

**WEAVING THE PAST: AN EXAMINATION OF BONES
BURIED WITH AN ELITE MAYA WOMAN**

A Thesis Presented to the Graduate Faculty of

Meadows School of the Arts

Southern Methodist University

in

Partial Fulfillment of the Requirements

for the degree of

Master of Arts

with a

Major in Art History

by

Chelsea Dacus

(B.A., Mount Holyoke College)

December 10, 2005

Copyright (2005)

Chelsea Dacus

All Rights Reserved

ACKNOWLEDGEMENTS

I could not have completed this thesis without the help of several people and organizations including, first and foremost, my advising professor, Dr. Adam L. Herring, who has guided me to many wonderful opportunities in the field of Maya art and whose advice on this thesis and my career has been invaluable. I would also like to thank Dr. Sandra Noble for her kindness, welcoming nature, and assistance, without whom I would not have had the occasion to visit many Maya sites in Guatemala. In addition, I must express my appreciation for the advice and research Dr. David Freidel has so graciously provided. Many others have been invaluable for their counsel and support in this process also; the Foundation for the Advancement of Mesoamerican Studies, Inc. (FAMSI), Eileen Coffman, Dr. Karl Taube, Dr. Federico Fahsen, Dr. Annemarie Weyl Carr, Carol Robbins, the Art History Department and the Graduate Council of Southern Methodist University, Mary Dell Lucas, and my family.

Dacus, Chelsea

B.A., Mount Holyoke College, 1999

Weaving the Past: An Examination of Bones
Buried with an Elite Maya Woman

Advisor: Professor Adam L. Herring

Master of Arts conferred December 10, 2005

Thesis completed August 12, 2005

Weaving has been a succinctly female activity in the Mesoamerican region of Mexico, Guatemala, Honduras, and the other countries of Central America for hundreds of centuries. For the modern Maya the fabrics and patterns woven are at the core of a woman's identity and a crucial source of family sustenance. For the ancient Maya cloth and fabric were used in their tribute activities – gifts of food and cloth created ties, alliances, and allegiances. The symbol of ascending to rulership in ancient Maya writing and sculpture was encapsulated in the action of tying on a cloth headband. Clearly, the production of fabric was an essential activity performed by Maya women.

This study examines a set of bones inscribed with glyphs calling them the bone pins of an elite Maya woman. These bones were probably specifically meant for use in weaving and were given a place of honor, indicating their significance and worth as elite objects and tools, by being buried with her as funeral goods along with a cache of valuable and elite objects. Using a categorical and iconographical analysis and utilizing the clues left behind in the glyphs adorning these bones, this study uncovers

who this woman probably was and what her role might have been in the royal household she lived in. She was probably a royal woman, maybe a princess, or even a queen, who had ties with a ruler of Naranjo, a city in northeastern Guatemala near the border with Belize. She shares titles with some of the prominent queens of that city, and is labeled as a royal woman of high status by these titles as well.

The number of bones buried with the lady of this analysis may signify that she was a master weaver. Since fabrics and their distribution were so important to the political system of the ancient Maya it is logical to believe that fabrics by certain weavers who had proved themselves as masters would have been sought after, much in the way that ceramic vessels from certain workshops of high quality were desired. Along with monuments from Naranjo and other city-states, which tell of women acting as rulers, ambassadors, and politicians, these unique utensils, rare in the archaeological corpus, suggest that the role of elite women was integral to the function of rulership and Maya society.

