Although it is possible that this treatise might be of interest to Sporting Rifle Target shooters of varying degrees of expertise, I plan to treat each element from the most basic starting point.

It is well understood that many people come to target shooting with quite a lot of "baggage" - ideas and habits they have picked up on the way. In many cases it may not be very beneficial to unlearn these and start afresh. However when I started there were few role models or accepted ways of operating so I decided to look at each element and work it up from what I considered to be some basic principles.

These principles were:

- P1. Have all body parts in as natural position as possible at all times
- P2. Never have any muscles under tension that do not absolutely have to be.
- P3. Do not make any movements that are not essential to the task.
- P4. Make all movements as slow and as simple as the task allows

The subjects are deal with in the following order of paragraphs:

The Stance	The aim
Disposition of the feet	The approach to the aim
Disposition of the arms	Trigger release
The head position	Reticules
Getting the rifle to fit	Non standard aiming areas
Set up for a Static shot	Rifle features
The lift for a Static shot	Assessing variations
Butt to shoulder pressure	
Lift for a Running shot	Special considerations
Set-up for Running shot	Fast Runs
Cyclops or Not!	Running Deer Doubles
Return to set-up for Running shot	Shooting Techniques
Tracking	Training methods and schedules
Directional differences	Fitness and Conditioning
The end of the important bit!	
Positional shooting techniques	Match Shooting
The Spor-Target sling	Conclusion
Prone shooting	
Bench shooting	
Sitting position	
Kneeling position	
Bi-pods and sticks	

### The Stance

The following relate exclusively to offhand shooting whether at moving (MT) or static targets. Positions will be described as for a right handed shooter. Left-handers will be used to transposing.

## Disposition of the feet relative to each other and the body

In seeking to achieve P1 above, I find it helpful to stand with eyes closed, hands in pockets or similar, and then alternatively lift and lower each foot as though standing in treacle. Stop when you feel you are in a neutral and comfortable position, the position in which you would want to stand still for a long period if threatened with the pain of death on moving! It is important that this exercise is done without reference to the whereabouts of the target. We will consider later how the stance should relate to it.

Carefully observe and memorise what one's foot positions are relative to each other. They should normally be symmetrically disposed about a notional centre line. There is a natural tendency among game shooters, or those who have military experience, to have the forward foot pointing in the direction of the target. There are good reasons for this but they do not apply to our sort of shooting where one knows exactly where the target will be.

In achieving P2, one should stand as short or low as possible, with all the weight carried by ones skeleton rather that held up by muscles. The difference between standing thus and standing up straight, as mother would have taught us to, is at least half an inch! However, it should be ensured that the spine is kept straight to ensuring balanced rotation about the centre of gravity.

The whole purpose of this stance is to most easily be able to rotate our trunk in a manner we will discus later.

### **Disposition of arms**

I want to consider this without considering the rifle because it is fundamental to the highest performance that the rifle should fit the body and not the other way round. (Take a look at the extensively modified Running Boar stock, which the Club now has in the roof, that enabled John Gough to win the Silver medal at the World Championships in Seoul in 1978)

Extend your leading arm away from your body with the palm uppermost and the whole in a relaxed position. You will probably find that your shoulder, elbow and hand are in a straight line with an angle of about  $120^{0}$  at the elbow and the hand is about half open.



This I suggest is the ideal disposition into which the fore-end of the rifle should fit. The most common way in which it might not do so is that the fore-end is such that one has to twist the wrist so that all the fingers are on one side of it and the thumb on the other. It is much better if the first and perhaps part of the second fingers are round the end of a nice fat beavertail type fore-end. As well as being more comfortable long term, it is so much easier to suddenly apply rearward pressure to the rifle to maintain it in the shoulder when one has to reload quickly as in Running Deer Doubles. We will discuss later how this rearward pressure should not be present when firing.

Concerning the angle of the elbow there is the mechanical consideration that the further the arm is extended the less is the rifle moved by aberrant movements of the hand and visa versa. I think this consideration is of little importance compared with the one of comfort and minimum muscle strain. I would mention here that when I started shooting, the Russians, who were world leaders at the time, shot with both hands extremely far back and elbows stuck out like wings.



I am sure that the motivation for this was that in this position it is almost impossible to swing the rifle other than by swivelling the whole trunk. The style has lost favour because it is possible to regularly swing properly without this contrivance.

Consider now the trigger hand and arm. Extend it a much shorter distance and with the only stricture that the knuckles should be vertically in line. Look at what you have got.



I suggest the wrist and forearm will be straight. Where was the thumb? Can you get a trigger hand grip to fit inside something very similar to this? I think that the position of the thumb is critical. Either a thumb hole or deeply cut "wrist" can achieve a good position.

This hand has to lift the rifle during the mount. A much lighter grip can be used to achieve this if the area behind the trigger guard is built up to provide a lifting surface for the second finger to operate on.

I now want to consider breaking both P1 & P2 of the rules. This is the technique of having a high right elbow.



It is undoubtedly more strained than with a lower elbow but it brings with it a much better configuration of the hollow inside the deltoid muscles as a place for the butt to fit. Of the four places that the body contacts the rifle, the butt to shoulder is the really critical one. If it is wrong the rifle will recoil in a different way and the shot will be deflected. The high elbow position is favoured by many top international shots.

## The Head Position

To conform to P1 and P2 we should have the head in the same position as it was when we did the foot placement exercise. However, unlike shot guns, rifles do not come with a "cast off" stock and hence to get the eye in line with the shoulder the head must be inclined to the right a little. In a conventionally made rifle with the telescope aligned with the bore it is not possible to do anything about this. However one can and should do something about the height of the head relative to the shoulder in order to minimise P1 problems.

## Getting the Rifle to Fit

When I started thinking seriously about competitive sporting rifle shooting, rifles seemed all to be made solely for prone shooting with iron sights. My rifle, a BSA Majestic, had a very narrow fore-end so I made a fore-end into which the exiting stock fitted. I also made add-ons for the right hand, the butt plate and the check piece. All this would be even more laughable now than it was to many people then, though it did win a championship or two! Though I had almost no experience of woodworking I made a stock that I thought had the right configuration from an old beech log. If you want to do anything enough, you will always find a way! I was proud to do a .30" outside diameter 5 shot group with this – technically known I believe in the Bench Rest fraternity as a "screamer".

