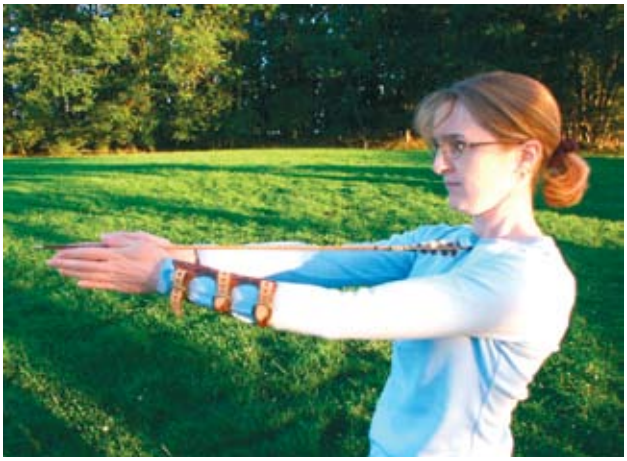


Figure 8

b) A more accurate way is to use a very light weight bow and a full length arrow that is marked off in inches. This arrow does not need to have any fletchings fitted, the arrow must not have a pile fitted–the shaft should be blunt to avoid any accidents. Have the archer fit the arrow to the bow then draw the bow to their comfortable full draw position. A colleague can read off the arrow the measurement that comes to the far side of the bow; then add at least two inches (50 mm) to allow for a safety margin, this measurement can then be used to choose arrows of a suitable length. See figure 9.

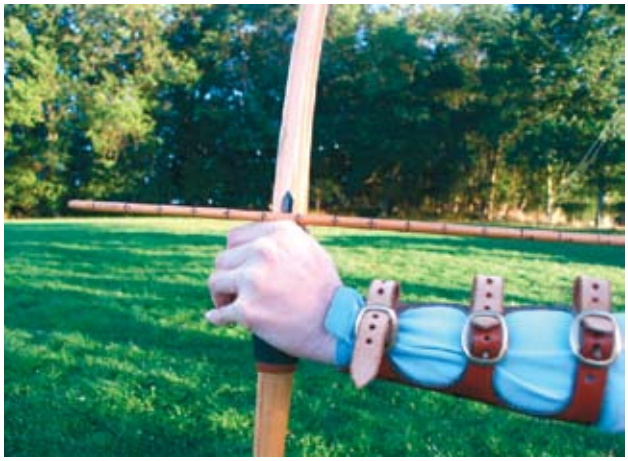


Figure 9

3) Preparation.

A **bracer** is worn on the bow arm and does in fact brace the clothing out of the way of the string. But, when shooting a longbow its other purpose is to protect the forearm from the lash of the string after the act of "loosing". This is most important when the archer is a beginner, if the bow arm is not rotated correctly, to give clearance; there is a chance that during the string travel it will slap the bow arm. The bracer can be home made using a plain piece of leather, or may be a purchased plastic or composite material type, or may even be leather reinforced with metal rods; it is secured by buckles, laces or some similar method. The bracer can be seen in figure 11.

A **tab** is worn on the string hand, a double thickness of leather is recommended, at least in the early days of shooting. The tab covers the three fingers used to pull the string. A tab can be obtained that has a non-pinching block fitted between the forefinger and the middle finger. There are also shooting gloves available – these usually cover the three fingers used to draw the string and is attached to the wrist via small straps, but some are now available where all the hand is covered but have leather reinforcing over the first three fingers. See figure 10.

Figure 10

Since no mechanical arrow rest is permitted, the arrow must rest on the upper edge of the bow hand. This means that the point at which the arrow is nocked onto the string becomes both very important and very personal, as too high a nocking point will cause the arrow to come out of the bow erratically, while a low nocking point will result in a cut or grazed hand as the feather fletchings drag across it during the initial moments of arrow flight. I do not advocate the use of wearing a glove on the bow hand as one tends to lose the "feel" of shooting.

