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Monkey on the *malacatl*:
Investigations into the Imagery of Aztec Spindle Whorls

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An abstract of
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Abstract

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By Brooke Luokkala

Previous studies of Postclassic spindle whorls from Central Mexico have tended to focus on the production of typologies rather than the examination of the imagery of individual whorls. This has led to an oversight in terms of both the form and function of spindle whorls as real objects used in the world and how they manifest such imagery. In this paper, I detail how the embodied use of four Aztec (1000-1400 AD) spindle whorls from two different museum collections can allow for a more nuanced interpretation of the imagery on them. Through close looking, I show how this imagery can be connected to larger themes across Aztec society, particularly that of ritual sacrifice on the *temalacatl* and the observation of regular cycles in the natural world, such as that relating to wind, monkeys, and the deity Ehecatl-Quetzalcoatl.

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1 – Introduction

There is something unsettling about Aztec spindle whorls and their presence in modern museum collections that has consequently influenced their perception in the scholarly literature. Perhaps it is their small size—after all, most are no larger than a quarter—or the fact that they tend to exist in numbers that can easily approach the thousands, turning what seems to be a manageable artifact into an army for the unsuspecting archaeologist or art historian to tackle with any degree of comprehensiveness. There is also and often the added complication of decoration done at near microscopic scale and in a myriad of incised or molded designs that are themselves often painted or slipped. These decorations serve to transform the spindle whorl into a class of bona fide shape shifters. They are whorls, but they are also not whorls, with some designs taking the task of embodiment to entirely new heights.

Nevertheless, over the past several decades archaeologists and art historians interested in the untold stories of ancient American women have turned to the designs of Postclassic (1000-1400 AD) spindle whorls (Nahuatl: *malacatl*) to enliven their research. This list includes Mary Parsons, who was the first to measure the diameter of the spindle whorls she encountered across several museum collections in 1975 to produce a typology based on proposed fiber types, but more importantly American archaeologists Sharisse and Geoffrey McCafferty, the late American anthropologist Elizabeth Brumfiel, and Danish archaeologist and art historian Jesper Nielsen.[1] Applying themselves to a wave of archaeological theory beginning in the 1990s and set forth by archaeologists Margaret Conkey and Janet Spector, these authors have called upon the evidence provided by spindle whorls in differing ways, albeit with similar—and avowedly limited—ends.[2]

[1] Mary Parsons, "Spindle whorls from the Teotihuacan Valley, Mexico," *University of Michigan Museum of Anthropology, Anthropological Papers*, 45, (1972), 45-79.
[2] Margaret Conkey and Janet Spector, "Archaeology and the Study of Gender," in *Advances in Archaeological Method and Theory*, ed. Michael Schiffer, (New York: Academic Press, 1984), 1–38.

In this paper, I draw upon individual examples of spindle whorls to offer a more nuanced interpretation of the iconography occurring on Aztec spindle whorls. After a review of the literature and using the example of a singular whorl from the Yale Peabody Museum of Natural History, I first show how one can call upon the embodied use of the singular whorl to connect its designs with a female-specific version of Aztec imperial expansion and more with gender nonspecific systems of cosmological ordering. To do so, I begin with what can be observed within the whorl itself and move outwards. Afterwards, I move forward to propose an alternative connection exhibited across three additional whorls from both the Yale Peabody Museum and the American Museum of Natural History to natural cycles of discontinuous helical motion and to the wind deity Ehecatl- Quetzalcoatl.

Taking into consideration the work of those who came before me, this mode of analysis places explicit emphasis on the use of single, unprovenienced spindle whorls of the kind that have become almost ubiquitous in museum collections rather than attempting to draw conclusions across provenienced collections, as will be explored through a review of the preceding literature.[3] The methods involved in this analysis are also distinctively art historical in nature as they are predicated on practices of close looking informed by the whorls' embodied use rather than looking outward and across other examples of spindle whorl depictions in the material record. Finally, this work also attempts to tie in current research in Aztec metaphysics, the recent re-evaluation of the Nahua terms *ollin*, *tonalli*, and *malinalli* by professor of Aztec philosophy James Maffie, hopefully taking us closer to an understanding of the ideology surrounding Aztec spindle whorls and how they came to feature such complexity in their designs

[3] Provenience is defined here as whorls traceable to known archaeological sites and/or contexts. Unprovenienced whorls constitute those collected in the absences of a scientific excavation whether through looting, surface collection, or continuous ownership.

in the first place. Spindle whorls were first and foremost functional objects used in the world and their imagery directly acknowledges this use.

2 – Defining Spindle Whorls

A spindle whorl, at its simplest, can be most accurately described as a weight. It is often circular or trapezoidal in form and has a central perforation (Fig. 1). Installed at the bottom of a rod, the spindle whorl serves to guide the spinner through the process of creating thread from raw fiber through the act of physically spinning the whorl and collecting the fiber around the rod (Fig. 2). They can exist in a variety of materials and only require a consistent density to provide balance, for it is a combination of the whorl's balance, the skill of the spinner, and a strong fiber that will ultimately serve to separate the good spinners from the bad. As a result, the quality of the finished product is not only dependent on the skill of the spinner, but also that of the ceramicist.

The spindle whorls most represented in Aztec collections are composed of fired clay in a variety of colors and are only sometimes coated in a black bitumen (*chapote*).[4] Like most objects in ancient American art collections today, it is nearly impossible to trace the individual hands that formed each individual piece, however, in exceptional circumstances where the mold has been found it has been possible to recognize when two whorls have been formed from the same mold (Fig. 3).[5] Even without a mold, a limited variety of motifs are seen across spindle whorls in Central Mexico, and regional preferences have been observed.[6] Of the ceramic spindle whorls

[4] For more on *chapote*, see Carl J. Wendt and Ann Cyphers, "How the Olmec used bitumen in ancient Mesoamerica," *Journal of Anthropological Archaeology*, 27, no.2 (2008), 175-191.
[5] Jesper Nielsen, "The World on a Whorl: Considerations on Aztec Spindle Whorl Iconography," in *PreColumbian Textile Conference VII*, (2017), 135-136.
[6] Geoffrey G. McCafferty and Sharisse D. McCafferty, "Weapons of Resistance: The Material Symbolics of Postclassic Mexican Spinning and Weaving," in *Latin American Antiquity*, 30, no. 4, (2019), 719-720.

that have been formally excavated in Central Mexico, what is perhaps most notable beyond their design is the sheer range of the contexts in which they appear. The presence of spindle whorls in both royal and non-royal female burials has supported colonial sources citing that, in addition to their more obvious practical function in textile production, spindle whorls also served as a type of heirloom object that could have feasibly been passed down from mother to daughter.[7] Although, spindle whorls have been known to occur in the burials of biological male individuals as well. This is particularly true for identified scribes and lords with other markers of artistic interest.[8] For example, the presence of spindle whorls in the grave of a royal individual from Monte Alban (Tomb 7) has led scholars to notoriously re-evaluate the gender identity of the deceased multiple times and across publications.[9] Although the interred presented as biologically male in the skeletal remains, their grave goods—which included spindle whorls—suggest that they may have identified as female.

Spindle whorls continued to be invaluable components of fiber production in Central Mexico even into the modern era, where many of the gendered notions surrounding the practice of spinning were cemented early in the anthropological literature. In a compendium of popular travel logs, English museologist William Bullock recalled his own fascination with the device as he saw it used by modern Mexican women during his travels in the region in the early-19th century, writing,

[7] Bernardino Sahagún, *General history of the things of New Spain: Florentine Codex*, trans. Arthur J.O. Anderson and Charles E. Dibble, Book 6, Chapter 37 (Santa Fe, N.M.: School of American Research, 1950), 201.
[8] David A. Freidel, Marilyn Masson, and Michelle Rich, "Imagining a Complex Maya Political Economy: Counting Tokens and Currencies in Image, Text and the Archaeological Record," *Cambridge Archaeological Journal*, 27 (2016): 1-26.
[9] Sharisse D. McCafferty and Geoffrey G. McCafferty, "Engendering Tomb 7 at Monte Alban: Respinning an Old Yarn," *Current Anthropology*, 35, no. 2, (1994), 143-166.