When 50m Running Boar was scheduled to become an Olympic event, Anschutz and then Walther came to the rescue with purpose made stocks which admirably fitted the bill. The broad stippled beaver tail fore-end of the Walther was a particular welcome innovation, encouraging a loose front hand grip. The thumb hole gave a very comfortable trigger hand position, but only for the low elbow style. However the most important feature of any rifle for off-hand shooting is to have, as they did, easily adjustable butt plates and check pieces. The necessity for this is the ease with which one can get and retain the correct eye position however the rifle is swung around



Adding a clip-on or stick-on cheek piece is the single most effective modification one can make to an out-ofthe-box rifle to enhance shooting performance. It is a fact that even now when so many rifles are made for telescopic sights and without a foresight, the stocks are the same as, or very little different to that which is required for prone iron sight shooting.

The correct height of the check piece and position of the butt plate are obviously interrelated. They depend on the distance between optical line and the effective centre of the butt plate; the distance between your shoulder and eye in whatever head position you decide to adopt, and the shape of your face below the eye. Getting this right requires quite a lot of time and experimentation and with eyes alternatively closed and open. To conform to P1, try to get the head in as normal a position as possible without crouching down onto the stock. You will be lucky if your scope mounts are of the ideal height. Having the scope higher, means that the butt plate can come up and thus be nearer the line of the bore. The nearer that is the less will the muzzle rise on recoil. This is advantageous in all circumstances but especially so in Running Deer Doubles.

The overall objective of all this quite complicated business is to achieve a situation where one can come to the Ready position, close ones eyes, raise the rifle and without any head movement, know that you will have a perfect sight picture when the rifle hits the shoulder. If you are in the game for real, you will be doing this quite a few times in life. It is so worthwhile learning to do it correctly rather than waste time as so many do in having to work it out each time by lowering your head onto the rifle to get it in the right position.

## The Set-up for a Static shot

Having achieved the ability to mount the rifle with minimum head movement, the next step is to have the rifle pointing in the desired direction as the mount is completed. To do this we must revert to the position of the feet in relation to the target. If one thinks of the extreme and nonsensical positions, it would be possible to shoot facing square on to the target but there would be a long way for the forward arm to go and it would severely

compromise P2. It would be possible to shoot facing at right angles to the target with both shoulders in line with it, but there would be nowhere for the butt to go. Somewhere between the two there is a comfortable position. To find it raise the rifle to the shooting position with closed eyes and swing it a little left and right a few times and stop when it feels to be in a neutral position. Open the eyes and see where this is in relation to the target or the centre of the run. Move both feet keeping them in the same relationship to each other as per the initial paragraph, until one consistently gets a fairly central aim. Several checking attempts must be made because the neutral position is not well defined.

You will most often find that the back foot is at right angles to the line of fire. If you have long arms you may get a bit more front on which gives a better shoulder to butt position. Study and memorise this configuration.

I might mention here that in former times there was the idea that one should take up a stance expecting to take the shot about 2/3rds down the range and wind back to where the target will appear. But this was in relation to the Running Deer which, when you take in the antler run, has a 50% greater arc than the other MT events. With the advent of the reduced 50m and 10m arc this is now discredited. Having got ones feet into the correct position before or during the sighters, they should not be moved even during reloading. The risk of adopting a wrong position is too great.

### The Lift for a Static shot.

We must start from the ISSF Ready position. In this the lowest part of the butt (which may not be lower than 200mm below the bore line) is not higher than where the tip of the elbow would be when held adjacent to ones side with no lifting of the shoulder. This place should be indicated by a 30mm wide tape attached to the shooting jacket. See the ISSF diagrams in the Long Room.

There are two styles of lift. The easier to learn and complying more with P3, is to have the forward hand where it needs to be for the shooting position and swivel the rifle on that. See that the hand in the first and third picture is at the same level. I suggest people should start with this and perhaps even stay with it. But there is the tendency for the muzzle to bounce, especially if one progresses to having a quite muzzle heavy rifle, which we will discuss later.

The more difficult style to learn is shown in the middle picture but is favoured by many top shots. It is to have the muzzle where it needs to be for the shooting position and swivel the rifle about this. One has to learn to raise the forward hand quite a small amount but very accurately.



If you have access to YouTube and search for ISSF World Cup Athens 2004 Running Target – between 1:40 and 1:50 two shooters are shown side by side one using method 1 and the other 2 – if it works for you adopt it.

To be able to regularly replicate the lift so that the rifle comes up very close to the height of the target we need to find the starting point from which to do so. Carefully note where the muzzle appears to be relative to the target in the Ready position and where the sights were pointing at the conclusion of the lift. It is of course essential that the rifle and the head start from the same position during these experiments - you may no yet be expert in replicating these positions. In this experimentation it may be helpful to shut the eyes briefly during the lift. Alter the starting point until the rifle comes up almost exactly on aim and then memorise the starting point that works. It will take a lot of repetition and thoughtful observation to get this consistently right.

The objective is P3 - to make the absolute minimum movement between the Ready position and Shooting position thus giving more time for attaining the aim while avoiding all quick movements. These will exaggerate any error if the timing of the trigger release is not near perfect – which it seldom can be!

According to P4 the lift should be as slow as allows the best compromise between being very slow and hence hopefully more accurate, and yet having enough time to get the aim and take the shot; this either by restriction of the time allowed or the onset of wobble, if this is time related. One would hope that general fitness and conditioning levels were such that this latter was not an issue. We will tackle this matter later.

### **Butt to Shoulder Pressure**

Worthy of a paragraph on its own is the necessity of having the butt held against the shoulder with a consistently firm pressure. Of all the things that the rifle is going to do as the bullet moves up the barrel, the rearward recoil is the most significant and this even with a heavy rim-fire rifle where the recoil is minimal. If the pressure is rather light any variation in it will have a disproportionate effect compared with the same variation with a firmer hold. All the rearward pressure on the butt when in the Shooting position should come from the three fingers of the trigger hand. It should not come from the forward hand as this can produce a vertical movement of the muzzle. This, the terminal element of every lift, does need to be in ones consciousness at all times. It is all too easy to be getting on with the next part - taking the shot because the aim was good although the lift had not been completed in this respect. No single issue is more likely to be the cause of an unexpected a poor shot, than having failed to do this properly.

## The Lift for a Running shot

The requirements of the lift itself are similar to that for a Static shot but coincident with it we must start the lateral swing so that when the rifle gets to the shoulder not only is the aim nearly correct for height it is also in the correct lateral area and it is moving forward at close to the target speed. We will later discuss niceties of detail as to from where the final homing in of the aim may be approached.

However an important new consideration is the speed of the lift. Obviously the slower it is the further the target will be into the run when the shooting position is attained and vice versa. Thus the speed of the lift is fundamentally significant to where it should start from. The important thing is that having decided through experimentation and experience how quickly or slowly you are going to lift, that speed must be retained at all times. Failure to do so is often a major cause of the differences between Practice and Match results.

### The Set-up for a Running shot

All the considerations mentioned in regard to set-up for a Static shot apply but with added complications. We have mentioned the first in the previous section.