Holding the Bow

Take hold of the bow in the hand determined by the dominant eye, with the arm hanging loose by your side the bow should be horizontal to the ground with the string crossing the forearm. The grip should be firm but not clenched. The wrist should be straight, or nearly so. Now lift the bow up vertically in front of you. Take careful note where the handle sits in the hand and check that the bow is the right way up (the arrow plate and, usually, the larger horn nock are on the upper limb). The bow should sit somewhere near the ball of the thumb. This may feel strange but the wrist must not be "inside" the bow during the "loose" because, should the string hit the bracer with the arrow still nocked on, the chances of knowing where the arrow may go is rather slim and it may take some time locating it if it missed the target. See figures 11 & 12.

Figure 11

Figure 12

Note that the top of the hand is level with the top of the handle. It is essential to keep this constant if consistency of the aiming point is to be maintained.

Mark on the Bow

A "mark on the bow" (MOB) is allowed for aiming purpose and this may be a natural mark in the wood, handle of the bow or simply the knuckles of the bow hand. A rubber band (an "O" ring or similar) is the simplest aiming "mark", as it can be rolled up or down the bow limb to suit the distance being shot. Many archers use the pile of the arrow to aim with but this can cause problems at short and long distances. All bows will be "pile on" at one distance, light poundage bows will be "pile on" at short distances but making it difficult at longer distances, with the heavier bows may be "pile on" at longer distances but making it difficult at shorter distances. The mid-range poundage bows will have problems on both the very short distances and long distances alike. The following describes a way I have heard of overcoming the problem – the archer has three different poundage bows, the most powerful for the 100 yards and the lower poundage bows for the 80 yards and 60 yards. Of course three different sets of arrows are required, as different weight bows need differently spined arrows. There are several ways of overcoming this problem but I prefer the rubber band, which is an aid to shooting, especially repetitively at longer distances, though there are "traditionalists" that frown on its use. If you are used to shooting with a rubber band and then take it off for some reason it may take a few ends to find a good aiming point, but once one has been found it is very satisfying to shoot this way.

The Hold on the String

The forefinger is placed on the string above the nock, the middle and ring fingers beneath, with a clear gap between the fingers and the nock. Many beginners are taught to have the gap below the nock but I found that, in my own case, it was better to have room above since my forefinger tended to curl noticeably around the nock and press down on it as I drew the bow and the angle between the string and the arrow closed.

It is also necessary to have a deep "hook"; that is to place the fingers so that the string is held in the first joint of the fingers during the draw. This is because, generally, a heavier draw weight is required when shooting a longbow, than in other types of bow, to give a reasonable arrow flight. See figure 13.

Officially the "Mediterranean" grip on the string (one finger above the nock and two below) is the only one used in longbow shooting. I have seen two finger holding and loosing but would not recommend it because of the heavier poundage, as mentioned above, resulting in a greater strain on the fingers which may cause an injury.

Figure 13

Point of Aim (P.O.A.). In order to shoot at a target with some consistency of hitting it we need several things. Everyone would like to be able to aim at the gold but this is rarely possible and some degree of "aiming off" must be employed. One alternative is to aim at a point on the edge of the butt or on a leg of the stand, or even, at some distances, a prominent branch of a tree, a bunch of leaves or some other feature that is in line with your shot. The "mark on the bow" M.O.B. is accurately located on this at the moment of loose. Remember, a longbow is not a "centre shot" bow! This is vividly demonstrated when, having an arrow nocked on the string and the bow hand aimed at the target, the arrow will be seen to point wide of the mark, perhaps even at the target beside the one you wish to hit. Many archers try to spine their arrows to enable them to put their M.O.B. on the gold, to hit it the arrow must go round the bow. Others use a very thick

rubber band, combined with correctly spined arrows, to achieve the same effect. Thick rubber bands are frowned upon, generally accepted is that any rubber band being used cannot be thicker than 1/8th of an inch (3 mm). A few archers, who aim with the pile of the arrow, cant/lean the top of the bow away from the arrow, which again has the effect of aiming at the gold. Correctly spined arrows should always be used. Be very careful if the decision is to cant/lean the bow, for the angle must be as precise as possible for every shot. It may take many years of practice to achieve the effect consistently. A correctly spined arrow should, with the aid of the "archer's paradox" just clear the bow after being loosed.

