Dear Colleagues

**At Bisley: selecting the better position on the mound before your partner arrives**

**Problem:**  the writer had as usual arrived on Century Range, well before the required time and waited behind the firing point. Very soon the range officer arrived and advised shooters of his 10-target range, that they may collect ammunition and take their positions on the firing point. A young and less experienced shooter quickly walked up to our target number on the firing point. He looked carefully at the surface of the mound and saw a slight forward slope, right where the elbow of a shooter had to be placed. He was quick to select a position beside the peg where the mound was flat and even and placed his groundsheet on it. This left me the other position with a forward slope. When exchanging score cards, he did not allow his eyes to catch mine. He thought he had gained the advantage in his selection of the better part of the firing point.

The writer had a little more experience than the young fellow and was not in the least perturbed, because there was no feeling of being disadvantaged. While setting up the telescope, groundsheet and shooting box, the young fellow watched this intently. Still, he did not let his eyes catch mine. Finally we were both set up and ready to fire our first shots.

I guessed my partner was intent upon whether or not I might overcome the handicap. Before we started shooting I noticed that he was observing me and missed seeing the flags indicate complex changes of wind velocity. I was the first to fire and did my best to ensure the trigger-release technique would result in a shot as close as possible to the centre of the bullseye. It was as I had hoped and when he scored my shot, I could see he was surprised. We then continued firing alternately at the target, scoring for each other.

After the first few shots, I could see my partner continuing to be distracted by watching me and missing important wind changes. He was certainly inattentive, following my shots instead of the flag changes. His two minute of angle (MOA) group showed he was in trouble, filling up the entire bullseye. He had been expecting me to be disadvantaged by the forward slope of the mound. Instead, my partner was himself seriously losing points. His surprise showed that he clearly lacked experience. The writer continued, completely unaffected by the poor mound surface and as a result, lost no points at all. Distraction appeared to have cost my partner four points. As well, his large group contained very few V-bulls.

After the shoot, my partner had rethought his situation and with a display of sportsmanship, congratulated me on having to give my rifle to the range officer to test the weight of the trigger. This is required at Bisley upon achieving a possible. My partner then walked away with a couple of friends. Upon overhearing their discussion, they were intrigued how a shooter could perform, supporting the rifle with the elbow on a forward-sloping mound.

This article describes what a shooter needs to do when there is no choice but to shoot on a difficult mound surface, particularly one which slopes forward. Most shooters prefer the firing point to be dead flat or even sloping a little backward, so that the forward elbow is positioned slightly higher than the body. This is not the only difficulty encountered on a rifle range. Very often there is a slightly sideways slope, requiring one elbow to be higher than the other. When the writer shot on the military rifle range at Strensall Camp, York, each shooting position was surrounded by a timber frame, filled with 1 cm aggregate used in road-building. This mound surface ensured that the shooter’s elbow would gradually sink, due to the movements from recoil and reloading after each shot.

**Discussion:** the technique which must be strictly adhered to when shooting on a sloping or constantly changing mound, is to ensure that the shooter’s body position before each shot is adjusted to correct the natural point of aim. Monitoring of the natural point of aim is undertaken as the rifle is raised for aiming. Adjustment involves a movement of only a cm or so with the left foot and again with the navel. Arm muscles need to be consciously made to go limp. If muscles are utilized to support the rifle, instead of the sling alone supporting the skeletal structure, then shots will appear above and/or below the bullseye.

Hence, when taking the prone position on any mound, whether setting up the body on a flat or sloping mound, the shooter must first imagine a dotted line from the eye to the target. The forward elbow is placed well out in front under the dotted line. Upon raising the rifle to aim, the left foot is moved sideways a cm or so, until the foresight has moved sideways until it is above the target. Then to bring the foresight down to the target, the navel must be moved forward a cm or so. These adjustments apply regardless of the direction of slope of the mound. The critical step is to effortlessly place the elbow far enough out in front of the eye. If done in the aim position, then arm and shoulder muscles become tensed and even painful.

While shooting, the position of the elbow may change e.g. sinking into aggregate or the forward elbow moves a few mm. Hence, raising the rifle for each shot, should be done with the eye half closed, watching where the foresight tends to naturally aim. If the foresight is not directed at the aiming mark, then the left foot and/or navel must be repositioned until it does.

Note that when there is a need to move the left foot, both legs must be straight. The right leg should be nearly parallel with the rifle barrel in order to anchor it. If the right leg of a RH shooter is bent up, then to move the foresight sideways to bring the natural point of aim exactly onto the bullseye, there is a need to move one buttock and leg, then the other. Some shooters with the right leg bent up, can be seen slightly raising the pelvic girdle to move it as little as a cm. This is nowhere near as exact an adjustment as moving the left foot a cm or so. The shooter can as a result miss the bullseye sideways until the natural point of aim is re-established through sight movements. Sadly, most shooters do not perform this routine.

**Observations:**a significant proportion of RH shooters have the right knee pulled up, widely favoured at Camp Perry for many years. The reason for this appears to be a matter of fashion. In the 1950s, Australian fullbore shooter did not shoot with a leg pulled up. Fashion soon led shooters to copy the practices of individual shooters in the UK and the USA, until in the 2000s, the majority of shooters in Australia had a leg pulled up.

More seriously, most Australian shooters do not routinely monitor and adjust the natural point of aim for every shot. Along the firing point, legs and buttocks can be seen being moved simply for comfort. There appears to be little understanding that moving a foot or the navel by 1 cm can relocate the natural point of aim. If the natural point of aim is moved as far out as the inner ring, then the shooter may notice that sight movements do not bring the group back into the V-bull. The shooter can be mystified upon finding that the shoot contained two groups! Re-centering a wide sub-group can only happen upon adjusting the natural point of aim with a leg and the navel, followed by sight–centering.

**Conclusion**:  there is no reason why any shooter should experience change of the natural point of aim if the suggested routine for testing and adjustment is adopted. The procedure is just as effective for a sloping mound or when shooting on a perfectly horizontal surface. When the line of targets is higher or lower than the mound this same procedure will provide the correction needed. On Century Range, where mounds are mown before the start of the Imperial Meeting, no shooter using this routine should be handicapped by any of the slightly sloping surfaces.

Best regards

Geoff