A second arises from the fact that when looking at the target run from the Ready position, the rifle is not being held in the same vertical plane as the line of vision. Thus if the rifle is to be held alternatively pointing in similar angles relative to either end of the run, the views will not appear symmetrical to the firer.

This is further complicated because we have two eyes and we now need to address this fact.

### **Cyclopes or Not!**

I am a strong advocate of shooting with both eyes open if at all possible. This not only because it conforms to P2 though that is important. The additional advantage is that the non shooting eye is a subliminal aid to accurate lifting and tracking when the shooting eye is temporally obscured by the rifle. This is of greatest advantage when reloading in a double shot event.

If one's master eye is opposite to the left or right handedness then special arrangements have to be made. The easiest way to establish which of your eyes is the master one is to first make a ring with finger and thumb. Select a small object about two metres away. With arm extended and both eyes open, move your hand quickly to view the object though the ring. Alternately shutting each eye will establish which eye you were using. Being left or right master eyed has nothing to do with which eye has better vision. In some cases neither eye is particularly masterful. This can be established by an observer if they get the subject to stand about five metres away with arm outstretched held at waist height and with a closed fist with thumb uppermost. Tell them to quickly raise their arm and align their thumb with which eye the subject was using to do the alignment. If as

sometime happens their thumb appears somewhere between their eyes it indicates that they do not have an established master eye.

Few people can close one eye without some involvement of the other. It can be learnt as one can learn to waggle ones ears, but unless tackled early in life it is difficult! I believe also that it is also possible to learn to ignore the influence of the non-shooting eyes which may at first have been a distraction. If it is necessary to mechanically obscure a master eye then an outrigger type disk attached to the 'scope can be a solution.

## Return to the Set-up for a Running shot

The effect of gazing at the point where the target will appear with both eyes open and the rifle in the ready position is that most people will be aware of two images of the barrel about a metre apart on the bank. The left hand one is that seen by the right eye, most frequently the master eye, while the right hand one is as seen by the left eye. The relevance of all this is that when setting oneself up for a running shot by getting the barrel in the predetermined position relative to the gap, one needs to have decided which barrel one is considering!

For a left going run to start with try putting the right hand barrel in the corner of the gap. Remember to start swinging as you are lifting. Carefully note where the aim came up relative to the target as the rifle got to the shoulder. You need to do this several times because as we have said the outcome is affected by the speed with which one lifts and this is unlikely to be very consistent to until you are well practised.

For a right going run try putting the barrel about two metres into the gap. By moving the head to look along the barrel you can check where the barrel is actually pointing in each case. Remember that what we are trying to achieve is P3 – the minimal movement from a legal Ready position to a satisfactory aim and this according to P4 - as slowly as possible while giving one adequate time to perfect the aim in an unhurried way.



Showing for Left and Right going runs where the muzzle appears in the gap (for a Right handed shooter) and where the rifle will actually be pointing if one was to look along the barrel

After a lot of experimentation you will be able to find the orientation of the barrel that gives you the best results from the lift. This may alter in time as your lift gets smoother and more regular. For Fast runs it needs to be further into the run at each end to counteract the greater movement of the target even though your lift itself may be a bit quicker. It is a moot point as to whether this should be so or not. You will notice that good Fast runs shooters lift quite slowly but still have plenty of time for everything.

## Tracking

We have alluded to the fact that swing must start along with the lift, but once the rifle is firmly in the shoulder, tracking starts in earnest. In order to get a smooth regular swing it is essential that the rifle is moved not with the arms but with the whole upper body. The reason for this is that the muscles of the torso can be said to be smooth muscles whereas those controlling the arms are twitch muscles.

One needs to imagine a shaft running down through ones spine and into the ground. The body should rotate around that with no movement of the arms relative to the shoulders. This is not at first a natural movement and needs to be learnt and practiced. Although ones hips do not move much, it may be helpful to try to imagine that they are moving.

If one gets behind the target and need to catch it up, there will be a great temptation to push the rifle through with the arms whereas the proper thing to do is to swivel the torso round a little quicker. This will produce a far

smoother acceleration of the rifle and hence a better chance of correctly judging the timing of the trigger release.

Another fault to avoid is that of moving the body, notably the back of ones neck, across in sympathy with the target instead of rotating about the imaginary shaft.

### **Directional differences**

People often say that shooting in one direction is easier or more natural than the other. Though there are different faults that can arise according to the direction, there is no sound basis for the former assertion. A common direction related fault can be the tendency for the rifle to become looser in the shoulder when a right-handed shooter is shooting left going. The forward arm will be bringing the rifle around and off the shoulder rather than the shoulder pushing it.

Significantly different results on one side compared with the other are very likely related to persistent lifting errors on one side. It is all too easy to get into this situation and not realise it until too late. But by far the most common reason for having trouble on one side is because you think you are having trouble on that side!

### The end of the important bit!

You now have everything you need to do hours and hours of practice and we have not mentioned anything about actually firing! Perhaps you thought that learning to shoot involved burning powder! I cannot emphasis too much the importance of getting right the points that we have dealt with so far. In the same way as a pianist has to spend a lot of time doing scales and a ball player spend hours perfecting their strokes, their cut, slice and drive, so does the serious sporting rifle shooter need to spend much time in learning the basic movements. Pulling the trigger is the easy bit!

### The aim

It is a fundamental feature of Moving Target shooting that we need to shoot on an approximate aim but one that is improving hopefully towards an ideal aim. Unlike other forms of rifle target shooting, we cannot wait until the aim is satisfactory and then squeeze off a shot. Some do this so gently that they talk of using a "surprise break" technique. We cannot do anything like this because the aim will be well off when the bullet exits the muzzle. In this respect it is more akin to pistol shooting because of the continual relatively large movements of the firearm compared with the size of the bull area.

It is a further fundamental of MT shooting that better scores are achieved not by a preponderance of good shots but by the absence of bad shots. This relates to the fact that a poor shot can be so heavily penalised. A low scoring shot or even a miss on the target or in the wall is always a very realistic possibility even for a top shot. Dealing with the pressure of this potential disaster is a big part of our sport and a bigger issue than in some other forms of target shooting where a bad shot may only carry a ten or twenty percent penalty for that shot.

We have to think in terms of an area aim, rather than a point of aim. The size of this area should vary according to ones skill. For all but a very few, it will certainly be greater than the size of bull and for many, at least to start with, it may be a great deal larger. We should cultivate the idea that a shot inside what ever scoring ring we have chosen as our goal is a successful result. How far in towards the centre it is, is largely a matter of luck.

