

BOWMEN NEWS

May/June 2011
Volume 1, Issue 5



Fort Collins Archery Association
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The President's Corner

By Michel Majors

If you have been on the range or actively shooting Wednesday night 3D Leagues you have noticed vast improvements this year. The most noticeable range enhancement has been the redesign of the field range, including position of target butts, the new concrete pads, and the use of Pacific Bow Butts (PBB's) for all the targets. The FITA (metric) range will be completed this season as well, after the water table subsides.

Jim Hately, Range Director spearheaded the complete transition to PBB's in an effort to improve safety on the field course, extend ranges, and to reduce cost and maintenance,. Along the river, we no longer shoot back towards the bank where shooters could be obscured behind the target by trees and bushes. The background is completely visible at all times with the river as the backdrop. Jim extended the ranges for a couple of reasons. First, with the high-efficiency, fast bows used today shooters are regularly practicing at longer distances. Second, the extended range dissipates some energy and conserves the butts. Even with the initial conversion cost for PBB's, the anticipated operational cost will be reduced substantially. The new butts will last two to three times as long as the excelsior bales that were replaced. The final benefit is that we don't have to water these bales. The excelsiors required about 300 gallon per week during the hottest part of the summer. The water kept the material pliable, tough, and tight. Then, at the end of the season we risked getting too much water in the bale when it froze, creating a block of ice that robbed us of our arrow points until it thawed in the spring. If we didn't get enough water, arrows would go completely through the target until we could replace it in the spring. Usually by that time it was totally shot-out, and it wouldn't even hold water.

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To begin the redesign, Andy Johnson and Jim built the forms for the pads in advance, and using Jim's equipment, he and I set them on April 29. Andy also built shelves in the garage for mid-sections to organize them and improve access to them. The club was represented by 16 workers on April 30 to pour the pads, and 21 on May 7 to set the bales. Jim also worked with Dennis Hansen, Big Thompson Bowhunters Maintenance Director to create the very colorful target faces. Photos will be posted on the website.

At the Annual Membership Meeting in April we discussed the 3D shoot format. Having spent over \$10,000 for targets this year, we're striving for ways to conserve them. Having 10 or 12 arrows in the target all at once was a huge wear factor, so we're now shooting one arrow per target. Increasing the number of targets to 20 has increased our capacity, while also improving flow and reducing congestion. We have finished every week well before dark, and have had good crews for setup and take-down which helps a lot. We also held the price at \$5 but eliminated payback. We continue to post scores as usual and will still recognize the winners. I hope the new format is working for you. All the comments we've heard so far have been positive.

President's Corner Cont'd

Thanks to Jim for leading this redesign. For all the volunteers – thanks for helping to improve our range!

In a few weeks we will be at the FCAA Jamboree at Jacks Gulch (June 17-19). Sign-up after a Wednesday night shoot in the clubhouse, or call me to let me know you're coming. Do not miss this family outing with the club. It is a great time! Remember—the club provides the meat at the Saturday night pot-luck.

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Editor's Note:

This past week-end I had the honors of shooting the 'Gamelines' 3-D Range, which was a 'free' shoot to get the word out that they are back. If you remember last year there was a fire in Boulder which took several sections of their range. They lost money, time and pride. After some hard work and some creative placements of targets, Gamelines Archery Club has come back with a strong "rise from the ashes" attitude. These folks really did a great job to give you a 'real life' experience of shooting. I highly recommend you consider an involvement with this club. Check them out: www.gamelinesarchery.com I'll be doing a full article on them in the next newsletter.

Bob Radocy, you and your team have shown an outstanding display of creativity in a fun shoot with the challenge and simulation of a real hunt. Thanks...

History of Archery

By Wikipedia

Decline, last uses, and survival of archery

The advent of firearms eventually rendered bows obsolete in warfare. Despite the high social status, ongoing utility, and widespread pleasure of archery in England, Korea, China, Japan, Turkey, Armenia, America, Egypt, and elsewhere, almost every culture that gained access to even early firearms used them widely, to the relative neglect of archery. Early firearms were vastly inferior in rate-of-fire, and were very susceptible to wet weather. However, they had longer effective range and were tactically superior in the common situation of soldiers shooting at each other from behind obstructions. They also required significantly less training to use properly, in particular penetrating steel armour without any need to develop special musculature. Armies equipped with guns could thus provide superior firepower by sheer weight of numbers, and highly-trained archers became obsolete on the battlefield.