> One of the most interesting sights to an inquisitive stranger in Mexico, says Mr. Bullock, is a ramble early in the morning to the canal which leads to the lake of Chalco. There, hundreds of Indian canoes, of different forms and sizes, freighted with the greatest variety of the animal and vegetable productions of the neighborhood, are constantly arriving…[in] the front of the canoes, the Indian women, very slightly clothed, with their long, glossy tresses of jet-black hair flowing luxuriously to the waist, and often with an infant fastened to their backs, push the canoes forward with long slender poles. In the centre, under cover, the remainder of the family are seated, mostly employed in spinning cotton, or weaving it, in their simple portable looms, into narrow webs of blue and white cloth, which forms their principal clothing.[10]

These observations predicated the early anthropological gaze towards spindle whorls in the scholarly literature, whereupon hand-spinning—even when performed in such difficult conditions as a moving boat! —came to be seen as inferior in the eyes of Enlightenment-era scholars. This subordination of domestic tasks was likely due in part to both a bias towards more industrialized methods of cloth production being introduced in Mexico at the time (i.e., the spinning wheel) and through spinning's close connections to inherently female spaces.

Likewise, the presence of spindle whorls in more extravagant tombs and common graves revealed during projects to develop the Central Mexican landscape early in the 19th century objects only proved to early sources that "[the interred] were industrious house-wives."[11] US Minister to Mexico and famed collector Joel Roberts Poinsett took the appearance of the whorls to be "an indication of their habits," given that, likewise, "[w]arriors were interred with their weapons" and, in the graves of children, "the little skeletons were found in earthen jars, which

[10] Josiah Conder, *Mexico and Guatimala* (London: James Duncan, 1830), 297.
[11] Joel Roberts Poinsett, *An Inquiry Into the Received Opinions of Philosophers And Historians: On the Natural Progress of the Human Race From Barbarism to Civilization* (Charleston, S.C.: J. S. Burges, 1834), 30.

contained whistles, rattles and other toys."[12] However, it is important to note that spinning was not just a household chore but a highly respected practice among both the Otomi and the Aztec before them. At birth, Aztec babies recognized as female were given miniature spindle whorls while their male counterparts received miniature weapons.[13] Aztec goddesses—and some gods—also displayed these and other such weaving implements in their costumes (Fig. 4).[14]

3 – Literature Review

Since the early 1990s, the McCaffertys have written extensively on the importance of textile production to the Aztec state with the eye of raising this perceived role of women in Aztec society. Riding the waves of the feminist archaeological theory set forth by Conkey and Spector, they asserted that a "specialized language" existed around spinning and weaving implements that both gendered the activities for their female users and provided them a level of power complementary to that of warring Aztec males.[15] In their research, the McCafferty's highlighted the "pervasiveness of spindle whorls as metaphorical devices," citing the strong visual relationship between representations of spindle whorls and battle shields, battens and swords, and the practice of spinning with Aztec ritual sacrifice on the *temalacatl*, a large, stone disc featured in colonial depictions and that many have likened to a type of gladiatorial platform (Fig. 5).[16]

Overall, the McCaffertys assert that "[the] objects associated with the diagnostically feminine crafts of spinning and weaving carry iconographic messages relating to an explicitly

[12] Ibid.
[13] Sahagún, *General history of the things of New Spain: Florentine Codex,* 201.
[14] McCafferty et al., "Weapons of Resistance: The Material Symbolics of Postclassic Mexican Spinning and Weaving," 712.
[15] Ibid, 708.
[16] Ibid, 710.

female pattern of symbolic communication," and that "[t]hrough the use of symbols of power incorporated on such common elements as whorls, women were able to express their gender identity, as well as a form of resistance through the subversion of male emblems onto a medium that was expressly female."[17] By looking closely at depictions of goddesses connected to textile production and drawing heavily upon the historic ethnographic literature, the McCaffertys have also observed how the Aztec tied the act of spinning and fiber production to that of childbirth, writing that goddesses "with spinning and weaving tools are represented as midwives, metaphorically taking captives,"[18] and that the floral, zoomorphic, and geometric imagery found on Postclassic spindle whorls can be better likened to "miniature shields" (Fig. 6), meant to complement Aztec men's actual shields used in battle but nevertheless bringing the source of their perceived power back to its 'proper' domain: the domestic space.[19]

After establishing these connections through the depiction of gods and goddesses and through examples in the ethnohistorical literature, the next step for the McCaffertys was finding examples to support their argument from within the whorls themselves. However, in the absence of any singular examples of whorls featuring known sacrificial imagery, the McCaffertys left the connection largely abstract. The McCaffertys instead turned to the colonial literature and to the writings of Franciscan friar Bernardino de Sahagun (1499-1590) to support a loose connection between spinning, childbirth, and warfare. According to the McCaffertys, it was Sahagun (or else his informants) who witnessed that "[w]hen the baby had arrived on earth, then the midwife shouted; she gave war cries, which meant that the little woman had fought a good battle, had

[17] McCafferty et al., "Weapons of Resistance: The Material Symbolics of Postclassic Mexican Spinning and Weaving," 719.
[18] Ibid, 710.
[19] Ibid, 713-14.

become a brave warrior, had taken a captive, had captured a baby."[20] Observations of such performative events not only highlighted the ceremonial elements of childbirth and the militant connotations surrounding it, but also allowed the McCaffertys to argue for a higher status for Aztec women that was at least complementary to those of their male and warring counterparts.

Although not directly identified by the McCaffertys as such, Sahagun's observations can be likened to those associated with the state-sponsored *xochiyaoyotl*, or Aztec "Flower War," a theatrical and ongoing series of battles that regulated Aztec life. [21] In sum, the practices behind *xochiyaoyotl* emphasized the taking of captives, solar sacrifice, and the repetition of specific acts of war in the Aztec hinterlands as key elements of a political practice billed as a natural cycle that helped ensure the continued motion of the cosmos through which limited numbers of the best of Aztec society – male, female, and other – was expected to play their respective part.[22] While the degree to which both the Aztec elite (*tecuhtli* and *pipiltin*) and the lower class (*macehualtin*) participated in this unique form of imperial expansion continues to be debated, the perpetuation of an Aztec ideology which would have strengthened and fueled *xochiyaoyotl* obviously required frequent and laborious reinforcement through the production of monumental forms, ritual displays, and domestic goods that would carry the Texcoco-centered state ideology from the main temples and into the domestic space.[23] Whether or not this ideology was enforced from above or born from below, the role of women in this space is thought to have been

[20] Ibid, 710.
[21] Stan Declercq, "Siempre peleaban sin razón: La guerra florida como construcción social indígena." *Studios de Cultura Náhuatl*, 59, (Enero-Junio de 2020), 97-130.
[22] Ibid. Ross Hassig, *Aztec Warfare: Imperial Expansion and Political Control*, (Norman: University of Oklahoma Press, 1988), 128-130.
[23] Elizabeth M. Brumfiel, "Huitzilopochtli's Conquest: Aztec Ideology in the Archaeological Record," *Cambridge Archaeological Journal*, 8, (1998), 3-13. While Tenochtitlan (c. 1325) was built to be the Aztec capital, Texcoco refers to both one of the older cities composing the Aztec Triple Alliance and to the larger lake and region encompassed by the early Aztec state.

primarily to produce children or to take captives of their own through the battle of childbirth. As French historian Guihelm Olivier writes, "[just] as the warrior fought to kill or sacrifice an enemy who then became a source of power and fertility for the group, the pregnant woman fought to capture a being from the underworld that was about to appear on earth."[24] However, this metaphor for childbirth as a further form of taking captives could perhaps be passed along and shared amongst a cohort of other activities that helped characterize the female gender identity and cement their role as commensurate members of the Aztec state, including the act of spinning fibers in preparation for the weaving of cloth. Support for this can be found in other examples of Aztec ritual practices, such as the adornment of future sacrificial victims in strips of paper—thought to have signified cotton—as a symbol of their unspun and disorganized nature which would eventually be brought back to homeostasis through the act of sacrifice.[25]