For a relative novice I would suggest that one might consider a 3 on the Running Deer or a 5 on the 50m Boar to be a success and the goal should be to get as many as possible of ones shots into this ring. You should not be too concerned as to how many of them are in the higher scoring area. A centralised group within you "goal" ring is what you are looking for. Later on you may progress to expecting 4s on the Deer and 8s or 9s on the Boar. How many are 5s and 10s is largely fortuitous and some of them that do land there will not be your best shots but rather your lucky ones.

From all this it follows that you should become able to visualise the area on the target that equates to the ring size appropriate to your standard. As your aim approaches and gets into this area you fire. Hopefully the rifle movement will continue towards the centre of the area. As one progresses this acceptable area becomes smaller as one's control of the rifles improves. Everyone likes to score bulls but they are largely an irrelevance to the indication of your performance in the early stages of your shooting career. I have used the phrase that one need

to learn to shoot these events from the outside in. I still practice this in that when recording practice scores I do not note the total score but the number of shots that were outside the predetermined ring and the number of points lost by not achieving that basic ring.

From the verbosity of this section you may gather that I think that many competitors have a fundamental misconception about how to deal with "the aim". In fact I contend that aiming is a very small part of "marksmanship". I define this as the ability to control the rifle in a repeatable way after the intention to fire and before the bullet leaves the barrel. Inexperienced children can aim – marksmanship involves rather more!

### The approach to the aim

As stated above we cannot wait until we have the perfect aim. To make the point, perhaps too dramatically, I often say that "if you ever did find yourself with a perfect aim on – you are too late anyway!" John Gough used to talk about "shooting on the in", a technique he used to be Champion with the Sten gun on many occasions. This weapon you may know goes "clonk" after releasing the trigger before the bang as the action goes forward and picks up a round from the magazine before driving it into the chamber and then firing it. Fortunately our lock times, the time taken between the trigger breaking and the primer igniting, are a little quicker!

Most people probably find that they are approaching the aiming area from behind - coming up through the body with the intention of letting off when they get there. This seems natural to many because it is probably the way they approach bird shooting.

Because the horizontal and vertical movements of the rifle are, or should be, carried out by different muscle groups I have found it advantageous to first get the tracking speed co-ordinated with the target speed while having the aim slightly below the ultimate area, and then bring it up into that area. Some try to drop the aim into the area but I think one has more control raising the muzzle by muscle contraction rather than letting gravity work against a relaxation of muscles. However dropping down into the aim is the standard procedure often taught in standing target shooting. But I wonder if this latter is not more about getting the heavy rifle, probably with a butt hook, firmly into the shoulder. Except in duelling, pistol shooters often drop down into the aim. Here again they must go slightly past the aim and then up because during the downward movement the target will be obscured.

To conform to P4 one should get the rifle slightly in front of the area and by tracking slightly slower than the target let it drift into the aim, thus keeping all movements as slow as possible. However this does not seem to be a natural thing to do for most people. I used to use it but now favour the approach from below.

Do what ever you find works best for you but do try to follow the same procedure each time. When you can do this most often, it does give one great confidence throughout the run that there will be a satisfactory outcome before the wall approaches. Unfortunately life is such that things do not always work according to plan and some times one has to make the shot as best one can from where ever you are on the target.

## **Trigger Release**

I do not know if anyone has ever properly analysed the basis of "talent" in rifle shooting but undoubtedly the general unfairness of life is such that some have more of it than others. It is my consideration that the special talent that some have is the ability to make very rapid decisions that a predetermined criteria has been achieved and to make a small movement at this time. It is not just reaction time but a qualified reaction time. Of course the differences we are talking about are a matter of milliseconds but they occur at a very critical part of the process, this being getting the bullet out of the barrel as quickly as possible after it was first thought to be pointing in the right direction. The importance is such that many and varied attempts have been made to improve the situation. These include improving the lock time and by shortening the barrel to the minimum that will achieve an all burnt propellant situation. However the one major thing that anyone can achieve is to have the best possible configuration of the best trigger that can be fitted to the rifle.

Ideally the trigger should contact the fleshy part of the top joint of the fore-finger near the joint. However if you cannot adjust the position of the trigger never compromise the even more important trigger hand grip in order to get that part of the finger on the trigger. It is perfectly possible to use the second finger.

What most find works best is a trigger that has a minimum apparent movement during final the release. The actual pressure needed to release is not so important. One can learn how to consistently take up most of what

ever is required before the final improvement of the aim. However most people will prefer to have it close to the legal minimum of 500 grams. The lower weight makes it easier to judge the intermediate pressure that one should take up as the aim is improving. The absolute antithesis, which one sometimes sees with beginners, is having the finger almost off the trigger and then ripping it all up in one big yank.

Achieving the minimum movement - having a crisp trigger as many would describe it - can often best be obtained with a two stage trigger. The first pressure should be very light and quite long so that it requires a positive action to take it up. This should occur naturally during the later stages of the lift as the rifle settles into the shoulder. If properly adjusted this will leave the sear on a much shorter engagement than would be possible with a single stage trigger. In the later case the trigger would not reliable set on bolt closure but often go over the sear due to small slacknesses in the elements' bearings.

So in essence one needs to be as prepared as possible for the ultimate release with the determination to take it the first time that the aim criterion is met. Easy it is not! With thoughtful practice it becomes easier.

## Reticules

We have talked about the importance of the shortening of the "make your mind up time" concerning the acceptance of the aim. In my view the type of the reticule has a considerable influence on this. Bearing in mind the approximate nature of the required aim, a heavy clumpy reticule is advantageous compared with fine cross hairs. However it must be said that some with very good eye sight use the latter well. A dot is ideal on the Boar where the aim is against the black target if using supersonic ammunition. Using target velocity ammunition for Slow runs and Hi-velocity for Fast is a good option. The trouble is that a size of dot which might be best for Fast runs would be bigger than ideal for Slow runs. This thought lead to my getting Pecar to make the three dot reticule with a large central dot for Fast on the nose and smaller outrigger dots for a Slow runs, aiming either on the nose or in the bull, and both with hi-speed ammunition.

When Red Dot reticules first came out, the optics and the mechanical features were very poor and unreliable. I am sure they are probably sound now and represent a very good option in that the aim can be very obvious with relatively low magnification. But make sure the dot is not too big or bright at the magnification you would like to use.

Be aware of the difference between telescopic sights with magnifying reticules and non magnifying ones. The former are the norm in which the size of the reticule – or the distance between parts of it – do not vary in relationship with the target with variation of the magnification. With a magnifying reticule system the distance between dots on a multiple dot scope can be altered to suit the aiming area and the speed of the target. Nowadays they talk about first and second focal plane, but I can never remember which is which and "magnifying" and "non-magnifying" seems to me a so much more straight forward description.

