

Lindenwood University

Digital Commons@Lindenwood University

---

Theses

Theses & Dissertations

---

5-8-2022

## Finding the Meaning in Ceramic Patterns from a Chaco Canyon Burial

Michael Lucero

Follow this and additional works at: <https://digitalcommons.lindenwood.edu/theses>



Part of the [History of Art, Architecture, and Archaeology Commons](#)

---

by

Submitted in Partial Fulfillment of the  
Requirements for the Degree of Master of

at

Lindenwood University

©

The author hereby grants Lindenwood University permission to reproduce and to distribute publicly paper and electronic thesis copies of document in whole or in part in any medium now known or hereafter created.

Author's Name

Date

*Michael Lucero*

Author's Signature

Committee Chair

Date

*[Signature]*

Committee Chair Signature

05/09/22

Committee Member

Date

*[Signature]*

Committee Member Signature

Committee Member

Date

*[Signature]*

5/9/2022

Committee Member Signature

FINDING THE MEANING IN CERAMIC PATTERNS  
FROM A CHACO CANYON BURIAL

A Thesis Submitted to the Faculty of the Art and Design Department  
in Partial Fulfillment of the Requirements for the  
Degree of Master in Art History and Visual Culture  
at  
Lindenwood University

by

Michael Lucero

St. Charles, Missouri

May 2022

FINDING THE MEANING IN CERAMIC PATTERNS  
FROM A CHACO CANYON BURIAL

by

Michael Lucero

## **ABSTRACT**

Finding the Meaning in Ceramic Patterns from a Chaco Canyon Burial

Michael Lucero, Master in Art History and Visual Culture, 2022

Thesis Directed by   Jeanette Nicewinter- Chair  
                                  Khristin Landry-Montes- Member  
                                  Sarah Cantor- Member

The focus of this research considers the culture of the Ancestral Puebloans from the American Southwest region. This project reflects and examines the cultural arts and practices in relation to funerary aspects of the ancient Puebloan society that flourished in Chaco Canyon, located in present-day New Mexico. While investigations of historians and archaeologists have concentrated on findings within the Great House of Pueblo Bonito in Chaco Canyon, research focused on the structures and objects within rooms. The base of this research examines a collective set of vessels from burial room 33, excavated from the original exhibition of George H. Pepper, and observes the patterns to identify how they relate with an elite society in mortuary aspects. Emphasis is given to the painted markings on the forms to interpret the association of these ceramic vessels with the funerary practice of elites in Ancestral Puebloan culture. To further consider the customs and cultural influences of Ancestral Puebloan people, this study examines images of Ancestral Puebloan ceramics with contemporary Puebloan culture to interpret a more in-depth understanding of the underlying dynamics of the culture.

## **Acknowledgements**

I would like to first acknowledge my chair Dr. Jeanette Nicewinter and extend a warm appreciation for the unconditional assistance, inspiration, and guidance in my studies, and journey through the development of my research. I would also like to thank my committee members Dr. Sarah Cantor and Dr. Khristin Landry-Montes for participation of the committee review and providing insight and avenues to develop my research exploration.

I would like to dedicate my thesis to people interested in the exploring of ancient cultural arts and esteem the importance of the highly developed culture of the Ancestral Puebloans, and modern-day Pueblo peoples.

I would like to thank my undergraduate professors from my former studies Dr. Kirstin Ellsworth, Dr. Ingrid Steiner, and Dr. Santiago Garcia for the enjoyable lectures and enthusiasm, further fueling my passion in the history of the arts.

I would like to thank my friends Vanessa Orozco, Kathy Phung, and Elizabeth Alvarado for their counsel and encouraging stimulation in my academic pursuance.

For absolute support, I would like to thank my siblings Joe, Demerique, and Nathan, my parents Michael and Rosario, abuelita Eduvina Gonzalez, and dedicate in memory of my grandparents Lloyd and Jessie Lucero.

## TABLE OF CONTENTS

	Page
1. LIST OF FIGURES.....	vii-viii
2. INTRODUCTION.....	1-3
3. INTRODUCTION FORMAL ANALYSIS.....	3-5
4. INTRODUCTION CHACO CANYON.....	5-9
5. LITERATURE REVIEW.....	9-18
6. METHODOLOGY.....	18-25
7. ANALYSIS.....	25-26
8. FORMAL ANALYSIS.....	26-39
9. KIVAS.....	39-41
10. BURIAL ANALYSIS.....	41-47
11. OBJECT ANALYSIS.....	47-51
12. RESULTS.....	51-52
13. CONCLUSION .....	52-53
14. IMAGES.....	54-65
15. ILLUSTRATIONS.....	66-68
16. BIBLIOGRAPHY.....	69-72

## List of Figures

- Figure 1. Great Houses of Chaco Canyon, New Mexico.....54
- Figure 2. Pueblo Bonito in Chaco Canyon, New Mexico.....55
- Figure 3. Cylinders, pitchers, and gourd jars, George H. Pepper, from *Anthropological Papers of The American Museum of Natural History vol. XXVII*, 1920, Mortuary Pottery from Room 33...56
- Figure 4. Cylinders, George H. Pepper, from *Anthropological Papers of The American Museum of Natural History vol. XXVII*, 1920, Mortuary Pottery from Room 33.....57
- Figure 5. Pitcher 1, George H. Pepper, from *Anthropological Papers of The American Museum of Natural History vol. XXVII*, 1920, Mortuary Pottery from Room 33.....58
- Figure 6. Pitcher 2, George H. Pepper, from *Anthropological Papers of The American Museum of Natural History vol. XXVII*, 1920, Mortuary Pottery from Room 33.....59
- Figure 7. Gourd Jar 1, George H. Pepper, from *Anthropological Papers of The American Museum of Natural History vol. XXVII*, 1920, Mortuary Pottery from Room 33.....60
- Figure 8. Gourd Jar 2, George H. Pepper, from *Anthropological Papers of The American Museum of Natural History vol. XXVII*, 1920, Mortuary Pottery from Room 33.....61



Figure 9. <i>Horned serpent (after MIMPIDD #3874) and Breath cloud (after MIMPIDD #5044)</i> , Michael D. Mathiowetz, from <i>Life in Bloom</i> , 2021, drawings by Will Russell and Michael D. Mathiowetz.....	62
Figure 10. Pitcher 3, George H. Pepper, from <i>Anthropological Papers of The American Museum of Natural History vol. XXVII</i> , 1920, Mortuary Pottery from Room 33.....	63
Figure 11. Pitcher 4, George H. Pepper, from <i>Anthropological Papers of The American Museum of Natural History vol. XXVII</i> , 1920, Mortuary Pottery from Room 33.....	64
Figure 12. Chaco Canyon kivas, Chris Hardaker, from <i>The hexagon, the solstice and the Kiva</i> , 2001, Kiva illustrations.....	65

### **List of Illustrations**

Illustration 1. Michael Lucero, <i>Cloud motif in step design</i> , 2022, Los Angeles, Ca.....	66
Illustration 2. Michael Lucero, <i>2 spiral formations at Fajada Butte, Chaco Canyon</i> , 2022, Los Angeles, Ca .....	67
Illustration 3. Michael Lucero, <i>Triangular spiral</i> , 2022, Los Angeles, Ca.....	68

## INTRODUCTION

The Ancestral Puebloan culture (100-1600 CE), previously known as the Anasazi, populated the area known as the Four Corners region of the United States, which spanned over the Mesa Verde, Chaco Canyon, Canyon de Chelly, and Aztec sites.<sup>1</sup> These areas are located within present-day Utah, Colorado, New Mexico, and Arizona.<sup>2</sup> Chaco Canyon (850-1140 CE), is situated within the San Juan Basin of New Mexico and is nearly a ten-mile span, built by the ancestors of today's Puebloan peoples.<sup>3</sup> Flourishing as a communal society, roads were developed to navigate within the vicinity and irrigation systems were established enabling the production of crops in fields. The immense stone-wall buildings built by the Ancestral Puebloans are remnants of nine dwellings known as the Great Houses of Chaco Canyon (Figure 1).

Within Pueblo Bonito, one of the Great Houses, ceramic forms were excavated from burial room 33. The imagery on the vessels is analyzed to interpret their relationship within the burial setting. Examining the paintings on the set of ceramics presents the relationship these vessels have with the practices and significance to their culture. Study of these depictions also enables an understanding of how the forms functioned with their meaning and purpose of burial inclusions. The variations in form and their imagery not only explains the reason of their offering

---

<sup>1</sup>The term 'Anasazi' has become obsolete and is of Navajo origin, which means ancient enemy. The Anasazi culture, will be referred to as the Ancestral Puebloans throughout the duration of the paper. The New Mexican Puebloans wish their ancestors to not be referred to with disrespect. In pursuit of accuracy as well as respect, the new correct terminology is now "Ancestral Puebloans". See, Indian Pueblo Cultural Center. "What Does "Anasazi" Mean, And Why Is It Controversial?", Indian Pueblo, Indian Pueblo Cultural Center, 03 March 2021, <https://indianpueblo.org/what-does-anasazi-mean-and-why-is-it-controversial/>.

<sup>2</sup> United Nations Educational, Scientific and Cultural Organization. "Archaeological Zone of Paquime, Casas Grandes", Unesco, World Heritage Convention, 04 March 2021, <https://whc.unesco.org/en/list/560/>.

<sup>3</sup> Stephen H. Lekson; Thomas C. Windes, et al. "The Chaco Canyon Community," *Scientific American* 259, no. 1 (1988): 100.

in the burial context, but specifically connects them to an elite family of the Ancestral Puebloan peoples.

These vessels are intriguing as they were found all together in burial, and design elements indicate a different meaning. Many cultures' association of ceramic offerings in burial settings link the deceased with the vessel as an annex of who they were, and what they represented. The patterns on the planes of the vessels reveal that they relate to ritual practices and cultural importance of the Ancestral Puebloans. Interred with other objects in the burial, the items all animate cohesively to support the deceased in the afterlife. The vessels are offerings in practice, which detail religious and cultural beliefs throughout the iconography. The sophisticated linework and application of the painting into the design is used to interpret how the forms relate with the elite in a mortuary context. The layout of the burials and their context are associated with the structural alignment of Pueblo Bonito.

Great Houses were built to align to a solar-lunar calendrical system to foresee solstice events.<sup>4</sup> The buildings were in solar-lunar alignment for rituals, ceremonial practices, and also to observe seasons for agricultural purposes. A developed road system spanning over thousands of miles was present at Chaco Canyon and linked together Great Houses, Great Kivas, and other communities. The roads are a significant portion of the construction in Chaco Canyon that researchers have investigated for their primary use. Focus on the production and distribution of goods from Chaco Canyon suggested the building complex served as a "corporate chiefdom,"

---

<sup>4</sup> Ronald E. Mickle, "Archeoastronomy of the Chacoan Pueblo," *Swinburne Astronomy Online, Denver* (2005): 2-3.

which is a term coined for power being in organization of goods from the general population to support large public rituals or construction projects.<sup>5</sup>

Leaders only displayed authority when overseeing construction for Great Houses, Great Kivas, and roads. A kin-based nature of social relations and the potential of matrilineal kinship systems was exercised to enrich the regional mobility of local men.<sup>6</sup> The trading and production of religious and ceremonial objects supported communal events and was reassured in Chacoan administration. Turquoise objects were created within Chaco households but were then utilized in ceremonial settings of Great Houses. The production of turquoise in the compounds was not an unusual practice to indicate individual status, but it was displayed through consumption and not production.<sup>7</sup> In burials rooms of Pueblo Bonito, a multitude of turquoise was found along with ceramics and other objects.

### **Introduction: Formal Analysis**

At Pueblo Bonito, seen in figure 2, multiple burials were recovered and remains revealed the presence of an elite society who once inhabited the compound. When archaeologists and historians excavated burial room 33, several ceramics were located within the burial crypt along with other mortuary artifacts. The vessels found within the burial were pitchers, bowls, and a few cylindrical forms. Each of the pottery vessels displayed elaborate painted designs around the forms in black and white, and revealed alternating features on each facet of the vessels. While the style of the vessels' forms are similar in design, the silhouette and decorative elements are

---

<sup>5</sup> Catherine M. Cameron, and H. Wolcott Toll, "Deciphering the organization of production in Chaco Canyon," *American Antiquity* 66, no. 1 (2001): 11.

<sup>6</sup> Cameron, "Deciphering the organization," 11.

<sup>7</sup> Ibid, 11.

different from one another. The shapes of the ceramics also vary slightly and are of different sizes.

The imagery on these vessels is of distinctive designs and were excavated from a burial, which is a specific context and creates meaning for these objects. The patterned designs differ from each other and imply different meanings. Diverse paintings on the forms relating to rituals entail there were several purposes, and practices. Formalism is applied to interpret an understanding of objects and can tell us more about these artifacts through visual attributes. Using formalism methodology and applying the iconographic approach to the vessels of burial room 33, is essential to translate how form and line relate to the mortuary context of this elite society.

When viewing the pottery, the most striking element of the vessels is the linework throughout the designs. The line grabs the viewer's attention and creates imagery through the curvilinear and angular patterns on the objects. The quality in line is the ability to alter value and create motion within the pattern. It is seen in the variation of line color being white, grey, and black, as well as in their width. In the ceramics, circular designs and swirled patterns are found on the pottery that can evoke meaning, but also imply the significance of cultural principles. The width in line is also important when looking at the vessels, as the way it is applied and used helps to create open space within the artifact. It is an important element when contrasted with another color, as shapes and designs emerge.

Creating a broader width in the line also emphasizes the overlapping in the design and responsiveness to the form, producing a sensibility in movement within the object. In some objects the width of the line is used to outline designs and make certain areas more prominent. The width is an important element of the line, as seen in the vessels, it has been used in a way to

create volume. The technique applied to them is hatching, used within the patterned formations to create solidity.<sup>8</sup> The firmness of these patterns can be significant to the understanding of the form and meaning behind the integration in the vessel.

These techniques applied in design are used to direct attention towards specific patterns or features of an object. Line can also be used to frame certain patterns to provide a focal point or indicate importance. The practice of this is seen within the vessels excavated to section off areas that may be vital to practice, as well as starting new design arrangements. In some of these forms the most noticeable feature is the linework between the mid-section and base of the vessel. The applied thick-linear bands in black brings forth the design within the center, from the thinner lines in white due to the colors contrasting each other. The intricacy of these black lines is carried throughout the design elements on these forms and the complexity of the Ancestral Puebloans is also seen within their architectural design.

### **Introduction: Chaco Canyon**

The other Great Houses known as Penasco Blanco, Pueblo Alto, Kin Kletso, Hungo Pavi, Pueblo del Arroyo, Chetro Ketl, Una Vida, and Wijiji, and were the heart of the Chacoan culture. The intricacy found within the sandstone patterns and structural layout of the architecture is characteristic of the Puebloan settlements. Layers of sandstone between the wall formations is evidence of the cultural significance of the Great Houses because they emphasize the structure's durability. The complex planning in the design of the layout is seen through the defined linear foundations of the floor plans, another attribute to the netted-like building construction. Kivas and other rooms were within the gridded pattern and formed between were doorways and air vents "constructed at regular intervals along each wall and from room to room and story to

---

<sup>8</sup> Hatching is an art term relating to the engraving or drawing of fine lines in close proximity especially to give an effect of shading.

story.”<sup>9</sup> While the design techniques of the Great Houses were similar to smaller houses in Chaco Canyon, there has been more consideration in the Great Houses assemblage being larger in scale with stronger wall partitions. The Great Houses were an essential place of interconnection, where roads crossed over each other with cliffs, scaffolding, wooden ramps, and stairs.<sup>10</sup>

The Ancestral Puebloan people are known for the construction of their buildings and their complex social system.<sup>11</sup> Agriculture within the territory was heavily practiced and reliance on foods like corn, turkey, beans, and squash were required for sustainable living in their society. The culture flourished through their creations and architecture relating back to their cultural customs, like storage rooms, turquoise or ceramics.<sup>12</sup> Retrieved from Ancestral Puebloan sites were items of pottery, woodwork, basketry, and stone slabs.<sup>13</sup> The use of natural resources of turquoise, shell, and stone were used to create jewelry and items for everyday use.<sup>14</sup>

The enlargement of the housing area grew as rooms were needed, and the increase in construction then followed by expanding the area and height. During the late 11<sup>th</sup> to early 12<sup>th</sup> centuries, Great Houses were changing from elite residences to large, centralized storage facilities.<sup>15</sup> Elite groups continued to inhabit the Great Houses, presumably administering the storage facilities behind their apartments.<sup>16</sup> Overtime the arrangement of the layout altered where

---

<sup>9</sup> Kivas are chambers, but wholly or partly underground, traditionally used by male members of the Pueblo people for religious rites; Lekson, “The Chaco Canyon Community,” 101.