It is certainly with an eye towards practices of *xochiyaoyotl* and like themes that archaeologist Elizabeth Brumfiel subsequently approached the spindle whorl with the belief that such practices could only have been born from below, beginning with a discussion of whorls from pre-Aztec Xaltocan (900 CE-1430 CE) and returning to discuss their implication on the status of women in Aztec society only afterwards. Finding the proposed interpretations of the McCaffertys "too narrow,"[26] Brumfiel re-identified much of the floral and geometric motifs recognized by the McCaffertys, but little discussed, as evidence for the appropriation of pre-existing motifs associated with animistic entities that would become intrinsic to the Aztec worldview, such as *tonalli*, or solar heat, and to Nahua cycles of regular movement, *ollin*, by the

[24] Guilhem Olivier, ""Why give birth to enemies?" The warrior aspects of the Aztec goddess Tlazolteotl Ixcuina," *RES: Anthropology and Aesthetics*, no. 65/66 (2014/2015), 66.
[25] Olivier, "'Why give birth to enemies?' The warrior aspects of the Aztec goddess Tlazolteotl Ixcuina," 58-60.
[26] Elizabeth M. Brumfiel, "Solar Disks and Solar Cycles: Spindle Whorls and the Dawn of Solar Art in Postclassic Mexico", in *Treballs d'Arqueologia*, 13, (2007), 100.

warring Aztec state, writing that "[at] Xaltocan, solar and cyclical motifs appear on small decorated spindle whorls recovered from the early pre-Aztec domestic contexts." According to Brumfiel, this suggests that "Aztec imagery did not originate in the state-sponsored art of large urban-centers in central Mexico; rather, its composition and symbolic language were developed in everyday household contexts, as women engaged in cloth production."[27] Brumfiel's interpretation is notable in that it was the first interpretation of Central Mexican spindle whorls to consider seriously the incorporation of Aztec metaphysics in conjunction with whorl iconography.

In her research, Brumfiel paid close attention not only to the subject matter represented on the whorls, but to the composition of representations on the body of the whorl itself, specifically, divided versus undivided motifs.[28] Whereas the McCaffertys had been almost entirely focused on representations of spindle whorls elsewhere and less on the objects themselves, Brumfiel directed focus to where the designs – solar symbols, eagles, and jade scrolls – were located, finding patterns that aligned with calendrical cycles and giving credit to the origin of many later aspects of Aztec state ritual to smaller-scale home practices.[29] This was revolutionary because, according to Brumfiel, "[w]e don't expect Prehispanic women to have such cosmological interests. Western tradition assumes that women's thought and action is focused on issues of home and reproduction, that is, the domestic sphere. Evidently, our Western expectations are mistaken with respect to the pre-Aztec women of Xaltocan." [30] Under this new

[27] Brumfiel, "Solar Disks and Solar Cycles: Spindle Whorls and the Dawn of Solar Art in Postclassic Mexico", 95.
[28] Ibid, 97-98.
[29] Ibid, 105-107.
[30] Ibid, 104.

interpretation, women would have not only been intimately familiar with, but were likely the sole source of, later Aztec state ideology.

Turning at last to Jesper Nielsen, his 2018 work found resonance with Brumfiel's through his use of a smaller set of thirty-two unprovenienced whorls discovered in the offices at the University of Copenhagen and provided support for a more active role of women in state-supported cosmological and calendar-keeping practices. Further opening the way for more specific studies of individual examples of spindle whorl iconography, Nielsen determined his collection to share similar origins in Early to Late Postclassic Central Mexico as that studied by the McCaffertys yet found within it much of the same symbolism recognized by Brumfiel in the whorls at Xaltocan, writing that,

> clearly, there seems to be a semantic overlap or metaphorical relationship between the act of spinning and sacrificing…[w]hen viewed in this perspective, Aztec women's daily, continuous occupation with spinning and weaving was not separate from the male warrior's cosmological responsibilities in terms of maintaining the surrounding society. Indeed, they shared some of the same fundamental concepts and expressions and dealt with similar concerns… [s]pinning, in a very literal sense, was also about making the world go around: Women spun and wove the cosmos, thereby continuously recreated the world, just as blood and heart sacrifices did.[31]

Beginning with the whorls themselves, Nielsen was able to condense that which had been written by both the McCaffertys and Brumfiel and to resituate the source of Aztec state ideology so that it was no longer the product of an explicitly female or male domain but rather seemed to share its antecedents across both.

[31] Nielsen, "The World on a Whorl: Considerations on Aztec Spindle Whorl Iconography," 138.

Through his in-depth investigation of the Copenhagen collection, Nielsen also found patterns that may in fact be truer to current scholarly conceptions of Aztec ideas of gender. While duality was certainly present across Mesoamerica and in the Aztec state in many regards, ethnographic sources paint a culture whose attitude towards gender was relatively fluid and by no means a binary.[32] Aztec individuals of a multitude of gender identities were able to construct their gender by way of their material adornments and their associations with specific elements of material culture but were in no way defined through it.[33] Before her death in 2012, even Brumfiel was keen on re-evaluating her own interpretations Aztec gender constructions.[34] Speaking more largely of the effects of post-processual feminist anthropological theory, she wrote that "[t]hese practices resulted in untested and probably inaccurate reconstructions of gender in past societies that were often simple projections of our own gender systems onto the past."[35]

Nevertheless, Nielsen's argument was ultimately, and like both Brumfiel's and the McCaffertys', left largely abstract in the absence of any individual spindle whorl to ground his hypothesis. Through his choice to place explicit focus solely on the thirty-two whorls of his Copenhagen collection and analyze their designs from a typological standpoint, Nielsen failed to investigate any one work and instead left his interpretation somewhat theoretical, scattered between evidence based in the spindle whorl as an object type, its associated imagery as a disassociated key, and with cultural practice and Brumfiel's ideas concerning *tonalli* employed as a unifying force. While bringing attention to an often-neglected object type in the archaeological corpus, it is my belief that such scholarly treatments essentially keep the spindle

[32] Rosemary Joyce, "Becoming Human: Body and Person in Aztec Tenochtitlan," in *Gender and Power in Prehispanic Mesoamerica,* (Austin: University of Texas Press, 2000), 133-175.
[33] Joyce, "Becoming Human: Body and Person in Aztec Tenochtitlan," 145.
[34] Cynthia Robin and Elizabeth Brumfiel, "1: Gender, Households, and Society: An Introduction," *Archeological Papers of the American Anthropological Association* 18, (2008), 1-16.
[35] Robin and Brumfiel, "1: Gender, Households, and Society: An Introduction," 2.

whorl at a distance and serve to limit the types of interpretations that can be drawn out of more in-depth unique examples.

4 – Case Study: The Peabody whorl

This is not the case for the whorls that follow, in which individual Aztec pieces call upon design, form, and the eventual engagement of the object to become palpable scenes of state symbolism performed in the hands of the artist and the spinner. These examples of embodied use feature designs whose imagery can also be considered largely abstract in isolation but, when taken in consideration with the function of the object, can be better tied to other sources of metaphorical ordering in the Aztec world such as gladiatorial sacrifice on the *temalacatl* (one of the many outcomes of *xochiyaoyotl*). This manifestation of sacrifice is much like the "extrasomatic manifestations" described by archaeologist David Stuart in his discussion of Maya stelae , whose proper interpretations require not only an understanding of the imagery and depictions of rulership but also of the stones on which they appear.[36] This is both in terms of their materiality and function in the artifactual landscape through which those stones realize their images.[37] These specific case studies also reveal that the Aztec beliefs and ideologies surrounding spinning may in fact be much less calendrical, or at least strictly solar, than previously thought, and can be used to support an argument for a common parentage between the ideologies supporting the male (warring) and female (spinning) sphere.