The Archers' Paradox

At the loose all the stored energy of the bow is applied to the nock end of the arrow via the string and, due to the inertia of the pile, the shaft of the arrow bends, initially inwards toward the bow. As the arrow starts to move forward, the shaft recovers through straightness and bends the other way, reaching a maximum bend as the fletchings slide past the bow. The bending effect dies out quite quickly and a correctly spined arrow will fly straight. It may well "kiss" the bow as it passes, but will have little effect on its flight.

The Loose Point

In recurve bow shooting "the loose point" is known as the anchor point but in general terms longbow archers do not hold for long enough to call it an anchor point. In target shooting the generally accepted point of loose is from under the chin/jawbone. One way is to bring the upper finger under the chin/jawbone, still drawing back until the string touches the chin and nose simultaneously, then immediately or with minimum hold, straighten/relax the fingers allowing the string to pull off the fingers. Do not try to unhook the fingers from the string. See figures 14 and 15.

Figure 14

Figure 15

Another way, again the upper finger comes under the chin/jawbone, this time the string is brought to the side of the chin/jawbone and loosed as before. A "kisser" on the string is allowed as long as it is not used as a sighting aid and must not be in line with the eye and target. A "kisser" is a special sort of button fitted around the string tight enough not to slip about and is used at longer distances. Its position on the string is found by experimentation. During shooting the hand is brought back a few inches or more below the chin/jawbone and the kisser is positioned between the lips before the loose. Be careful here, injuries may result if the "kisser" is not fitted correctly. By using this method a "pile on" or point of aim (P.O.A.) near the target is possible at least, at 100 yards. Yet another "loose" position is with the tip of the index finger touching the corner of the mouth. This, combined with a canted/leaning bow is used extensively in Field Shooting and is really only for shorter distances, possibly up to 60 yards with a moderately powerful bow. A bow like a tree trunk would be needed to shoot 100 yards with this particular style.

Making the Shot

With bow in hand and arrows in the quiver, the archer stands astride the shooting line, feet comfortably apart, bow-arm shoulder presented to the target. The bow is now brought round to the front of the body, held at a comfortable angle to enable an arrow to be "nocked" onto the string.

Nocking on: take an arrow about two inches (50 mm) below the fletchings, bring it up and over the bow, resting it on the uppermost finger of the bow-hand and firmly nock it onto the string at the nocking point. This point is approximately 1/8th to ¼ of an inch (3 to 6 mm) above a right angle from the string to the top of the finger the arrow is resting on. The cock feather must be pointing away from the bow at a right angle. Now the fingers are carefully hooked onto the string – remember, it's one finger above, two fingers below the arrow nock and the fingers not touching the nock of the arrow. See figure 16.

Figure 16

Still standing comfortably, head upright and looking straight ahead, the bow arm is moved back to the side, bow vertical. Now, if the shot is not going to be made with both eyes open close the non aiming eye and turn the head toward the target. Locate and concentrate on the selected point of aim (P.O.A.). With the bow arm straight (extended) but not locked at the elbow, draw back the string steadily. The bow-arm does two things, resisting the pressures from the string and raising the bow toward the point of aim (P.O.A.), all these actions are simultaneous. When the point of aim (P.O.A.) and the mark on the bow (M.O.B.) are together there should be about 1 inch (25 mm) to go to the loose point. Keep the drawing of the string going, as soon as the string touches the chin and nose, and with minimal hold relax the fingers, the kinetic energy built up in the wood of the bow will pull the string off the fingers; the drawing hand, with the weight relieved will fly back at least to the neck under the ear. The bow-arm is held still pointing toward the point of aim (P.O.A.) until the arrow is flying toward the target. See Figures 17 and 18.