<sup>10</sup> Ibid, 102.

<sup>11</sup> Lekson, Stephen H., ed. *The Architecture of Chaco Canyon, New Mexico*. University of Utah Press, (2007): 127.

<sup>12</sup> Cameron, ”Deciphering the organization,” 9-10.

<sup>13</sup> Heitman, Carrie C. "The house of our ancestors." *Chaco revisited: new research on the prehistory of Chaco Canyon, New Mexico*, (2015): 221-224.

<sup>14</sup> George Pepper. *Pueblo Bonito*. Vol. 27 The Trustees (1920): 173-174.

<sup>15</sup> Stephen Lekson, “Great House Architecture of Chaco Canyon, New Mexico,” *Archaeology* 40, no. 3 (1987): 27.

<sup>16</sup> Lekson, ”Great House Architecture,” 27.

buildings that were once designed in arc-shaped form, began to be constructed in elongated rectangular forms.

Between the years 1115-1140 CE, the design had altered to principles of former construction, although differing in function with no plazas, and no indication of being lived in. The increase in storehouses led to changes in the functioning of storage rooms, paralleling the expansion of the Chacoan region, when the heavy labor and development of roads began. It is understood from the architecture, road improvements, and findings of exchanged pottery that the region became the hub for a vast regional network. This became an important development in the Chacoan region as it permitted transport from communities and cultures throughout the vicinity. However, by 1140 CE, building construction within the canyon had ceased.<sup>17</sup>

The interest among scholars has continued to garner notice as the abandonment of Chaco Canyon and the region is not fully understood. The abrupt desertion from the Great Houses has puzzled historians and archaeologists, allowing the remnants to be of careful consideration in Puebloan archaeology. The artifacts uncovered through excavation are used to extrapolate an understanding of Ancestral Puebloan culture. Through found items focus has been towards historians understanding the way of living, customs, and practices. The way in which these buildings were construed is also intriguing to scholars as they have attempted to configure the development and design of the structure.

The dispersing roads from the Great Houses demonstrate that the region of Chaco Canyon was not a secluded area, but more a community connected to distant Ancestral Puebloan communities and other cultures. Archaeologist Stephen Lekson finds extensive planning of their roads had been carefully designed, particularly more in Chaco, but flanked by linear mounds of

---

<sup>17</sup> Ibid. 27.



terrain to aid and facilitate individuals into and out of the canyon. He interprets the area as being a ceremonial center and core of networking, as evidence that Chaco Canyon was the center of an extensive regional system can be derived from the types of artifacts found there.<sup>18</sup>

Ethnologist and archaeologist George Pepper explains Pueblo Bonito as being superior to the other Great Houses in the form of preservation. The building complex had multiple rooms inside and was four to five stories high. The ceiling of this room is also more tasteful than previously seen - the traverse beams were smaller and more numerous, and longitudinal pieces rested upon them only about an inch in diameter.<sup>19</sup> He finds that there are many differences within the masonry of the building indicating that the construction of the walls can have occurred over several periods of time. Sections of the construction are telling of time frame also implying the building could have once been partially demolished and later reconstructed.<sup>20</sup>

Upon excavation, many artifacts were recovered and examined from rooms in Pueblo Bonito. Artifacts from room 33 were flageolet sticks, a large amount of turquoise, shells, a flute, a mosaic basket, and pottery vessels, in addition to skeletal remains. Room 33 was found to be connected with burial room 32, which was much smaller in size compared to those at the northern end of the building. Room 33 was also determined to be a burial location from viewing ceremonial sticks which were used in ritual practice, and could be seen upon entrance.<sup>21</sup> Pepper remarks that the room had its own unique features with various objects found with the bodies, situated in a section where there evidently was a great deal of reconstruction work, to which fact,

---

<sup>18</sup> Ibid. 108.

<sup>19</sup> Pepper. *Pueblo Bonito*. 16.

<sup>20</sup> Ibid. 17.

<sup>21</sup> Ceremonial, or prayer sticks are stick-shaped objects used in prayer which have feathers attached as offerings to spirits in Pueblo culture. Usually made from cottonwood, and varying in shape, color, and feathers. Some ceremonial sticks are intended to be representative of whom prayers were offered to, and or passed through breath of feather.

no doubt, may be attributed the presence of so many small rooms grouped about room 33.<sup>22</sup> He also finds that the room is undecorated, no suggestive ornamentation is seen around the walls or indication of the room serving as a burial cavity.

While the materiality of certain artifacts' meaning is known, for other objects in room 33 there still has been no interpretation relating to ritual practice. For some items the forms are still intact, but the ceremonial purpose of the ceramic objects is unclear. As seen in the vessel forms found in room 33, it is indistinct what the intentional use was for these items, and how they connected to burial activity of the deceased. Interpretation of the vessel's iconography enables an idea of the meaning of the ceramics and how they relate with surrounding offerings in the burials, and among the various Chacoan buildings. That association enables more of the possibility to interpret how mortuary practice relates with social hierarchies.

## LITERATURE REVIEW

The burial context in Chaco Canyon has not been fully examined and there is an absence in interpretation of mortuary practice. In excavations, the focus has been on objects that have been retrieved or the architecture of complex buildings. Present understanding is related to the objects' importance found within the burials and how they may be used as offerings to the deceased. This section refers to scholarly sources about ceramic vessels and cultural practices of Ancestral Puebloans to interpret the relation in a mortuary setting. The academic journals and publications focus on the architecture, cultural traditions, patterns of ceramic vessels and their use, and the objects found within burials. The ceramic vessels excavated from burial room 33 and Pueblo Bonito relate to rituals and were used in active practice. Interestingly, the set of

---

<sup>22</sup> Pepper. *Pueblo Bonito*. 163.

vessels is of only three forms: cylinders, pitchers, and gourd jars. By finding meaning in the patterned designs of the ceramic vessels from burial room 33, the scope of the research can present the connection between the forms and objects' function within a burial setting. Reviewing the sources, one attains the cultural influences of the Ancestral Puebloans to interpret the significance of items and the relationship to burial practices.

Both the great, and smaller, kivas in Pueblo Bonito were the foundation of ceremonial activities held by ancient Puebloans peoples. Lekson notes, through the findings of archaeologists Patricia L. Crown and W.H. Wills, that kivas were dismantled systematically and reconstructed, resulting in the rebuilding being close to two to four times larger in size.<sup>23</sup> Determination for reconstructing the kivas stemmed in part from religious importance where ritual renewal strengthened the ceremonial chambers and Pueblo Bonito as a whole.<sup>24</sup> Lekson finds that marking the stages of day and the seasons by aligning Pueblo Bonito with astronomy was essential to their calendar and provided meaning on the importance of cardinal directions, and solar and lunar alignments in Chacoan religion. The architectural layout of Pueblo Bonito reveals a patterned symmetry in the design. He mentions the plaza is sectioned in two halves and is on an axis, which he believes the building's D shape and Great Kiva A placements are evidence of time and ritual settings.<sup>25</sup>

Along Chaco Canyon, petroglyphs of the Ancestral Puebloans appear on stones and monumental rocks.<sup>26</sup> Chaco Canyon rock etchings depict a wide range of subjects, including non-representational elements, geometric elements, life-forms, and even astronomical

---

<sup>23</sup> Lekson, "*The Architecture of Chaco Canyon, New Mexico*," 135.

<sup>24</sup> Ibid.

<sup>25</sup> Ibid. 136.

<sup>26</sup> Petroglyphs are images created by removing part of a rock surface by incising, picking, carving, or abrading, as a form of rock art within the North American region.

phenomena.<sup>27</sup> People produce rock art for a wide range of purposes and Dennis Gilpin includes some of the reasons for the imagery relates to fertility, offerings and prayers, commemoration, instruction, astronomical observation, and identification to a clan, to name a few.<sup>28</sup> Exploration of the imagery suggests spatial patterning and similarities in rock art, and the messages encoded in rock art, indicate ritual integration between Pueblo Bonito and Chetro Ketl.<sup>29</sup> He mentions that through trance-like stages, or vision quests, phenomena like auras can be depicted in rock art as abstract designs or watery imagery, including lines of dots, wavy lines, zigzags, herringbone, diamond chains, and rakes.<sup>30</sup>

Various design attributes and forms can be found within the pottery excavated from Pueblo Bonito. In 1040, black-and-white designs on pottery emerged near the same time when Great Houses and major building activity occurred in Chaco Canyon.<sup>31</sup> The Ancestral Puebloan pottery varied in models, many being closed and open forms. While others differed in shape, they were similar in design. Some of the open forms included bowls and ladles, while closed forms were jars, pitchers, ollas, seed jars, mugs, and gourd jars. Effigies, miniatures, and pipes were other ceramic figures found within the Chaco region that slightly shifted in painted design. Vessels, which increased in production, were pitchers, and more limited were gourd jars in 900, cylinder jars in the late eleventh century to the early twelfth century, and mugs after 1200.<sup>32</sup>

---

<sup>27</sup> Dennis Gilpin, "Rock Art in the Chaco Landscape," *The Greater Chaco Landscape: Ancestors, Scholarship, and Advocacy*, University Press of Colorado, (2021). 107.

<sup>28</sup> Dennis Gilpin, "Rock Art in the Chaco Landscape," 99.

<sup>29</sup> Ibid, 100.

<sup>30</sup> Ibid, 101.

<sup>31</sup> Mathien, Frances Joan, ed. *Ceramics, Lithics, and Ornaments of Chaco Canyon: Analyses of Artifacts from the Chaco Project, 1971-1978*. Vol. 1. National Park Service, US Department of the Interior, 1997. 44.

<sup>32</sup> Mathien. *Ceramics, Lithics, and Ornaments of Chaco Canyon* .71.

Present understanding of Puebloan culture, and the function of Chaco Canyon, is that it was a highly-developed urban compound and sacred grounds to Puebloan people. The placement of objects have offered the idea of social and spiritual customs being heavily practiced in this locality.<sup>33</sup> Archaeologists Henry Wolcott Toll and Catherine M. Cameron have recognized the association of various communal trades and spiritual practice particularly in the Pueblo Bonito complex.<sup>34</sup> Excavations found many artifacts in burial locations, often fragments of pottery were uncovered. The general agreement of these fragmented pieces is understood to be for offering use, or in customary practice of the culture for individuals.<sup>35</sup> While ceramics have been considered to have association with offering, the understanding of how they relate within burial activity is loosely understood.

Studies regarding the Ancestral Puebloan vessels found within Chaco Canyon have been additionally looked upon through analyses of the geometric patterns. Dorothy K. Washburn uses a mathematical approach to evaluate the vessels that were found. She proposes that the vessels of this size, and with geometrical symmetries in hatchings were commonly found within burial locations at Pueblo Bonito. She also cites a 1970 study by Hardin Friedlich, who found that potters in San Jose, Michoacan used the same design fields, or elements; a 1993 study by Dean Arnold found that potters in Quinoa, Peru use the same constellations, and layouts.<sup>36</sup> Through

---

<sup>33</sup> Catherine M. Cameron, and H. Wolcott Toll. "Deciphering the organization of production in Chaco Canyon," *American Antiquity* 66, no. 1 (2001): 11-12.

<sup>34</sup> Toll, H. Wolcott. "Making and Breaking Pots in the Chaco World." *American Antiquity* 66, no. 1 (2001): 58; 64.

<sup>35</sup> Toll, H. Wolcott. "Making and Breaking Pots in the Chaco World." 64.

<sup>36</sup> Dorothy K. Washburn an anthropologist of the University of Pennsylvania uses expertise to further dwell into and examine the patterns which are found in the ceramic of the ancient Ancestral Puebloans 'Anasazi', of the Chaco Canyon, NM. With evidence of the pattern and suggestion of ties between Pueblo Bonito, and of other sites implies a possible sociopolitical system and Washburn's research looks further through the design and exchange. See, Dorothy K. Washburn, "Pattern Symmetries of The Chaco Phenomenon." *American Antiquity* 76, No. 2 (2011): 256.

her approach of analyzing the designs, Washburn finds that symmetries are limited and that several triangular patterns are used constantly for creating sets of designs. In her article, Washburn advocates that the rare and distinctive character of this pottery is clarified by the symmetry of the patterns and their application on an assemblage of three vessel forms that make it an excellent indicator of and basis for the development of testable hypothesis about the social and political activities that characterize the Chaco phenomenon.<sup>37</sup> Moreover, Washburn explains the ceramic vessels from Crown's excavation being in the areas of Pueblo Bonito and outlier areas. Studies by archaeologists should proceed with observations on sociopolitical ties that organized the Great House communities.

The Ancestral Puebloan ceramic vessels from Pueblo Bonito, excavated by archaeologist Patricia Crown, were found to have traces of theobromine within potsherds.<sup>38</sup> The vessels initially had a powdered substance inside them, which is the reason why the items were gathered for testing. She found the chemical was saturated into the clay and all the samples tested positive for theobromine.<sup>39</sup> This indicated that the material inside of the vessels was once a liquid form of cacao beverage, obtained through trade as it does not cultivate in the American Southwest region.<sup>40</sup> The vessels were found in small amounts within a burial pit of a certain area of the site, indicating the consumption by elite individuals. Considering the beverage was only for the elite, it questions whether consumption partook in any form of ritual practice and if it was restricted to other individuals of their society. Assessing the vessel's characteristic traits, and attributes brings

---

<sup>37</sup> Washburn, "Pattern Symmetries of The Chaco Phenomenon," 263.

<sup>38</sup> Theobromine is the principal alkaloid of *Theobroma cacao* (cacao plant). It is found in chocolate, as well as in a number of other foods, including the leaves of the tea plant, and the kola nut. Patricia L. Crown, and W. Jeffrey Hurst, *Evidence of cacao use in the Prehispanic American Southwest*, (Proceedings of the National Academy of Sciences, 2009); Blake Edgar, "The Power of Chocolate," *Archaeology* 63, no. 6 (2010). 24.

<sup>39</sup> Blake, "The Power of Chocolate," 24.

<sup>40</sup> Cacao are seeds from a small tropical American evergreen tree, from which cocoa, cocoa butter, and chocolate are made.

an awareness of how cacao was used and interpretation of how the objects served tradition. An understanding is acquired of social customs and religious beliefs and relations of ancient Puebloans with other communities amplifies the perception of these forms.

Ancient Puebloan and other cultures of the Southwest region have a long-embedded history of practicing rituals with items obtained through trades. Anthropologist Barbara J. Mills evaluates the practice of the Southwestern Puebloans and the adoption of rituals connected with migration and other societies. Mills considers the ideas of social anthropologist Alfred Gell, specifically the idea of materiality and spirituality are linked by the recognizing of objects as agents, meaning the ability of objects to have some influence on the actions of people leading to material consequences.<sup>41</sup> She mentions the purpose of the objects that are ‘accorded-animacy,’ are used for powerful reason. Mills continues to state the purpose for use in cultures relates to animate objects, such as seashells, having a special status. Implying that special links to a material is strengthened by looking at ethno-historically and ethnographically-documented cases of animate objects used in ceremonial practices.<sup>42</sup> Ritual practices, such as funerary or ceremonial, were events that highly valued these items. They were found in caches, ritual storage rooms, or burials of high-status individuals who probably held religious offices demonstrating that they were not discarded like mundane items.<sup>43</sup>

In Southwestern cultures, ceramic vessels were of high importance and integrated within ceremonial practice. Archaeologist Bruce Bradley encountered similarities in ceramic pottery found at the Great Houses of Chaco Canyon. Of the findings, forty-one black and white mugs

---

<sup>41</sup> Barbara J. Mills; and T. J. Ferguson. "Animate Objects: Shell Trumpets and Ritual Networks in the Greater Southwest." *Journal of Archaeological Method and Theory* 15, no. 4 (2008): 339.