Magnification is an issue in itself. Better shots are attracted to higher magnifications again I believe because in reduces the "make your mind up time" by making the observation clearer. The disadvantage is the seriously reduced field of view but this is not a problem if their lift has been reliably grooved. However rather than using a high magnification with a fine cross hair or dot they might be better served by a bolder reticule and a lower magnification.

An important consideration here is to have a system that works for you, not only on a quiet practise day but also stands up in the heat of competition when things start to get difficult.

The advent of **twin post scopes** has been a big advance for MT shooting. It is virtually essential for anything but beginners on 10m, and a great advantage in 50m. However I would not advise getting one until you can regularly score high eighties on Slow runs. There is plenty to concern yourself about to start with without having to also think about which post to be using! I am surprised no-one else uses one on the Running Deer where a greater choice of aiming areas becomes available with a twin post.

The advantage of the Twin Post is that it give you a choice of aiming area This is particularly so on the 10m Running Target where the aim are otherwise very vague and hard to define. It is all about this delay in making your mind up. If you can swing perfectly on the target it hardly matters how long you take but that skill is given to few!

The thickness of the posts requires thought if choice is available to you. I favour a fairly wide post not less than 1.5 cm at 50m. I am sure it should be flat topped. A pointed picket post type element does not give the same natural indication of height. In a hunting scope the tip tends to get lost in failing light.

Some get confused about how to set up twin posts and how to adjust them. I would advise to spend some time in getting the posts as close together as possible (note carefully as you move them together because in some circumstances you can push one away as you move the other in) and getting the shot to fall just above and between them. Get all this near the optical centre of the 'scope with adequate movement of both posts in all directions. This is not easy without windage adjustment in the mounts. The question "which direction do I move the post to....?" is answered is the same with all sighting systems – "Move the relevant part of the system, i.e. relevant post in this case, onto the shot." I.e if the shots are falling behind move the post you are using in the direction of the fall of shot. You can think of it in terms of needing more or less lead but you can confuse yourself with the difference needed for leading as against trailing post. Keep it simple. Put the post in question on the shot fall.

### Non Standard Aiming areas

Aiming areas for point-of-aim scopes are best indicated on a target rather than in text. There are good illustrations of this in the Mid Boar. The great advantage a twin post scope on the Boar has is that it enables target velocity ammunition to be use in the Fast runs by using the trailing post. This puts the true aim out in front of the target, a position it is almost impossible to hold with a conventional scope. The area between nose and tusk can be visualised as a circle which equates to the 9 ring. Using the leading post in this for Slow runs and the trailing post for Fast runs works well for many. The scope settings for these are very nearly the same; actually a little further apart for the Fast runs depending on ammunition velocity and any "swing through" the shooter may have in Fast runs. This means that Mixed runs can be shot on this setting.

Using this area the posts need to subtend 29 cm at 50m (conveniently the outside edges of the horizontal bars on the Club's orange diamond zero target) for Slow runs and around 34 cm for Fast runs. This would vary by 2.4cm (1") within the permissible range of target speeds. (5.0 - 5.2 Slow and 2.5 - 2.6 seconds Fast)

If using the leading dot as the aiming mark with the leading post on the 10m Running Target, the posts require to subtend 9.5cm apart for Slow Runs and 5.5cm for Fast Runs. Elevation depends on how much white, if any, you like between the top of the post and the aiming dot – always assuming you can ever hold it still enough to notice!

The standard aim on the Running Deer for a fair range of ammunition velocities is the leading edge of the chest. A difficulty with this is the sloping nature of this edge which makes getting the lead a bit difficult. The vertical part of the aim is easier to establish by having the horizontal line of the reticule midway between back and belly line. To get a more equitable area, many use the head which can be thought of as the centre of a ring that would equate to a good four. This is about a fine as all but a few should be happy with. I would not recommend adopting this head aim until you can keep all but exceptional shots in the three ring.

### **Rifle features**

We have dealt with number of points concerning rifles features in a previous section Getting the Rifle to Fit. In reality the only thing that an individual is likely to be able to do, having already got himself a rifle, is to make some adjustments to the comb height. It is a continual source of wonderment to me that so many try to shoot scope sighted rifles with a comb that would be suitable for looking along the barrel as with iron sights. I think that this derives from the traditional way blank stocks are cut and the general lethargy over design concepts. A rifle that does not have provision for adjustment of the comb height is not really suitable for off-hand shooting. Of course the exact height cannot be predetermined because the manufacturer does not know what height of scope will be fitted or what the shape of the shooters face will be – so they make it as they always did!

Many people use a butt plate with a concave curve as an aid to the correct placement. This curvature must not exceed a depth of 2 cm. It does help but it is noteworthy that many top shooters have so honed the accuracy of their lift that they eschew this aid. It is important that the butt does not catch on clothing during the lift.

A significant feature we have not considered is weight and balance. Many people will pick up a rifle and comment on how well it is balanced or how pointable it is, or is not. They will sometimes pontificate on where

the centre of gravity should be. It is my contention that an off-hand rifle should be quite unbalanced and be as muzzle heavy as the shooter has the physique to be untroubled by. The barrel should ideally have an extension right out to the full 1 metre that is allowed from the end of the closed bolt (in a discharged position) and with as much weight as far out as possible. This is based on simple physics whereby a long heavy muzzle will swing more steadily and bounce more slowly than a short light one. Of course there is a trade off with the physical conditioning of the shooter. If the rifle is too heavy this itself induces counterproductive tremor. To be able to move weights up and down the barrel or its extension is a useful facility. I have seen top Russian shooters making such adjustments between Fast and Slow runs. Clearly this is a feature that requires a lot of experimentation.

Having decided what works well for you, it is sensible to get all your MT rifles to be as similar as possible in the critical dimensions. These are overall weight, length from butt plate to trigger, centre of gravity with relationship to butt plate, comb height with relationship to line of sight, and trigger weight.

### Assessing variations

I would here like to introduce ideas concerning the assessment of the effect of variations in whatever you are considering. Using the previous issue of a barrel weights as an example, too often one sees a shooter make a change, fire a few shots, perhaps even a full series and that announce with conviction that the modification is a good or a bad idea perhaps based on the score achieved. With the very considerable random dispersion of our shots and scores, there is frequently no sound evidence for such an assertion. One needs to give an alternative method a really good test, lots of dry firing and many series of shooting before being reliably able to make a fair assessment. For one thing one frequently has to learn to properly perform the new method. There are few quick fixes to improving ones shooting!

