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Black Steel:
Obsidian and Aztec Death Culture

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Geology and human beings have been linked together in unique and interesting ways since the dawn of human-kind as a species, with many tales of their relationship being recorded, thanks to the invention of writing. One of the most remarkable relationships between humans and local geology that is incredibly well documented, is the Aztecs and their relationship to the igneous rock known as obsidian or a specific type of volcanic glass. The Aztecs used obsidian for a number of special purposes, but perhaps, the most important of these purposes lay within their intricate and often gruesome death culture. This death culture has fascinated historians and scientists alike, with its complexity and rather foreign ideas being the chief driver of this curiosity. Within this paper, I hope to shed light on the question of how Aztecs utilized obsidian throughout the various processes of their death culture.

Obsidian, a type of black volcanic glass, which is the byproduct of volcanic eruptions that eject silica-rich lava onto the surface of the Earth. This lava is then rapidly cooled upon exiting the volcano's chamber; this cooling normally occurs naturally when lava comes in contact with a body of water, such as a large lake or pond. Since the cooling process is rather abrupt, crystal

structures within the silica matrix of the lava are cut off from forming, leaving a smooth surface on the outer layer. For contrast, granite, which is chemically similar to Obsidian, takes a significant amount of time to cool, thus visible crystals of minerals such as quartz and feldspar form and become dominant within the rock itself. Jim Miller, a geologist from Oregon State University, emphasizes that the distinguishing feature of obsidian compared to other rocks is that, like all types of volcanic glass, obsidian breaks on a "conchoidal" or curved fracture.¹ These specific types of fractures cause obsidian to be incredibly sharp, especially when polished by a trained stone sharpener.

The Aztecs, no doubt enamored with the sharpness that obsidian could produce, were able to gather large quantities of obsidian, thanks to their unique location. The central portion of the modern-day country Mexico is home to numerous volcanoes, both active and dormant, from which obsidian was readily available. Mexico's igneous geology is also controlled by two tectonic plates, the Caribbean plate, and the Cocos plate, which would cause the formation of the volcanoes mentioned above. Professors of Geology John Millhauser, Enrique Rodríguez-Alegría, and Michael D. Glascock, ran a study using X-ray fluorescence techniques to attempt to pinpoint where the Aztecs mined their sources of Obsidian from around 900 A.D. to the time of the Spanish conquest of their empire. After analyzing 103 obsidian artifacts found in the Aztec city of Xaltocan, these researchers identified seven separate sources for the obsidian used in the artifacts, with the main sources of this obsidian coming from the cities of Pachuca and Otumba.² This indicates that the Aztec empire had a steady and efficient source of obsidian for the majority

¹ Jim Miller, "Obsidian is Hot," *Obsidian*, Oregon State University, Accessed on November 13, 2019, <http://volcano.oregonstate.edu/book/export/html/205>.

² John K. Millhauser, Enrique Rodríguez-Alegría, and Michael D. Glascock, "Testing the Accuracy of Portable X-Ray Fluorescence to Study Aztec and Colonial Obsidian Supply at Xaltocan, Mexico," *Journal of Archaeological Science* 38, no. 11 (November 2011): 3141–52.

of its existence. By establishing this, it is no wonder why the Aztecs were able to readily use the vast benefits of obsidian in their day to day lives and more importantly within their death culture.

Aztec death culture focused heavily on the ability of warriors within the Aztec army to supply a substantial amount of prisoners of war for use in various sacrificial rituals. This emphasis on the capture and imprisonment of non-Aztecs for human sacrifice shows within the hierarchy of the Aztec military. Warriors were ranked based on how many people they captured (i.e., a one captive warrior compared to a two captive warrior and so on) and were categorized with different armour and adornments based on this captive level.³ Regardless of captive level, almost every warrior within the Aztec military utilized one of the most influential obsidian based technologies known to the Aztec empire: the macuahuitl. The macuahuitl was a club-like device made from strong wood with grooves cut into the side of the wood; these grooves would then be outfitted with obsidian blades held in place by a special mixture of bat guano. Dr. Marco Obregón, Professor of Archaeology at the National School of Anthropology and History in Mexico City, states that the macuahuitl's obsidian blades were "able to cut muscular tissue and make slight fractures of bones without being able to amputate it completely, and a large part of its edge would be transformed into tiny micro-flakes that would encrust the wound and bone and make it difficult for the wound to heal."⁴ This is significant as this seems to suggest that the main goal of the macuahuitl was not to outright kill an enemy but to cut and injure an enemy enough to be taken captive and transported to a major city for use as a human sacrifice. The macuahuitl was also a weapon of propaganda, as much as it was a weapon of war; many stories survive of

³ David Carrasco, *Daily Life of the Aztecs: People of the Sun and Earth* (Indianapolis: Hackett Publishing Company, 1998), 145.