Figure 17

Figure 18

The Recovery of Arrows

The archer should not go blindly, nor run up the course regardless. There are rules which must be observed. When shooting in the company of other archers, all must wait until everyone has shot all their arrows, those finishing first must step back from the shooting line. It is courtesy when shooting with a companion, to stay on the line until both have finished shooting and then step back together. Usually at organised shoots a field captain will give the signal to advance to the targets to score and retrieve the arrows. In practice shooting it is by mutual agreement, unless one person has been nominated, who is answerable for all deviations from safety. When moving up the course, everyone must walk – do not run; and be keeping a lookout for arrows that have fallen short. It is the custom in archery that if an arrow is damaged or broken by some accident, the perpetrator is expected to offer to pay for it. On arrival at the target the scorer proceeds to record the scores, when nominated each archer calls out their scoring arrows in turn. The arrows are called in batches of three and in descending order – i.e. 9, 7, 5, the archer will pause and the scorer calls them back as the sores are recorded, if there are more arrows to record the archer calls their value – i.e. 5, 1, miss, the archer will pause again and the scorer will call them back as they are recorded. Note that arrows that have missed the target must be called and recorded. No arrows can be removed from the target until all arrows have been scored and recorded on the official score cards. Also, any arrows that have missed the target should not be retrieved until the scoring routine has been completed for all the archers and that target.

To withdraw an arrow from the target: If standing on the left side facing the butt, the back of the left hand is placed close to the arrow which is to be withdrawn, the right hand then holds the arrow close to the target as possible, and in one smooth movement the arrow is removed from the target. Do not twist or wiggle the arrow about while pulling it free, it causes stress to the wood fibres, weakening them. There is another point to watch out for when taking hold of the arrow shaft, the emphasis must be on the fingers, if the heel of the hand is pressed against the wood, sometimes an alarming bend is caused to appear in the shaft, with arrows that are not very old this does not seem to do any harm. When it is one of your arrows being withdrawn, with your permission, of course, the bend can look very alarming. The reason why the back of the hand is placed on the target face, it has turned into a handy receptacle to hold the withdrawn arrows. Also, another courtesy is extended here, if a fellow archer cannot find an arrow that missed the target then everyone on that target joins in the search.

When returning to the shooting line after retrieving the arrows "no one takes up position on the line" until all archers are back behind it, then and only then, will the Field Captain or nominated person give the signal to recommence shooting.

To Hold, or Not to Hold

Holding a longbow at full draw is detrimental to the bow. There is an old saying "when a bow is fully drawn it is nine-tenths broke". When a bow is being "weighed" that is, calibrated to find the poundage at the draw length specified, if that bow is held at its maximum recommended draw length, the poundage reading drops quite quickly during the first one and a half seconds, then the loss lessens to where at about two or three seconds further loss is hardly noticeable. The loss varies according to the initial poundage, more with a "heavy" bow, less with the "lighter" bows. There are many good longbow archers who exploit this phenomenon and hold long enough for the first rapid loss to slow, meanwhile holding the point of aim (P.O.A.) and, when ready "loose". I should think the loss may be two or three pounds with a 60lb. bow to about one pound on a 35 lb. bow. This is just estimation; I have no real means of checking as different woods respond differently to differing draw weights and draw lengths. What I do know is, when the wood is young (a bow is made from seasoned wood, so lets say "young" in the sense of a newly made bow) the wood recovers quite quickly but an archer who holds at full draw must expect the average bow to quickly follow the string and, from then on, lose power. This is hardly noticeable at first but two or three years of fairly regular use will show its effects. Some archers who hold, and maybe a few who do not, unstring the bow between ends in an effort to delay the wearing effect

of holding at full draw (an end in longbow archery is 3 arrows as many shoots are conducted shooting two way i.e. targets at both ends of the archery field, the archers shoot three arrows, go forward to score and retrieve the arrows then shoot back down the range to the other targets which are just behind the shooting line they have just left). I have no idea of the effect this continual stringing and unstringing routine has on the wood of the bow but I have heard it said it is as detrimental as is holding at full draw. If it is that bad, why hold at all? The most obvious reason is it enables the point of aim (P.O.A.) to be located accurately and held steady before the loose. Another factor is the string can be controlled. Also, the body may be composed; that is if an archer can be composed at all when holding a heavy bow at full draw. It is your choice. Longbows are no longer cheap or as plentiful as they used to be. Self-yew bows are becoming rare and expensive.