The specific whorl that I focus on first for the purpose of this paper (Fig. 7) and which I use to re-situate the claims of Brumfiel, Nielsen and the McCaffertys was produced at an

[36] David Stuart, "Kings of Stone: A Consideration of Stelae in Ancient Maya Ritual and Representation," *Res*, 29-30, (Spring-Autumn 1996), 164.
[37] Ibid.

unknown date and at an unknown location but is likely Aztec and was probably produced in the Postclassic given its size and style. It was formally accessioned by the Yale Peabody Museum of Natural History in 1946 as part of the collection of New York native Ledyard Cogswell, who donated several hundred spindle whorls from Central Mexico to the university upon his death. For these reasons, I will henceforth refer to it as the Peabody whorl.

The Peabody whorl is of fine-grained, red-orange clay, like many other spindle whorls of its type, and was undoubtedly made in a prefabricated mold prior to its being fired. At nearly six centimeters in diameter, it is likely too large to have been considered functional in any practical sense, although its replicability and the existence of a nearly identical whorl in the same collection demonstrates that it is not a unique example. It is possible that the Peabody whorl could have been used to spin the fibers of the rougher, maguey plant—as well-known for its use in the production of the favored and fermented pulque beverage as it is for its employment in textiles—but it is just as likely that this object was crafted to serve a non-technical, symbolic function as a whorl to be placed in a burial or to wear as part of a costume.[38] As for the imagery and composition of the Peabody whorl, it can be broken down into multiple parts executed in such a way that indicates that a clear and synergetic relationship existed between artist and whorl. These parts can be compounded, with each layer of symbolism encompassing the next, to magnify the ultimate effect and metaphorical significance of the whorl as both an isolated object and realized representation of Aztec metaphysics that escapes the theories of both the McCaffertys, Brumfiel, and Nielsen.

As introduced at this paper's outset, philosopher James Maffie has elsewhere shown how the practice of spinning could be closely linked to the Aztec idea of *malinalli*, a type of motion-

[38] For more on spindle whorls as costume elements, see McCafferty et al., "Weapons of Resistance: The Material Symbolics of Postclassic Mexican Spinning and Weaving," 711.

change that "involves transformation *between* different kinds of things (cotton into thread), between different conditions of the same thing (disorderly into orderly), and…*between* vertical layers of the cosmos."[39] This will be discussed in more depth later on, but using again the concept of *tonalli*, or, the energy originating from the sun, Maffie draws extended connections between the act of spinning and other types of ordering (fire-building, sweeping, drilling, etc.) through *malinalli*, which is coded by a glyph of loose grass in the Nahua calendar, writing,

> It is the human who contributes the actual twisting of the fiber; the spindle simply facilitates the process. One may twist fiber without a spindle by rubbing the fiber against one's thigh. One similarly makes rope, twining, and cordage directly from grass by twisting bunches of cut grass and gradually adding more grass to what has already been twisted…The pattern repeats that of twisting thread for clothing. In short, twisting transforms grass into something useful, strong, and well-ordered.[40]

Malinalli can be distinguished from *tonalli* in that it is the action that carries the change in energy that Brumfiel thought to be symbolized by the spindle whorl. It can also be distinguished from other Nahua terms for motion, such as *ollin*, as relating less to the maintenance of equilibrium and more to specific events of large scale social change and revolutionary upheaval necessary to bring about *ollin*—whose motion distinctively follows a pre-determined path—once more.[41] That is all to say that in the construction of the whorl, form followed function, or the shape of the object and its design are related to its ultimate purpose—the extrasomatic representation of sacrifice. The Aztec artist who formed the spindle whorl—regardless of its intended functionality or lack thereof—would have been intrinsically aware of the object's

[39] James Maffie, *Aztec Philosophy: Understanding a World in Motion,* (University Press of Colorado, 2014), 266.
[40] Maffie, *Aztec Philosophy: Understanding a World in Motion,* 263.
[41] Ibid, 293.

technical realization and the generosity of its form and shape to the formal process of spinning, through which rough and unorganized fiber was made manageable through the physical actions of the human hands and their manipulation of the object in a contextualized space. Realizing this, the artist has not simply inserted time and movement into the object but brought it out intrinsically through both the medium of the spindle whorl as an object type and as it would have been experienced.

Diving subsequently into the background of the whorl's image; it is everywhere dotted in raised relief. It is notable that few spindle whorls exhibit such attention to this aspect of the background, which would have been tactually as well as visibly accessible to the spinner. Arranged not in any sort of regular grid, its arching lines of dots navigate around the whorl's various other compositional elements, which mainly include an anthropomorphic figure at center and an additional circular feature in the foreground. It is possible that this background field was so rendered by the artist in order to create a sense of darkness, or perhaps to illustrate the presence of a starry night (although, this is usually done with the inclusion of a star band), perceivable were the whorl to be oriented more conducive to the functionality of the whorl, or as it would have been used in life: with the concave and sculpted plane facing downward so that the flattened, undetailed surface might catch the produced fiber (Fig. 10). However, the symbolism of this space is ultimately not so important as the artist's consideration of it. Regardless, the artist has made the deliberate decision not to leave this field blank. Instead, he or she has used texture to close the scene within the limits of the inferior surface of the whorl and to exaggerate the appearance of other elements at center and in the foreground.

The next aspect of the design to which I direct the reader's focus is the figure of a captive warrior that twists around the whorl's centermost perforation. But first, some attention must be

paid to this pivotal central hole through which one would have placed the reed. Both Nielsen and Brumfiel have elsewhere hypothesized that this centermost perforation on other whorls, while essential to the whorl's functioning, may have also been viewed as symbolically analogous to the heart or open chest cavity, or *iyollo*, of a sacrificial victim.[42] The *iyollo* is what would have been pierced and drilled into during sacrificial rituals—perhaps even as part of *xochiyaoyotl*—and is incorporated by the artist most explicitly here as the spinner aids in a miniature performance of heart sacrifice. As for the figure himself, he has been rendered as male and probably as a captive. This is made clear from his costume. A striped and lightly fringed loincloth descends from his waist, and a feathered, or perhaps paper, headdress suggests his identity as a captive warrior who has been prepared for ritual sacrifice. His membership to which of the various Aztec classes has been left unclear, and perhaps deliberately so. [43] An armband is incised on his upper left arm, and a possible bracelet is on his right wrist, but the lack of detail given to either leaves the figure's allegiances for the viewers to contemplate or to insert themselves. This anonymity further plays into ideas of continuity through self-sacrifice, the balancing of cosmological forces, and the repetition of practices of political expansion represented best in *xochiyaoyotl*.

Finally, the figure dons a pair of laced sandals, which suggest he has been caught in a scene that takes place outdoors. His knees and elbows are further bent in a state of animated chaos as if to suggest that his situation is one of strife or active movement. Of the known examples of monumental Aztec sculpture, it is a scene not unlike that on the Coyolxauhqui Stone. Discovered in 1978 at the bottom of a staircase at the center of the Aztec capital of Tenochtitlan, the Coyolxauhqui Stone features the disarticulated body of a disgraced goddess in

[42] Maffie, *Aztec Philosophy: Understanding a World in Motion*, 301.
[43] Olivier, "'Why give birth to enemies?' The warrior aspects of the Aztec goddess Tlazolteotl Ixcuina," 58-60.

a strikingly similar position indicative of *malinalli*-type transformational change (Fig. 8). In her case, Coyolxauhqui was quite literally cut down by her brother Huitzilopochtli after Coyolxauhqui attempted to kill their mother, whom Coyolxauhqui believed had been dishonorable in the way she had become pregnant with Huitzilopochtli. It is in the specific moment of Coyolxauhqui's deposition and fall from atop the temple that *malinalli* was enacted. Influenced heavily by Enrique Florescano's writings on the power of the fall, historian Paul Scolieri writes,

> To a certain degree, Coyolxauhqui's fall dramatizes the un/making of the world, simultaneously representing its radical renewal and referencing the past. As such, the conflated temporalities within the Coyolxauhqui stone suggest that the falling body is a figure for Aztec conceptualization of cyclical history: Coyolxauhqui's falling body is at once the threat of devastation and the promise of renewal, transforming gravitational force into centripetal energy.[44]

