Spanish – English translation of the Spanish transcript of the YouTube video *La pieza del mes, La espada de Ruchano (2021)*

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The Sword of Ruchano Cave: An Archaeological Discovery

Introduction

November's featured artifact is an extremely interesting and very rare object, both for the object itself and for the location where it was found. It is a sword—the sword from Ruchano Cave, located in Riaño, Solórzano. This object is, as I mentioned before, very interesting due to its rarity, because very few swords from Cantabria, swords from this period of the Bronze Age, are among the first swords discovered in this region. Additionally, it was found inside a cave and in a very particular environment—it was discovered in a chamber that was submerged. Therefore, we understand that this was a ritual offering to the waters, a type of ritual that persisted for many millennia, practically until the Arthurian legends.

To discuss this piece, which is as interesting as I mentioned earlier, we have enlisted one of the best specialists in archaeometallurgy in Spain: Dr. Ignacio Montero. He is a scientific researcher at the Institute of History of the CSIC and director of the Archaeometallurgy Project in the Iberian Peninsula, which is a fundamental reference for understanding the first metal objects and pieces and their entire historical context in the Iberian Peninsula. He is also a very important reference on an international scale.

Expert Analysis by Dr. Ignacio Montero

Greetings. I have been asked to speak about the sword from Ruchano Cave. This piece is undoubtedly a very singular element in Cantabria's prehistory, but it is also an infrequent piece throughout the entire Cantabrian coast.

Discovery

The sword was accidentally discovered in 1975 inside what is called Ruchano Cave, which is a complex system with several chambers where materials from different chronological periods have appeared. The specific context of this piece is also important because it appeared in a chamber that contains water, and therefore it is a piece that appeared submerged within the cave.

Classification and Typology

The piece is often classified as an Argaric sword because it responds to specific characteristics of swords manufactured during the Bronze Age in the Iberian Peninsula, mainly in the southern zone, in the area of eastern Andalusia and Murcia. This is important

for evaluating what a piece with foreign typology might be doing in a geographical space like Cantabria.

The investigations carried out on this piece have been mainly typological and descriptive, since there was no official archaeological intervention of the cave itself that could provide more contextual data about the discovery.

New Research and Analysis

I will now discuss the new investigations that we began a few years ago, in which we have incorporated archaeometallurgical analysis techniques to understand details of the piece's manufacturing technology and also discuss and comment on its provenance.

Physical Characteristics

The sword from Ruchano Cave currently measures 61 centimeters in length. It is missing a small tip end, and in the handle area it should have originally had 6 rivets to secure the organic part. Currently, only two of them are preserved.

Composition Analysis

Compositional analyses indicate that the blade is made of bronze—that is, an alloy of copper with tin in which the tin proportion is around 9 percent, meaning a good quality bronze. However, the two preserved rivets show slightly different compositions: one around 13 percent tin and the second with lower values of 6-7 percent tin.

This difference in composition between the blade and the rivets suggests that the piece was originally manufactured with binary bronze and that the rivets may be part of replaced elements due to the piece's use. Argaric swords could have silver rivets, and perhaps originally the Ruchano sword had them. However, replacement due to deformation or breakage of these fastening elements could only be supplied with new copper-based metal because access to silver in this northern area of the peninsula was not easy during the Bronze Age, since the main silver resources were also in the southern zone.

Functional Implications

This replacement of rivets is important for evaluating the piece's functionality because probably when it was deposited in the cave, in that aquatic space, it already had a long period of use and was deposited with a symbolic or ritual character that is difficult to determine because we are not in the same societies that produced and used these pieces.

Manufacturing Technology

From a technological perspective, it is a very complex piece because casting an object 61 centimeters long requires having control and mastery of the pour, which must be well distributed since the metal cools during the process. For its distribution to be homogeneous and for the piece to function and be used functionally, one must avoid the formation of pores or areas where the metal has not properly completed that form.

The fact that the blade is preserved almost completely is an indication that the casting was obtained and manufactured with great skill.

Provenance Studies

Regarding provenance, as we have said, the typology refers us to the southern Argaric world. In the studies we have carried out with lead isotope analysis, it has been determined that the blade's metal has a close relationship with the known mineralizations at Cerro Minado in Huércal-Overa in the province of Almería.

This is important because some other analyzed Argaric swords from the El Argar site itself also have isotopic values very close to those of the Ruchano Cave sword and share this provenance with the mineralizations of the southeast of the same province of Almería.

Circulation and Trade Networks

How and why the piece reached Cantabria is complex, but we know from other general studies that during this Bronze Age period, certain objects were circulating between different zones of the peninsula, and metal was even arriving from other areas of Europe.

Copper is relatively abundant in different territories, but not tin, which is concentrated mainly in the northwestern and central peninsular zones. If the piece was manufactured in the southern zone, in the Argaric zone of Almería, it implies that tin had to reach that zone, which does not have its own resources.

This circulation of raw materials and objects reveals that during the Bronze Age there existed a series of circuits—perhaps not so much commercial since they do not have exchange value, but probably related to the symbolic or status value that possessing an object of these characteristics represents.

Social and Cultural Significance

Swords and halberds are the first objects manufactured with their function as weapons. Other pieces like arrowheads or axes may have other complementary functionalities, but swords and halberds are weapons destined for combat.

This function is limited since very few people in society can use them and possess these objects, converting them into prestige pieces that can be exchanged as status elements or gifts to strengthen alliances between different groups.

Conclusion

Therefore, the sword from Ruchano Cave, not only due to its deposition in a cave and submerged environment but also due to its southern provenance, its tin alloy, and its function as a weapon, represents a very singular element that tells us about these Bronze Age societies.

Thank you very much.