Methods of coming to the Loose

Fluid flow draw

This is a method of shooting in which the bow is brought from a position just below the point of aim (P.O.A.), up to the point of aim and to full draw and loose in one smooth movement. This I believe is the most efficient method of shooting. When mastered, it enables a heavier bow to be used, which gives a lot more authority to the arrow flight.

The "T" Draw:

With this type of draw the bow is held with the arm up and forward, with the Mark on the bow (M.O.B.) and point of aim (P.O.A.) held in line and the drawing arm up ready. The string is then pulled back steadily to the loose point, where the fingers are relaxed/straightened and the hand and arm carry on backward, all completed in one smooth movement called the "follow-through".

There may be some variations on both methods. Both are used with the hold type of shooting. Most "holders" do so for about two and a half seconds, never more than three seconds. Whatever method is chosen it must be practiced to perfection. It is no good picking up a longbow once a week and expecting to become proficient. Anyone who says they have only shot their bow once since the year before then goes on to win is, in all probability, bending the truth, or playing at gamesmanship with applying psychology.

Practice at short distances at first – 15 yards/metres is about right – then, when feeling happy about your improving skill, move the target further back by about 10 yards/metres. After that try shooting 40 yards/metres, your first "real" distance. Later you can try a few arrows at 60 yards/metres, or 80 yards/70 metres, or even 100 yards/90 metres, just to get the idea of what it feels like to shoot at longer distances or just to see if the bow will propel arrows that far. Even when you feel you are proficient, it helps many aspects of your shooting to practice at shorter distances, say 40 or 50 yards/metres. This can boost your confidence, polish your technique and help you sort out your best arrows.

Change of Distance

This can be the most difficult technique to master. Unlike using a modern Recurve bow, where in the vast majority of cases the bow is held long enough to assume "**unit aiming position**", then still held long enough to steady the sight on the gold. If a longbow were to be held, if at all possible, then one or two disastrous things could happen. Either the archer would be left with just the handle in their hand, with the rest of the bow at the feet, or, at the loose the arrow would just creep out of the bow and flop somewhere between the shooting line and the target.

Unit aiming, which mentioned above, requires a little explaining. The bow is held with the bow arm at a right angle to the body, using the "T" draw method, the bow is then fully drawn to the loose point and held. The body thought of as a little "t", is then pivoted at the hips backward away from the target, until the mark on the bow (M.O.B.) /sighting point is on your aiming mark i.e. the gold, then steadied before loosing. The first part of the fluid flow method, that of drawing the bow, can also be used, because it still looks good, that a little heavier poundage bow may be used. See figure 19.

Figure 19

Now back to the change of distance when shooting the longbow. Most longbow archers raise the bow-arm to give the arrow a high enough trajectory to reach the target. Unfortunately, when raising the bow-arm and leaving the rest of the body the same, the draw-length shortens – just a little – which in turn reduces the poundage and length of power-stroke and, therefore reduces the imparted power into the arrow. But do not despair, all that has to be done is to elevate the bow-arm a small amount to compensate. That is ok for 80 yards for men and 50 yards for ladies, but what happens at 100 yards for men and 60 yards for ladies? The only answer really is to change to a more powerful bow, or a bow with a better cast. There is one method that may help, that is the fluid flow method of shooting. I found that this method seemed automatically to set my body into the correct stance, without the need to hold at all at the point of loose.

There is not a great deal of advice to give but to warn of possible reasons for poor results. You have to think about it. Poor performance is more often than not due to a faulty technique.

Cast of the bow, this depends in the first instant on the recovery of the woods, its elasticity being the reason it was selected in the first place. The job of the bow is to propel the arrow away from itself, the faster it recovers the more speed is imparted to the arrow and the greater the cast. A short bow will naturally recover faster than a longer one and consequently shorter bows tend to have a better cast but, in any case, in long-bow target archery a bow shorter that 5 feet is not allowed.

