Dear Colleagues

**Shooting a V-bull (TR) or X-ring (F Class) group: a new life for shooters**

**The Problem:** having finally acquired the ability to shoot a group within the V-bull (TR) or X-ring (F Class), a shooter immediately encounters factors which cause him /her to doubt whether he/she really has this capability. Hence, many remain at middle level, plagued with thoughts that they cannot advance further. As well, these shooters regularly see the same highly skilled persons who have leading scores and win aggregates at prize shoots. Many conclude that they themselves are not likely to be numbered among these leading shooters.

This article is written to assist shooters to overcome this very wrong situation.

**Discussion:** in Australia in 2019, there was a small increase in the number of shooters who regularly produced V-bull or X-ring groups. They had learned to master the adrenaline tremor, which causes the muzzle of a rifle to move at the moment when a projectile departs. If a four-second delay occurs in trigger-release, the departure of a projectile will not coincide with a documented body tremor, which causes shots to group 2 MOA, as far out as the bullseye ring. For these shooters, nearly every shot is grouped within the V-bull or X-ring.

This phenomenon has been understood and practised since the later years of the 19th century.

In tennis at world-champion level, a team of coaches accompanies each high-level performer, advising on ways to overcome technique problems as they appear. Shooters are however unable to afford the skilled advice of a fulltime coach. As a result, the vast majority of shooters do not understand how to shoot at high level. Many conclude they have not really reached a new level of skill, harbour doubts about themselves and are not surprised when they fall over, which happens often.

According to a champion Australian rifle shooter (Mr. Edward J. Teague, 1870-1962, Launceston Rifle Club), this advance in grouping was used by members of rifle clubs between 1890 and 1914. Membership of a rifle club was then regarded as a component of their training, which later became known as national service. As a result, rifle shooters included many young men who were ready if called up by the Australian Army. Interestingly, enhanced skill in grouping, used by rifle club shooters before 1914, did not immediately reappear when rifle shooting began again after 1918. It has even been speculated that this skill of Australian troops may have been lost, i.e. not returned from Gallipoli and France.

In the early 1920s, there were coaches around Australia who taught new shooters how to use this technique. In 1923, Percy Pavey, a new member of the Oakleigh Rifle Club, was taught the technique at Port Melbourne and then, at Williamstown. Mr Thomas J. Hann, of BHP Lysaghts Rifle Club, Newcastle, was a leading NSW coach who taught this technique. The writer knew several of his shooters. Each used the adrenaline-response technique, otherwise known as trigger-release, which has always been taught in miniature rifle shooting. Smallbore has since maintained this technique to the present day. Those who believed that the technique remained in France after 1918 were certainly having themselves on.

However, shooters throughout the past century, who had learned to shoot without the adrenaline response causing muzzle movement when a projectile departs, continued to encounter handicapping factors. Most difficulties experienced were due to less-obvious techniques of diverse origin within the human system. They originate particularly from:

* gaps in shooters’ understanding of physics and human physiology
* a difficulty of shooters to maintain a uniform mental composure throughout a shoot
* a tendency of many shooters to accept concepts not supported by experimental data
* a widespread tendency to accept untested conclusions that rely upon more than one factor.

In short, shooters experience numerous errors which handicap anyone with limited understanding of science, engineering and the physiology of their own bodily systems.

**Practical:** there are many shooters with the skills to assist others to progress. The most effective system should consist of a group of shooters who work under the guidance of a suitably trained fellow shooter, who would observe and advise upon their skills. This is similar to the functions of coaches of world-champion tennis players, who observe and advise without communication with the player during a match.

The writer has now recruited groups of shooters, who readily accept independent diagnoses and cures for difficulties identified while they shoot. Observations usually result in manual plots of groups. Alternatively, observations may be obtained from a database or electronic presentation of a group produced during a shoot. The shooter ultimately has the option of whether to act upon such advice.

Groups of independently coached shooters have now been established at Hornsby and Darwin. The Hornsby group practise every third Sunday at Malabar Rifle Range, Sydney and weekly at the Hornsby Rifle Range, Sydney. Scores by members of this group have been:

at 700m: Shooter A 50.10, 50.6, Shooter B 50.9, Shooter C 50.8, 50.6, Shooter E 74.11

at 300m: Shooter D 59.4, 58.6, Shooter E 74.13

In a post-shoot diagnosis, it was stated that a group might be as wide as the V-bull and extend from the base of the V-bull to the top of the bullseye. This abnormal group could occur for several reasons. If the shooter were unaware of arm muscles tightening and affecting a group, he/she could be assisted upon advise given on completion of the shoot. In the next shoot, a conscious decision to allow the supporting arm to go limp and let the sling do all the work, could result in a group almost entirely within the V-bull.

**Conclusion:**at the time of writing, a group of shooters had begun shooting V-bull and X-ring groups. An independent coach, positioned behind the shooter (but not alongside on the mound), has been utilised since rifle shooting began in 1860. The coach is not solely to assist the shooter to pick the wind, but to identify and correct numerous technique difficulties. It is proposed that shooters should be encouraged to utilise independent coaches and overcome a major handicap, assisting the shooter who may have just learned to shoot a group of 1.0 MOA (TR) or 0.5 MOA (F Class).

best regards

Geoff