A related issue is one of rifle and ammunition accuracy. The way one sees a would-be supposedly definitive report on a new rifle stating "best three shot group was x" as though that meant something, is more than sad. It is actually peddling misinformation in my view. A common circumstance where one sees people making judgements on inadequate information is in regard to comparisons of the accuracy of different reloading components. A three shot clover leaf group proves nothing. A further seven or twelve shots might fill it out to 2" or more. On the other hand three shots spread over 2" certainly prove that that combination will not produce half inch groups. The number of shots one needs to be sure of a group size within statistically significant confidence limits depends on the true group size I believe. I have read somewhere about these numbers but from memory for reasonably accurate rifles it is at least 15 but 30 is much better.

It is also a consideration that many of us over estimate our ability to shoot groups and this is another reason to be cautious about five shot results. One can wobble them in as well as out, but not so frequently! A further complication is that thin barrels will warm up and may itself expand the group as may shooter fatigue.

### **Special considerations**

For **Fast Runs** the lift probably needs to be a little but not a lot quicker than for Slow runs. The biggest difference is that the area of aim acceptability is larger. Perhaps two rings larger to start with, later on one ring larger would be a reasonable goal. It used to be said that top international shots would expect to lose about twice as many points on Fast than on Slow.

For **Deer Doubles** other considerations come into play. Again a slightly less relaxed lift is appropriate especially on a range as we have at Bisley with the bare minimum antler run exposure of just one second. The first shot needs to be let off in the first third of the gap and with a slightly less critical aim than in Singles - perhaps half a scoring ring slacker. Reloading is a special technique that needs to be thought about and given a lot of practice. The difference between really good reloading and an average performance is very considerable, and good does not necessarily equate to fast.

Firstly, as the trigger hand comes off the rifle, the forward hand needs to pull the rifle firmly into the shoulder to replace the pressure that was formerly done by the three fingers below the trigger. I have found that cutting grooves in the butt plate in such a way that it provides more resistance in a downward direction than an upward one is an advantage in holding the rifle in the shoulder during reloading

The next thing is to train the hand to find the bolt handle very accurately as well as quickly. I believe that it should be grasped equally between thumb, fore finger and the side of the second finger. A three element clasp is much more accurate than a two point one because as soon as one of the surfaces touches the bolt handle the other two close on it. It helps considerably if the knob is much bigger that on a standard sporting rifles. One made for the end of tractor control levers has served me well.

One then needs to divide the bolt action into four separate elements. Actually five because I believe the concept of a pause between the second and third is a good one, i.e. up, back, pause, forward and down. Trying to cut the corners and blur it all into one hasty movement is a recipe for disaster. One likely effect will be short cycling – not bringing the bolt back far enough to clear the base of the next round. The slight pause is often also necessary to give the next round time to rise out of the magazine. Some people look favourably at a rifle with a short rather than a long action and think that the former must be an advantage in Doubles. The reverse might well be true as it is less likely to be short cycled and the next round will have time to get up.

The next skill one needs to acquire is the ability to drive the bolt forward at the correct angle. This is not always as simple as it may seem. Bolts with a full length rib work well. Thin and wobbly bolts work worst. A direction of pressure which is slightly inwards along the line of the bolt handle is often correct. But of fundamental importance is each movement should be at right angles to the previous one and not trying to "cut the corners". With practice this can be achieved with sufficient speed. I find that having the wrist above rather that below the hand is of great benefit.

In fact the speed of reloading itself is not a big part of success in Doubles. Of far greater importance is the ability to get the rifle back near to the required aim after the disturbance of the recoil. Reloading can easily be achieved within this time.

There can be mechanical issues concerning successful speedy reloading. In cases where the cartridges lie in two rather than one stack in the magazine, the second round sometimes feeds more reliably out of one side rather than the other. If to obviate this you need to load three rather than two rounds it would be prudent to warn the button pusher to help you ensure the rifle is properly cleared at the end of the series. As a general point I believe one should reload for each run rather than load for an out and back runs. Reloading gives you time to clear the mind and prepare for the next run and generally give a better tempo especially with the advent of electronic scoring.

There can also be problems with the timing and way that the round is released from the magazine as the bolt drives it forward and presents it to the throat of the chamber. If not initially ideal this can be quite difficult to get right and even gunsmiths do not always do a perfect job. It is important to have all the surfaces that the cartridge touches very smooth. The magazine floor must be able to move freely without tipping under the influence of a suitably strong spring. Be very wary of removing metal from the magazine slot in the action. It is more difficult to replace than to remove it!

Further problems can relate to the extraction process where the spent cartridge is not ejected properly from the action. It may either flick up catching the 'scope and fall back into the action, or it may be dropped by the extractor claw before it hits the ejector and again fall into the action preventing reloading. This is not the place to deal with the mechanical solutions to these problems but do be aware of them and get on top of any troubles.

Successful reloading action is very dependant on bolt speed as the cartridge is not under any control after being released from the magazine. Having learned what this speed is it must be repeated consistently how ever late you took the first shot!

All these problems disappear with a positive feed type of bolt action where the base of the cartridge is held against the bolt face by the extractor. I expect that these to become more common which will allow short fat cartridges to be used more successfully in events where relatively quick reloading is required. Without it they are likely to prove troublesome due to release problems.

## **Shooting Techniques**

We have discussed all the elements required to shoot well. All we need to do now is just do it learn to do it! That should involve lots and lots of dry firing. The only technique as such I would add has already really been dealt with in a round about way and can be summarised by saying - "Take the first available shot - it is the best one you are likely to get". Learning to do this and not trying to improve the aim beyond the predetermined

criteria is a major part of being competent at MT shooting. Failure to do so and falling into the trap of trying to "tart up a good shot" is the most common cause of a poor result by an otherwise competent shooter.

It is not uncommon for experienced shots to score more in Fast runs or Doubles than in Slow or Singles. I have frequently found myself in this situation. The cause is clearly that one is adopting an unrealistically small aiming area in the Slow runs or Singles compared with other series. One is increasing the "make your mind up" time and delaying the trigger release. One has to go back to basics and shoot at a slightly earlier stage of the improving aim. Not very easy when one is convinced that one can get a better aim, but you know you cannot in Fast or Doubles so just do it!

Another feature of our technique is the need to "follow through" after the shot. It only has to be for the duration of lock and barrel time but many find it helpful to follow through with the swing in quite an exaggerated way. Doing this minimises the likelihood of starting to lower the rifle after the intention to fire but before the end of the process. This happens much more frequently than one might think and not always by the unpractised shots.

Experienced shots often forget to talk about breathing because it is so natural to them – and I nearly did! Proper breathing all goes back to P2. *Never have any muscles under tension that do not absolutely have to be*. The very worst situation would be to expand the lungs with a deep breath as though going underwater and holding it for the duration of the shot. We should do the opposite. Some prepare with a few very slightly exaggerated breaths in preparation for the run, but top shots never do. A gentle exhale as you lift the rifle is all that is required. In the prone position the rifle will rise and fall as you breathe. One should adjust your grip and position so that the rifle settles on the aim after this moderate exhalation.