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS.....	7
Chapters	
1. INTRODUCTION	11
2. THE CACHE	23
3. DISCUSSION OF THE BONES AND THEIR CORRELATIONS	43
4. EXAMINATION OF THE BONES AND THEIR QUALITIES.....	58
The Inscribed Bones	
The Non Inscribed Bones	
The Fragments	
Conclusion	
ILLUSTRATIONS	98
BIBLIOGRAPHY	142

LIST OF ILLUSTRATIONS

Figure	Page
1. Cache: Bone embroidery needle, eight of the jade objects including head, 2 rings, 2 shark's teeth, 2 lip plugs, and three small round objects.....	98
2. Cache: All jade diadem objects, four small round objects, and two shark's teeth.....	99
3. Cache: Two rings, two lip plugs, and two of the stingray spines	100
4. Cache: Four stingray spines	101
5. Ceramic figurines of the goddess of weaving or an elite woman dressed as the goddess.....	102
6. Vase with complex mythological scene involving the Moon Goddess	103
7. Cache: Spondylus shell covered in cinnabar with incensario inside.....	104
8. Cache: Bones One through Twelve	105
9. Cache: Bones Thirteen through Twenty-Four	106
10. Cache: Fragments One through Fifteen of bones from the Cache.....	107
11. Examples of backstrap loom weaving in progress with lease and pattern sticks inserted.....	108
12. Examples of the different decorative ends	109
13. Example of the hollowed out head decorative end.....	109
14. Carved bone from Dzibilchaltún with a similar inscription to the one on the bones from Naranjo	110
15. Yaxchilán Lintel 24.....	111

16. Yaxchilán Lintel 25	112
17. Bonampak Murals: Structure 1, Room 1, west wall, detail	113
18. Bonampak Murals: Structure 1, Room 3, east wall, detail.....	113
19. The Princeton Vase.....	114
20. Stela 8 from Naranjo, back.....	115
21. Stela 8 from Naranjo, front	116
22. Stela 19 from Naranjo, back.....	117
23. Aj Maxam Vase Inscription.....	118
24. Stela 13 from Naranjo, back.....	119
25. Stela 14 from Naranjo	120
26. Fragment of a Stela now at the Museo del Radio Petén in Flores	121
27. Bone One	122
28. Bone Two	123
29. Bone Three	124
30. Bone Four	125
31. Bone Five	126
32. Bone Six.....	127
33. Bones Seven through Ten	128
34. Bone Seven	129
35. Bone Eight	130
36. Bone Nine	131
37. Bone Ten	132
38. Bones Eleven and Twelve.....	133
39. Bone Twenty	134
40. Bone Twenty-Two, decorative end.....	135

41. Quetzal Bird	135
42. Fragment One	136
43. Fragment Two	137
44. Fragment Three	138
45. Fragment Three, comparison with thumb.....	138
46. Fragment Four	139
47. Fragment Five	139
48. Fragment Six.....	140
49. Fragment Seven.....	140
50. Fragments Eight through Fifteen.....	141

To Dad and Julian

Chapter 1

INTRODUCTION

To the ancient Maya, the practice of weaving and cloth production was an essential and life affirming process necessary for protection from the elements, for use in accession ceremonies and tribute rituals, as well as burials and temple dedications. Indeed, the manufacture of fabric and cloth has been a vital element in all human societies throughout history, and has remained a way for bonding mentally, emotionally, and religiously throughout the passage of time.¹ The significance possessed by the actions of weaving and the fabrication of cloth is clearly conveyed in the art of the ancient Maya, where images of cloth and clothing are ubiquitous, and figures of goddesses and elite women engaged in the process of weaving abound. The intricate patterns of weaving and embroidery are recorded in careful detail on many monuments of the Maya from the Classic period, and their ceramic vessels document the offering of bundles of cloth from vassals to lords and from lords to vassals in a confirmation of their relationship, which was central to the operation of Maya society. In fact, this distribution and gifting of cloth and fabric is the most commonly featured theme in these gifting ceremonies recorded in the images on Maya ceramics and carving. The vibrant murals of the Maya city of Bonampak demonstrate the variety of colors and types of fabric which existed as fundamental elements of ritual and

¹ Dolores Bausum, *Threading Time: A Cultural History of Threadwork* (Fort Worth: TCU Press, 2001), viii.

ceremony.² The act of a lord's accession into the office of ruler was marked by the crucial process of tying on a headband of cloth, which was a predominant sign of rulership. The phrase for accession (*k'al hun*) translates into the act of tying on this headband and the glyph for accession takes the form of a human or bird head wearing the headband. Traditionally in Maya culture, weaving has been symbolic of a woman's crucial procreative abilities, as demonstrated by the powerful ancient Mesoamerican goddess of weaving and childbirth, Ixchel.³ This vital position weaving played for the ancient Maya is also confirmed by a fascinating set of inscribed bones taken from the tomb of a royal Maya woman.