<sup>42</sup> Mills, "Animate Objects," 340.

<sup>43</sup> Ibid. 346.

and pitchers were found in Pueblo Bonito, and the great majority were found in their burial sites.<sup>44</sup> As the artifacts were found within burial locations, he believes the items must have been used for ritualistic purposes in its ultimate use.<sup>45</sup> The research of Crown has contributed to the findings of relations between ancient North American and Mesoamerican cultures, and it is presently understood with Ancestral Puebloans it has been through trade. If traces of cacao were found within the set of ceramics Bradley encountered, it would further suggest ritual practice within these burials and possible cultural influences.

The scholarship of anthropologist Michael B. Stanislawski concentrates on extended burials and patterns across regions of the Southwest. He contends that areas of given periods where extended burials existed, have spread their traits through cultural contact. The Mimbres people (1000-1150 CE) of the Mogollan culture are known for their pottery creations that displayed geometric patterns along the surface. He finds within the Mogollan culture, located in overlapping parts of Arizona and New Mexico and south of the Ancient Puebloan region, there are commonalities in burial complexes equivalent to the Ancestral Puebloan cultures, particularly of the Chaco Canyon region.<sup>46</sup> His research further maintains that after 1000-1100 CE, the Mogollon culture was subsumed by Ancestral Puebloan influence.<sup>47</sup>

---

<sup>44</sup> George Pepper, *Pueblo Bonito*, (The Trustees, 1920); Bruce A. Bradley, "Pitchers to Mugs: Chacoan Revival at Sand Canyon Pueblo." *Kiva* 74, no. 2 (2008): 253.

<sup>45</sup> Bradley, "Pitchers to Mugs," 253.

<sup>46</sup> Michael B. Stanislawski. "Extended Burials in the Prehistoric Southwest." *American Antiquity* 28, no. 3 (1963). 309.

<sup>47</sup> Stanislawski, "Extended Burials," 310.



The Mimbres vessels were often ornamented with depictions of everyday life of their culture, with representations of people, animals, and landscape imagery.<sup>48</sup> The villages where they lived were considered and are believed to have housed nearly two hundred people per home.<sup>49</sup> Stephen H. Lekson, an archaeologist, notes the variations of rooms being five hundred at Pueblo Bonito and fewer than three hundred in the Mimbres area. It is believed that the differentiation in the amounts of homes for each culture is because of residential and ceremonial purposes of when they acquired the spaces. They began to use ceramic vessels of mainly bowls, for the purpose of funerary offerings.

Bowls that were nearly twenty centimeters in diameter, and nearly eight centimeters in depth, along with a pitcher, were common ware that were placed within the Mimbres burial areas.<sup>50</sup> LeBlanc indicates that rectangular rooms found at the site with constructive features were probably ceremonial and similar to kivas found in northern areas built by the Ancestral Pueblos.<sup>51</sup> As time progressed, and the culture began to expand with the number of individuals, the expansion of these ceremonial rooms became unreasonable. The ceremonial rituals are thought to have begun taking place within the corridors of the building's structure, allowing more room for a practical function. Around this time a shift in the burial practices transpired where the bowls used for burial purposes were "killed," and no longer placed aside the individual. The bowls were pierced on the bottom and then placed over the head, or face of the

---

<sup>48</sup> Mimbres people developed intricate pottery that was of black and white design. Illustrated on the vessels were warriors, mythological creatures, insects, fish, bear feet and geometric motifs. See, Stephen H. Lekson, "The Southwest's Remarkable Mimbres People." *Archaeology* 43, no. 6 (1990): 44-48.

<sup>49</sup> Lekson, "The Southwest's Remarkable Mimbres People." 44-48.

<sup>50</sup> Steven A. LeBlanc. "Mimbres Pottery." *Archaeology* 31, no. 3 (1978): 8.

<sup>51</sup> LeBlanc. "Mimbres Pottery," 9-10.

deceased person, and as development in depicted imagery enhanced the patterns incorporated symbolic meaning and were ceremonial.<sup>52</sup>

Historical research also suggests contact between the Southwest and Mesoamerica occurred around 1000, developing a trade network and was possibly the influence behind the development of the great center in Chaco Canyon, New Mexico.<sup>53</sup> Items such as bells, parrots, blankets, and salt from Mesoamerica were traded for turquoise. Given the importance of commerce between cultures, historian Steven A. Le Blanc notes the Mimbres were located near an area to easily acquire turquoise around this time.<sup>54</sup> He implies a large increase in exporting the material to Mesoamericans would be apparent. In his findings, he mentions through demand of the material it led to an influence in iconography in vessels and production for trade may have been for an incipient elite.<sup>55</sup> The ceramic ware used was also incorporated into their own religious beliefs. Turquoise that was received through exchange was applied onto artifacts of ritual practice in Mesoamerican cultures. In their practices, the consumption of cacao was used in events of ritual or ceremonial purposes. The Ancestral Puebloans were found to have cacao sediments within their ceramic vessels, which were found in their most sacred area of burial sanctions in Chaco Canyon.

Nature Communications published a recent article detailing analysis of nuclear genome data, from six samples with the highest DNA preservation demonstrate mother-daughter and

---

<sup>52</sup> Ibid. 9-10.

<sup>53</sup> The development of the Mimbres pottery advanced in characteristic qualities ultimately progressing in its trade with Mesoamerican cultures. It is believed that Mesoamerican iconography influenced the Mimbres and was soon adapted into the pottery that was designed, displaying animal depictions. Mesoamerican cultures were interested in the turquoise minerals and traded for several goods. As the trade began to flourish it is thought it birthed the idea of craft specialists, particularly for traded goods. See, LeBlanc, "Mimbres Pottery." 12.

<sup>54</sup> Ibid. 12.

<sup>55</sup> Ibid. 12.

grandmother-grandson relationships.<sup>56</sup> The archaeo-genomic approach used confirms a multi-generational matrilineal line descends of an elite lineage between 800 and 1130 CE. Room 33, in Pueblo Bonito was part of the developmental phase of the Great House in the 9<sup>th</sup> century where the remains of the deceased were found entombed in an elaborate burial crypt.<sup>57</sup> John A. Ware, an archaeologist, explores the aspects of burial crypts within Pueblo Bonito. Further addressing sociopolitical implications of matrilineal descent, and a matrilineal custom of the Ancestral Puebloans, he affirms belief systems of the matrilineal lineage had formed the communal and intercommunal relations throughout the Pueblo regions in the Southwest.<sup>58</sup>

Further studies of each facet and design on the forms can extend the interpretation of the vessels within the context they were found. Considering not only the physical nature of each object but from a cultural view situates perspective for interpreting the patterned elements on the vessel. Moreover, gathering interpretation of meaning within the patterns is vital to associate the form with other objects and understanding the burial aspects of ancient Puebloans.

---

<sup>56</sup> Douglas J. Kennett; Stephen Plog, et al. "Archaeogenomic evidence reveals prehistoric matrilineal dynasty." *Nature Communications* 8, no. 14115, (2017): 2.

<sup>57</sup> Kennett, "Archaeogenomic evidence reveals prehistoric matrilineal dynasty." 5.

<sup>58</sup> Ware, John A. "Kinship and Community in the Northern Southwest: Chaco and Beyond." *American Antiquity* 83, no. 4 (2018). 639.

## METHODOLOGY

Ceramics recovered from Room 33 of Pueblo Bonito in Chaco Canyon elucidate how these forms interplay with mortuary practice through a study of stylistic attributes and designs on the vessels. A closer analysis of the painting is examined using a formalist methodology and iconographic approach to interpret the objects placed within the burial. With these methodologies in mind it is vital to interpret visual attributes and focus on the form. To suitably address the efficacy of the vessel's functions, and significance of the items, one must first explore the characteristics applied to the objects. An interpretation can then be made of the culture's society, and broaden an exploration of Ancestral Puebloan cultural viewpoints in why patterns were used on the vessels. A physical study of the features in line, value, or markings can demonstrate how a form may transmit an activity, and an understanding is attained.

These methodologies are used to produce an interpretation of the shape and design of the vessels from Burial 33 and how they provide insights into the cultural aspects of their functionality and means within Chacoan culture. The methods not only apply to the object and form, but considers all attributes in the structure of the ceramic vessels while examining. In speaking of formal characteristics, historian Heinrich Wölfflin mentions sense of unity can relay understanding of the given forms, and purpose into the considerations of specifics in the formations, or here within the design elements.<sup>59</sup> By applying this concept to Ancestral Puebloan ceramics in considering features, one can perceive critically the design principles in facets and how that correlates to patterns of shapes and elements produced.

---

<sup>59</sup> Preziosi, Donald. *The Art of Art History: A Critical Anthology*. 2<sup>nd</sup> ed. Oxford University Press, New York, (2009): 120.

Attentiveness to line is also critical to interpret features as it is able to emphasize, merge, and create imageries in the manner of how it is used and painted. The development of line as path of vision and guide of the eye, and the gradual depreciation of line.<sup>60</sup> In this, Wölfflin considers the outlining of the form and the appearance of what it forms on the object from the applied lines. Decreasing in line to create a surface is to note the overall formality, dimensions, steering from an overview of simply an object or piece. Using line in an analysis of the vessels leads the viewer to unfold patterns that may have not been considered at first glance.

The linework leads the eye of the viewer, and the linear movement can elicit new formations found through the patterned effect or enhance what is visually presented on the vessel. Linking the line with other patterned designs at times can create new imagery that may be dynamic in interpretation. Or can provide significance to a certain area or aspect on a form. Aside from functional use, consideration of the features of the whole collective or by pottery vessels alone, will bring forth an idea to outline the understanding from observing the vessels together, and implied meanings together. Viewing patterns of each figure separately will also shape the understanding of the object or decipher meaning to its purpose when configuring all components of designs.

Art historian Erwin Panofsky, argued that iconography concerns itself with the subject matter or meaning of works of art, as opposed to their form. He explains, for example, that we cannot understand an event on the basis of a single action. Only through multiple similar observations and ‘interpreting them in connection with our general information.’<sup>61</sup> He addresses the "intrinsic meaning," the aligning of the conventional and natural meaning behind a creation,

---

<sup>60</sup> Preziosi. *The Art of Art History*. 120.

<sup>61</sup> Erwin Panofsky. *Iconography and Iconology: An Introduction to the Study of Renaissance Art*. Mechanisms of Meaning, (1939): 221.

being the merging basis of how something becomes visible, or produced. Relating this concept to works of art, he advises it can be distinguished through primary or natural subject matter, subdivided into factual or expressional; secondary or conventional subject matter; or intrinsic meaning or content.

Panofsky mentions iconography could be thought of as a classification of images, a secondary study that notifies the occurrence of when and where specific themes were visualized.<sup>62</sup> He implies the concept when considered, allows the consideration dates, and authenticity formatting the beginning stages needed to consider further interpretation or understanding. He infers, "it collects and classifies the evidence but does not consider itself obliged or entitled to investigate the genesis and significance of this evidence: the interplay between the various 'types'; the influence of theological, philosophical, or political ideas."<sup>63</sup> The content of a work needs to be clear in understanding of the material to make a coherent connection and relay an iconographic approach. While Panofsky offers insight into deciphering imagery, his contributions addressed representational art. In relation to the Ancestral Puebloan pottery, the reading of lines and iconography within the patterns are of the same importance.

Archaeologist Anita G. Cook, who studies art of the ancient Andean region, expertise is within the study of communication through extensive research within the examination of art forms in media. Her focus has been in the formalistic features, and iconography on ceramic vessels within the Ayacucho Valley of the Nasca region. Cook's use of the formalist and iconographic methods applied to artworks has clarified social meaning through design elements and symbol patterns in ceremonial pottery. Visual content at times catalogs periodic events, or changes often through political and social order. Representation of elite individuals and

---

<sup>62</sup> Panofsky. *Iconography and Iconology*. 223.

<sup>63</sup> Panofsky. *Iconography and Iconology*. 223.

depictions of supernatural figures are understood to have been decorated features on these ceramic objects.

Her investigation of meaning in patterns, and iconographic content relates to a change of political views. To adhere to her observation, she concentrates on the “structural patterns of design layout and the articulation of elements, figures, and themes on ceremonial pottery.”<sup>64</sup> Directing research to the Ancestral Puebloan vessels and employing these methodologies in similar manner to Cook’s better extends interpretation in meaning Ancestral Puebloan design. The awareness to consider the theme in patterns is particularly important to recognize similarities and differences in the layout of the style in forms, which is beneficial in deciphering vessels perhaps catered to nobility. Cook uses iconography to understand the social inference by use of deities and gods. Applying this concept to the Chacoan vessels, the emphasis of meaning in patterns is considered, as well as the recurrence of arranged patterns. These foundations are of importance to interpret how pattern design on the vessels within the burials are of important individual’s status and imply meaning through repeated styles within the pottery.

Cook finds that all vessels have the same unique shape formation with a small diameter in the mouth and thickness of the walls. Similarities were seen in the necks of the forms and were fashioned after a human face. The shoulder meets this section and handles are placed in the middle of the vessel. She further sections the form into four parts, specifically focusing on the face and neck portion, the shoulder portion, the body portion, and the bottom of the vessel to evaluate her comparisons. The natural spatial divisions created by the vessel shape were used to

---

<sup>64</sup> Dr. Anita G. Cook further studies the patterns, design attributes, and themes on ceremonial pottery in the Andean region. Directing her expertise on organized symbols to acquire social meaning, and understanding in spatial and temporal significance of artifacts from the Conchopata ceramics. See, Cook. “The Middle Horizon Ceramic Offerings from Conchopata.” 49.

convey different information.<sup>65</sup> Implying that reduction in design quality could be for the purpose in design regulation.

Cook's formal observations can be reapplied to the understanding of production in certain vessels. Forms varying in different sizes and shapes with different patterned imagery relays significance between items. Recognizing the shape variances of the vessels can also be telling of a change in the way items were constructed for elites of the community. The patterns indicate that the design system within the offering tradition is progressively simplified, and the use of repeated themes replaces a more complex and varied iconography.<sup>66</sup> She maintains that "iconography is only one of the many mechanisms available to complex societies for portraying roles of leadership and concepts of hierarchy."<sup>67</sup>

Alfred Gell, an anthropologist, brings forth the idea of viewing an object as a social agency, altering the perception and way in which one would view an art form, or a given object and its agency. His interpretation is that art objects are not 'self-sufficient' agents, but only 'secondary' agents in conjunction with certain specific (human) associates.<sup>68</sup> He notes there is an importance of the second-class agency fixated on objects when enmeshed in a texture of social relationships.<sup>69</sup> By this, one can evaluate the primary and secondary agent's relations in a social context and extend a new understanding and interpretation of the object. With this perception in mind and formal analysis, it enables the opportunity to view and interpret the principles or main motive for creation and consider the positioning of the form.

---

<sup>65</sup> Ibid. 54.

<sup>66</sup> Ibid. 70.

<sup>67</sup> Ibid. 70.

<sup>68</sup> Alfred Gell. *Art and Agency: An Anthropological Theory*. (Oxford University Press, New York, 1998): 17.

<sup>69</sup> Gell. *Art and Agency*. 17.