⁴ Marco Antonio Cervera Obregón, "The Macuahuitl: An Innovative Weapon of the Late Post-Classic in Mesoamerica," *Arms & Armour* 3, no. 2 (October 2006): 146.

the macuahuitl. One particular example claims that the weapon was strong enough to cut the head off of a horse in a single blow.⁵ These claims are unfounded today, as tests have been done using recreations of macuahuitl (as none from the era survived to the present) show that it is impossible, but this must have spread panic among enemy warriors. One negative associated with the macuahuitl was the tendency for the obsidian blades to break after several uses; this durability issue being the main reason why spanish steel, although not as sharp as obsidian, fared much better in head to head combat. However, the advantage given to the Aztecs by the macuahuitl's obsidian blades allowed them to exert an incredible amount of control over the surrounding territory and gain countless numbers of sacrificial victims in the process.

After the Aztec Military had captured sufficient prisoners, thanks in large part to the macuahuitl, the next step in Aztec death culture was to sacrifice them to please the gods and nourish them with the blood spilled during the various ceremonies. The Aztecs were especially creative with the methods of sacrifice they chose to employ. Michel Graulich in his article, "Aztec Human Sacrifice as Expiation," emphasises this when he states, "humans were put to death, not only by excision of the heart but also by decapitation, having the throat cut, being thrown into fire, being scratched... and being hurled down from the top of a pole or pyramid."⁶ Although the Aztecs practiced all of these types of sacrifices, along with many others, the most common during the various religious events was the cutting out of one's heart. David Carrasco, author of *Daily Life of the Aztecs: People of the Sun and Earth*, states that "Victims were quickly thrust onto the stone, where a temple priest cut through their chest wall with a tecpatl or a ritual

⁵ Obregon, "The Macuahuitl," 140.

⁶ Michel Graulich, "Aztec Human Sacrifice as Expiation," *History of Religions* 39, no. 4 (2000): 352.

flint [Obsidian] knife.”⁷ The still beating heart would then be offered to the sun or a particular deity, and the body would be thrown down the stairs of the sacrificial temple. Carrasco then reports that the body would be cut into various pieces by other obsidian instruments, and the body was then sometimes ritually eaten as part of the death ceremony. Other parts of the victims' corpses were utilized after death, with the head being the most important. These heads would be cleaned of flesh and hair and put onto what is known as a tzompantli or a skull rack, which housed the skulls and showed them off to those entering the various cities which conducted human sacrifices. Sometimes skulls were turned into masks or drinking instruments instead of being a part of the tzompantli.⁸ None of this type of dismemberment could be made possible without the sharp nature of the obsidian tools, making Aztec death rituals almost completely dependent on the implementation of them.

The Aztecs continued this practice of sacrifice well into the period of european exploration with many accounts of this obsidian based sacrifice being inflicted upon the Spanish conquistadors, who eventually ended the reign of the Aztecs in the sixteenth century. In “The Broken Spears: The Aztec Account of the Conquest of Mexico,” which features Aztec accounts of the war, with the Spanish translated by Dr. Miguel León-Portilla, a story of fifty-three Spaniards being put to death is displayed. “One by one they [the Spanish and their allies] were forced to climb to the temple platform, where they were sacrificed by the priests.”⁹ This scene is especially important due in large part to the fact that the Aztecs, in addition to ritually sacrificing the Spaniards themselves, also sacrificed their horses in similar fashion. By making reference to

⁷ David Carrasco, “Daily Life of the Aztecs,” 190.

⁸ Kerkhove Raymond, “Explaining Aztec Human Sacrifice,” Masters Thesis, (University of Queensland, 1983), 71.

⁹ Miguel León-Portilla, *The Broken Spears: The Aztec Account of the Conquest of Mexico* (Boston: Beacon Press, 2006), 107.

the horses, the Aztecs indirectly show how valuable the sharpness of obsidian was, especially in a culture that lacked the development of metallurgy; in fact, spanish steel would not supplant Aztec obsidian use until the late 1700's.¹⁰