Similar depictions of *malinalli*-type transformations also exist in pictorial manuscripts, and art historian Janice Lynn Robertson has also noted how depictions of this type transcend the boundary between the human and the cosmos, such as in the case of the rushing waters of the jade skirt of Chalchiuhtlicue in the Codex Borbonicus, where the figures tossed by the current can be seen in similar states of commotion (Fig. 9).[45]

Returning to the captive warrior, he is depicted facing the left and with either arm further wrapped both upwards and down to make full use of the whorl's surface and possibly to indicate the direction of his own strife. It is counterclockwise and mirrored closely in the chosen

[44] Paul Scolieri, "Coyolxauhqui's impact: Aztec historiography and the falling body," in *Women & Performance: A Journal of Feminist Theory*, 14, no.1, (2004), 95.
[45] Janice Lynn Robertson, "Decolonializing Aztec Picture Writing", in *Visual Culture of the Ancient Americas: Contemporary Perspectives* ed. Andrew Finegold, Ellen Hoobler, and Esther Pasztory, (Norman: University of Oklahoma Press, 2017) 193.

directionality of his headdress. Described earlier as likely composed of either feathers or paper, this headdress is primarily composed of strips of material that, in life, would have been easily taken by the wind or velocity unavoidably produced in the act of spinning. This observation of natural motion has been easily extended by the artist to the representational with this inclusion of the perishable headdress. The discontinuous rendering of the female Coyolxauhqui, whose own sacrifice is not isochronal but arresting, is notably set facing the opposite direction. All the same, the most prominent elements displayed by this central figure—and only barely visible at his ears—are the individual's paired ear spools. They are an additional set of rings that expand the wearer's lobes and the Peabody whorl's cyclical theme. Finally, and on either side, the individual is flanked by two *chalchihuites*, or jade beads, disembodied versions of the ear spools and previously proposed pan-Mesoamerican stand-ins as symbols of life, time, and breath encapsulated.[46] Explicitly noted in Brumfiel's work, these iconographic inclusions likely were not meant to provide a background but to add an element of chronology to the scene or to indicate that some sort of supernatural transition is in the process of occurring or recurring. This continues the same ideas of renewal and endurance as revealed in the figure's indiscriminate costuming and position as a sacrificial victim.

The last layer of this image lies again at its center, where one finds an additional, heavily bordered circle divided into fourths and seemingly laid overtop the captive victim. Despite the use of the term 'overtop' here, this element can and should be considered as if lying beneath the figure, were we to again consider the whorl as it would have been manipulated, with the flat side of the whorl facing upward towards the sky and with the rounded, inferior portion bearing the design turned down (Fig. 10). This orientation once again calls to mind the *temalacatl*, or

[46] See Karl Taube, "The Symbolism of Jade in Classic Maya Religion," *Ancient Mesoamerica*, 16, no. 1, (2005), 23-50.

gladiatorial stone of sacrifice, mentioned earlier and elsewhere noted by Nielsen. Maffie draws analogies between *malinalli* motion-change and Aztec state practices concerning sacrifice on the *temalacatl*, which involved tying a sacrificial victim to the stone with ropes of cotton. As Maffie writes about an example,

> By constraining the captive, the rope forced the captive to spin around the *temalacatl* [the stone spindle]. In doing so, he moved in a *malinalli* twisting-spinning manner and thereby ordered his energies for transmission. Not coincidentally, he spun around like a spindle shaft, while his energies spun around like twisting thread.[47]

Within the details of the *temalacatl* representation, two of the four parts contain the roughened likeness of an 's' commonly believed to be indicative of clouds in the Mesoamerican iconographic corpus. These inclusions perhaps allude to the goal of sacrifice: the coming of the rains, or, more largely, themes of fertility. They sit opposite one other and are interspaced with two more *chalchihuites*, also opposite one another, and with all four inclusions once again set against a dotted background. The lines that break the four sections of the circle have been simply albeit thickly rendered in the horizontal but take a strong and vaguely blade-like stance in the vertical. This manifestation of the solar rays tackles both the cardinal directions and predicates an active display of violence against the figure, while also remaining reminiscent of other examples of Aztec monumental sculpture believed to have been sacrificial stones, such as the Calendar Stone (Fig. 11) and Relief of the Five Ages (Fig. 12).

Similarly, what we ultimately see being realized through the Peabody whorl on both a two and three-dimensional level is a representation and a recurring performance of ritual sacrifice as a rupture in cosmological energy to bring about change—and not merely a reference

[47] Maffie, *Aztec Philosophy: Understanding a World in Motion*, 300.

to it—taking place within a discrete object. This is ultimately a representation that would have been predetermined in the artist's fashioning of the piece as the whorl's maker positioned the depicted victim on the clay altar and accomplished through the whorl's physical use and the ritual piercing of the central *iyollo* to allow for the spinning of the whorl and the ordering of unspun fiber. Necessarily related to systems of regular energy transfer, or *malinalli*, we can also see from the elements illustrated in the description of the Peabody whorl that the iconography of sacrifice and themes of eccentric motion and the recreation of order were emphasized. In other words, they are more than simply solar decorations. Most apparent in the Peabody figure's errant limbs and flowing headdress, this type of embodied eccentricity is more akin to Aztec ideas and metaphysics concerning *malinalli*-type motion. Calling upon Maffie, Robertson, and Scolieri, these observations within the individual whorl can also be connected to other varieties of *malinalli*-type depictions of transformation and ordering elsewhere in the context of Aztec monumental sculpture and pictorial manuscripts. These are also observations that can only be made through the careful observation of a discrete example, less an entire collection of objects.

Moving beyond correlatives in Aztec state sacrifice to further discuss the connotations of spinning and helical motion, another unique aspect of this analysis of the Peabody whorl besides its emphasis on form is that it brings an entirely new type of decorated whorl into the conversation of Postclassic spindle whorls: the anthropomorphic. No previous studies by Parsons, Hall, the McCaffertys, or Nielsen have considered an anthropomorphic whorl in their interpretation of the symbolic function of spindle whorls, likely because of the paucity of associated data in many museum collections. Subsequently, an additional and under-examined category of spindle whorls that I hope to bring to the surface in my consideration of the

embodied use of spindle whorls are those whorls decorated with zoomorphic designs: specifically, monkeys.

5 –Monkey on the *malacatl*

The following case studies hereafter break away from themes of sacrifice, *xochiyaoyotl*, and monumental sculpture to think more about what a *malinalli*-oriented approach can bring to bear metaphorically on spindle whorl iconography when an emphasis is placed on the whorls' embodied use. These studies may also lead us closer to the origins of the ideology predating both male and female practices associated with the creation of order through various means. Several of the authors discussed here have already touched on the way in which the act of spinning may have been tied to themes of childbirth and procreation through their close ties to sacrifice; however, the type of creation inherent within the unspun fiber that I move to discuss has more to do with eccentric motion, the creation of wind, and non-human primates.

Monkeys abound in both the zoological and anthropological collections of the American Museum of Natural History (AMNH), including one example of a whorl that features a monkey at a slight lean and with one foot raised as if caught mid-dance (Fig. 13). Not unlike the Peabody whorl, AMNH 30.2/8930 is also mold-made and, thus, others like it surely exist. As the central figure of the whorl's design, the monkey's inclusion on the whorl has been executed in such a way as to exaggerate the creature's protruding stomach. It is in this way that the artist can once again be seen to have paid close attention to the object's form. The AMNH's monkey is also pierced through at the center, and perhaps deliberately at its navel, with both feet facing forward and upper limbs flailing outward to encompass the whorl's surface. The creature's lips are illustrated to emphasize his buccal facial protrusion and his tail curls backwards behind him. A

speech bubble is clearly indicated near the figure's open mouth, but what does a dancing monkey have to say?