"Have them bring as many guns as possible, for no other equipment is needed. Give strict orders that all men, even the samurai, carry guns."

—Asano Yukinaga, 1598

In Eastern Europe and the Asian Steppe however archery continued to play an important part in warfare, although now restricted to mounted archery. The Ottoman Empire still fielded auxiliary cavalry which was noted for its use of bows from horseback. This practice was continued by the Ottoman subject nations, despite the Empire itself being a proponent of early firearms. The practice declined after the Crimean Khanate was finally absorbed by Russia, however mounted archers remained in the Ottoman order of battle until the post 1826 reforms to the Ottoman Army.



The sole exceptions may be the Comanches of North America, whose mounted archery was more effective than muzzle-loading guns. (Other Plains Indians fought mostly on foot, and usually found guns to be superior weapons when they did so.) "After... about 1800, most Comanches began to discard muskets and pistols and to rely on their older weapons."^[32] Repeating firearms, however, were superior in turn, and the Comanches adopted them when they could. Bows remained effective hunting weapons for skilled horse archers, used to some extent by all Native Americans on the Great Plains to hunt buffalo as long as there were buffalo to hunt. The last Comanche hunt was in 1878, and it failed for lack of buffalo.^[33]

The last recorded use of bows, in an English battle, seems to have been a skirmish at Bridgenorth, in October 1642, during the English Civil War.^[34] The most recent death in war from British archery was probably in 1940, on the retreat to Dunkirk, when Jack Churchill who had brought his bows on active service "was delighted to see his arrow strike the centre German in the left of the chest and penetrate his body".^[35] In Ireland, Geoffrey Keating (c. 1569 - c. 1644) mentions archery as having been practiced "down to a recent period within our own memory"^[36] Archery continued in some areas that were subject to limitations on the ownership of arms, such as the Scottish Highlands during the repression that followed the decline of the Jacobite cause, and the Cherokees after the Trail of Tears. The Tokugawa Shogunate severely limited the import and manufacture of guns, and encouraged traditional martial skills among the samurai; towards the end of the Satsuma Rebellion in 1877, some rebels fell back on the use of bows and arrows. Archery remained an important part of the military examinations until 1894 in Korea and 1904 in China. Ongoing use of bows and arrows in some African conflicts has been reported in the 21st century, and the Sentinelese still use bows as part of a lifestyle scarcely touched by outside contact. A remote group in Brazil, recently photographed from the air, aimed bows at the aeroplane.^[37] Bows and arrows saw considerable use in the 2007–2008 Kenyan crisis.

The Archers Paradox

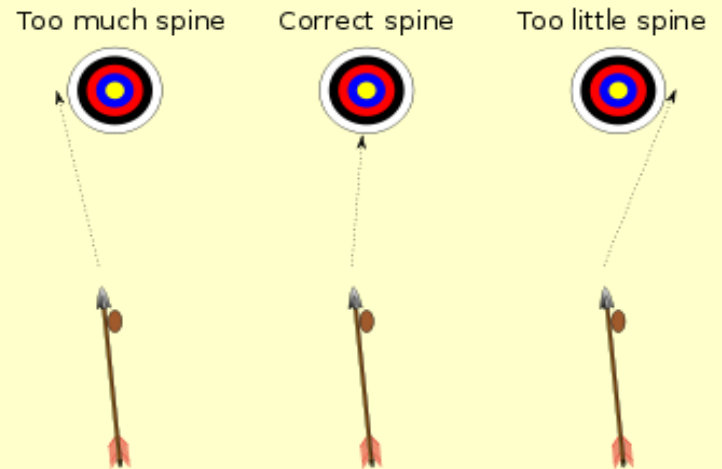


Figure 1 "The Archers Paradox"

Diagram of the archer's paradox, showing what happens when arrows are incorrectly spined.

Not to be confused with Zeno's arrow paradox.

The term **archer's paradox** was coined by Robert P. Elmer in the 1930s. The paradox refers to the phenomenon that in order to strike the center of the target, the arrow must be pointed slightly to the side of the target. Modern use of the term has caused the interpretation of it to be corrupted and the bending of the arrow is often considered incorrectly to be **archer's paradox**.