Sadly, due to the climate of the warm and humid tropics, very little is left of the majestic fabrics the ancient Maya wove. Yet from the evidence left in their art we can imagine the incredible weavings they must have made to adorn their homes, thrones and themselves as well as to trade and exchange in important tribute rituals. Rulers may have used swaths of fabric like a curtain to set themselves apart, and as a backdrop on which to stage their rituals. Rulers are often shown on painted ceramics seated on thrones with a gathered bundle of cloth above their heads. Evidence exists in the form of tie holes by doorways that screens of fabrics were stretched across doors and parts of the building to create rooms and a degree of privacy, though also to allow discreet regulation of

² Robert J. Sharer, *The Ancient Maya*, 5th ed. (Stanford, CA: Stanford University Press, 1994), 724-726, fig. 15.45.

³ Karl A. Taube, *The Major Gods of Ancient Yucatan* (Washington, D.C.: The Dumbarton Oaks Research Library and Collection, 1992), 99-105; Margot Blum Schevill, *Maya Textiles of Guatemala* (Austin: University of Texas, 1993), 64; and Mary A. Ciaramella, "The Weavers in the Codices" in *Research Reports on Ancient Maya Writing No. 44* (Washington, D.C.: Center for Maya Research, 1999), 46-48.

the conversations of those living and working in, and visiting the home or palace.⁴ Tents of fabric could also be stretched out from the façade of a building to create additional space.⁵ Rulers and their families are frequently portrayed on vessels and monuments wearing clothing with elaborate and intricate patterns, which have echoes in the colorful textile creations of today's modern Maya.

In order to fashion such outstanding works of art, the Maya would have needed many different kinds of weaving tools. These we have in relative abundance in the archaeological record in the form of a variety of spindle whorls, pins, needles, and weaving picks, often called awls, from the ruins of ancient Maya cities⁶ and in the archaeological and iconographical evidence from other ancient American cultures as well,⁷ though not often in profusion or in the context of a burial cache. These tools are most often made of ceramic, and much less commonly wood or bone. The survival of these latter two materials is extremely rare due to the difficult conditions for survival in the hot and humid tropics of the ancient Maya region. Many of the objects related to cloth production are found

⁴ Merle Greene Robertson, *The Sculpture of Palenque* (Princeton, New Jersey: Princeton University Press, c1983), volume 2, 11, 36-40; and Mary Miller and Simon Martin, eds., *Courtly Art of the Ancient Maya* (New York: Thames and Hudson, 2004), 22.

⁵ Ibid.

⁶ Julia A. Hendon, "Women's Work, Women's Space, and Women's Status Among the Classic-Period Maya Elite of the Copan Valley, Honduras" in *Women in Prehistory: North America and Mesoamerica*, eds. Cheryl Claassen and Rosemary A. Joyce, (Philadelphia: University of Pennsylvania Press, 1997); Jennifer T. Taschek, *The Artifacts of Dzibilchaltún, Yucatan, Mexico: Shell, Polished Stone, Bone, Wood, and Ceramics* (New Orleans: Middle American Research Institute, Tulane University, 1994); and Clemency Chase Coggins, "Painting and Drawing Styles at Tikal: An Historical and Iconographical Reconstruction" (Ph.D. dissertation, Harvard University, 1975) present a few examples of the corpus.