### Training methods and schedules.

I have seen these written out but I think they have to be self generated. So much depends on ones commitment to improving ones shooting. It is easy to say that one has a busy life and has no time to allocate to serious training. All that means is that in the great scheme of things, it is not very important to you. So be it – it is your choice.

In my view only a very small percentage of time allocated to training needs to, or should be spent actually firing live ammunition. Much of it should be just handling the rifle, lifting and pointing – perhaps clicking on a suitable aiming mark. Strapping a quarter dioptre spectacle lens in front of the objective lens will focus your scope exactly at four metres thus making indoor training realistic. A one time World Champion Russian who lived in a very remote part of the country told me how he spent hours training by tracking along a horizontal line in his room.

All sorts of more realistic moving target devices can be made depending on your keenness. They can be powered by gravity, electricity or clockwork. It is ideal if the correct angular velocities can be achieved but it is by no mean critical.

Hours and hours of dry firing are essential to achieve the best results. Actual shooting often obscures what is going on. As an aid to concentration and realism when dry firing I used to plot and score each "shot" and keep records of months of such sessions - but then the only range was more that 600 miles away! With experience you should become quite able in predicting where the bullet strike will be.

The benefit of shooting static groups should not be underestimated. At one time the Russians did almost as much of this as on a moving target. You can arrange to shoot on the actual aiming mark, miniaturised proportionately to the range you use, but with the sights altered so as not to damage that area. Put a set of scoring rings at the place where strike should be.

### **Fitness and conditioning**

There is no doubt that believing that one has a reasonably general state of fitness is of benefit - one less thing to feel inadequate about! Whether it actually helps is a moot point as our events are of short duration. However it is essential to have enough muscular conditioning be able to hold a heavy rifle for some time without any strain or the onset of fatigue induced wobble. This is especially so if you are going to take full advantage of the inertia that a maximum weight 5.5 kilos muzzle heavy rifle can give you. What ever you feel after a thirty shot series it should not be any indication of physical tiredness. If you do the remedy is obvious – adequate weight training.

### Positional shooting techniques.

All the foregoing has exclusively related to shooting in the off-hand standing position. We should now consider aspect of shooting from the other positions that we use: prone, off the bench, sitting and kneeling.

### The Spor-Target Sling.

Fixed bi-pods may be used in all Class B events except off the bench and since they have become widely available the proper use of a sling has been largely neglected by many. There is no doubt that where it can be used a bi-pod is a superior aid as it enables the rifle to be supported over a greater part of its length. However there are times and situations, especially in the sitting position, where use of a long legged bi-pod is not very easy and a sling can do a great job, especially in the field.

Conventional prone target shooters use a sling attached to the fore-end and upper part of the arm, a so called "single point" sling. With a combination of tension and compression this effectively locks the rifle onto the forearm. With the latter firmly on the ground at the elbow it is a great aid to stability. A variation of this has two points of attachment about six inches apart on the fore-end both leading to the arm cuff. They call this a "two point" sling but it is very different to what we call the same.

In former time NRA Target Riflemen used the .303 service rifle in either SRa or SRb configuration. The former had to be used in military configuration while in the latter some modifications, such as to the sling, were allowed. It was not till 1967 that the Queen's Prize was won with a single point sling. This was John Powell transferring his small-bore practice and skills over to full-bore. Hitherto the ammunition quality of the latter has not been conducive to much attention being paying to the finer points of prone shooting as practiced by small-bore shooters who had much better ammunition relative to the size of the bull.

BSRC rules require that a sling, if used, be attached to the rifle in two places as for carrying over the shoulder. An ordinary sling can be used as a shooting aid but the trouble is that there is too much tension from the lower part of the sling pulling in a disadvantageous way on the butt. This is overcome in the design of what Parker-Hale, when they made it, called a Spor-Target sling. I bought the last one they had and now Ken Scott makes them to the same pattern. The so-called "Springfield sling", used by the U.S. Army, is based on the same principle but it has a very wide strap and very crude double hooks with which to make adjustments. There are civilian versions available in the USA I understand.

The essential feature is that there is an adjustable loop which acts as the aforesaid conventional single point sling. A second fixed length strap is attached to a "D" in the loop and to the butt. The length of this must be such that it hangs loose when in use and does not place any strain on the rifle. The loop should be tight enough to lock the rifle firmly onto the fore-arm but not enough to induce a pulse throb. If the loop is around the arm just above the elbow it will not slip down and it keeps the forces of compression and tension together in one line.

It works because it locks the rifle to the elbow though the bones of the forearm and if the elbow is supported as in prone, sitting and kneeling, the rifle has a relatively rigid linkage to the ground. Because the elbow has no such support in off-hand shooting I cannot see how it can offer any advantage in this position. However it was some while before I came to this, I now think rather obvious conclusion!

### **Prone shooting.**

I am certainly not going to say much about this as many books have been written about prone shooting by proper experts. One thing I will mention is the need to hold the rifle really quite firmly. I have seen some advocate, and apparently successfully use, what they call a wine glass hold. I am sure this works well with a heavy small-bore rifle in a supported position. It may work with a more powerfully recoiling rifle if the conditions for the recoil are absolutely ideal as when shot over a soft bag or the like. However these conditions often do not pertain in sporting rifle shooting but can be minimised if the rifle is held quite firmly against the possibilities of various other forces that might apply during recoil.

I would also observe is that it is strange that some sporting rifle shooters do not lie naturally in the correct angle to the firing line. The reason for the conventional angle of the body, and hence the shoulders, is really exactly the same as we discussed in connection with standing; getting the optimum balance between a comfortable reach of the forward arm and the fit of the butt in the shoulder.

Eye relief is a consideration in that the horizontal distance between eye and shoulder is considerable longer when prone that when in other positions where the head is more nearly above rather than in front of the shoulders. This means that if the 'scope is set up for standing shooting one need to pull the head back somewhat if one is not to get a "stalker's kiss". Be warned.

### Bench shooting.

This is by far the most accurate position to shoot from (why else would Bench Rest shooters prefer it?) yet surprisingly many of us lose a point or more off the bench when shooting our Stalker's Test. This is usually because an elbow slipping on the bench during recoil.

Concerning the forward elbow and assuming you are using a sling (if you are serious about it why would you not be?) consider putting it much more centrally under the rifle or even slightly to the opposite side. By pushing a little forward, always maintaining proper butt pressure of course, the rifle gets to a position where it cannot go lower and locks up advantageously and there is no possibility of the elbow slipping to the side.

Concerning the trigger arm elbow, make a conscious firm downward and inward pressure with this. If the elbow is just sitting there, perhaps endeavouring to comply with P2, it will slip out during recoil and your shot will move out, almost certainly in the opposite direction.