Chapter 3 Shooting Styles

Clout Shooting

Originally the "Clout" was a small piece of cloth placed on a short stick and stuck into the ground, and was for training archers to shoot accurately over long distances. In modern times a similar piece of cloth is attached to a small stick, like a flag, and placed in the centre of a large roundel target marked out on the ground to allow for scoring the landed arrow value. The distance for shooting the modern "Clout" is 180 yards for gentlemen and 120 yards for ladies. The British Long-bow Society rules say that the centre is a small straw butt, a hit on which counts for a "6". There is also a series of rings marked out on the ground, scoring from the inner to the outer 5, 4, 3, 2, 1 respectively, with a total outer diameter of 24 feet. It sounds big until you try to hit it from 180 yards. In some respects it is an extension of target archery.

Here it is essential to have a mark on the bow (M.O.B.) which, with even a powerful bow, has to be below the handle. The other thing is of course, bearing in mind that a long-bow is not a centre-shot bow (and assuming no wind) the point of aim (P.O.A.) may well be to one side of the Clout. In target shooting, when changing to longer distances, a body-lean backward, or an extra elevation of the bow was needed, to give the flying arrow height enough to carry to the target. The "T" draw method may be used, and some archers using it are quite successful. What usually happens is, with the arm elevated and with a loose point on the front of the chin, it becomes almost impossible to see the Mark on the bow (M.O.B.), the first change can be to move the loose point to the side of the chin. If the mark on the bow (M.O.B.) still cannot be located then move the loose point to the corner of the mouth, indexing it with the tip of the forefinger. I would not advocate a higher position on the face, because naturally when the loose point is higher, the bow arm must be elevated further to compensate. Having mentioned a "kisser button" before, it is possible, if the button is moved up the string allowing the drawing hand to be lowered down toward the chest, that a mark on the bow (M.O.B.) above the handle could be used. Remember the English bowmen in history where the bow was drawn to the "pap". Unfortunately, as this involves an in-

crease in draw length and an unconventional position, a much weaker bow would have to be used than in ordinary target archery. So, all things considered, a loose point on the chest is not a good style for Clout or target shooting.

The fluid flow method is the one to use and I am convinced there is not a better method, its biggest advantage being that a heavier bow can be used. The loose point can be by the corner of the mouth, or to the side or under the chin. The stance on the line and usual sequence of movements in nocking an arrow and setting the body is similar to that for target shooting, except that the large "aiming off" needed at these extreme distances means that the point of aim (P.O.A.) should be regarded as the "target" for the purpose of "setting the body".

When the draw is started, the bow arm will for a moment obscure the point of aim (P.O.A.), and it is necessary to have in your mind's eye a picture of the complete draw action. The bow arm swings up and the body is laid back from the hips see figure 20, or, as I often have to do, by bending the rear leg, see figure 21. Following the reappearance of the point of aim (P.O.A.), merging of the point of aim (P.O.A.) with the mark on the bow (M.O.B.). Reaching the loose point a really fast straightening/relaxing of the fingers, must take place as a smooth continuous movement. The follow-through of the drawing hand should be natural and the finish position held for 1 or 2 seconds.

Figure 20

Figure 21

A little bit of analysis of the above would not come amiss. The stance on the line, that's OK, as usual. The turning of the body away from the actual Clout toward the point of aim (P.O.A.), is funnily enough one of the hardest things to do, as it seems natural to have the shoulder pointing at where the arrow is expected to land. But the distances involved in Clout shooting considerably magnify the effects of small changes of body angle. It is essential to set up the body for the shot as though the point of aim (P.O.A.) were the Clout, since taking a stance as if aiming directly at the Clout will demand a marked compensatory movement to the point of aim (P.O.A.) and a consequent change of posture. Such a change will inevitably affect the shooting method, which by now, hopefully, is instinctive. You may think that this is being over cautious; you only need to have a small muscle twitch, at the moment of loose, when shooting at even short distances and see where the arrow lands, and compare this to your average grouping.