In order to be accurate, an arrow must have the correct **stiffness**, or "**spine**", to flex out of the way of the bow and return back to the correct path as it leaves the bow. Incorrect spine results in unpredictable contact between the arrow and the bow, therefore unpredictable forces on the arrow as it leaves the bow, and therefore reduced accuracy.^[1] Additionally, if an archer shoots several arrows with different spines, even if they clear the bow they will be deflected on launch by different amounts and so will strike in different places. Competition archers therefore strive not only for arrows that have a spine within a suitable range for their bow, but also for highly consistent spine within sets of arrows.

Less powerful bows require arrows with less spine. Less powerful bows have less effect in deforming the arrow as it is **accelerated** (see "euler" **buckling**, case I) from the bow and the arrow must be "easier" to flex around the riser of the bow before settling to its path. Conversely, powerful bows need stiffer arrows with more spine, as the bow will have a much greater bending effect on the arrow as it is accelerated.

(cont'd on page 5)

FCAA – Calendar of Events – 2011

Date	Sponsor/Event	Details
April 23	FCAA Membership Fun Shoot	\$35 for 12-month family membership and City Range Pass, includes 3D fun shoot, lunch and annual meeting. Reg:8:30-9:45, Shotgun start 10:00. 3D course closes at 2:00. http://www.ftcollinsarchery.com/events/events.html#Wed3D
May 4	FCAA Wednesday 3D Hunting League	\$5/ 20 targets awards at end of session, Reg 5:15-6:15, 6:20 briefing, 6:30 shotgun start http://www.ftcollinsarchery.com/events/events.html#Wed3D
May 11	FCAA Wednesday 3D Hunting League	\$5/ 20 targets awards at end of session, Reg 5:15-6:15, 6:20 briefing, 6:30 shotgun start http://www.ftcollinsarchery.com/events/events.html#Wed3D
May 18	FCAA Wednesday 3D Hunting League	\$5/ 20 targets awards at end of session, Reg 5:15-6:15, 6:20 briefing, 6:30 shotgun start http://www.ftcollinsarchery.com/events/events.html#Wed3D
May 25	FCAA Wednesday 3D Hunting League	\$5/ 20 targets awards at end of session, Reg 5:15-6:15, 6:20 briefing, 6:30 shotgun start http://www.ftcollinsarchery.com/events/events.html#Wed3D
June 4	FCAA Wednesday 3D Hunting League	\$5/ 20 targets awards at end of session, Reg 5:15-6:15, 6:20 briefing, 6:30 shotgun start http://www.ftcollinsarchery.com/events/events.html#Wed3D
June 8	FCAA Wednesday 3D Hunting League	\$5/ 20 targets awards at end of session, Reg 5:15-6:15, 6:20 briefing, 6:30 shotgun start http://www.ftcollinsarchery.com/events/events.html#Wed3D
June 15	FCAA Wednesday 3D Hunting League	\$5/ 20 targets awards at end of session, Reg 5:15-6:15, 6:20 briefing, 6:30 shotgun start http://www.ftcollinsarchery.com/events/events.html#Wed3D
June 17-19	FCAA Jamboree	Fun shoot! No fees, no scores, no payback. Membership shoot – join at the event (\$35 per family). Camping Friday & Sat. included! Club sponsored dinner Sat night. 970-481-3903 http://www.ftcollinsarchery.com/events/events.html#FunShoot
June 22	FCAA Wednesday 3D Hunting League	\$5/ 20 targets awards at end of session, Reg 5:15-6:15, 6:20 briefing, 6:30 shotgun start http://www.ftcollinsarchery.com/events/events.html#Wed3D
June 29	FCAA Wednesday 3D Hunting League	\$5/ 20 targets awards at end of session, Reg 5:15-6:15, 6:20 briefing, 6:30 shotgun start http://www.ftcollinsarchery.com/events/events.html#Wed3D
July 6	FCAA Wednesday 3D Hunting League	\$5/ 20 targets awards at end of session, Reg 5:15-6:15, 6:20 briefing, 6:30 shotgun start http://www.ftcollinsarchery.com/events/events.html#Wed3D
July 9	6 th Annual FCAA Archery Day	Learn to shoot a bow and arrow!! Free and open to the public. 8:00-2:00 Instruction provided. Equipment provided – or bring your own. Adults and children of all ages welcome. (970) 231-8348 http://www.ftcollinsarchery.com/events/events.html#ArcheryDay
July 13	FCAA Wednesday 3D Hunting League	\$5/ 20 targets awards at end of session, Reg 5:15-6:15, 6:20 briefing, 6:30 shotgun start http://www.ftcollinsarchery.com/events/events.html#Wed3D
July 20	FCAA Wednesday 3D Hunting League	\$5/ 20 targets awards at end of session, Reg 5:15-6:15, 6:20 briefing, 6:30 shotgun start http://www.ftcollinsarchery.com/events/events.html#Wed3D
July 27	FCAA Wednesday 3D Hunting League	\$5/ 20 targets awards at end of session, Reg 5:15-6:15, 6:20 briefing, 6:30 shotgun start http://www.ftcollinsarchery.com/events/events.html#Wed3D
August 3	FCAA Wednesday 3D Hunting League	\$5/ 20 targets awards at end of session, Reg 5:15-6:15, 6:20 briefing, 6:30 shotgun start http://www.ftcollinsarchery.com/events/events.html#Wed3D
August 10	FCAA Wednesday 3D Hunting League	\$5/ 20 targets awards at end of session, Reg 5:15-6:15, 6:20 briefing, 6:30 shotgun start http://www.ftcollinsarchery.com/events/events.html#Wed3D
August 17	FCAA Wednesday 3D Hunting League	\$5/ 20 targets awards at end of session, Reg 5:15-6:15, 6:20 briefing, 6:30 shotgun start http://www.ftcollinsarchery.com/events/events.html#Wed3D
Nov 19	FCAA Turkey Shoot (day shoot-15 targets x2)	\$10/ 30 targets – Payback is top 3 shooters will go home with a turkey for the holiday (more details to follow)

