

**FROM THE HISTORY OF ANCIENT BLACKSMITH CRAFTS OF THE FERGANA
VALLEY**

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Abstract: This article analyzes the history of the development of metalworking crafts in the Fergana valley in ancient times. The main attention is paid to the study of information related to the historical period in which metalworking crafts arose in the region, which local centers and historical factors played an important role in this, and what role ethnic processes in the region played in the development of valley metalworking.

Keywords: Ancient times, Fergana valley, Chust, Dalvarzintepa, archaeological finds, bronze casting, blacksmithing, religious beliefs, Iron age, traditions of pastoral tribes.

Analysis of archaeological and written sources shows that in the Fergana valley, along with farming and animal husbandry, a craft industry also emerged and developed in ancient times. In particular, this is confirmed by archaeological research conducted in the Fergana valley in 1929-1930 by A.A. Potapov, in 1930-1933 by B.A. Latynins, in 1946-1948 and 1950-1952 by A.N. Bernshtam, Yu.A. Zadneprovsky, Ya. G. Gulyamov, V.A. Shishkin, as well as in recent years by A. Askarov, A. Anorboev and B. Matboboev[1:70:46-60].

Research on this topic plays an important role in shedding more light on the factors that formed the foundation of metalworking industries in the region, the processes of determining subsequent innovations within the industry, the transition of the ancient inhabitants of the valley to a sedentary lifestyle, the history of agricultural culture, the history of urban planning, the formation of the foundations of statehood, and the history of ethnocultural ties of the region with other cultural centers.

It is known that humanity first mastered the important branch of craftsmanship, the making of metal objects, in the 4th-3rd millennium BC, that is, in the Eneolithic period. During this period, man first noticed that a piece of copper found in nature was different from stone. He learned to make the first metal objects by cold working copper. Then, he invented the first metallurgy, which was the method of melting it in fire and making weapons of various shapes from it. Judging by the findings of archaeological research, it is known that man first made axes, four-edged swords, various copper rings, and later copper ingots and daggers from copper.

According to the researchers, copper metal did not play such a significant role in the economy of mankind during the Stone age. That is, most importantly, it could not replace stone tools. However, it played an important role in the expansion of mankind's understanding of metals. In particular, such knowledge increased during the Bronze age in human history.

It should be noted here that bronze is a metal compound formed by mixing copper and tin. According to scientists, an alloy containing 90% copper and 10% tin is considered the best bronze. It is known that bronze was discovered in the 3rd-2nd millennium BC between the Two Rivers. It is a stronger metal than copper, and the craft of making metal products developed further during this period. Another aspect is that while a temperature of 1084 degrees Celsius was required to melt copper, a temperature of 700-900 degrees Celsius was sufficient to cast

bronze. These factors led to the widespread use of these metal weapons in the human economy. In turn, this led to the development of industries related to metalworking, which is important for us.

The available data suggest that the production of metal products in the Fergana valley originated in the Bronze age. In particular, settlements belonging to the Bronze age irrigated farming culture have been found in more than 80 places in the Fergana valley, such as Buvanamor, Dalvarzin, and Ashqaltepa near Chust. Academician A. Askarov notes that in the last quarter of the 2nd millennium BC, pastoral Saka tribes settled in the eastern and northern parts of the Fergana valley and laid the foundation for the first farming culture [2:179]. These historical processes increased the need for metal tools and household items in the region. As a result, the development of simple methods of bronze casting and blacksmithing took place. In the study of the monuments of Chust and Dalvarzin, the research of archaeologists such as V.I. Sprishevsky and Yu.A. Zadneprovsky plays an important role [3:69-76]. They put forward their theoretical views on this issue in their works. Also, this problem was covered more widely in the works of later researchers [4:46-60;15]. Summarizing these observations, the following observations can be made about the pottery of this culture

Analysis of archaeological materials shows that the most developed branches of metalworking and blacksmithing in the economy of the Bronze age inhabitants of the Chust and Dalvarzintepa sites were the metalworking industry related to bronze casting. This is confirmed by the metal finds found at these sites [5:33-36]. For example, 80 such metal objects were found at the Chust site, and 60 at the Dalvarzintepa site. Metal objects, namely, brass mirrors, bracelets, various rings, sickles, knives, scythes, fishing rods, horse stirrups and water jugs, as well as double-barreled bows, were cast from brass in stone molds. Local brass casters achieved high skills in this craft. For example, a knife made in Chust with a thin, delicate handle, a rounded surface, covered with a delicate pattern and a distinctive blade shape is an example of this idea. It is not for nothing that the Chust knife-making center emerged as one of the largest metalworking centers in the Fergana valley in the Middle Ages and the modern era, because the foundation stone of this center was laid in the Bronze age.