Obsidian was not just used in the process of human sacrifice within Aztec death culture, although it is evident that it was essential, it was also used in the self sacrifice and religious punishment commonly found within the death culture, as well. The Corning Museum of Glass, one of the world's best collections of glass products, states that “ they [the Aztecs] cut their tongues and ears with obsidian blades on ritual occasions, caught the falling blood on the index finger, and flipped the blood in the direction of the sun or moon,” to provide a vivid example of this self-punishment.¹¹ This may sound quite painful, but a fresh obsidian blade would be so extremely sharp that someone partaking in the ritual would more than likely not feel the cut being made. Dr. Nicholas Saunders, Professor of Archaeology at the National Autonomous University of Mexico, brings up other interesting examples of obsidian's role in self sacrifice and religious punishment in his article, “A Dark Light: Reflections on Obsidian in Mesoamerica.” Saunders comments on two rituals performed with obsidian blades in the Aztec empire. One of which, the *tentli-itztli*, roughly translated to “sacrifice and cut one’s lips before the idols,” was implemented during various religious ceremonies throughout the year. The second, which is unnamed by Saunders, refers to a story of an Aztec emperor punishing priests, who failed to do their jobs correctly by placing them in cages littered with obsidian shards upon which they would sleep until they died, in a ritual that combined the punishment and ritual sacrifice.¹² Obsidian is

¹⁰ Corning Museum of Glass, “Pre Columbian Use of Obsidian.”

¹¹ Corning Museum of Glass, “Pre Columbian Use of Obsidian.”

¹² Nicholas Saunders, “A Dark Light: Reflections on Obsidian in Mesoamerica,” *World Archaeology* 33, no. 2 (2001): 224.

shown, once again, to play a large part in all of these different rituals associated with Aztec death culture.

One final, but exceptionally important contribution of obsidian to Aztec death culture, comes in its influence on the religious beliefs of the Aztecs, specifically in their version of the afterlife and the many deities they worshiped. Caroline Pennock and Amanda Power, authors of the article titled “Globalizing Cosmologies.” *Past & Present* state that the Aztecs believed that “Perpendicular to the terrestrial world (Tlalticpac, the earth, ‘on the land’), the vertical plane reached below to the nine underworlds of Mictlan and above through the multiple, probably thirteen, heavens; Importantly, this belief structure blended the metaphysical with the earthly.”¹³ Obsidian and its characteristics are ever present, especially in the nine planes of the underworld. The Aztecs believed that three of the nine underworld layers had some aspect of obsidian associated with it. Saunders comments on this by indicating that one level featured an obsidian mountain that forced the dead to walk over sharp shards of obsidian glass, another with winds that cut the dead like obsidian blades, and yet another that was referred to as the obsidian place of the dead.¹⁴ He also notes that the Aztecs may have incorporated this obsidian association due to the underworld's perceived similarities to the various obsidian mines scattered throughout the Aztec empire. Deities, as well, had an association with obsidian, the most important of which was the Aztec god Tezcatlipoca. Tezcatlipoca “was a true god, whose abode was everywhere; he was invisible, like the darkness; [like] the wind; on a whim, Tezcatlipoca could either cause anguish and affliction or bestow wealth, honor.”¹⁵ He, in conjunction with the god Quetzalcoatl,

¹³ Caroline Dodds Pennock and Amanda Power, “Globalizing Cosmologies,” *Past & Present* 238 (November 2, 2018): 95.

¹⁴ Saunders, “A Dark Light,” 224.

were the two most important gods within the Aztec pantheon. The most distinctive feature of Tezcatlipoca was that one of his feet was actually an obsidian mirror. This mirror was said to give Tezcatlipoca the ability to see over anyone in the world and could curse or send a plague to those caught in its reflection.

In conclusion, obsidian was essential for the Aztecs to perform their incredibly diverse and complex death culture. Everything from the aspects of the Aztec underworld and deities to the often brutal forms of human sacrifice, punishment and blood-letting involved some form of obsidian, whether in blade form or in other unique ways. Although obsidian is found all across the globe, the Aztecs morphed it into an essential part of everyday life within their empire. More study on the many obsidian artifacts that have been discovered may shed even more light on obsidian's connection to Aztec death culture. It is truly amazing how a simple piece of glass can shape an entire culture, and its personal connection to the processes of death and dying.

Appendixes

Figure 1: Map of the sites mentioned above for Obsidian Production

¹⁵ Avis Mysyt, “Quetzalcoatl and Tezcatlipoca in Cuauhquechollan (Valley of Atlixco, Mexico,” *Estudios de Cultura Náhuatl* 43 (June 2012): 200.

Figure 2. Aztec codex image depicting the macuahuitl (Corning Museum of Glass, <https://www.cmog.org/article/pre-columbian-use-obsidian>)

About the Author

Michael Stevens is a recently graduated senior from Northern Kentucky University. He majored in history with a focus in GIS and Geography. He is a lifelong Cincinnati native with a passion for nature, soccer and kayaking. He also is a fan of the Cincinnati Bengals, even though they continually torment him year after year.

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