Brumfiel has connected the presence of monkeys and other such iconic images as the *cipactli*, or crocodile, to various day signs and the ritual calendar. The monkey is the eleventh day sign in the Aztec ritual calendar. However, the fact that this monkey speaks and ports an elaborate set of dangling earrings illustrates that he is more than just a symbol. Although known only as *ozomatli* to the Aztec, two types of monkeys were recognized by their Maya: the howler monkey (*Alouatta pigra*) and the spider monkey (*Ateles geoffroyi*). Each species bore different names that connected them not only to distinctive species, but to various classes of artisans, including scribes and spinners.[48] These linguistic variations also reveal the close connections that the Aztecs' neighboring Maya may have made between non-human primates and specific acts of creation (such as the spinning of fiber) that the two cultures likely shared. Aztec depictions of monkeys found across pottery stamps (Fig. 14) and in association with vessel imagery also relate the appearance of monkeys to the scribal arts and to the god Xochipilli, patron of music and dance.[49]

[48] According to Prudence Rice and Katherine South (2015, 279), "[i]n the Yukatekan and Ch'olan lowland Maya languages, the howler monkey is b'aatz' or b'atz', respectively...The spider monkey is ma'ax/max in Yukatekan and Ch'olan…Several Mayan languages, including Lacandon, include special ceremonial terms for various animals; in the case of monkeys, the Lacandon differentiate the howler and spider monkeys "on the basis of gender and on ceremonial versus everyday names" (Stross 2008:14n5). A few of these terms have homophones in various Mayan languages that reveal the indelible association of monkeys with artisans and artisanship and also with writing, music, and entertainment per the Popol Vuh. For example, in Colonial Yukateko chuwen meant "artisan" (Barrera Vásquez 1991:110). K'oy means "incise or engrave" and also semen in Yukateko, and in Proto-MixeZoquean it means "to paint" (Stross 2008: Table 4). In Tojolabal Mayan (Chiapas) a homophone for batz' is batz'a, meaning "paint, daub, smear, anoint" (of interest in light of capuchins furrubbing) and in K'iche' batz' means "thread, yarn, spin" (Stross 2008: Table 1, 10)."

[49] Mary Miller and Karl Taube, *The Gods and Symbols of Ancient Mexico and the Maya: An Illustrated Dictionary of Mesoamerican Religion,* (London: Thames and Hudson, 1993), 190.

In Tenochtitlan, monkeys were closely associated with Ehecatl-Quetzalcoatl, a variant of the Feathered Serpent closely connected to wind, blackness, and renewal through bloodletting and acts of ritual self-sacrifice. Ehecatl-Quetzalcoatl may have also been seen to similarly twist and turn, like the wind itself, around the spindle. That spindle whorls are frequently coated with *chapote*, a black bitumen, may yet be another nod to him.[50] The cut shell ear ornaments frequently seen to flail behind Ehecatl-Quetzalcoatl (*ehecailacatzcozcatl*) are also present on the monkey, here, and connect both them and the monkey discussed previously again with the deity Xochipilli, who can be associated with flowers, pleasure, butterflies, and travelling souls, along with other such things that twist and gyrate in distinctive patterns.[51]

On an additional whorl of red-orange clay, also from the Yale Peabody Museum of Natural History, three monkeys with hands positioned notably to their foreheads are depicted around the outer surface of the whorl (YPM. 135903) (Fig. 15). While molded bars separate them around the whorl's rim, it is possible that these three monkeys are in fact one monkey amid his own solo dance around the reed, as only one at a time would be visible whilst the object was in motion. Again, an acknowledgement of embodied use allows the viewer to imagine how these images would have been experienced in life. These monkeys also have distended stomachs, bent knees, and twisted tails that align them closer with spider monkeys than to the alternative howlers. Although, it is worth noting that neither species naturally occur in Central Mexico, and some scholars believe that Aztec depictions of monkeys frequently combined attributes of both.[52]

[50] Élodie Dupey García, "Creating the Wind: Color, Materiality, and the Senses in the Images of a Mesoamerican Deity," *Latin American and Latinx Visual Culture*, 2, no. 4, (2020), 27.
[51] Dupey García, "Creating the Wind: Color, Materiality, and the Senses in the Images of a Mesoamerican Deity," 27.
[52] Ibid, 28.

The repercussions of Ehecatl-Quetzalcoatl's representation in the context of spindle whorls becomes clearer with a review of Aztec mythology on the subject. In the Nahua creation myth, the Second Sun was created by the god Quetzalcoatl and the humans who ruled the Earth during this time were eventually wiped out by a giant wind. This turned the humans remaining into monkeys left to roam among the trees.[53] It is for this reason that monkeys can be otherwise seen as failed or misled versions of man, and observers have also connected the lived experience of walking among spider monkeys in the Central Mexican forest—bounding, shaking, and jostling the branches—to gust-like phenomena.[54] Spider monkeys, in particular, have their own connotations with reproduction and fertility due to their propensity to carry and spread seeds as they move throughout the forest, not unlike the wind which also and notably brings the rain.[55] As Élodie Dupey has illustrated,

> their distinctive color, movement, and howl made [spider monkeys] living manifestations of the 'voice' of the wind and of the ritual aromas that respectively announced and propitiated the seasonal rains.[56]

That this direct cause-and-effect or rain-bringing aspect of monkeys and spindle whorls could be associated with ritual sacrifice on the *temalacatl* is only logical and it is important to remember that the Peabody whorl featured its own references to clouds in the decoration of the represented *temalacatl*.

In his notes amongst the Otomis, anthropologist Frederick Starr wrote about the fondness that the 20th century Otomi, perceived as direct descendants of the Aztec, seem to hold for

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[53] "Legend of the Suns," *History and Mythology of the Aztecs: The Codex Chimalpopoca*, trans. John Bierhorst, (Tucson and London: The University of Arizona Press, 1992), 142.
[54] Dupey García, "Creating the Wind: Color, Materiality, and the Senses in the Images of a Mesoamerican Deity," 27.
[55] Ibid.
[56] Ibid, 17.

quippy proverbs that connect many of the ideas outlined here. Two particular "trite expressions" caught Starr's ear concerning the use of the term *malacatl*, which can also be attributed to any rotating or coiling thing.[57] He writes,

> The [first] form of this proverb should be noted. It is a double rhyme. It occurs again in the saying: *Ichan ahuacatl, Techan malacatl.* The *ahuacatl* is a common fruit; here it symbolizes neglect or abandonment: the *malacatl* is the spindle and here it symbolizes industry, energy, push. The translation may be—In one's own house neglectful; in the house of another industrious. One neglects his own affairs but busies himself with those of others.[58]

I suggest here that, in addition to being an excellent example of the double-rhyme format, this saying also underscores the complexity surrounding *malacatl*, which was more than just a utilitarian object. It is this same complexity that Starr notes in the additional use of the term in the context of meteorological phenomena.

According to Starr, the term *ecamalcatl*—drawn from both *eca*, air, and *malacatl*, whorl—was also a term used in reference to occasional tornados and other spontaneous forms of weather phenomena in the Central Mexican highlands. Even the occasional 'dust devil' could hold deeper connotations for potential disturbances in the cosmos. As Starr writes of the Otomi understanding of dust devils,

> some believe that they are really spindles set a-whirling by dead souls: others think them the souls of the dead themselves. When they are seen upon the great haciendas it is believed that they are the souls of restless former proprietors, which have not yet entered heaven. Shepherd boys delight to stone them as they

[57] Frederick Starr, *Notes Upon the Ethnography of Southern Mexico* (Davenport, IA: Putnam memorial publication fund, 1902).
[58] Frederick Starr, *Notes Upon the Ethnography of Southern Mexico,* 30.

> whirl past but parents warn them not to interfere with the *ecamalacatls* lest they be harmed or even killed.[59]

This last entry on *ecamalacatl* is interesting, and perhaps points even closer to the source of the ideologies surrounding the practices relating to the motion of spinning or gusting in all its forms and applied here to the actions of monkeys in the previous section and sacrifice in the preceding one. The Aztec population of Central Mexico in the fourteenth through sixteenth centuries was certainly more attuned to natural cycles and the connection of patterns between the weather, the animals, and the behavior of man than we in the 21st century. They knew that wind in the plains would draw in clouds from the mountains and that the mountain clouds would bring rain, fertility, and only sometimes decimation. [60] This knowledge undoubtedly found its way into their creation myths, where the role of wind could be interchangeably played by monkeys, who could sometimes behave as the wind did. When the Otomi (and perhaps also the Aztec) spoke of dancing, spinning, and sacrifice—things that moved in similar random and helical motion to bring about changes—it only makes sense that these activities and the implements employed in them could therefore take on monkey attributes, as well.