In consideration of ornate features and designs found on objects, Gell reflects on the association they have to people. Decorative patterns applied to artefacts attach people to things, and to the social projects those things entail.<sup>70</sup> Suggesting that with complicated patterns one is unable to easily denote the figure. Whether viewing the texture, linework, or from the ground, we begin retracting ourselves enticed into the pattern. He finds the complex patterns relate with unfinished business, or an imbalance as the pattern is never perfect reciprocation. Therefore, setting an unfinished exchange of the object and viewer. These design attributes permit one to view or feel that correlation with the objects. Patterns similar to a kolam, have association with the protective, fertile, or can be for repelling or ensnaring demons in some cultures.<sup>71</sup>

Patterns often referred to as meander patterns, are comparable to a maze becoming identified as complex passageways from one point to another.<sup>72</sup> The principle of the design is to incorporate twists and turns that cross paths from the entryway to the center point, becoming cognitive obstacles.<sup>73</sup> Gell argues that the formation of the design is the reason many cultures have associations of the maze pattern with the passage from this world of the living to the world of the dead. He indicates in some cultures it is viewed to guide the deceased into the entry of the world of the dead as well as being safely reunited with the deceased kin.<sup>74</sup> The intricacy of the pattern can be interpreted as a journey or pathway taken by the deceased to reach the afterlife, where a synergy to the object associated would be key to guarantee passage. Gell maintains

---

<sup>70</sup> Ibid. 74.

<sup>71</sup> Kolam is a pattern in which a stroke runs once around each dot, and returns to the beginning point as a mostly geometrical figure. The geometrical line drawing can be composed of straight lines, curves and loops, drawn around a grid of dots. Ibid. 84.

<sup>72</sup> Meander is a term suggestive to a winding course, or wandering line without purpose or a direct course.

<sup>73</sup> Ibid. 88.

<sup>74</sup> Ibid. 90.

when an idol is an artefact, the nature of the agency exerted by the prototype is to cause the artist to produce a religiously stipulated image.<sup>75</sup>

By applying an iconographic analysis to the ceramic vessels and the patterns, one further understands the visual elements and representation depicted. In using the formalism method attention is on the object itself while studying the interpretation and meaning of the artifact. Art historians have often engaged with the iconographic approaches in reference to subject matter and study of motif designs. Use of the methodologies not only applies to the shaping of a new understanding behind the possible intent, but also an insight into reasoning of the creative application, and purpose for the item. This supports the reason why certain artifacts were created as so and particularly used in burial contexts.

## ANALYSIS

Investigation of the iconographic imagery of the Ancestral Puebloans and patterned features from modern-day Puebloans were considered in the observation of the vessels from the Chaco region. As historian Scott G. Ortman, found that conceptual metaphor is an image-based, nonlinguistic phenomenon that is expressed in material culture, metaphor is to be an important concept for inferring the cultural meanings encoded in artifacts.<sup>76</sup> Evaluating ceramics with this notion is intended to interpret meaning. Viewing the artifacts in this light attains an understanding of the purpose or use related to the creation and interment of the vessels. For this research, the ceramics discussed are included in figure's 4 through 10.

---

<sup>75</sup> Ibid. 99.

<sup>76</sup> Ortman views pottery designs from the Mesa Verde region of the American Southwest and maintains the ceramics were conceptualized as textile fabrics. He notes that mental imagery of the textile design was represented on the ceramic patterns. See, Scott G. Ortman. "Conceptual metaphor in the archaeological record: methods and an example from the American Southwest." *American antiquity* 65, no. 4 (2000): 613-615.

The visual components and formal attributes of these vessels are considered to begin the interpretation of the paintings and use of the objects. Developing the connotation of the artifacts meaning and use within the culture, burial relations are assessed. Deciphering the meaning of the pottery is adequate to unravel the union with grave goods within the burial and its association with mortuary practice. From this, one is further able to associate the imagery on the pottery to connect with the ceremonial, and ritual virtue. Not only is an apprehension of funerary aspects to the elite more comprehensible, but the ancient Puebloan virtue of conformity in life is ascertained.

## **FORMAL ANALYSIS**

A formal analysis of the objects offers an interpretation of the design aspects of these patterns. Examining the features of the vessel's form in scale, shape, texture, and linework clarifies each purpose in ritual practices. The study of the patterns on these forms communicates the meaning of what symbols represent to the ancient Puebloan culture. In addition, the patterned features correspond with the function of the item and the intent of the depiction on the vessel. The formal analysis explains of the purpose of the form and its uses in burial settings of an elite society.

### **Figure 4. Cylinders**

The vessels in figure 4 are smaller in size compared to the other ceramics excavated from the burial. The width of these two vessels is considerably slimmer and narrower throughout the cylindrical form alluding to the fact they were used to consume beverage. In size comparison of these two vessels, one is larger than the other and the form appears to have no patterned markings or design elements over the body. The top portion and base of the smaller form are

sectioned off by a thin black band that separates them from the body. The smaller vessel has thin vertical linear markings along the body of the vessel and is unmarked with design in the vertical space of where the lugs are located.<sup>77</sup> The lugs on each vessel are proportionally spaced around the upper part of the vessel, and seem to amount between three to four per vessel.

In figure 4a, the separation of the vertical lines from the body of the vessel, and top and bottom can be signified as the realms of the spiritual world that is predominant in Puebloan culture. The vertical lines painted in standard hachure would imply this is an object for special use, and only by elite officials.<sup>78</sup> In Crown's investigation of similar forms, they found residue of cacao beverage, and the lugs around the top portion of these cylinders suggest their use in transportation.<sup>79</sup> These protrusions on the form have piercings of holes evenly spaced within them and could have easily been carried by attaching yucca fibers through them. This would have allowed these vessels and many others to be carried at once if not stored, and of use for ceremonial activities at other localities, or used on long-distance travel among Ancestral Puebloans. This would strongly adhere to the importance of consumption and participation in ritual activities of Puebloan people.

### **Figure 5. Pitcher 1**

The shape of the pitcher is wider at the base forming inward towards the body of the vessel. From the center it narrows into a cylindrical form leading to the upper part of the figure. The positioning of the handle near the midpoint of the form insinuates this vessel was carried for

---

<sup>77</sup> A lug is a projection on an object by which it may be carried or fixed in place. At times it can be a small plate, or protrusion with a hole in it.

<sup>78</sup> Hachure is a series of lines within a pattern that are straight, parallel, short, or curvilinear while evenly spaced. In Art, the lines are used shading, denoting surfaces in relief and drawn in the direction of a slope.

<sup>79</sup> Patricia L. Crown, "Evidence of cacao use in the Prehispanic American Southwest," 2110-2113.

a duration of time at ease. Considering the overall size of the vessel alludes to the same concept, being the base is wide enough to hold enough beverage for a few individuals. The pitcher would have been used for ritual practice with the elite individuals, to carry cacao that would be poured into cylindrical forms. Aside from the form, the exterior design provides details of cultural beliefs and ritual practices.

Value refers to the variances of hues within color. It serves as an important element when observing formalistic attributes of designs. In the pottery set, the use of black with the white in the design creates patterns and highlights the arrangement of the shapes. The lowest contrast being black next to the high contrast of white brings forth the dynamics of the black coloring. The value implores more observance into the detail of the linework to adhere to the movement within each space. Creating a sense of movement through the value ranges from black to white, the gray appearance from the hachure creates the illusion of the lines to slightly be moving. The variation in value of each pattern emulates a balance within the design layout.

Archaeologist Stephen Plog considers the color used on the ceramic vessels inferring the black and white coloring can be active symbols that implicate meaning and function within the Ancestral Puebloan culture. Focusing on the style of black and white pottery around 1030s-1040s, the Gallup-Dogoszhi style is filled with outlined figures in hachure. He considers the earlier research of Brody, where the association of the hachure lines signifies the substitution in color for blue-green. Turquoise would be the hue of the blue-green color valued by the Ancestral Puebloan culture and associates with the sacred significance of natural elements vital to their everyday life. The turquoise stone was a sought-out mineral used through many Puebloan practices often seen in cultural creations. Plog finds that the lack of use of oxides, unsuccessful attempts with glazes to achieve color, and possible restrictions in the distribution or low access to

minerals might have been contributing factors to the color in design for the ceramics, as seen in this vessel.

In addition, the possibility of some colors having greater spiritual significance and their use may have been limited to certain contexts and objects.<sup>80</sup> Further validating his own research, Plog compares two bowls similar in design excavated from Pueblo Bonito, each displaying interlocking scrolls.<sup>81</sup> One vessel is in Gallup-Dogoszhi style, while the other form has a balanced solid line and hachure in the design. Typically, a rare find from the vessels in Chaco, the fusion of the two styles in the pattern occurs throughout the Southwest region and associates in meaning to turquoise and jet, being the black line.<sup>82</sup> The association of the two colors was found in many parts of Chaco Canyon as the colors paired with one another in offerings of burials were for ceremonial symbolism.

The designs in mortuary pottery are strongly tied to cultural importance and differ from regions across the Southwest. Mimbres pottery designs are portrayed within the center of the ceramic bowls, and along the body of vase forms. The objects are mortuary and found underneath the floors of rooms, and the walls of which nowhere rise above the surface of ground. Similarly in the burials of Ancestral Puebloans items are covered under layers of sand and deposited in parts of the rooms. In addition, design elements found on Mimbres ceramics and pottery of the Southwest region depict a terrace step-like hatched design that is often mirrored, interlocking with an opposing pattern while separated by a jagged line. Jesse Walter Fewkes, an

---

<sup>80</sup> Plog, Stephen. "Exploring the ubiquitous through the unusual: color symbolism in Pueblo black-on-white pottery." *American Antiquity* 68, no. 4 (2003). 672.

<sup>81</sup> Interlocking scrolls are a pattern of curvilinear or rectilinear figures where the core is a series of triangular formations. The resulting figure is sometimes identified as barbed, stepped scroll, or as frets.

<sup>82</sup> Jet is a mineral similar to lignite, shale, gilsonite, a type of coal. It is considered in some pueblos as the black turquoise. See, Plog, "Exploring the ubiquitous through the unusual," 678.

anthropologist, notes that the triangle is the symbol of life, and the arrangement of multiple triangles could have similar meaning.<sup>83</sup> The pattern on this form portrays the terrace design and is hachured indicating turquoise and water.

The effect of the pattern creates multiple triangular forms that interlock with one another, one side being hatched and the other revealing the white clay color. The line within the middle of the pattern parts the two creating a border within the design. The double-patterned effect displays the triangles in opposing colors that can be interpreted as coinciding with duality and a representation of steadiness and stability within life, or completion. Being portrayed throughout the object used for ritual purpose in a burial room would signify this as an offering to the transition into afterlife and religious aspects of Puebloan beliefs.

### **Figure 6. Pitcher 2**

Not only will the design of the pattern give meaning but also the way the paintings are placed on the vessels. Unity is a principle applied and seen in many forms that creates a sense of wholeness. It is another element to be considered while observing attributes of the pitcher as the balance within the design mirrors the union with the shape of the design. This form is more widened at the base and rounder in the body, resulting in it being used for the same functions in ceremonial practice as the other pitcher. A patterned band formed by two thin black lines with black lozenges in the center is displayed at the base of the vessel. The shape of the squared figures contrasted to the white vessel reveals upright and inverted triangular formations. A harmonious effect is created within the center of the body as a white band intersects the middle of the patterns. While contrasting with the base, the effect creates a set of balance within the

---

<sup>83</sup> Jesse Walter Fewkes. "Additional designs on prehistoric Mimbres pottery." *Smithsonian Miscellaneous Collections* (1924). 24.

figure. Along with the handle, the cohesiveness of the design is maintained with the patterned design and white marking. The pattern arrangement creates the effect of the shapes appearing to converge with one another or uniting.

The application of patterns being intricately placed with one another allowing new patterns to emerge increases the difficulty of decoding meaning. Ceramic work and other arts that are of non-western culture can be challenging to gather an understanding of when there is not much known of the artifacts excavated from the culture. The importance of an interpretation of a work is to have a confluence of the cultural ideas in relation to death and rebirth.<sup>84</sup> Artifacts covered with multiple overlapping depictions have visual meaning and constitute a nexus.<sup>85</sup> Looking at the Chacoan vessels, there is no interpretation or representational imagery, aside from the suggestive abstraction. There seems to be an association and that they are not separate or distinct from one another. Reflecting on this, one would consider that there would have to be a relationship between a hidden meaning within patterned line works that appear similar. Even if they emerge just once on the body of the form, or multiple times on the vessel there would have to be a significant meaning.

The patterned imagery of this vessel is similar to a checkerboard impression applied around the body of the form. The Hopi people believe the shape of a triangle not only is identified as symbol of life, but fertility.<sup>86</sup> The checkerboard pattern is often associated with the sun, seen in clustered imagery of black and white triangles and squares which form rectangular

---

<sup>84</sup> Lisa Trever studies ceramics of the Moche culture from Ancient Peru and explores the design and forms of the vessels from the region. She studies the iconography on the forms to interpret meaning and significance within ancient and Indigenous imagery. See, Lisa Trever. "A Moche Riddle in Clay: Object Knowledge and Art Work in Ancient Peru." *The Art Bulletin*. (2019): 19.

<sup>85</sup> Trever, "A Moche Riddle in Clay," 19.

<sup>86</sup> Fewkes, "Additional designs on prehistoric Mimbres pottery," 24.



patterns.<sup>87</sup> The patterned features displayed all around the artifact relate to women and fertility, which implies the importance within the religious and ceremonial aspects of the Puebloan culture of the woman role and lifegiving. The significance of the sun and idea of birth generates the connotation of renewal in relation to mortuary practices of the Ancestral Pueblos.

### **Figure 7. Gourd Jar 1**

Considering the design of the patterns, the structure of this form is another characteristic to consider. The shape of the form is similar to a large squash: rounded in the base leading into the mid-section of the pottery. The extension of the neck is not as elongated as the other type of vessels, but more condensed as it reaches the top. Being a larger vessel in width and height, the handle placement is positioned higher from the middle of the form to the top of the object. The handles on this vessel appear to be smaller and considering the size of the form, it would have required both hands when used. Larger in size would infer the object held more cacao or other liquid beverages and used for a wider range of people. Ideally, this form was used in fermenting beverages for later consumption, as the pitchers could be seen for regular use given their smaller size.

Spatial distance between negative and positive space is unified throughout the composition. Studying the patterns of the vessel, most noticeable is the placement of the design on the object being the lower half of the form. The configuration brings forth a sense of balance as the markings on the handle compliment the designs along the upper section of the form. Unlike some of the other ceramics, this design does not appear to have any linework adhering to a particular pattern. Swirled lines are placed within a one directional band, and the repetition and

---

<sup>87</sup> Ibid.

portrayal of an identical band below implies a sense of movement. The conjunction of spiraled swirls and zig-zag lines on the bottom half of the vessel, brings to the attention of an assemblage. This could be the importance, while the overlapping of them around the form suggests protection.

The painting of the zig-zag form was applied using a pseudo-hachure technique, to associate turquoise with its linear shape.<sup>88</sup> Zig-zag motifs among the Puebloan culture are associated with lightning and rain.<sup>89</sup> One can gather the pattern relates with both water and sky, and the swirled patterns can be indication of wind formations. The imagery of the small, jagged lines at the top of the vessel and handle may infer active rain. Placement of the patterns and what they entail, along with the form of the vessel, alludes to the idea that this vessel was used in ritual ceremonies for protection against harsh weather conditions by multiple people. In Hopi traditions, *Paalölöqangw*, ceremonies were for the purpose of controlling thunderous rainstorms, and in Zuni tradition *Kolowisi*, was called upon to restore balance.<sup>90</sup> The ceremonies practiced in the cultures were for bringing rain to needed crops, spiritual entreaties, and for less forceful thunderstorms.<sup>91</sup>

### Figure 8. Gourd Jar 2

---

<sup>88</sup> Pseudo-Hachure is referred to a conceptualization in design of standard hachure. Five pseudo-hachure elements are zig-zag, stacked lines, nested shapes, cross-hachure, and the captive bar motif. Standard hachure identifies as closely spaced, and parallel. See, Russell. "Lines of Communication: Mimbres Hachure and Concepts of Color." 116.