⁷ Byron Hamann, "Weaving and the Iconography of Prestige: The Royal Gender Symbolism of Lord 5 Flower's/Lady 4 Rabbit's Family" in *Women in Prehistory: North America and Mesoamerica*, eds. Cheryl Claassen and Rosemary A. Joyce, (Philadelphia: University of Pennsylvania Press, 1997), 153.

within elite households and constitute the evidence of the daily activities of the inhabitants leading to the possibility that emphasis was put on an elite woman's ability to create fabric for tribute.⁸

There is a unique set of carved and inscribed bones deposited in the tomb of a Maya woman as special items meant to honor and accompany the deceased. This assemblage of 24 inscribed bones and 15 fragments discussed in this study are rare examples of such weaving tools for several reasons. They were found in a burial with a group of other elite items rather than in a domestic setting. Though the practice of depositing carved and inscribed bones in burials is well documented in Maya archaeology, the bones are primarily from the tombs of male rulers, and as such exhibit masculine themes related to ritual, rulership, and mythology. The bones in this study, however, have a distinctly feminine motif. The weaving tools typically discovered are not inscribed as well. Weaving tools such as the ones in this paper with inscriptions which title them as weaving bones are extremely rare. Their abundance is also extraordinary. Such weaving tools are usually found scattered and discarded few and far between in the context of living spaces where the Maya performed their daily activities, not in concentrated bundles given special account and status by being covered in cinnabar and deposited in a burial. Though the context of the burial is obscure, all of these items, including the bones, were covered in cinnabar that is more than 78% mercury, giving them a shared archaeological and ancient origin.

⁸ Hendon, 45; and Hamann, 167.

From the inscriptions on them and the other items included in the tomb it can be ascertained that they are from a grave deposit rather than any sort of dedicatory cache for a building or monument. Inscribed with glyphs describing them as *u puuhtz'* and *u puuhtz' b'aak*⁹ or "the needle of" and "the needle bone of," the bones also give us the name of a royal lady as the owner. Such possessive inscriptions are usually given only to items included in the tomb of a specific personage – in this case, a royal woman. The objects which accompany the bones include jade pieces from a diadem or necklace, lip plugs of a white stone like alabaster, stingray spines for bloodletting, bone needles, and flint blades, as well as a large spondylus shell with a miniature jade bead, possibly a censer. All of these items are often included in burials, in conjunction with ceramics and other personal items such as carved or inscribed bones, deer antlers, or other materials.¹⁰ These bone tools are unique from other weaving tools found in the Maya region not only because of their number, rarity of material, or their derivation from a mortuary context, but also because they were found in the burial of a woman, which are rare discoveries in Maya archaeology.

⁹ The spelling of words used here, throughout this document, and in the translations of the inscriptions on the bones in the catalogue are taken from *Notebook for the XXVIIIth Maya Hieroglyphic Forum at Texas* (Austin: University of Texas at Austin, 2004) by the Maya Workshop Foundation.

¹⁰ Michael Coe, *Piedras Negras Archaeology: Artifacts, Caches, and Burials* (Philadelphia: University Museum, University of Pennsylvania Press, 1959); and W. B. M. Welsh, *An Analysis of Classic Lowland Maya Burials* (Oxford, England: B.A.R., 1988), 102.

Though scholars have translated the word *puuhtz'* as meaning "needle" or "pin",¹¹ the meaning is not that of our modern western culture. *Puuhtz'* indicates a tool related to cloth production, though it could specify a weaving tool, or several different kinds of weaving tools. The Maya had needles for sewing and letting blood, but the particular bones of this study are too blunt, long, and thick to be the kind of needles used by the Classic Maya for those purposes. Instead, they resemble weaving pins or picks used by the modern Maya in the fabrication of brocade,¹² as well as by ancient weavers in the Andes exhibited in half woven looms with the cloth still attached and the weaving instruments still inserted.¹³ The survival of ancient looms and weaving tools in the Andes is unique to that region due to the dry climate. The same is not true of the Maya region unfortunately, and though we have ceramic representations of women weaving on the backstrap loom, one of the most ancient types of looms used throughout the history of human civilization, the figures are not detailed enough to demonstrate the use of tools such as these or they would have been so small that they were likely lost to time.