Finally, a discussion of spindle whorls would be remiss if one did not include the oft-quoted writings of Franciscan friar Bernardino de Sahagun, who in the 16th century described an Aztec riddle that highlights the above connections between dancing, spinning, and the reproductive aspects they can be associated with. One passage prevails in the literature on spindle whorls and is as follows:

[59] Ibid, 17-18.
[60] See Oscar Velasco Fuentes, "The Earliest Documented Tornado in the Americas: Tlatelolco, August 1521", *Bulletin of the American Meteorological Society*, 91, no. 11 (November 2010), 1515-1524.

> "What is it that they make pregnant, that they make big with child in the dancing place?" The answer was "spindles," which grew around the middle as fiber was spun into thread and wrapped around the spindle.[61]

That dancing would eventually lead to sex and its own form of disruptive but welcome creation was not in question, and the connections between monkeys and dancing have by now been made well apparent. The "dancing place" Sahagun refers to is likely another reference to spinning—specifically, spinning bowls—which Maffie has also likened back to sacrifice and to *cuauhxicalli*, the stone vessels in which sacrificial hearts were left for the sun.[62] One final whorl in the AMNH collection features solely a pair of disembodied monkey jaws and embodies this impregnation perfectly (Fig. 16). Two incised eyes are clearly visible on the whorl's clay form along with distinctively simian buccal patterning. The inclusion of a reed would have served to pierce these jaws and the resulting form of the spun thread would be left to create the illusion of a wound cotton body. In this way, the monkey would have been seen as if growing with the spinner's work, its upward facing stomach filling with organized fibers and the promise of fertility.

6 – Conclusion

This paper has examined closely the design and embodied use of four ceramic spindle whorls from Postclassic Mexico. It has, for the first time, taken into consideration the individual and unprovenienced spindle whorl to connect the female domain of spinning and weaving with the male version of state-sponsored war and sacrifice in Aztec society. This can be tied to other processes regulating Aztec life, such as participation in *xochiyaoyotl*, or Aztec "Flower War,"

[61] Bernardino Sahagún, *General history of the things of New Spain: Florentine Codex,* 240.
[62] Maffie, *Aztec Philosophy: Understanding a World in Motion*, 302.

and to natural phenomena in the Central Mexican world. Further research is necessary to differentiate the users from the makers of spindle whorls and it is assumed throughout this paper that the users and makers of Aztec spindle whorls were either one and the same or closely connected.

In going about these analyses, I have relied heavily on processes of close-looking along with information based on current understandings of Aztec metaphysics. These have revealed how the act of spinning could be seen as analogous to ritual acts of sacrifice performed in the hand of the spinner or to the calling of the rains by a monkey engraved upon the whorl. While previously in this paper I have called on literature on the study of spindle whorls, the literature of miniatures is perhaps also helpful here. As archaeologist Lisa Overholtzer writes in her own study of Aztec figurines, "[a] smaller object is simplified, less intimidating, and more easily intelligible," and here I also argue that the decoration of spindle whorls was an opportunity to communicate larger-scale ideas in a portable form.[63] Douglass Bailey also writes how "miniaturism empowers the spectator. It allows physical control over a homologue of a thing; intellectually, it facilitates a better understanding. … By reducing the world-at-large's reality, a miniature provides a way of making sense of that world."[64] This role as sense-maker and miniature can perhaps be added to the spindle whorl's already lengthy list of functions, and we must not forget that spindle whorls were above all functional objects before they were artworks.

Ultimately, this essay has also pushed forward the arguments of key scholars such as Sharisse and Geoffrey McCafferty, Elizabeth Brumfiel, and Jesper Nielsen in calling upon both the form and function of an artifact to draw new conclusions out of old materials. Moving

[63] Lisa Overholtzer, "So that the baby not be formed like a pottery rattle: Aztec rattle figurines and household social reproductive practices", *Ancient Mesoamerica*, 23, no. 1 (2012), 78.
[64] Douglass W. Bailey, *Prehistoric Figurines: Representations and Corporeality in the Neolithic*, (New York: Routledge, 2005), 33

forward, this research will hopefully be the first of many to consider spindle whorls as individual objects worthy of study. This is particularly as a complement to larger-scale studies of spindle whorl collections, and although my own sample size is small, my methodologies are broadly applicable. Finally, it is my hope that this study has given even more agency to Aztec women as the primary users of spindle whorls and to our understanding of the tasks they undertook in Aztec society. Whether or not they were the product of female makers or solely the instrument of female users, spindle whorls cannot be overlooked as artifacts of scholarly interest and the critical consideration of them is a triumph of modern anthropological study.

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8 - Illustrations

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Figure 1: Spindle whorl with an image of a solar disc, Unknown maker, 1200-1519 AD, Mexico, North America, ceramic, 2.7 cm
Source: © Michael C. Carlos Museum

Figure 2: Detail of an illustration from the Codex Mendoza (Folio 58r) featuring a mother teaching a child to spin, Unknown maker, 1542, Mexico, North America, European paper and pigments
Source: Wikimedia Commons, Public Domain

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Figure 3: Spindle whorl mold, Unknown maker, 1200-1519 AD, Mexico, North America, ceramic
Source: © American Museum of Natural History, 30.3/2070

Figure 4: Image from the Codex Borgia (p. 12) featuring a goddess with spindle whorls in her headdress, Unknown maker, 16th century, Mexico, North America, hide, white gesso, and pigment
Source: Wikimedia Commons, Public Domain

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Figure 5: Image from the Codex Tovar featuring a sacrificial victim tied to a *temalacatl*, Juan de Tovar, c. 1585, Mexico, North America, European paper and pigment
Source: ©John Carter Brown Library, Box 1894, Brown University, Providence, R.I. 02912

Figure 6: The goddess Toci carrying a shield. Unknown maker, Codex Magliabechiano CL. XIII.3, mid-16th century, Mexico, North America, European paper and pigment
Source: http://www.famsi.org/research/graz/magliabechiano/img_page079.html, Public Domain

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Figure 7: Spindle whorl with an image of a sacrificial victim, Unknown maker, likely Mexico, North America, ceramic, 6 cm
Source: © Yale Peabody Museum, YPM, 136205

Figure 8: Coyolxauhqui Stone, Unknown maker, c. 1473, Tenochtitlan, Mexico, North America, basalt, 3.4 m
Source: Wikimedia Commons, Public domain