<sup>89</sup> Arlene Old Elk, and Jackie Stoklas, *After the Rain*, (Heard Museum, 2001); Elsie Worthington Clews Parsons, *Pueblo Indian Religion*, (University of Nebraska Press, 1939); Barbra L. Wardle, *Native American symbolism in the classroom*, (Taylor & Francis, 1990); See, Russell, "Lines of Communication: Mimbres Hachure and Concepts of Color," 118.

<sup>90</sup> *Paalölöqangw* is the term used by the Hopi pueblo to refer to the Plumed Serpent, that signifies with the underworld, water, springs, and the fertilization of seeds. *Kolowisi* is the term used by the Zuni pueblo to refer to the Plumed Serpent. See, Mills. "Animate Objects," 341-342.

<sup>91</sup> *Ibid.* 354.

The appearance of the gourd jar seems smaller in scale than figure 7, but would serve the same functional purpose adhering to the form. The iconography on the vessel displays a band near the top portion and is similar in design to the middle painting. Viewing the imagery, the terraced shape appears to overlay the diagonal lines associating the two designs with one another. Positioning of the patterns shows equal spaces between the bands above and below, insinuating a firm steadiness. The geometric form seemingly wraps around the vessel which indicates there is movement in what the pattern represents.

The rectangular step form is a representation of a cloud within designs of Pueblo culture, as depicted in illustration 1. In cultural beliefs of the Mimbres, clouds were seen as breath, and imagery on vessels portrayed terraced clouds relating with wind and rain ritualism (figure 9).<sup>92</sup> Step-like designs referring to clouds were often found in imagery of bird representations in Hopi patterns, changing in design from cultures. Ancient Hopi ceramics presented sky bands along the form's interior and exterior, varying in width with imagery of oblong terrace-shaped figures, at times crossed with zig-zag and parallel lines.<sup>93</sup> Placement of the bands on the neck and body are similarly positioned, as seen in this vessel. The hachure lines would be an indication of rain next to the cloud-like depictions. The portrayal of the pattern iconography on the vessels likely relate to ceremonial practice for abundance in rain for crop growth, as opposed to protection.

### **Figure 10. Pitcher 3**

This vessel is a pitcher and would function similarly to the other pitchers for ritual use. The imagery on the jar is identified as abstraction and is composed of shapes and lines that

---

<sup>92</sup> Mathiowetz, Michael D. "Life in Bloom." *Flower Worlds: Religion, Aesthetics, and Ideology in Mesoamerica and the American Southwest* (2021): 180.

<sup>93</sup> Jesse Walter Fewkes. *Designs on prehistoric Hopi pottery*. Vol. 33. US Government Printing Office, 1919. 242.-243.

correspond with one another in various line formations. There are several lines that interlace with each other, and amongst those lines, they vary in color, width, and form. The width in the linework distinguishes them from one another and implies whether one of the lines is more prominent than the other. There is a thick black band with a curvilinear line in the middle on the base of the jar. This line is wider and placement on the base offers the suggestion that whatever the design may mean is a key factor in telling the purpose of the item, what it signifies to the culture, or how it relates to a mortuary context. The imagery of the interlocking line formations presents the 'band' being placed above a thicker white line in some areas of the pattern. The assemblage of these three, or four lines (if considering the singular black line, and line created by pattern), represents a message of what each line may be or of all together. The direction in which the lines are headed helps to interpret the design.

In Indigenous grave practices several imageries intersect on vessels because through ritual music the object would become activated.<sup>94</sup> Thinking of how they must have associated with each other in meaning and considering the idea of Gell permits the idea of how these patterned meanings can activate within rituals and be associated with other offerings of the deceased, likely for protection as one crosses into the afterlife. The iconography of this pattern also questions if these designs on the pitcher indicate a ritual process itself. If this were the case with patterns overlapping and intersecting around the vessel, it could be tricky to decipher and be read with different meanings. Patterns on the base could be interpreted to be read first as they are painted in a band or imply the primary purpose of the form. It can also allude to what the purpose

---

<sup>94</sup> Trever., "A Moche Riddle in Clay" 19.

of the ritual was. There would have to be a general sense of understanding of the culture to make a presumption.

The white curvilinear lines, seen within the pattern and band at the base, can be associated with the journey of one's life. With this in mind, the idea can be that the imagery is representing the transition into the afterlife of an individual. The intricacy of the lines within the body, and the lines positioned diagonally prohibits the notion of being a gateway process for the deceased. The idea of entering another dimension is seen in the diagonal lines as they appear to be jointing in some of the lined patterns. Another interpretation of the white curved line can be the representation of flowing water. Water is a crucial element in the Puebloan culture considering the locality of their ancestral land being desert, and vital to life. The form appears to be moving and navigating through the other lines and can be considered a depiction of a water irrigation system for their crops. The border along the pattern in the body and placement on the handle would serve as importance in the culture. Water and the idea of life are principal rites in Puebloan culture and the placement within a burial as a collective for elite with other forms reflects the core of their religious virtues.

#### **Figure 11. Pitcher 4**

The structure of the vessel is similar in construction to the pitchers in figure 5 and figure 6. The form of the ceramic implies the function was for ritual practice considering the patterned elements across the vessel and the scale of the object. This vessel's design attributes differ as the portrayal of the patterns are emphasized, carried through the borders and bands created by line width. Seen within the placement of the markings sectioned within the base, along the body of the form, and handle. The horizontal lines and overlapping patterns appear more than once within the imagery, accentuating the triangular forms distinction and directing focus toward the

center of the pitcher. The black outline on the body also sets forward the triangular spiral, and its position in the middle inclines one to relate with primary importance. The placement and depiction of the iconography infers this vessel as most significant relating to mortuary practices.

The spiral in the center of the triangle is the casted light pattern of the Autumnal equinox.<sup>95</sup> Three slabs of stone accurately align sunlight in vertical patterns on two spiral petroglyphs at Fajada Butte, located in the south entrance of Chaco Canyon. The two spiral forms mark the amount of turns within the casted light forms, being nine and a half turns in the larger form and two and a half turns in the smaller, seen in illustration 2. Each pattern marks the solstices and equinoxes with particular imagery. When the declination of the full moon is equal and opposite to that of the sun, its occurrence only happens once within a span of nine and ten years during two weeks of the solstice.<sup>96</sup> As this happens, the moonlight projects onto the spirals patterns characteristic of the solstice, opposite of what would be seen within two weeks from the sun. A full moon would cast the equinox pattern within two weeks of autumnal or vernal equinoxes every nine to ten years, taking place out of phase with solstitial eclipses.

Ancient Puebloan understanding of the equilibrium, when there is an equal amount of night and day marking a new season, corresponds to their emphasis on balance and evenness. The casted pattern associating with the solar and lunar opposites meeting point, to create a balance, is seen in illustration 3. Interestingly, when the spiral of the Autumnal equinox is placed within an equilateral triangle the amount of turns becomes nine on the right and ten on the left,

---

<sup>95</sup> Equinox refers to the time or date at which the sun crosses the celestial equator, when day and night are of approximately equal length. The equinox occurs twice a year near the dates of September 22 (Autumnal Equinox) and March 20 (Vernal Equinox). Celestial equator is the great circle of the imaginary celestial sphere on the same plane as the equator of Earth. This plane of reference bases the equatorial coordinate system. The celestial equator is an abstract projection of the terrestrial equator into outer space.

<sup>96</sup> Anna Sofaer, and Volker Zinser, and Rolf M. Sinclair. "A Unique Solar Marking Construct: A unique archaeoastronomical site in New Mexico marks the solstices and equinoxes." *Science* 206, no. 4416 (1979). 290-291.

coinciding aspects of the seasonal formations. It lies within the notion of life and death and marks renewal in the form of change. The triangle signifies with life and the spiral located within is a visual representation to meaning of balance in life alluding to the pattern being accentuated on the form.

Rectangular lines overlapping in opposite directions of each other identifies as the number of wooden planks used to secure protection for the pathway that connects the living and the dead. The portrayal of the band on the handle relates to the evolution process of constructing great houses across Chaco Canyon within their time. The wooden beams can be related to the offerings as they have been built over several times. Beams overlapping and depicted in this manner reflect the metaphor of transmitted agencies, where the wooden planks connect to different sectors within the buildings as that would hold strong significance to Puebloan principles. The facets on the base form a hexagonal shape similarly to a kiva, and the band formed around is representative of the idea of protection and construction, like the beams construed in actual kivas. Viewing the portion above the base, are horizontal strides across the bottom of the triangular formation and top. The associations of turquoise in many pueblos are water and sky. Considering the placement would also permit one to interpret the linear lines as water from being near the kiva. The underworld being a water-world and passageway for the spirits suffices the placement.

### **Kivas**

In Puebloan culture, kivas are the most sanctified areas for religious practice as they connect with the underworld through religion. The association of the kiva is reflected within their culture and these forms further suggest the righteousness of the structures and virtue of Ancestral Puebloans within a kiva's foundation. The positioning of the kivas and the structures

often being renovated relays the sense of security and protection of the culture. The substance of the structure can determine the connection between kivas and burials while understanding more of the mortuary practice.

Chris Hardaker, intrigued by the shapes of the kivas and the building morphology, finds the religious and ceremonial structures are composed of different fundamental designs. He uncovers that Kiva R, a clan kiva, in Pueblo Bonito has six pilasters creating the formation of a hexagon (figure 12).<sup>97</sup> Moreover, the design of the structure is based on mathematical components, what is known as the *flower of life*, a spatial matrix.<sup>98</sup> Considering the design of kivas and floor features he makes the point that all great kivas were represented along their binary axes. Further mentioning the binary axes were aligned with the cardinal axes, in compliance with a north-south and east-west direction where the establishment of Great Kiva Chetro Ketl aligns with the solstices.

The value of kivas is seen in their association with water, life, and death, and their orientation, one can consider the solar and lunar ideologies. More so, within the culture and how ancestral Puebloans partook in consideration of these values within their burial rituals. With the cultural appreciation of bells being made of different materials for coloration to coincide with the sun and moon, and to use within ritual dance to create a shimmer effect, it suggests an understanding of astrology. In addition to the Great Kiva, and kivas having a solstitial

---

<sup>97</sup> Chris Hardaker. "The hexagon, the solstice and the kiva." *Symmetry: Culture and Science* 12, no. 1-2 (2001). 2.

<sup>98</sup> Flower of life is a sacred geometric form, known as the symbol of creation. It is created by forming a circle then moving to the edge of that circle to form another one. Each circle then begins one radius away from the surrounding circles and is of equal size.



relationship seen in their development, the connecting with burial relations can create a further understanding in ritual practice.

Kiva R, at Pueblo Bonito, is one of the areas that had major construction along the roof and pilasters of the building of the complex. Many offerings were deposited in this kiva and are known to be one of the kivas containing most ceremonial artifacts. A connection between Kiva R and burial room 33 is that the two rooms were both covered in layers of sand. Each had holes for deposits within their construction found in wooden planks in burial room 33, and where the *sipapu* is in a kiva.<sup>99</sup> The connection is largely due to there being an association and can imply further understanding of its inclusion on the vessels excavated from burial room 33.

An understanding of the outlook on the universe of the Ancestral Puebloan peoples, is to have an interpretation of cosmology, which some researchers have referred to as a cosmovision, or the flower world.<sup>100</sup> Uniting past, present, and future, Chacoan communities adhered to themes of sacred geography, movement, memory, cosmography, solar-lunar alignments of architecture, and the concept of Center Place.<sup>101</sup> In the modern-day Puebloan culture of the Hopi, belief in the symbol of life's essence, *Muy'ingwa* is a dualistic force having male and female aspects.<sup>102</sup> The entity commonly referred to as male is adorned for the female attributes, and it is

---

<sup>99</sup> *Sipapu* is an indigenous term to identify a small-rounded hole in the floor of a kiva.

<sup>100</sup> Cosmology is a term that is referred to as the understanding of the universe, and or a particular viewpoint of the world by a person or society. A worldview can include natural philosophy; fundamental, existential, and normative postulates, or themes, values, emotions, and ethics. Flower worlds are sanctified everlasting spirit worlds associated with the dead, evoked in cultural practices. They form vital and dynamic cores of the cosmologies, histories, rituals, and everyday lives of Indigenous peoples of Mesoamerica and the American Southwest, past and present. See, Mathiowetz, "Life in Bloom," 15-17.

<sup>101</sup> Ruth M. Van Dyke, *Sacred geographies* (Oxford: Oxford University Press, 2017) 240-241; Anna Sofaer, *Chaco Astronomy: An Ancient American Cosmology* (Ocean Tree Books, 2008), quoted in Mark R. Agostini, and Ivy Notterpek. "Cosmological Expressions and Medicine Stones in the Ancestral Pueblo World," *KIVA Journal of Southwestern Anthropology and History* 86, no. 4 (2020). 404-405.

<sup>102</sup> Bernard M. Jones Jr., and Christopher E. Drover. "Visual prayer and breath bodies: Flower World metaphor in Pueblo III and IV rock art." *Rock Art Papers* 19 (2018). 153.

believed the entity resides on a *sihchomo*, living in the spirit-world.<sup>103</sup> Meanwhile, the underworld is located directly underneath the *sipapu* of the kivas.<sup>104</sup> With a background in some of the ideologies of the Ancestral Puebloan culture and their descendants of modern-day Pueblo peoples, it permits a sense in some of the mortuary offering items of their people. By understanding how the culture views the material, it is useful for interpretation of how they relate in mortuary aspects.

## BURIAL ANALYSIS

An analysis of the burial aspects assists in the interpretation of the objects and funerary principles. Examining the findings of room 33, and characteristics of this burial, aims to understand certain conditions to ritual practices for the elite. Having consideration of the culture and of their beliefs further extends the observation to consider other perceptions in practices. Significance of the items in offering and ritualistic setting can be understood to be a process of sanctification with the burials found in room 33. Being mindful of the placement of where an object was interred or in how it was positioned within a function is considered to begin interpretation of the artifact's relationship within its context.

Details found within the burial pattern and hatch-like entrance in the eastern wall of room 33, were suggestive to be a burial chamber for a high-status individual of the elite community, and descendants of burial 14.<sup>105</sup> While most burials would have not been placed within Pueblo Bonito, but on the outlier parts. Burial 14 of room 33 was a male within his forties who

---

<sup>103</sup> *Sihchomo* is an indigenous term for flower mound.

<sup>104</sup> Drover, "Visual prayer and breath bodies," 153.

<sup>105</sup> Ibid.

died from a blow to the head, which led to the burial placement within the center of a crypt ornamented with thousands of turquoise pieces and shell from several jewelry artifacts.<sup>106</sup> In addition, to the right side of the male was an abundant amount of abalone shells from the Pacific Coast and a conch shell trumpet. The remains were then covered by thick layers of clean sand, clear of any materials except for two ceramic vessels.<sup>107</sup> From the amount of turquoise alone in the burial, it became known as the richest burial crypt in the North American Southwest region.

The ideologies of the Ancestral Puebloan culture and their descendants of modern-day Pueblo peoples permits a sense in the mortuary offering items of their people. Understanding how culture's view objects is useful for interpreting how they relate in mortuary aspects. Cultural association with mortuary practices and the social roles of their people is apparent through the number of offerings. With the inclusion of ceramics being in whole and in fragmented pieces, along with ceremonial sticks, and an abundance of turquoise, jet, and shells, one can imagine the vital purpose in social roles and character of these interred individuals. It was heavily important and perhaps one of the main motives behind their cultural customs and values in creating their ceramics, rock imagery, and textiles. While knowing each ceramic and item placed within the burial had strong significance and purpose in the burial process it is understood that each may have had a different purpose in a ritualistic setting. To gather an interpretation of the ceramics and the patterns of these forms in relation to Puebloan mortuary practices, it is not only important to understand the object role to the characteristics of the design, but critical to analyze the material of the item, form, and association.

