

Ancient Hunting Weapons

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Abstract: This article analyzes the emergence of ancient hunting weapons, their types, and their role in human history. Hunting activities were not only a means of subsistence for early societies but also held significant importance in social, cultural, and spiritual life. The study, based on scholarly sources, examines the evolution of hunting weapons—from hand-thrown spears and slings to more complex mechanical devices, including the bow—and highlights their military and economic significance.

Keywords: Hunting weapons, ancient society, spear, sling, composite bow, history of hunting.

Introduction: In ancient times, hunting was one of the primary means of subsistence for humankind. Weapons developed for hunting were important not only for obtaining food but also played a significant role in the social and cultural development of society. While early communities relied on simple tools such as spears and slings, more advanced weapons—such as the composite bow—emerged over time and became essential in both economic and military life. This article explores the formation, types, and societal significance of ancient hunting weapons.

LITERATURE REVIEW

The study of the history of ancient hunting weapons is primarily based on archaeological findings, written sources, and ethnographic research. For example, A. P. Okladnikov associated composite bows discovered in the Baikal region with material culture dating to the 3rd millennium BCE. B. A. Litvinsky scientifically substantiated the widespread use of composite bows across the regions of Central Asia. Additionally, V. I. Raspopova highlighted the significance of the bow in the society of that period through her analysis of wall paintings from Panjikent.

Among local researchers, M. Pardayev provided valuable information on stone cores and their role in hunting, while G. I. Bogomolov studied weapons discovered in the Chach region and analyzed their military significance. Contemporary scholarly works also advance various conclusions regarding the technological improvement of ancient hunting weapons and their role in the development of society.

METHODOLOGY

The article employs the principles of historicism, comparative analysis, and a systematic approach in the study of ancient hunting weapons. Archaeological findings, written sources, and ethnographic data were compared in order to identify their common and distinctive features. In addition, an analysis of scholarly literature was conducted to elucidate the role and significance of hunting weapons in the development of society.

RESULTS

Overall, the review of the literature indicates that the study of ancient hunting weapons constitutes an important scholarly source not only for understanding the history of hunting, but also for comprehending the cultural and social development of humankind.

Hunting has been a sphere of great importance in many aspects of human development, including individual, spiritual and cultural, economic, and social progress. Although today hunting has largely been preserved as a form of "hobby," in prehistoric times and during the periods of early human society it represented an activity that occupied a substantial place in social life. The development of the hunting economy was closely linked to hunting weapons and the degree of their technological sophistication. In ancient times, there existed many types of hunting weapons, which can be classified into the following categories:

1. Hand-thrown hunting weapons;
2. Complex mechanical hunting weapons;

3. Traps.

In studying the history of hunting weapons, the emergence of hand-thrown weapons can be explained by the fact that early humans possessed more limited physical capabilities compared to wild animals. It can be argued that changes in natural and climatic conditions required humanity to adapt accordingly. Among the hand-thrown weapons used in hunting animals, the spear is undoubtedly considered the earliest.

The spear is a weapon designed for thrusting or throwing and has been known since the Stone Age. It emerged during the Paleolithic period. Early spears were made of wooden shafts measuring approximately 1.5 to 5 meters in length, with sharpened tips. Initially, sharp stone points were attached to the tip of the spear; later, bone points were used. During the Bronze Age, spearheads began to be manufactured from metal. Depending on their function, spears varied in length: throwing spears were shorter, infantry spears were of medium length, and cavalry spears were longer. In the 19th century, bayonet-type (spike-shaped) and knife-shaped (tactical) spears were mounted on the barrels of firearms. The spear was widely распространён among nearly all peoples of the world.

The spear was primarily used for hunting large animals such as bears, elk, deer, tigers, bison, and yaks. For bear hunting, spearheads were made in a broad leaf-like shape, with a double-edged blade measuring approximately 45 mm in width. The spearheads used in such weapons were crafted by local blacksmiths, after which a shaft was fitted and securely attached to the weapon.