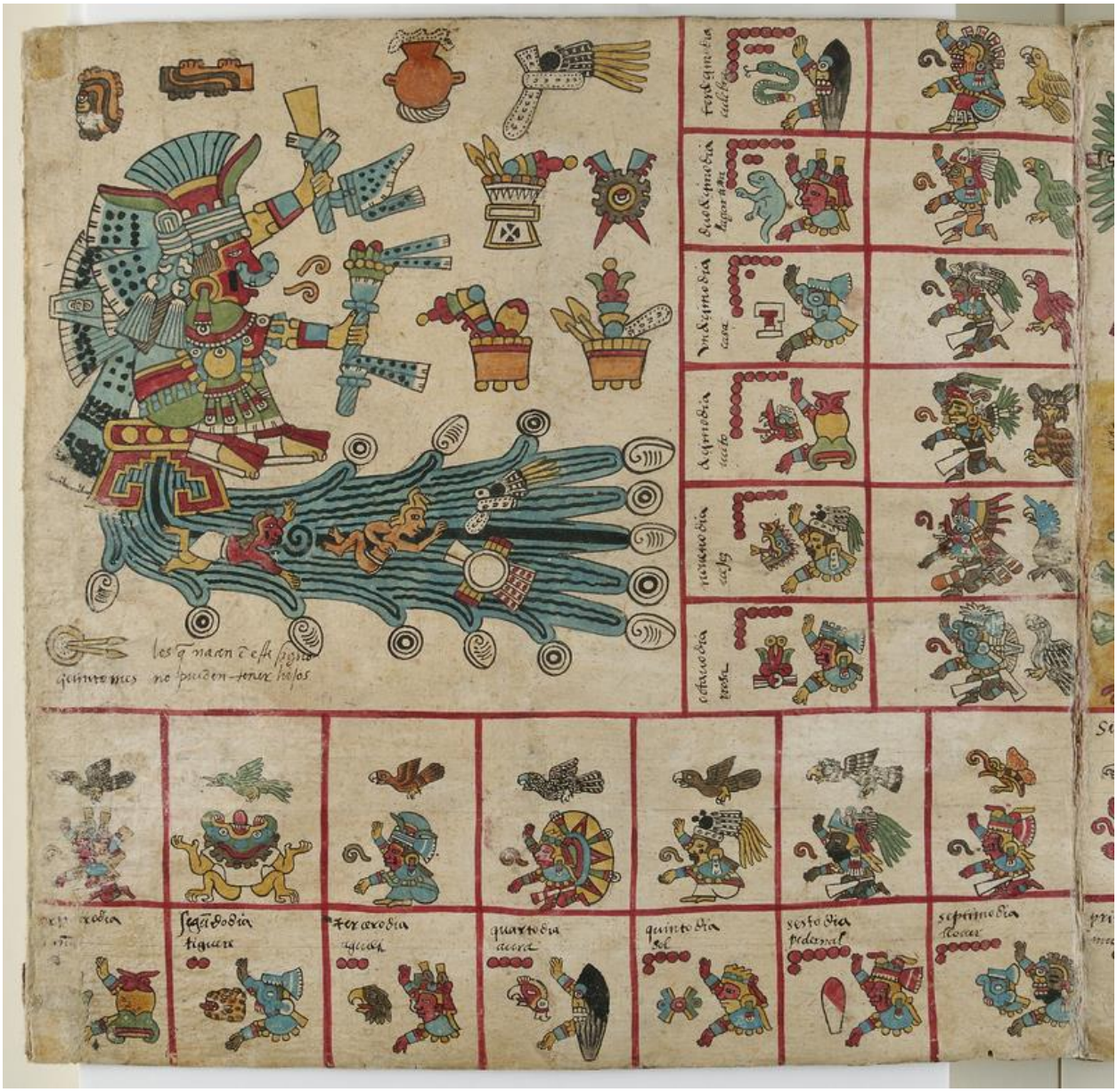

Figure 9: Codex Borbonicus, Unknown maker, mid-16th century, Mexico, North America, amate paper and pigments
Source: http://www.famsi.org/research/graz/borbonicus/img_page03.html, Public domain

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Figure 10: 3D Model of the Peabody whorl in proper orientation (produced with SketchFab), Unknown maker, likely Mexico, North America, ceramic
Source: © Yale Peabody Museum, YPM, 136205

Figure 11: Aztec sun (Calendar) Stone, Unknown maker, c.1502-1520, Mexico, North America, basalt, 3.58 m
Source: https://en.wikipedia.org/wiki/Aztec_sun_stone#/media/File:Piedra_del_sol_Venustiano_Carranza.png, Public Domain

Figure 12: Relief of the Five Ages, Unknown maker, c.1486-1519, Mexico, North America, basalt, 54.6 × 45.7 × 25.6 cm
Source: Yale University Art Gallery, Public Domain

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Figure 13: Spindle whorl with image of a dancing monkey, Unknown maker, mid-15th century, Mexico, North America, ceramic
Source: © American Museum of Natural History, 30.2/8930

Figure 14: Monkey stamp, Unknown maker, 13th-16th century, Mexico, Mesoamerica, ceramic, 5.1 × 1.6 × 6.4 cm
Source: The Metropolitan Museum of Art, 00.5.1165, Public Domain

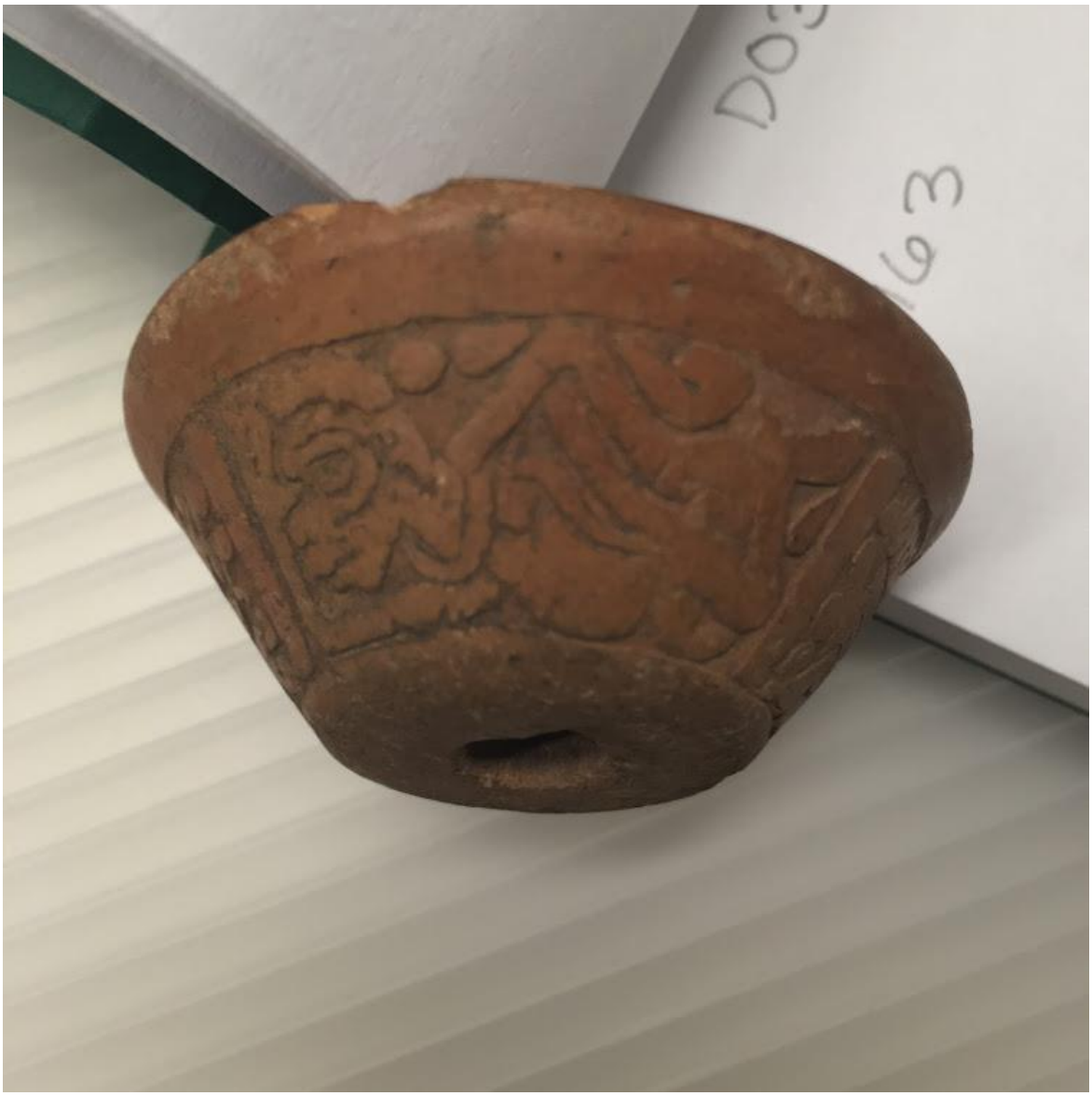

Figure 15: Spindle whorl with images of monkeys, Unknown maker, 10th-14th century, likely Mexico, North America, ceramic
Source: Yale Peabody Museum, YPM. 135903, Photo by the author

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Figure 16: Spindle whorl with monkey jaws oriented as it would have been used, Unknown maker, 1200-1519 AD, Oaxaca, Mexico, ceramic
Source: © American Museum of Natural History, 30.2/8455