## **Turquoise**

---

<sup>106</sup> Ibid.

<sup>107</sup> Ibid.

In Puebloan culture, turquoise is identified with water and sky. Areas that have bodies of water are sacred to all Puebloan people, in some modern-day pueblos like the Zuni, the lake called *kolhulwala:wa* is considered the home of the ancestors, and place where the spirit returns upon death.<sup>108</sup> Most turquoise has been found in two types of locations: ritual deposits and burials.<sup>109</sup> The ritual deposits include concealed locations in both Great Kivas and "clan kivas," such as beneath pilasters or in-wall niche castes, such as the Chetro Ketl Great Kiva.<sup>110</sup> Weiner notes that the color turquoise served as an identity marker for participation in the Chaco system and suggests, following Brody's proposal, that the hachure pattern on Chacoan pottery encodes the color blue-green.<sup>111</sup>

## Seashells

The use of shells was as important as turquoise, commonly being used within ritual practices. The association and pairing of the two have been recorded in past excavations. Seashells were deposited in places like kiva plasters and underneath the roof of the Great Kiva. Marine fossils, water-formed stones, and other seashells were found in Chaco Canyon and the reason for the ideology of water in many pueblos. In the Pueblo religion, bodies of water are

---

<sup>108</sup> Robert S Weiner. "A Sensory Approach to Exotica, Ritual Practice, and Cosmology at Chaco Canyon," *KIVA Journal of Southwestern Anthropology and History*, 81 (2015 ): 226.

<sup>109</sup> Weiner, "A Sensory Approach to Exotica, Ritual Practice, and Cosmology at Chaco Canyon," 225.

<sup>110</sup> Frances Joan Mathien, *The Organization of Turquoise Production and Consumption by the Prehistoric Chacoans*, (Cambridge University Press, 2001) 112-113; Edgar Lee Hewett, *The Chaco Canyon and its monuments*, (University of New Mexico Press, 1936) 90-92; quoted in Robert S. Weiner. "A Sensory Approach to Exotica, Ritual Practice, and Cosmology at Chaco Canyon," *KIVA Journal of Southwestern Anthropology and History*, 81 (2015 ); Ibid.

<sup>111</sup> Stephen Plog, *Exploring the ubiquitous through the unusual: color symbolism in Pueblo black-on-white pottery*, (Cambridge University Press, 2003) 665-695; quoted in Robert S. Weiner. "A Sensory Approach to Exotica, Ritual Practice, and Cosmology at Chaco Canyon," *KIVA Journal of Southwestern Anthropology and History*, 81 (2015 ); Ibid.

regarded as openings to the world below and are associated with the emergence, the supernatural beings, and the dead.<sup>112</sup> Agostini relays that Pueblo scholar Rina Swentzell explains, Tewa people infer from these emergence stories that the spirit world compromises water, or rather moisture, in all its forms: rain, clouds, sleet, snow, fog, dew, seeps, streams, rivers, and lakes.<sup>113</sup> From this, the spirit world is then pervious for, and open to, communications wherever water can be found, and in subterranean kivas.<sup>114</sup>

In relation to the practice of rituals for the Pueblos of the Southwest, Mills looks into the religious aspect and the traditions important to the culture. While considering artifacts related to the cultures she mentions the conch, which is considered the vocalized breath of life, and conch shells used within other traditions have associations with warriors and warfare, amongst other beliefs.<sup>115</sup> She mentions the beliefs pertaining to the pueblos differ as some believe it to bring rain and good things, others see that it has the power to take life, while some shells are associated with the curing of people. Mills advises these different traditions should not be viewed as mutually exclusive as the object has the potential to have different properties.<sup>116</sup> From the conch shells being found in depositional environments of unfamiliar settings she advocates the items were of high value and likely to be used for ritual purposes or by higher societies with

---

<sup>112</sup> Mark R. Agostini, Ivy Notterpek. "Cosmological Expressions and Medicine Stones in the Ancestral Pueblo World," *KIVA Journal of Southwestern Anthropology and History* 86, no. 4 (2020); 411.

<sup>113</sup> Seeps refers to a place where water oozes slowly out of the ground. Rina Swentzell, *Pueblo Space, Form and Mythology*, (Van Nostrand Reinhold, 1990) 23-30; quoted in Mark R. Agostini, and Ivy Notterpek. "Cosmological Expressions and Medicine Stones in the Ancestral Pueblo World," *KIVA Journal of Southwestern Anthropology and History* 86, no. 4 (2020); Ibid. 411-412.

<sup>114</sup> Agostini, "Cosmological Expressions and Medicine Stones in the Ancestral Pueblo World," 411-412.

<sup>115</sup> Mills "Animate Objects," 343.

<sup>116</sup> Ibid. 345.

positions in leadership.<sup>117</sup> From her studies she finds that seventeen shells were found within Chaco Canyon, while the rest were recovered in the Great Houses of Pueblo Bonito, and the trumpet conch, which was highly idealized, was found in room 33, although a connection to a deceased is still lacking in finding.<sup>118</sup>

### **Fossil and stones**

Pueblo and other Indigenous ethnographic traditions support the notion that fossil and stone-based medicine was a practice among their cultural antecedents.<sup>119</sup> Zuni pueblo fashioned material to mimic the appearance of the stone or fossil, to match that of body parts or weaponry of animals, and spiritual beings. The practice of this was to have the object and use it for healing purposes within their culture. The Zuni people understood belemnites as the weapons or teeth of primal monsters and scraped shavings from the fossils into a watery anointment that offered protection in battle against arrows.<sup>120</sup> The creation of a dust-like anointment from crushing and grinding stone then mixed with water was the practice of the Hopi pueblo for impenetrable skin. Beyond any used for medical purposes, the material was otherwise used as an heirloom.

### **Bells**

Copper bells were an object believed to have been used in ritual dances for ceremonial activities. Among many of the Mesoamerican cultures, the sound of bells is affiliated with

---

<sup>117</sup> Ibid. 345.

<sup>118</sup> Ibid. 346.

<sup>119</sup> Agostini, "Cosmological Expressions and Medicine Stones in the Ancestral Pueblo World," 413.

<sup>120</sup> Frank H. Cushing, *Zuñi Fetishes*, (Government Printing Office, 1880-1881) 44-45; quoted in Mark R. Agostini, and Ivy Notterpek. "Cosmological Expressions and Medicine Stones in the Ancestral Pueblo World," *KIVA Journal of Southwestern Anthropology and History* 86, no. 4 (2020). Ibid.

fertility and agriculture, when creating the sound of thunder and rain it was also considered to be used as an aid in warfare. In ancient West Mexico, bells were purposefully crafted in distinct copper alloys- one more golden, one more silvery- and these two glimmering hues of metal were associated by Tarascans, Aztecs, and other Nahuatl-speakers, and probably other Mesoamerican groups with the sun (golden) and moon (silvery).<sup>121</sup>

The twinkling from the bells when the moonlight hits is believed to have harmonized with the music and dancing through ritual practice creating a synchronized view while reflecting off the moon, and sun in daylight. Creating sounds would awaken the flower world and create a pathway for many Pueblo people.<sup>122</sup> Conch shells were some of the objects in offerings and rituals as well. To create their music ancient Puebloans would play the music through the creation of flutes. The music being played also marks an association with the Plumed-Serpent in Southwestern traditions and the Feathered-Serpent in Mesoamerican cultures.

## OBJECT ANALYSIS

The principle of concealment, hiding what is or was once able to be, is a prominent way to the understand Chacoan ritual practices.<sup>123</sup> In the process of such rituals or ceremonial purposes, the practice of concealment involved depositions and offerings that concealed spiritually-charged, sensorial stimulating objects within architectural features.<sup>124</sup> The hiding of

---

<sup>121</sup> Dorothy Hosler, *The sounds and colors of power: The sacred metallurgical technology of ancient west Mexico*, (MIT Press, 1994) 228-230; quoted in Robert S. Weiner. "A Sensory Approach to Exotica, Ritual Practice, and Cosmology at Chaco Canyon," *KIVA Journal of Southwestern Anthropology and History*, 81.(2015 ). 231.

<sup>122</sup> Weiner, "A Sensory Approach to Exotica, Ritual Practice, and Cosmology at Chaco Canyon," 231.

<sup>123</sup> Weiner, "A Sensory Approach to Exotica, Ritual Practice, and Cosmology at Chaco Canyon," 234.

<sup>124</sup> *Ibid.* 234.

exotica in deposits of the structure, the potency of these objects would have been transformed and away from the human perception. Just as the leaders of the Great House gained prestige and power through the acquisition of exotica, so too, Great Kivas and Great Houses may also have consumed these powerful objects linked to a distant paradise and in doing so been transformed and spiritually exalted.<sup>125</sup>

Reflecting on the idea of concealment within rituals, burying objects and secreting artifacts within a room can be interpreted as each item associated with the living. Animate objects are seen as an extension to the living human life. This would imply if the artifacts were to be within sight, or in the close presence of the deceased, the material would disturb the spirituality of the deceased person. When the objects are covered and out of sight, from a place where they cannot be heard, it can be understood as permitting the transition for the deceased to pass through realms into the afterlife. The covering of everything with a clean bed of sand can be an identification of timing or securing of the process being complete through ritual practice.

The other association is of the vessel offerings and how they relate to the deceased. It could be viewed as their role or place within the spirit world. Indigenous cultures in the South American region have associated effigy vessels, and other forms of ceramics with the deceased in burial practices. It has been understood that individuals with extensive patterns preserved on the skin correspond to a subgroup of burials that share characteristics of artifact style and other indicators of social identity.<sup>126</sup>

Interpreting the Chacoan vessels in a similar manner being a representation of the deceased can relate to the social relations that would have had substance in the culture's society

---

<sup>125</sup> Ibid. 234.

<sup>126</sup> Elsa Tomasto-Cagigao. "Body Modification at Paracas Necropolis, Southcoast of Peru, ca. 2000 BP." Zurich Studies in Archaeology. Volume 19. (2013). 51.



through the pattern placements on the vessels. A link between the object and an elite person is seen with turquoise distinction. The pattern placement can be to define status, or social identity of the deceased. The form can be a representation of the elite individuals' life's purpose, or indication of their role in the afterlife. It can also be reflective of the religious rites and cultural significance, or ecological essentials and operate in a way to transmit well-being through the crossing of worlds.

The position of the patterns associated with social status or indication of an elite can suffice as not only portraying politics but coinciding with the spirit of the deceased in the afterlife for welfare and prosperous agriculture and other life necessities. The forms in the vessels appear to only be catered to one or a few individuals of nobility, comparing the size and functionality of the object. It can be understood that the depictions and meaning relate to the elite as they were also regarded as some of the most important aspects of Pueblo virtue and religion, like water, and fertility.

Objects found along with the vessels were in abundance in burial room 33 and are associated with the social status and wealth the individuals had. Knowing the ritual was for mortuary practice, the objects found within the chamber can be interpreted with several meanings considering the metaphorical beliefs of the culture. Burial 14 of room 33 is known to have suffered a strike to the head causing death. The flute found within the burial is known to have been used through ceremonial use to awaken the flower world for ritual preparation. Seashells are another object that opens the gateway and were also found in abundance. I presume other offerings like turquoise were regarded as water, stones for medicinal use, and seashells also for the curing of people in this function. The abundance of these offerings altogether can also be foreseen as a limitless curative offering for the individual passing into the spiritual world.

The alignment of structures to the solstices of the sun and the moon is in relation to how Ancestral Puebloans intertwined ideology of balance, renewal, and life seen through the iconography. A connection to activate the solstitial properties with the burial aspects is with the use of the bells for ceremonial use. The association of artifacts being planked with facets of the buildings, with wooden offerings links the burial with kivas, as they had deposited goods in a similar fashion. Each kiva and burial 33 also had a *sipapu*, that would relate them with the underworld and allow the flower world to be opened in mortuary rituals. The association of past, present, and future would be marked at this exact positioning. The past would reflect the underworld and ancestors who had passed, the present would signify the deceased and current ritual, where the future would be marked with balance, and renewal by solar principles.

Through this, it implies the metaphorical concept that vessels operate as a secondary agent, where items animate with one another through rituals and the consumption of cacao, or another prestige beverage, enhances ritual engagement with the flower world. Burials and kivas are associated with the pathway for the deceased, where offerings permit protection, and roads and wooden planks help secure this transition through these interconnections of their spiritual practices. The patterns and geometric figures seen in the ceramic forms are representations of the heart of Chacoan culture of the Ancestral Puebloans. Embodied within the form of the vessel is a mirror reflection of the cosmological beliefs of their peoples and concealed within the protected designs on forms elicit equilibrium to life and afterlife.

## **CONCLUSION**

Their beliefs, morale, and cultural practices are embedded within their architecture and evolve around the lunar and solar alignment, as seen in the structural layout of Chaco Canyon,

where the idea of fusing the past, present, and future remained of importance along with religious aspects of life and death. Considering the attributes and form of the ceramic vessels from room 33 along with other objects contained within the burial, I contend that the placement of vessels within the burial is for mortuary practice and specifically for elite Ancestral Puebloans. The hachure etchings on the burial wall, associated visually with turquoise, further support this as they can be seen also portrayed on the vessels, which are physically present in burials. The pattern and attributes of the ceramics and their form identifies their relationship with the burial of an elite society.

When they were discovered by archaeologists, the vessels were covered with sand and were not near the deceased remains. The positioning of artifacts within the burial setting was carefully considered, and, upon Pepper's observation, there was no indication suggesting that the room was a burial chamber. The covering of the sand over the vessels is not only for concealing human acuity, but identifies as a sealing, a closure for the ritual setting. This could be interpreted as the burial chamber being clear of any indication that insinuates burial activity. The observation of patterns permitted the connections and interpretation of how these objects relate to the mortuary aspects of the Chacoan culture. One can consider the vessels that were excavated from burial room 33 in Pueblo Bonito were of an elite and their relation can be understood through the analysis of pattern and design. The object placement and pattern configurations are feasible with ceramic use in rituals for the deceased and the core beliefs of the Ancestral Puebloans. Acknowledging features and the importance of its cultural morale and development can further shape an understanding of what unknown ceramic meanings imply.

The patterned designs on the vessels are a representation of cultural and religious values and relate to the core ritual practices of the Ancestral Puebloans. The paintings on the vessels are

associated with several meanings, each imagery relating to water, rain, fertility, life, balance, and protection. These offerings to the elite were highly valued objects in their culture and essential use through the ceremony. The ceramic vessels are important items within practices and a highly respected offering, and their connection with the elite is also seen through the designs. Placed within a mortuary setting, one can understand it to be a process of sanctification or dedication with the burials in room 33. To elevate the ritual, the objects animate with one another to secure safe passing, and well-being for the elite through the transition. The interconnection of the Great Kiva, and Kiva R with the burial through hidden offerings, roads, and wooden planks can be interpreted as a metaphorical link to strengthen ritual ceremonies throughout Chaco Canyon. The forms being for an elite reveal the balance of spirituality between people and religion, while presenting important virtues of their cultures revere for the beginning, present, and future.

While a complete understanding of the ceramic vessels' relation to burials is impossible to know fully, the information provided could help adhere and is reliable to the understanding of the patterns within the designs. The approaches used garnered a more profound interpretation and appreciative understanding of what the patterns on ceramic forms entail, in addition to their function in the setting. While not enclosing all correlations relating to the vessels and funerary practice or Ancestral Puebloan beliefs, this exploration expresses the importance of the Chacoan culture and offers an interpretation into the understanding of a rich society.

As the comprehension of the Ancestral Puebloan people and Chaco Canyon continues to develop, I question whether more patterns and designs not only extend from woven textiles but more possibly emerged through depiction in stone. I also began to consider if the solstice patterns can tell time as they could provide precise information about the seasons. The idea of only being able to conclude my analysis from one side of the vessels further intrigues my

curiosity about what else can be portrayed from the other side of the forms, and what they can imply about the culture.<sup>127</sup> In addition, to what the interpretations can be made of the other ceramics imagery excavated from burial room 33 and considering them as a collective.