¹¹ Karl A. Taube, personal communication. See also *A Preliminary Classic Maya-English/English-Classic Maya Vocabulary of Hieroglyphic Readings* (<http://www.mesoweb.com/resources/vocabulary/Vocabulary.pdf>, Jan. 2002) compiled by Erik Boot.

¹² Cherri M. Pancake and Suzanne Baizerman, "Guatemalan Gauze Weaves: A Description and Key to Identification," *Textile Museum Journal* 19 and 20 (1980-1981), 3-4; Marilyn Anderson, *Guatemalan Textiles Today* (New York: Watson-Guption Publications, 1978), 100-101; and Hildegard Schmidt de Delgado, "Aboriginal Guatemalan Handweaving and Costume" (Ph.D. thesis, Indiana University, 1963), 26-27.

¹³ Adele Cahlander with Suzanne Baizerman, *Double-Woven Treasures from Old Peru* (St. Paul, Minnesota: Dos Tejedoras, 1985), 47.

Though we lack the iconographical images of these tools in use in the Maya realm from the first millennium A.D., the likelihood is that they were utilized in the context of cloth production through correlation between cultures that have used the backstrap loom throughout history, such as the ancient and modern Andean cultures, the cultures of the Philippines and Indonesia, and the modern Maya, all of whom demonstrate the use of tools made of wood or bone which closely resemble those of this study in weaving with backstrap looms, in addition to the glyphs carved on them, titling them as weaving bones. It is possible that some of the bones lacking the *puuhtz'* (needle or pin) glyph or an inscription altogether, and even those that include it, were utilized for other purposes such as hair pins, clothing pins, makeup applicators, or some other daily usage, though there is sadly little evidence. On many painted vases it does appear that some kind of similar long pins were used to bind the hair up of the women and even the men, however it would be difficult to prove that this was a purpose to which these particular bones were put. For the variety of weaving patterns, thicknesses, and fabric ranging from thick brocade to a gauzy lace-like textile, which we can see in the carved monuments and painted murals and vessels of the ancient Maya, it is likely that they needed a variety of tools, a diversity which is attested to by the bones of this analysis. Nevertheless, the bones without the *puuhtz'* glyph or inscriptions possess enough homogeneity with those that are called weaving pins that they were all likely put to related use. For the purposes of this study, we will concentrate on their utilization in weaving, and put aside the question of their viable application in other labors.

There are twenty-four complete or only partially broken bones, though most of the broken bones have been reconstituted by modern conservators since their unearthing, and thirteen are incised with glyphs. There are fifteen fragments as well, which have resisted reconstruction, seven of which have inscriptions of some kind. Two complete bones and four of the fragments have lines which spiral down around them, a common motif on weaving instruments and possibly related to the particular use of that kind of bone. All of the bones and fragments have or had at one point in history decorative finials in the form of hands holding bundled objects, bundled objects alone, hollowed out round-cheeked heads, and, in the case of one aesthetically refined bone, a Resplendent Quetzal bird. The more complete bones are anywhere from fifteen to twenty-five centimeters long, and are very slender at three to six millimeters in width. The decorative ends are larger at five millimeters to as much as one and a half centimeters in width. The fragments are more delicate, varying only two to thirteen centimeters in length and less than three to almost five millimeters in width.

Elegant and slim, these carefully constructed tools were finely carved artistic ornaments to the person buried with them, though more functional than some of the more elaborately decorated Maya bone objects which are included in the richly attired burials of rulers.¹⁴ They are from the tomb of a royal woman from Naranjo, an ancient Maya site located in the far North-Eastern region of Guatemala, near the modern border with Belize, known for its activity between

¹⁴ Such decorated bones are well known in the archaeological corpus. One such group of famous bones from the burial of Jasaw Chan K'awiil I of Tikal is well documented in Coggins, "Painting and Drawing," 457-458.