During the winter season, hunters used spears up to 2 meters in length to hunt bears. The hunters were armed with spears and axes. Groups of three to four hunters would surround the forest den where a bear was hibernating and thrust their spears through openings in the den. When the bear, in its struggle for life, attempted to emerge from the den, it encountered spears embedded at the entrance with their blades facing upward. As a result, even a powerful bear would quickly succumb to severe injuries.

Specialists estimate the age of the earliest spears to be approximately 300,000 years. These include eight wooden specimens discovered between 1994 and 1998 during excavations at a shallow brown coal mine in Schöningen, Germany. The spears are considered the oldest fully preserved examples of hunting weapons.

Researchers sought to determine whether spear throwers could have used them to strike distant targets. For this purpose, an experiment was

conducted involving six athletes specializing in javelin throwing. In particular, Owen O'Donnell, a graduate of the Institute of Archaeology at the University of California (USA), produced replicas of ancient weapons by hand using metal tools. The implements were made from Norway spruce grown in the United Kingdom. At the final stage of processing, the metal tools were replaced with stone tools so that the surface of the "replicas" would fully correspond to the characteristics of the original ancient wooden spears. The most successful products were two spears weighing 760 and 800 grams.

Athletes demonstrated that using such weapons it was possible to strike a target at distances of up to 20 meters. Previously, the weight of the Schöningen spears had led scholars to assume that they could not be thrown at a significant speed. However, the research showed that the balance of the weight and the speed at which athletes hurled them generated sufficient kinetic energy to successfully hit a target.

Stone Age spears were generally divided into three main types:

1. **Throwing spears.** These spears were lighter and longer, and their primary purpose was long-distance throwing. They were used for hunting large animals such as mammoths and deer. The tips of such spears were often made of flint or obsidian, which made them sharp and allowed them to penetrate animal flesh easily.

2. **Spears for close-range use.** Shorter and stronger spears were used in close contact with prey or for protection against predators. The spearheads were large, massive, and often barbed, enabling hunters to hold the animal or engage it effectively at close range.

3. **Barbed spears.** These spears were specifically designed to retain the animal after it was struck, preventing it from escaping. Such barbed points were produced using stone-cutting and crushing technologies, which made them more functional and effective hunting weapons [1].

Hand-thrown slings. Archaeological research has revealed a large number of surviving stone cores associated with slings. The sling (palaxmon) is a structurally simple hunting weapon, consisting of a leather thong, a rope, and a woolen strap with a widened central section. The stone core was placed in the strap, after which the sling was rapidly rotated above the head; one end of the rope was then released, causing the stone core to fly at high speed and strike the target. This simple device increased the initial velocity of the stone projectile and thus ensured the destruction of targets at considerable distances. Slings continued to be used by humans until the emergence

of firearms in the 16th–17th centuries [2].

In Eastern countries, the existence of the sling from ancient times can be traced not only in archaeological evidence but also in written sources. In the Avesta, within a hymn that lists warriors' weapons, the sling is also mentioned. Likewise, one of the ancient Assyrian pictorial monuments depicts a slinger standing alongside warriors shooting a bow and throwing a spear. Written sources further report that soldiers in the army of Bughrakan, a ruler of the Ilak period (10th–11th centuries), also made use of slings and mangonels.

At the end of the Ice Age, hunter-gatherer communities sustained their livelihoods through hunting in steppes and valleys, fishing, and gathering wild plants [3]. This situation can also be inferred from population data indicating the relatively small size of human communities at that time.

During archaeological research in Peru, the remains of a young woman along with fragments of hunting weapons were discovered. Using these artifacts, Randall Haas, an anthropologist at the University of California, and Matt Verdolivo, an artist with Academic Technology Services, reconstructed a depiction of a female hunter engaged in the act of hunting. The image portrays a woman hunter throwing a spear with the aid of a wooden shaft (spear-thrower). This reconstruction demonstrated the importance of scientific and artistic collaboration and received significant international recognition. Haas's conclusions provided a basis for the view that hunters in prehistoric periods included women. These scientific findings were further supported by numerous rock art scenes depicting hunting activities discovered in Peru, thereby expanding the scope of research into artifacts and the prey of ancient hunters.