---

<sup>127</sup> Photos were unable to be taken or visitation would have been ungranted within the given time frame. The set of vessels are housed within the Chaco archives. To proceed with research and obtain images a council meeting of present-day Pueblos would be needed to be agreed upon and the process exceeds over 1-2 years.

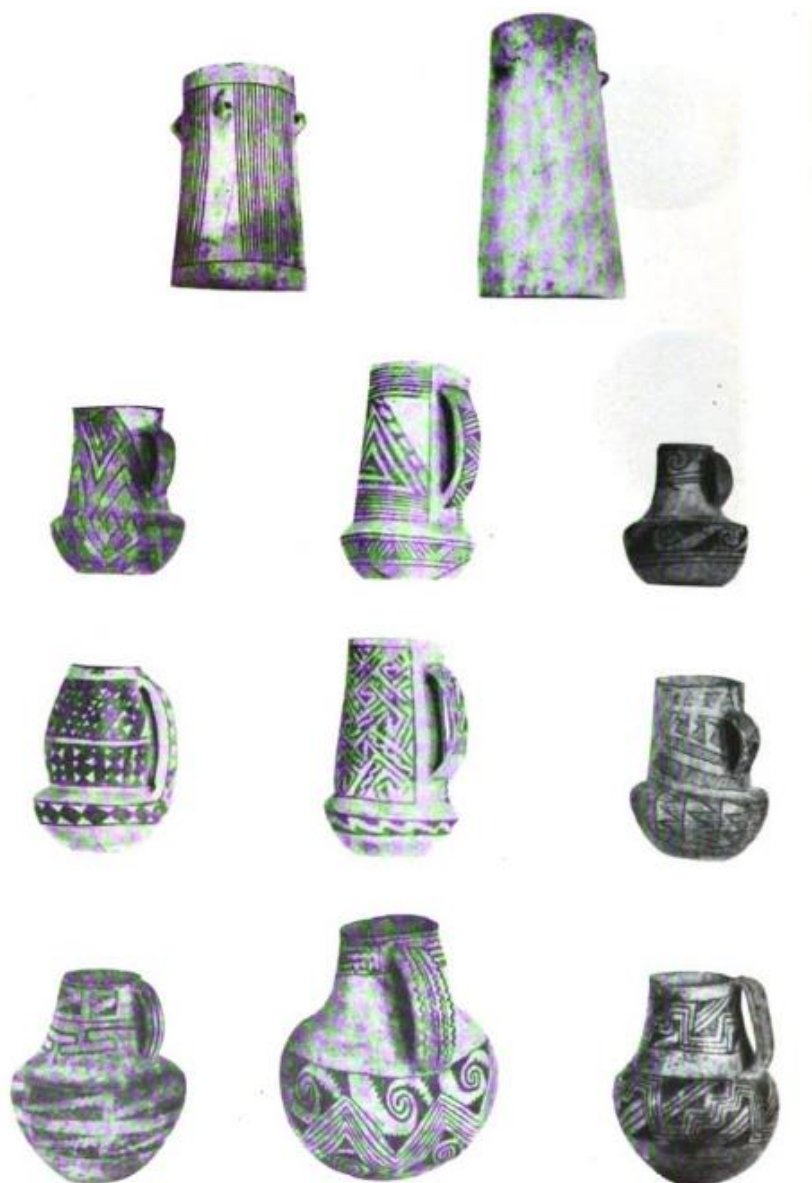


**Figure 1.** The Great House ruins in Chaco Canyon, New Mexico. Image from The Durango Herald.



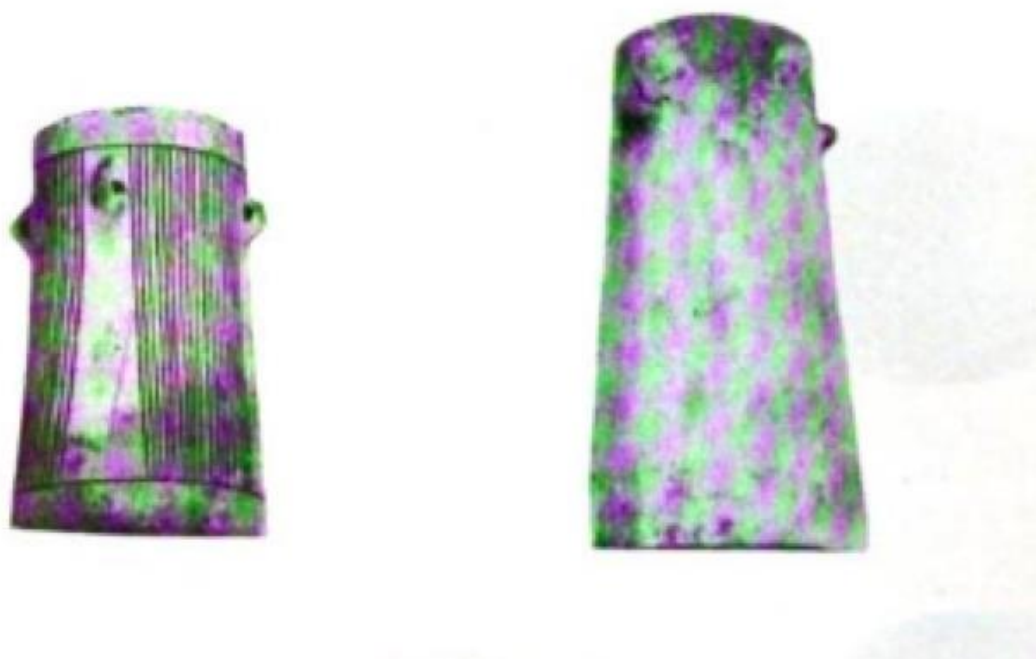
**Figure 2.** Pueblo Bonito in Chaco Canyon, New Mexico Image from QT Tuan, Chimani blog.





**Figure 3.** Cylinders, pitchers, and gourd jars.  
Image from George Pepper's *Pueblo Bonito*, *Anthropological Papers of The American Museum of Natural History* vol. XXVII, 1920, Mortuary Pottery from Room 33.





**Figure 4.** Cylinders.

Image from George Pepper's *Pueblo Bonito*, Anthropological Papers of The American Museum of Natural History vol. XXVII, 1920, Mortuary Pottery from Room 33.



**Figure 5.** Pitcher 1.

Image from George Pepper's *Pueblo Bonito*, Anthropological Papers of The American Museum of Natural History vol. XXVII, 1920, Mortuary Pottery from Room 33.



**Figure 6.** Pitcher 2.

Image from George Pepper's *Pueblo Bonito*, Anthropological Papers of The American Museum of Natural History vol. XXVII, 1920, Mortuary Pottery from Room 33.



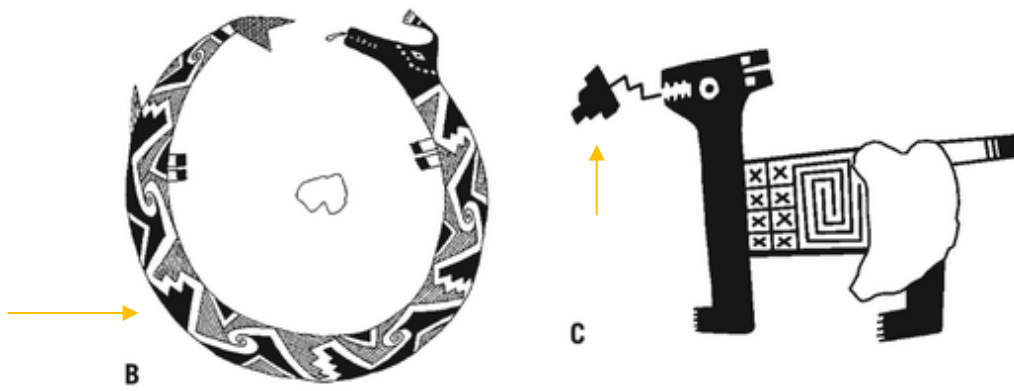
**Figure 7.** Gourd Jar 1.

Image from George Pepper's *Pueblo Bonito*, *Anthropological Papers of The American Museum of Natural History* vol. XXVII, 1920, Mortuary Pottery from Room 33.



**Figure 8.** Gourd Jar 2.

Image from George Pepper's *Pueblo Bonito*, *Anthropological Papers of The American Museum of Natural History* vol. XXVII, 1920, Mortuary Pottery from Room 33.



**Figure 9.** (b) Horned serpent. (c) Breath cloud.  
Illustrations courtesy of Will Russell (b), and Michael D. Mathiowetz (c), (fig. 8.2).



**Figure 10.** Pitcher 3.

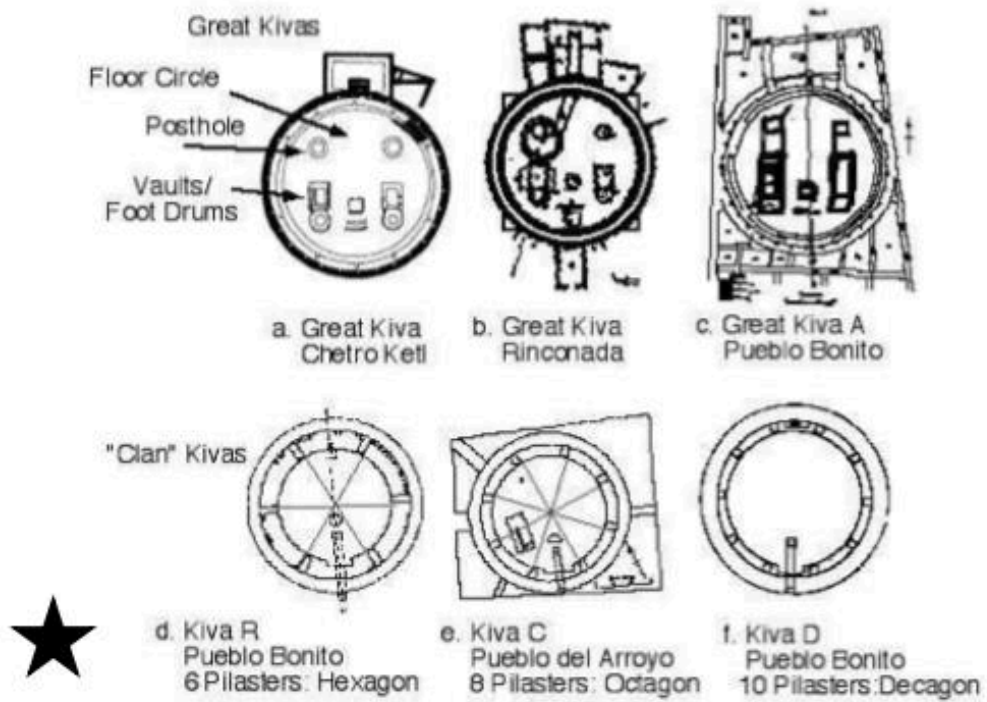
Image from George Pepper's *Pueblo Bonito*, Anthropological Papers of The American Museum of Natural History vol. XXVII, 1920, Mortuary Pottery from Room 33.



**Figure 11.** Pitcher 4.

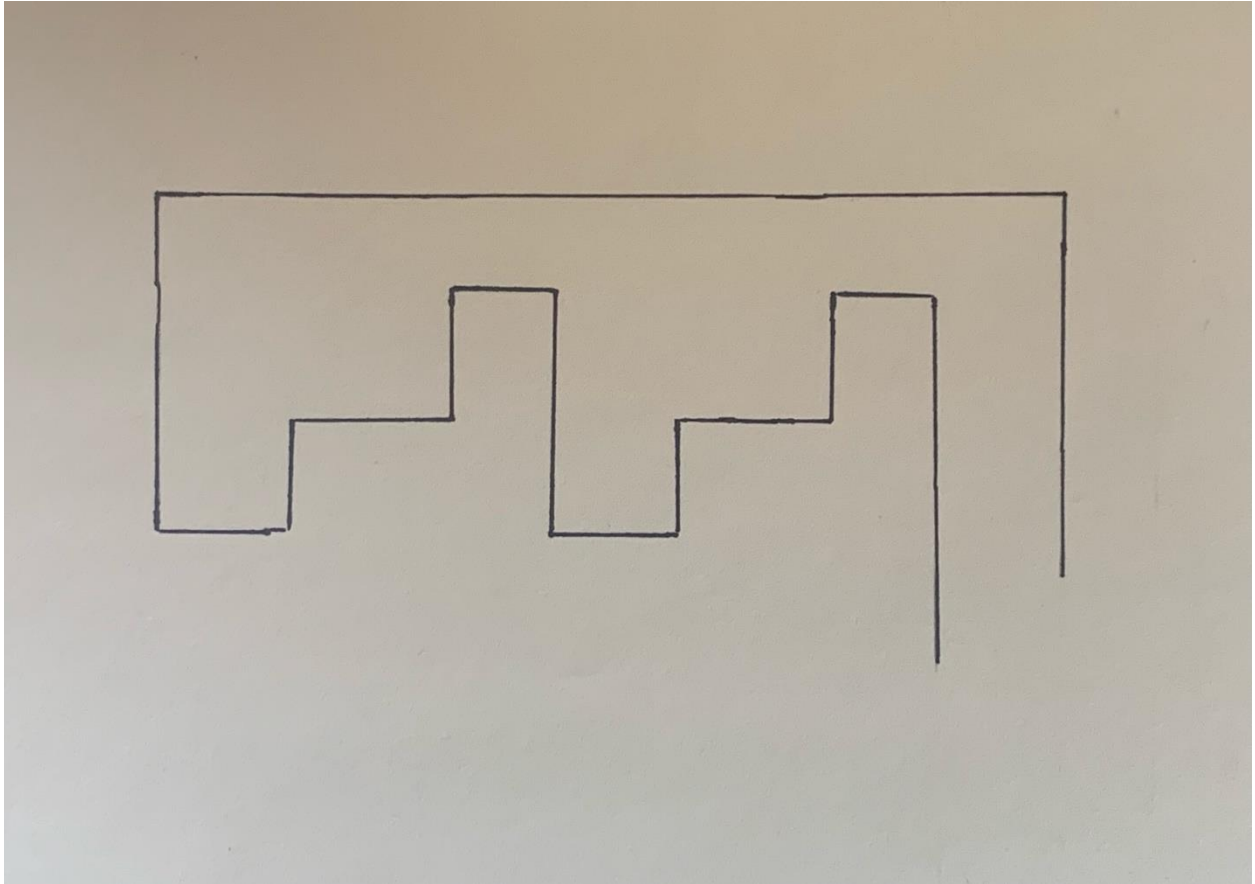
Image from George Pepper's *Pueblo Bonito*, *Anthropological Papers of The American Museum of Natural History* vol. XXVII, 1920, Mortuary Pottery from Room 33.



