

Traditional Archery: The Persistence of Ancient Technology in The Modern World

By: Matthew Johnson, Department of Anthropology

Contact: johnsomr206@potdam.edu



Introduction

The bow and arrow have profoundly shaped human history. Lately, modern technology has mostly replaced the tools of traditional archery—but not entirely; a preference for “old school” methods persists despite the seeming disadvantages of using what is often considered outmoded technology. By reaching into the past, his study seeks to understand what drives and has driven the relationship between the bow and humanity. Was the preference due to environmental limitations? Were bows made merely for efficiency? Were design choices culturally driven? Combining experimental archaeology and ethnographic data, this study asks how this ancient technology is important to the past, present, and future.

Background

At similar points in time the bow seemingly spread throughout the world. It is one of the oldest known projectile delivery systems. Interestingly, it has taken on various forms in its tens of thousands of years existence. Many cultures have developed their own variation of the bow, many of which are still used today, despite the relative superiority of the compound bow. The most common categories of traditional bows include longbows, recurve, composite, and horn bows. The latter is used natively in areas where there is little to no wood for bowmaking. People have developed their own bow styles over centuries, every culture adopting their own interpretations. They all, however, share a commonality of accurately delivering a sharp point down range at high velocities. People's today have continued interest in traditional archery, despite the existence of modern cam and pulley compound bows. This suggests a relationship between people and tools that is more complex and multifaceted than it first appears.

Methodology

This study seeks to pinpoint the reason for continued use of “ancient technology” in an age of modern technology. To undertake this, multiple bows have been examined. The differences between a modern compound bow and three other traditional, yet slightly different bows were recorded and observed. In doing so, by drawing on Ethnographic Data and combining it with recorded shooting tests, comparisons were made, culminating towards a conclusion.



Example: Mongolian composite bow. Created from wood, sinew, and horn.

Experiment

To evaluate the performance of each bow, the following tests were conducted:

1. A target was set fourteen yards away from the archer. At least three arrows were then shot from each of the four bows.
2. Using a Garmin chronograph, the velocity of each shot was recorded.
3. In addition to velocity, other characteristics were noted, such as the sound of the bow firing.

Modern Bow Examples



Top Left: Compound Bow. Top Right: Recurved Bow. Bottom Left: Hide Long Bow. Bottom Right: Slightly Recurved Bow.

Specifications

Compound Bow: Bowtech CP 30- uses pulleys, adjustable draw weight, metal wiring, and sights to provide a mechanical advantage. It is 30” long. Draw weight of 57 lbs.

Hide Backed Long-Bow: A single piece of maple wood carved and tillered into shape. It's 72” long. It has a draw weight of 57 lbs. It is reinforced with animal hide on its back for durability.

Recurved bow: Uses fiberglass to maintain its durability, elastic fibers on the bow string help silence the shots, and sports a major curve in its limbs, which affects its firing capabilities. 64” Long. 52-lbs draw weight.

Reflex Longbow Bow: In between the Long Bow and Recurved Bow, it is also reinforced with fiberglass. Its curve is not as pronounced as the recurve bow. It is 62” long. Draw weight of 52 pounds.

Findings

Velocity (Feet Per Second)	Compound	Hide-Backed	Reflex	Recurve
Arrow 1	270.1	118.7	136.2	149.7
Arrow 2	270	122.7	140.6	150.9
Arrow 3	270.8	125.0	141.9	151.7

1. Flight time for each arrow was a fraction of a second (see table above).
2. The reflex and recurve bows were hardly audible.
 - a. Bow string silencers helped dampen the sound.

Discussion

The sound dampening effects of the elastic fiber become more important when observed in conjunction with velocity. For ancient peoples, they needed to be much closer to their targets. There would have been a need to be as quiet as possible, to minimize chances of missing their target. When hunting, the prey will be easily frightened and run away. Such additions would have been made to maximize chances for a successful hunt. This is in stark contrast to the compound bow. Due to its design, the arrows shot maintain a far higher velocity and are capable of being fired from a much further distance. The hunter would not need to place such importance upon scaring away prey from a close distance.

Conclusion

When compared overall, the use of the cam and pulley system of the Bowtech CP 30 reached the highest velocity, with no other bow approaching such speeds. Despite this difference, there is still an important place for traditional archery. The suggested relationship between people and this tool, is more than simply what people prefer to hunt with. Traditional archery allows people to explore the relationship between themselves and the natural world. They can interact with a tool that was integral to survival in ages past, as the first peoples once did. Through traditional archery, people find a part of themselves, that is fading as technology continues to evolve.

Sources

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Acknowledgements

Dr. Timothy Messner
JJ Parilla
The Suny Potsdam Anthropology Department
Kilmer Laboratory Foundation
Arconic