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The archers paradox – cont'd

An arrow with too much spine for the bow will not flex and as the string comes closer to the bow stave, the arrow will be forced off to the side. Too little spine, or flexion, will result in the arrow deforming too much and being propelled off to the other side of the target. In extreme cases, the arrow may break before it can accelerate, which can be a safety hazard.

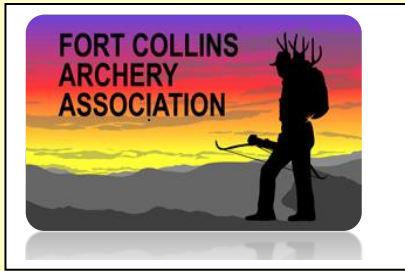
The measurement of "spine" has been standardized by the American Archery Trade Association, formerly the Archery Manufacturer's Organization, and spine measurements may sometimes be specified as "AMO spine". The spine of an arrow shaft is a measure of its stiffness. The AMO standard for measuring spine is to measure the deflection of the shaft at the midpoint of a 26-inch (660 mm) span when placed under a load of 2 pounds-force (8.9 N). The more deflection, the less stiff the shaft, and the lower its spine measurement

“In general, the industry has done a poor job educating hunters in the critical areas that determine which bow setup is right for them.”

Archery history-cont'd

Traditional archery remained in minority use for sport and for hunting in many areas long after its military disuse. In Turkey, its last revival for this purpose took place with the encouragement of Mahmud II in the 1820s, but the art, and that of constructing composite bows, fell out of use with the death of the last bowyer in the 1930s. The rest of the Middle East also lost the continuity of its archery tradition at this time. In Korea, the transformation from military training to healthy pastime was led by Emperor Gojong, and is the basis of a popular modern sport. Japanese continue to make and use their unique traditional equipment. Among the Cherokees, popular use of longbows never entirely died out. The British have maintained a continuous tradition of longbow use, with a major revival as an upper-class pursuit from about 1780-1840.

In China, the improvement of firearms and other circumstances of 20th century China led to the demise of archery as a military and ritual practice, and for much of the 20th century only one traditional bow and arrow workshop remained. However, in the beginning of the 21st century, there has been revival in interest among craftsmen looking to construct bows and arrows, as well as in practicing technique in the traditional Chinese style. In modern times, mounted archery continues to be practiced in some Asian countries but is not used in international competition. Modern Hungarians have revived mounted archery as a competitive sport. Archery is the national sport of the [Kingdom of Bhutan](#)



We're on the Web!

Visit us at:

www.ftcollinsarchery.com

The Fort Collins Archery Association

- We are a group of people united by an interest in archery.
- Our membership includes both active bow-hunters and target archers who have never hunted.
- We maintain *for the public* the Fort Collins outdoor archery range on land owned by the City of Fort Collins Parks and Recreation Department.
- We work with local organizations and businesses to provide support for youth archery programs, sponsor benefit shoots and host competitions.

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