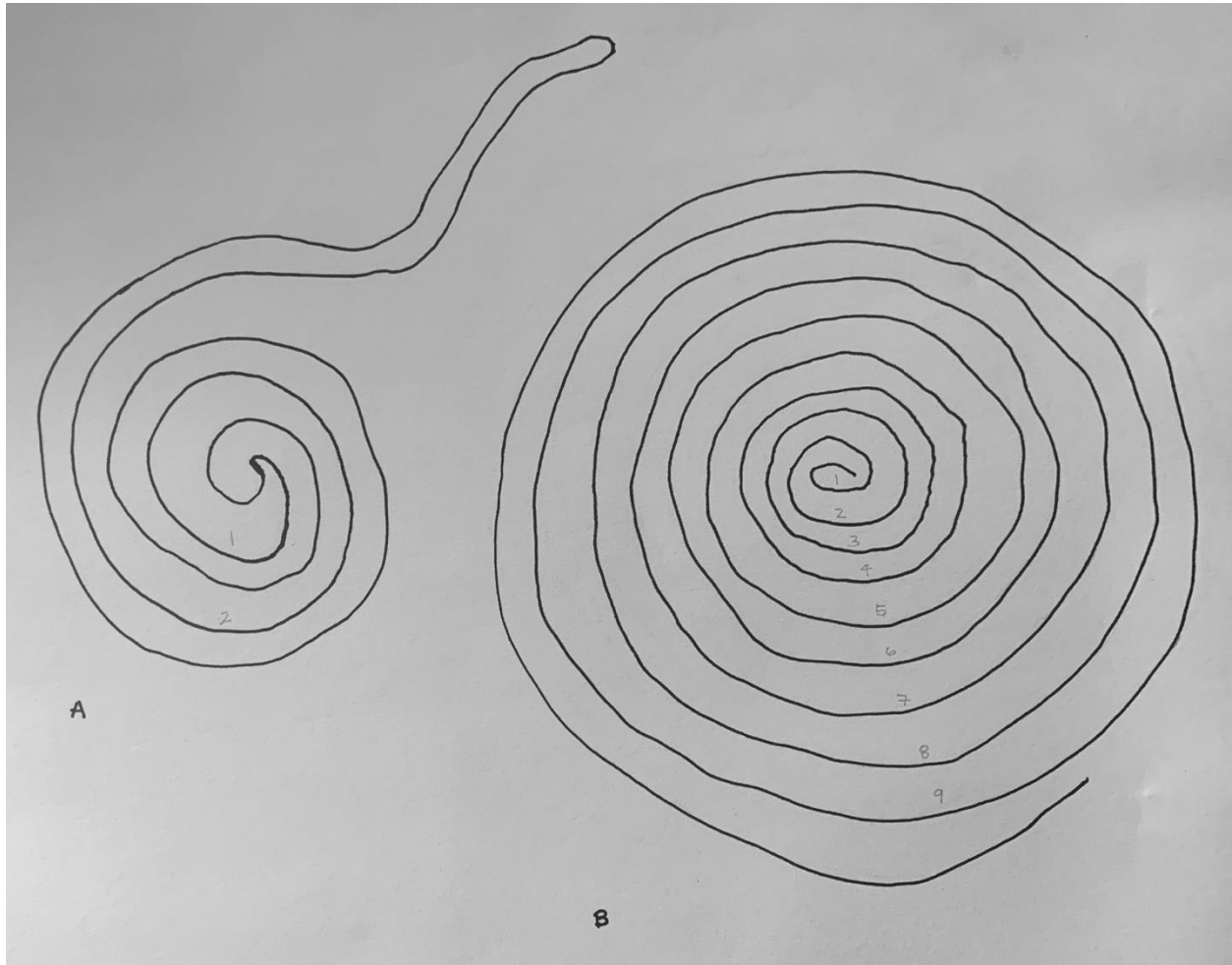


**Figure 12.** (d) Chaco Canyon kivas.

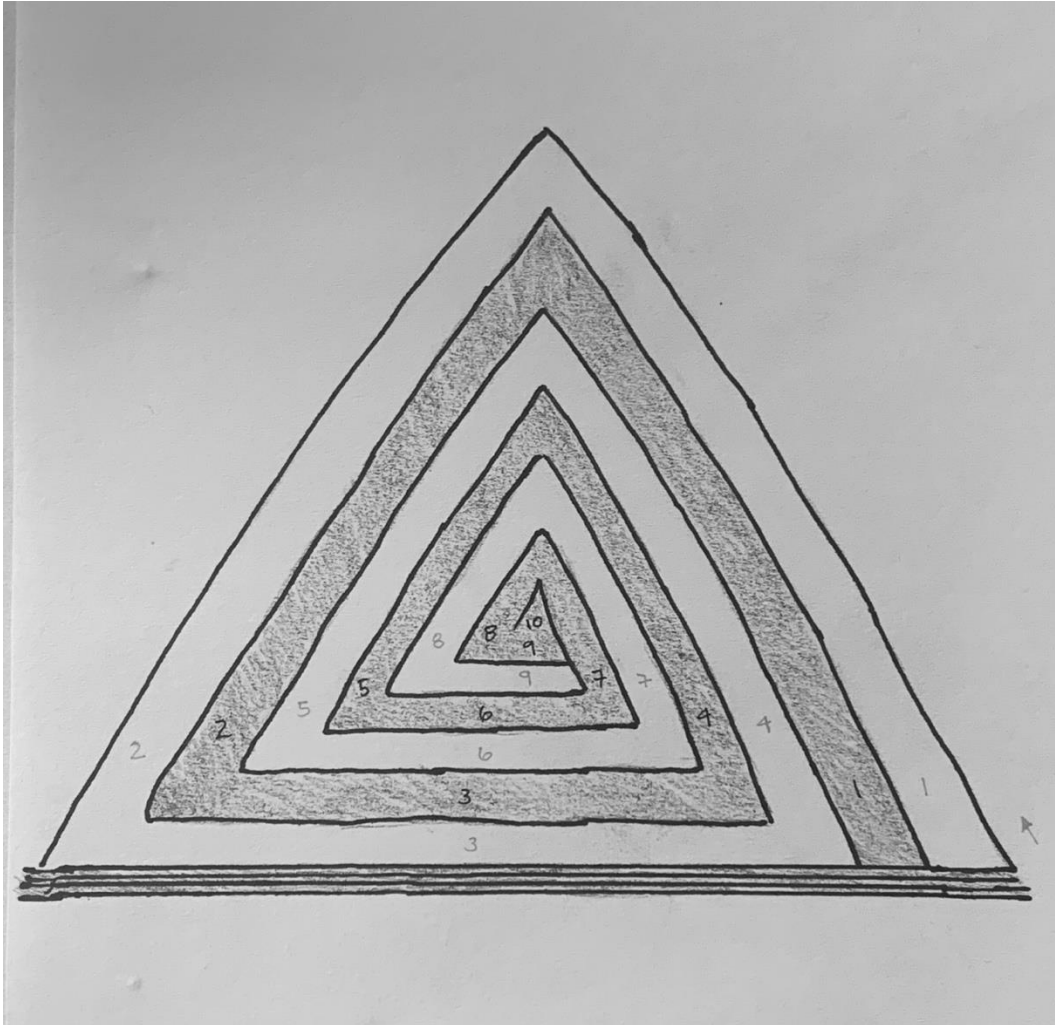
Illustration courtesy of Chris Hardaker, (fig. 2).



**Illustration 1.** Drawing of a cloud motif in step design.



**Illustration 2.** Drawing of 2 spiral formations at Fajada Butte, Chaco Canyon.



**Illustration 3.** Drawing of Triangular Spiral.

## Bibliography

- Agostini, Mark R., and Ivy Notterpek. "Cosmological Expressions and Medicine Stones in the Ancestral Pueblo World," *KIVA Journal of Southwestern Anthropology and History* 86, no. 4 (2020). 404-405.
- Anawalt, Patricia Rieff. "Ancient Cultural Contacts between Ecuador, Peru, and the American Southwest: Clothing Similarities." *Latin American Antiquity* 3, no. 2 (Cambridge University Press, 1992).
- Bradley, Bruce A. "Pitchers to Mugs: Chacoan Revival at Sand Canyon Pueblo." *Kiva* 74, no. 2 (2008): 247-62. Accessed 2021. <http://www.jstor.org/stable/30246757>.
- Cameron, Catherine M., and H. Wolcott Toll. "Deciphering the organization of production in Chaco Canyon." *American Antiquity* 66, no. 1 (2001): 5-13.
- Cook, Anita G. "The Middle Horizon Ceramic Offerings from Conchopata." *Ñawpa Pacha: Journal of Andean Archaeology*, no. 22/23 (1984): 49-90. <http://www.jstor.org/stable/27977778>.
- Crown, Patricia L., and W. Jeffrey Hurst. "Evidence of cacao use in the Prehispanic American Southwest." *Proceedings of the National Academy of Sciences* 106, no. 7 (2009): 2110-2113.
- Crown, Patricia L., and Wirt H. Wills. "Modifying pottery and kivas at Chaco: Pentimento, restoration, or renewal?." *American Antiquity* 68, no. 3 (2003): 511-532.
- Cushing, Frank Hamilton. "Zuni Fetishes. 1883." *Reprint. Las Vegas: KC Publications* (1966).
- Gilpin, Dennis. "Rock Art in the Chaco Landscape." *The Greater Chaco Landscape: Ancestors, Scholarship, and Advocacy* (2021).
- Edgar, Blake. "The Power of Chocolate." *Archaeology* 63, no. 6 (2010): 20-25. Accessed 2021.
- Fewkes, Jesse Walter. "Additional designs on prehistoric mimbres pottery." *Smithsonian Miscellaneous Collections* (1924).
- Fewkes, Jesse Walter. *Designs on prehistoric Hopi pottery*. Vol. 33. US Government Printing Office, 1919.
- Gell, Alfred. *Art and Art Agency: An Anthropological Theory*. (Oxford Press, New York). 1998.
- Hardaker, Chris. "The hexagon, the solstice and the kiva." *Symmetry: Culture and Science* 12, no. 1-2 (2001): 167-183.

- Heitman, Carrie C. "The house of our ancestors." *Chaco revisited: new research on the prehistory of Chaco Canyon, New Mexico* (2015): 215-248.
- Hosler, Dorothy. *The sounds and colors of power: The sacred metallurgical technology of ancient west Mexico*. MIT Press, 1994.
- Indian Pueblo Cultural Center. "What Does "Anasazi" Mean, And Why Is It Controversial?," Indian Pueblo, Indian Pueblo Cultural Center, Accessed 2021.  
<https://indianpueblo.org/what-does-anasazi-mean-and-why-is-it-controversial/>.
- Jones Jr, Bernard M., and Christopher E. Drover. "Visual prayer and breath bodies: Flower World metaphor in Pueblo III and IV rock art." *Rock Art Papers* 19 (2018): 153-67.
- Kennet, D., Plog, S., George, R. et al. Archaeogenomic evidence reveals prehistoric matrilineal dynasty. *Nat Commun* 8, 14115 (2017). <https://doi.org/10.1038/ncomms14415>.
- LeBlanc, Steven. "Mimbres Pottery." *Archaeology* 31, no. 3 (1978): 6–13.  
<http://www.jstor.org/stable/41726207>.
- Lekson, Stephen H. 1987. "Great House Architecture of Chaco Canyon, New Mexico." *Archaeology* 40 (May 2021): 22–29.  
<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=aft&AN=505490964&site=ehost-live>.
- Lekson, Stephen H., ed. *The Architecture of Chaco Canyon, New Mexico*. University of Utah Press, 2007.
- Lekson, Stephen H., Thomas C. Windes, John R. Stein, and W. James Judge. "The Chaco Canyon Community." *Scientific American* 259, no. 1 (1988): 100–109.  
<http://www.jstor.org/stable/24989164>.
- Lekson, Stephen H. "The Southwest's Remarkable Mimbres People." *Archaeology* 43, no. 6 (1990): 44–48. <http://www.jstor.org/stable/41765886>.
- Mathien, Frances Joan, ed. *Ceramics, Lithics, and Ornaments of Chaco Canyon: Analyses of Artifacts from the Chaco Project, 1971-1978*. Vol. 1. National Park Service, US Department of the Interior, 1997.
- Mathiowetz, Michael, and Andrew Turner, eds. *Flower Worlds: Religion, Aesthetics, and Ideology in Mesoamerica and the American Southwest*. University of Arizona Press, 2021.
- Mickle, Ronald E. "Archeoastronomy of the Chacoan Pueblo." *Swinburne Astronomy Online, Denver* (2005).

- Mills, Barbara J., and T. J. Ferguson. "Animate Objects: Shell Trumpets and Ritual Networks in the Greater Southwest." *Journal of Archaeological Method and Theory* 15, no. 4 (2008): 338–61. <http://www.jstor.org/stable/40346008>.
- Old Elk, Arlene, and Jackie Stoklas. "After the Rain." (2001).
- Ortman, Scott G. "Conceptual metaphor in the archaeological record: methods and an example from the American Southwest." *American antiquity* 65, no. 4 (2000): 613-645.
- Panofsky, Erwin. *Iconography and Iconology: An Introduction to the Study of Renaissance Art*. Mechanisms of Meaning, 1939.
- Parsons, Elsie Worthington Clews. *Pueblo indian religion*. Vol. 1. U of Nebraska Press, 1939.
- Pepper, George Hubbard. *Pueblo Bonito*. Vol. 27. The Trustees, 1920.
- Preziosi, Donald. *The Art of Art History: A Critical Anthology*. 2<sup>nd</sup> ed. (Oxford University Press, New York, 2009).
- Plog, Stephen. "Exploring the ubiquitous through the unusual: color symbolism in Pueblo black-on-white pottery." *American Antiquity* 68, no. 4 (2003): 665-695.
- Russell, Will G., Sarah Klassen, and Katherine Salazar. "Lines of Communication: Mimbres Hachure and Concepts of Color." *American Antiquity* 83, no. 1 (2018): 109-127.
- Sofaer, Anna, Volker Zinser, and Rolf M. Sinclair. "A Unique Solar Marking Construct: A unique archaeoastronomical site in New Mexico marks the solstices and equinoxes." *Science* 206, no. 4416 (1979): 283-291.
- Stanislawski, Michael B. "Extended Burials in the Prehistoric Southwest." *American Antiquity* 28, no. 3 (1963): 308-19. Accessed 2021. doi:10.2307/278274.
- Swentzell, Rina. "Pueblo space, form, and mythology." *Pueblo style and regional architecture* 23 (1990): 27-29.
- Toll, H. Wolcott. "Making and Breaking Pots in the Chaco World." *American Antiquity* 66, no. 1 (2001): 56–78. <https://doi.org/10.2307/2694318>.
- Tomasto-Cagigao, Elsa. "Body Modification at Paracas Necropolis, Southcoast of Peru, ca. 2000 BP." *Zurich Studies in Archaeology*. Volume 19. (2013).
- Trevor, Lisa. A Moche Riddle in Clay: Object Knowledge and Art Work in Ancient Peru. " *The Art Bulletin*. (2019). 19.

- United Nations Educational, Scientific and Cultural Organization. "Archaeological Zone of Paquime, Casas Grandes", Unesco, World Heritage Convention, Accessed 2021, <https://whc.unesco.org/en/list/560/>.
- Van Dyke, Ruth M. "Sacred geographies." In *The Oxford Handbook of Southwest Archaeology*, pp. 729-743. Oxford: Oxford University Press, 2017.
- Wardle, Barbra L. "Native American symbolism in the classroom." *Art Education* 43, no. 5 (1990): 12-24.
- Ware, J. (2018). Kinship and Community in the Northern Southwest: Chaco and Beyond. *American Antiquity*, 83(4), 639-658. doi:10.1017/aaq.2018.48.
- Washburn, Dorothy K. "Pattern Symmetries of The Chaco Phenomenon." *American Antiquity* 76, no. 2 (2011): 252-84. Accessed 2021. <http://www.jstor.org/stable/41331890>.
- Weiner, Robert S. A Sensory Approach to Exotica, Ritual Practice, and Cosmology at Chaco Canyon. *KIVA Journal of Southwestern Anthropology and History*, 81.(2015 ). 226.
- Winegarden, Debra Van. "Chaco World Heritage: Two Backcountry Hikes Visit Ruins and Rock Art." *Durango Herald*, February 16, 2018. <https://www.durangoherald.com/articles/chaco-world-heritage-two-backcountry-hikes-visit-ruins-and-rock-art/>.
- "Chaco Sites." *Chaco Research Archive Pueblo Bonito Comments*, <http://www.chacoarchive.org/cra/chaco-sites/pueblo-bonito/>.
- "Chimani Blog." *The Secrets of the Cosmos at Chaco Culture National Historic Park*, <https://www.google.com/amp/s/blog.chimani.com/2021/03/11/the-secrets-of-the-cosmos-at-chaco-culture-national-historic-park/amp/>.