### Sitting position.

This in my view is the one that so many shooters could dramatically improve if they paid attention to and adopted the best techniques. First one needs to sit as low as possible. Ones shape, particularly around the belt area, will determine how low. The main feature is to have a correct relationship between the leading arm and elbow and the knee supporting it. All should be in a straight line so the rifle is supported on bones not by muscles as according to P2. By getting the correct height, and hence angle of the upper torso, it may be possible to get the elbow just over and past the knee where a convenient flat area on each can fit together. The worst situation is where the point of the elbow wobbles on the top of the knee.

If one is sufficiently supple it is ideal to get the crook of the other elbow over the other knee and push down on it. For best results the feet should be evenly disposed, soles flat on the ground and in the position they would be if you stood up. If all this can be achieved one can shoot groups very nearly as close as those shot prone. The proper use of a sling can in my experience halve the size of your groups compared with its non use.

### Kneeling position.

Undoubtedly the one most of us find most difficult. The secret is to get the best possible seat on the back foot. There are three possibilities for the disposition of this foot. If you can, sit on the instep with the foot turned around. One gets a very stable position but not everyone can maintain it with any degree of comfort. One can have the foot upright with the toes extended but again this can be painful after a short time. Most people will have the toes under the foot and taking the weight. In all positions cramp is a potential problem. In all positions getting the foot between the buttocks rather that on one is advantageous. There is an unwritten understanding that those with a physical or age related joint problem can place something between the ground

and the ankle or the buttocks and the foot. However this must be something they might reasonably have "on the hill" like a rolled up rifle case and not bean bag they happened to be carrying

# **Bi-pods and Sticks**

It is my strong contention that you should never let the use of an aid, be it a rest, a stick or a bi-pod to compromise what would otherwise be the best position to adopt without it. It offends P1. Hence it makes no sense when using a bi-pod in Class B Buck to have one or both elbows hanging loose when they can be supported very well on knees. One often sees competitors sitting or kneeling in a very much taller position than they would adopt without it because of the height of their bi-pod. As a result their body is much more unstable than it need be.

In the standing position if you put too much weight on the stick or the bi-pod you induce a swaying movement from side to side. I content you should only have a slight weight on the support. And your stance should be very much as it would be unsupported.

By having the stick or bi-pod leaning slightly towards you, you can get the required elevation by moving the body slightly back or forward, moving the feet if the correction warrants it. When using a single stick, in that you are on the left of the rifle, you get a better triangle, the basis of all stable positions, by having the stick slightly on the other side.

Several shooters get great results though ignoring another of my contentions which is that there are advantages in actually holding the rifle in the forward hand and not placing it on the bi-pod or in the fork of a stick. My thoughts are based on the belief that no-one has yet invented anything that is capable of holding a rifle during recoil as consistently as the human hand. The often asymmetric arms of a bi-pod and the bare wood of a forked stick do not make ideal or reliable recoil surfaces. If you can be sure that the rifle and what ever it is touching recoil together, no harm should arise.

The other consideration is that if you have placed the rifle in the fork of whatever, the only way you can make aiming corrections is by moving your body. If the wrist rather than the rifle is supported in the fork you can make little aiming corrections by small movements within the hand. These can be at the last moment when your body is moving the rifle slightly out of the aim. I accept that many shoot very effectively not doing that but I believe in my theory!

## **Match Shooting**

A major part of competitive shooting is being able to produce a high proportion of ones previously proven potential in matches, and perhaps to even exceed it. This is somewhat of a problem for many for, unlike most sports, ours is the antithesis of an adrenalin sport where Personal Best performances (PBs) are often done under the heat and excitement of extreme competition. Not for nothing was I told that the Russians call shooting "the sport of the will". I think it is probably impossible to teach. Rather it has to be learnt for there are different approaches.

Words like determination, concentration, single-mindedness and determination again are appropriate. Willingness to really fight for it is fundamental for problems will rarely sort themselves out. Why should it be easy? If it was everyone would be doing it! The fear of shooting badly and looking foolish, even if only in one's own eyes may for some, be not so much of a concern as the fear of shooting really well then throwing away chance of an excellent score. Consider how many golfers who establish a four or five shot lead in the first day of a Major, finish up with a good score. I can think of only one. How many do we see shoot the rest of the series quite well after having had a disastrous shot early on!

The trick is to get ones self "gee-ed" up to the right level but before the anxieties kick in. I have frequently got this wrong in both directions – too high or not enough. I am sure we all have different approaches to the problem. Experience and exposure obviously helps but never makes it easy. But it does afford the opportunity to experiment and, after careful post match analysis, attempt to understand what works and what does not - usually! One of our best shooters can be seen to be reading a book before his shoot. I don't know how he does it. I would be unable to hold the meaning of a single sentence in my mind.

When on the firing point the main thing to remember is that the only thing that matters in your life is the next shot! What has gone before, how ever terrible, is of no further consequence. Each next shot represents the only

chance you will ever get to add to your score at what ever level it is. I am sure we all get the fleeting thought that it also affords the chance of spoiling a good shoot – witness the number of good scores where the last shot is the worst. Dealing with this dilemma is at the heart of the sport.

One has to screw oneself up onto a plateau of determination and concentration for about five seconds as you come to the Ready position. Before you do this rehearse in you mind any points that you need to. When using a twin post this may include "think post" unless you never have trouble in using the wrong one if it comes up near the aim.

An important consideration is trying to keep to the same tempo or cadence in a match that you do in practice. Particularly exaggerated heavy breathing or delay before the shot, which you would not do in practice, only serves to exaggerate the difference in your mind between the two. A big pause after a bad shot is an obviously an attempt to return to normality but it may only serve to exaggerate in the shooter's mind the horrors of the shot before. It has gone – get on with the one that matters!

Turning these ideas on their head, when practising try to imagine that it is a match and you need this shot for the World Championship or a PB. There is no difference in importance between these. If you really get into this, the difference in your mind between match and practice become considerably reduced because you know that you have been there, if only in your imagination. It does work.

## Conclusion.

Never forget that you shoot for fun. It is up to you whether that comes from the smell of powder, the perceived macho nature of the sport, or from taking on the challenge of becoming as proficient as you can in a sport that interests you. And if it is the latter remember that, more than in almost any sport, you are only ever competing against yourself. Unlike a race or match-play games, you cannot influence what other competitor do to any extent. A mantra I favour is "Forget about the results - Think about the performance".

If the latter interests you I hope you may have got a little something from the foregoing.

I am very conscious of the criticism recently levelled at me for my ability to make something simple sound complicated! My problem is that it never seemed to be that simple.

John Kynoch, October 2008

In later collaboration with Paul Ben-Nathan.