The lifting up of the bow-arm, drawing of the string and the lay back does not really need any elaborating but the temporary distraction of losing the point of aim (P.O.A.) may be a bit of a problem. Here also the position of the head becomes very important. The head must stay perpendicular to the body, as at the stance, with the eye compensating for the change of angle. The archer must

concentrate on this and, if successful, the point of aim (P.O.A.) will be picked up easily.

You may notice I emphasised a **fast** loose. I have experimented on several occasions, in competitive shoots and came to the conclusion that, although in my case a steadier sort of loose was required at target shooting, at the Clout a faster loose, just short of a "snatched" one, gave better results. The follow-through is quite important. The slightest hint of a forward loose or attempting to "unhook" the fingers will result in an arrow landing short of the scoring area. Having got all that right the only worry now is the wind!

Cross winds are a little easier to deal with than a wind blowing up or down the course. If the cross wind is coming in such a way that your arrows are landing left of the expected location, then the point of aim (P.O.A.) should be located further to the right, with the consequent stance alteration, or vice versa should the wind come from the opposite direction.

Head winds are a little more difficult to deal with. Because the British Long-bow Society rules are that Clout should be shot two-way, when shooting in one direction the wind may be head on, and when shooting back down the course the wind will be from behind. When the wind is "head on" the tendency, because the arrows are dropping short, is to elevate the bow more and more; but the longer the arrow is in the air the more time the wind has to push it about. Also, if a bow has been elevated above 45 degree, the arrow will drop short even on a calm day. I try to sharpen my technique and induce more power from the bow. With winds from behind, the natural reaction is to correct, lower the elevation to reduce the chance of overshooting.

If you are unfortunate enough to find yourself at a shoot with a weak bow, with the wind coming "head on" and the arrows are not reaching do one of two things; practice improving your shooting technique or experiment with it; alternatively try various ways of shooting to see how far up the course you can get your arrows. Most of all enjoy the outing. Still with the weaker bow and the wind from behind, you may well find you do not need to elevate the bow-arm as high as the norm, as arrows with the wind behind will carry further.

Field Shooting

The shooting of arrows from the bow is basically the same, although the small differences which do exist are important. In fact there are a few archers, who shoot both target and field archery using their target technique, and some are quite successful.

Both fluid flow and "T" draw styles are used. In the fluid draw method I found that it was best to keep the bow vertical, as trying to adopt the same angle when canting/leaning the bow for each shot, is more than a little difficult! Probably I need more practice! My loose point is at the corner of the mouth using my forefinger as the reference indicator. I did experiment with different styles but in all of them, because the rules specify no mark on the bow (M.O.B.), I used the "gap-shooting" method at all distances.

Gap Shooting

Every archer will find that there is one distance at which they can aim at and hit the target by lining up the pile of the arrow with the centre plus offset of the target. This will vary according to the weight of the bow and the style of shooting used but is usually to be found between 20 yards/metres and 50 yards/metres. As one gets nearer the target from this point, a gap must be estimated to give a point of aim (P.O.A.) below the target centre, increasing in size as the target is approached. Be aware however, the gap needs to start reducing again at a distance about 12 to 15 yards/metres. With the distance further from the target than "pile-on" means allowing for a gap above the target. In the hold method the gap is worked out at full draw but in the instant loose method the gap must be calculated before or during the draw. Both may be effective. Practice and more practice is required. The canted/leaning bow is used in both styles and, of course, the arguments as which is the "best" style will not stop, nor really be resolved. You must just try the different methods and styles to find one that feels right for you. I feel sorry for people who are taught one particular style and stick to it, to no avail, frustrated beyond endurance, they drop out of the sport altogether.