Spear throwers. These simple devices increased the effective striking range of a spear to up to 80 meters. They are well known from ethnographic materials. Native Americans referred to them as atlatl, while Australian Aboriginal peoples called them woomera. They consisted of sticks or boards with a hook at one end, into which the spear or the rear end of the spear was fitted, while the other end was held in the palm. During throwing, the spear thrower effectively increased the length of the throwing arm (that is, the lever), thereby enhancing both the sharpness and the force of the strike. In the Paleolithic period, spear throwers were widespread almost everywhere. Some of them were true works of art. At that time, weapons were decorated not only with simple geometric patterns but also with skillfully carved figures of birds and animals, whose qualities, according to legend,

were magically transferred to the weapon itself. A weapon found at the Abri Montastruc site in what is now France, made from reindeer antler and dated to approximately 12,000 years ago, features the aforementioned hook carved in the shape of a leaping horse [4].

This indicates that even before the invention of the bow, hunting weapons with complex structures already existed, and they played a significant role in the emergence and development of the bow.

The Bow. Among hunting weapons, the bow occupies a central place, and its significance is evident not only in hunting but also in the broader field of the invention of complex projectile weapons with sophisticated structures. The bow is one of the most widespread weapons in the world, and its typical examples were crafted with high skill by our ancestors who lived in the regions of present-day Uzbekistan. One such example of a composite bow was identified at the Eski Khouvos archaeological site [5], indicating that these bows were widely used for hunting and military purposes from ancient times.

The composite bow consisted of several components: its core was made of wood, while the two limbs—the bending and drawing parts—and the belly side were made of animal horn bonded together with sinew glue. Bows constructed with such components produced greater power than simple bows and enabled arrows to travel longer distances. The production of such bows required a considerable amount of time [6]. According to ethnographic sources, their manufacture could take from one to three years. The technology of making composite bows was based on skills and traditions that had developed over many years.

This technology was carried out in several stages: soaking the wood and animal horn, tempering them over low heat, preparing and bonding layered plates, repeatedly drawing and shortening the bow, applying adhesive multiple times, and, in the final stage, tying the bow in a reversed position with a loop. After this process, the bow was kept in this state for a long period. This procedure served to create a renewed "reflex," which provided the bow with the power necessary to shoot arrows over long distances. If the string of a composite bow is removed, the bow bends in the opposite direction.

The emergence of the composite bow in Central and East Asia is closely associated with the Baikal region. In the first half of the 1st millennium BCE, a highly developed form of the composite bow existed in this region, which A. P. Okladnikov proposed to call the "Central Asian type" [7]. The composite bows discovered by A. P. Okladnikov in the Baikal area are

dated to a material culture complex of the 3rd millennium BCE. These bows consisted of several structural components (layers or linings) [8].

N. A. Tikhonov, who studied the Lower Arkhyz site in the North Caucasus, identified composite bows in the graves of Sarmatian and Alan tribes and presented his conclusions based on their analysis. According to him, all components of the bow were glued together, with several parts forming a single, integrated construction. This type of composite bow has been widely identified in burial mounds belonging to nomadic pastoral tribes inhabiting vast areas of Eurasia. The renowned archaeologist B. Litvinsky notes that types such as the "Scythian," "Sasanian," and "Turkestan" bows were widespread across this region [9].

Accordingly, it can be concluded that the area of distribution of the ancient composite bow was extensive. Due to the vastness of this territory, archaeologists refer to it as the "Siberian–Mongolian steppe" or the "Eurasian steppe." Consequently, they conclude that there was an interrelationship between the formation of composite bows in Siberian regions and those found in the southern territories.

CONCLUSION

Ancient hunting weapons played a significant role in human life and development. Initially serving as a means of subsistence, they later gained considerable importance in social, cultural, and military spheres as well. The formation and improvement of hunting weapons testify to the development of human cognition and technical capabilities.

As a recommendation, it can be stated that further in-depth study of ancient hunting weapons, their reconstruction, and their transmission to younger generations as part of historical heritage constitute one of the most pressing tasks today.

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