Researcher Yu. A. Zadneprovsky draws attention to the important role of local ore deposits in the emergence of bronze smelting centers in the Fergana valley. The researcher noted that for the metallurgists of Dalvarzintepa, the location of the Tentaksoy deposits to the north near the settlement, Kampirravot near Karadarya to the east, and Tuyamoyin deposits to the south played an important role [6:80]. For the metallurgical industry of the Chust population, the Govasoy deposits at the southern foothills of the Chatkal Range were of great importance, and for the population of the Kairakkum region, such ore deposits as Novkat and Karamozor were of great importance. It can also be said that tin ore deposits, which were important in bronze smelting, were also widely exploited by the population of the Fergana valley. This is supported by the fact that the metalworking sites of Chust and Dalvarzintepa in the north of the valley, Vadil in the south, and Kairakkum in the west are all located near ancient mines [7:81].

The analysis of the materials shows that the ore was initially processed in the mines, and the metal was completely melted in the settlements. This is confirmed by the remains of smelting furnaces, ceramic tubes of the furnaces, ceramic molds and crucibles and stone molds found at the Dalvarzintepa settlement. Although there is not enough material to fully explain the process, it indicates that various bronze objects were made by skilled bronze casters. According to the

chemical analysis of bronze alloys, the products of the Chust culture differed in some aspects from the metallurgy of neighboring regions. In particular, bronze alloys were cast in a mixture with metals such as arsenic, lead, silver, bismuth, and antimony along with tin. This local feature is associated with the composition of local mineral resources. Local craftsmen had mastered this aspect well.

At this point, the question arises. Under the influence of which cultural centers did metallurgy arise in the Fergana valley? We know that the first traces of metal use in Central Asia are visible in the settlements of Southern Turkmenistan. Therefore, it can be said that, like in other regions of Central Asia, metalworking in the Fergana valley most likely arose in connection with the cultural centers of southern Central Asia. In the analysis of archaeological materials, we can find evidence confirming this assumption. However, it can be said that by the Bronze age, the basis of local metallurgy was fully formed.

Another aspect that deserves attention is that if we say that only the sedentary population in irrigated agricultural areas played a significant role in the formation of metalworking industries in the Fergana valley, we would be approaching the issue from one side. Because the available information suggests that other historical processes should also be taken into account.

Fourth, at the end of the 2nd millennium BC and the beginning of the 1st millennium BC, the southern and western regions of the Fergana valley were settled by pastoral tribes of the Andronovo culture from the Eurasian steppes. And it was these tribes that played an important role in the development of metalworking crafts in the valley. This is evidenced by the finds in this area, including the monuments of Vadil and Karamkul. The fact that these tribes came from vast steppe areas and developed their metalworking traditions in these new places is confirmed by a comparative analysis of metal products from the two regions of this period. In particular, bronze ornaments and other craft products from the Vadil settlement are very similar to the crafts of pastoral tribes in Southern Siberia [8:15].

Such examples can also be observed in a number of other settlements in South Fergana. Or about 30 monuments of the Kairakkum culture in the western Fergana region have been identified as belonging to this period. The existing finds indicate that here too, cattle-breeding tribes developed the craft of casting bronze and making various items from it. The researcher Yu.A. Zadneprovsky also noted that the craft of copper smelting was developed in the places of the Kairakkum culture. In particular, the discovery of such metallurgical workshops in 15 of the 60 studied points on the slopes of the Karamazar mountain range confirms our opinion.

Because the Andronovo culture tribes have always had cattle breeding as their main occupation, while metalworking has been the second most important branch of their economy. For this reason, it was not without reason that these tribes settled in the steppe region near the deposits of the Karamazar mountain range, which is rich in mineral deposits [9:243]. The Navkat copper deposits here are especially rich in raw materials, and the craft of smelting copper and tin metals and casting brass products from them developed here. These historical processes indicate that the interaction of tribes with sedentary and pastoral livelihoods in the craft played an important role in the development of the craft of making metal products in the Fergana valley, the formation of its centers, and the improvement of production methods in the craft [10:82;23]. In general, researchers express the opinion that the metalworking of the Fergana valley developed on the basis of the traditions of the Western and Eastern regions of this period, and local traditions emerged on this basis. This aspect was also noted by researchers who studied the traditions of

valley knifemaking of the later period. This feature is especially clearly manifested in the structure of the blades of valley knives.

Archaeological research has found iron knives and iron flints in the upper layer of the monuments of the Chust culture [11:48]. This information indicates that the blacksmithing craft was also formed in the Fergana valley during the Iron age.

In conclusion, in ancient times, the first foundations of the metalworking industry were formed in the Fergana valley. The Bronze age sites of Chust and Dalvarzintepa played a particularly important role in this. The rise of the metalworking industry in the Fergana valley in ancient times served as a worthy foundation for the subsequent development of metalworking in the region.

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