Rovers

This form of shooting was much favoured in the days when archery was **the** sport to indulge in. It is often seen as a form of Clout shooting but is, in fact, "Shooting to a Mark". In the traditional version of "Shooting at Rovers" a group of archers would wander over open land, shooting at natural "marks", with the next target being chosen by the archer whose arrow fell nearest to the "mark" that was being shot. Now, as a result of limitations on open space, it is more common to shoot at "marks" set up by the shoot organizers which is still very enjoyable and very rewarding.

Glossary

Archers' paradox
A dilemma of why the arrow appears to point in one direction but flies in another. It is the result of the flexibility of the arrow under dynamic conditions and the deflection of the string off the fingers during the loose.

Barrelled arrow
An arrow that is fatter in its shaft than it is at the pile and nock ends.

B.L.B.S.
British Long-bow Society.

Bracer
A protection device worn on the bow arm to hold clothing clear of the moving string.

Centre shot
Traditionally made bows (longbows etc.) displace the arrow by half their thickness from the centre-line. Many modern bows are shaped to allow the arrow to be shot through the centre-line, hence "centre-shot bow".

Chested arrow
An arrow that is fatter in its shaft but nearer to the back of the shaft than the front

Clicker
A device that gives an audible indication when the arrow has been drawn to its intended draw-length: Not used on a long-bow.

Dominant eye
The eye that takes over dominance and is used naturally when aiming or sighting.

Finsbury mark
An annual Rovers competition in which the "marks" are pre-selected.

Fistmele
The distance between the bow handle and the string, traditionally equivalent to the width of the archer's fist and extended thumb.

Fletchings
The feathers, glued to the back end of the arrow, acting as "flights" or a "rudder". Most arrows have three fletchings, although some archers use "four-fletched" shafts.

Fluid-flow draw
A method of shooting in which the bow is brought from a position just below the point of aim (P.O.A.), to the point of aim, full draw and loose in one smooth movement.

Gap shooting
A method of aiming, whilst at full draw, in which a gap is estimated between the arrow pile and the target, according to the distance being shot.

Guild of Elizabethan Archers
An archery society that holds an annual shoot, based on ancient rules, in support of archery related good causes.

Kisser
A tactile device attached to the string to assist aiming by ensuring accuracy of the draw. Usually drawn to the lips or similar reference point.

Loose
The act of releasing the string at full draw.

Mark on the bow (M.O.B.)
A mark on the bow, to assist aiming, is permitted under B.L.B.S. target shooting rules. Such a device is prohibited in many Field archery rules.

Nock
This is a slot or groove on the limb tips into which the string fits. The arrow should be held on the string by the nock, without support or interference from the fingers.

Nock-on
To fit the arrow to the string.

Nocking point
A point marked on the string, at which the arrow is nocked on. Usually a fraction of an inch higher than a point square from the string to the top of the bow-hand, on which the arrow rests during the draw.

Pile
A metal point protecting the front end of the arrow, investing it with forward weight and ability to penetrate the target.

Pile-on
A situation in which the shooting distance is such that the pile of the arrow may be aimed directly at and on the target for a hit.

Point of aim (P.O.A.)
A point on which the M.O.B. is lined up to achieve a successful aim.

Quiver
Container for arrows used while shooting.

Shoot
Verb; describing the act of projecting an arrow with a bow. Note; an arrow is not "fired"; no flame or explosion is involved.
Noun; applied to organised archery competitions e.g. Open shoot, Club shoot, etcetera.

Snatched loose
Unsteady tugging on the string to complete the draw. Induced by anxiety, excessive bow-weight or poor technique. Results in poor shooting.

Spining
A measurement of flexibility of an arrow under set conditions. An arrow may be "spined" (i.e. selected) to match a given draw length and bow-weight.

Tab
A shaped piece of leather, used to protect the fingers from abrasion by the string.

"T" Draw
A method of shooting in which the draw is initiated and the shot completed with the bow held "on-aim.

Unit aiming
Similar to "T" draw except that the sequence is broken down into "units". (1) Preparation (2) Draw, with body upright and bow-arm horizontal, (3) Aim, tilting the body back from the hips to achieve elevation, (4) Loose.

Weight of the bow
A measure of force (poundage) to bring the bow to full draw.