300 and 900 A.D.¹⁵ Very little is known of Naranjo's development outside of that period due to a lack of archaeological work there. The most information we have garnered from the evidence involves a fairly lengthy span of time known as the Middle Period, during the first part of which Naranjo was governed by a woman from 682 to 693 A.D. as regent for her son. She possibly even commanded the site until 741 in support of or in addition to her son, the ruler, as she appeared on several monuments as a victorious sovereign.¹⁶ Most scholars believe that the titles on the bones under consideration here are variations of the titles for this woman. It is more likely, however, for reasons discussed in the next chapter that they belonged to another royal woman of Naranjo from this era or in the centuries following.

The activities of food and cloth production in ancient Maya society were two of the crucial and time-consuming duties of ancient Maya women, and thus served as defining elements of their social identity.¹⁷ The bones of this study were tools that would have been used in such duties and hence were placed in the tomb of a woman. Items similar to these, though rare, are also found in the tombs and decoration of royal and elite burials and palaces, not only of the Maya,¹⁸ but also of other Pre-Columbian cultures such as the Mixtec at

¹⁵ Simon Martin and Nikolai Grube, *Chronicle of the Maya Kings and Queens: Deciphering the Dynasties of the Ancient Maya* (New York: Thames and Hudson, 2000), 69.

¹⁶ *Ibid.*, 74-77.

¹⁷ Hendon, 37.

¹⁸ Roberto Garcia Moll, "Shield Jaguar and Structure 23 at Yaxchilan" in *Courtly Art of the Ancient Maya*, eds. Mary Miller and Simon Martin (New York: Thames and Hudson Inc., 2004), 268-270.

Zaachila,¹⁹ suggesting that tools used in cloth production were objects of significance to these cultures. Some of the bones found in the tomb for the well known Lady K'ab'al Xoc in Structure 23 at Yaxchilan bear resemblance to those of this study, though they are much smaller and lack the longer inscriptions and sheer plenitude.²⁰ Examples of comparable length and exhibiting analogous glyphs have been identified at Mirador in Mexico and Uaxactun in Guatemala,²¹ as well as one example at Dzibilchaltún,²² though their numbers remain few. The weaving tools pictured at Zaachila are presented as goods which the woman, Lady 4 Rabbit, was bringing with her into the marriage with Lord 5 Flower. They represented her adeptness in the art and her ability to contribute to the gifting tradition of the Mixtec, a tradition corresponding to that of the Maya. Her skill in creating textiles and thus to produce items for tribute was an additional attraction as a royal wife.²³

Weaving was a metaphor for the process of creating and birthing a child²⁴ and the tools used in the process of weaving had connotations of the act of procreation.²⁵ A woman's crucial physical productive ability was likened to her

¹⁹ Hamann, 153-154.

²⁰ Miller and Martin, 112-113, pl. 55.

²¹ Stephen D. Houston and David Stuart, "Peopling the Classic Maya Court," in *Royal Courts of the Ancient Maya, Volume One: Theory, Comparison, and Synthesis*, eds. Takeshi Inomata and Stephen D. Houston (Boulder, CO: Westview Press, 2001), 77 n.5.

²² Taschek, 150, fig. 16.

²³ Hamann, 153-154.

²⁴ Ciaramella, 46-47.

²⁵ *Ibid*, 47; and Hamann, 163.

ability to create fabric and clothing. In addition, it has been found that while the emphasis for non-elite Maya women seems to be on food preparation capabilities, the focus for elite women appears to be their skills in textile manufacture indicating that fabric production and fabric were high status actions and objects within ancient Maya culture.²⁶ An elite woman's ability to supply fabric to a household's tribute paying capabilities and wealth seems to have been of considerable concern, both to the Maya and other Mesoamerican cultures, perhaps even as much as the injection of powerful bloodlines.²⁷ Tribute and gifting ceremonies where objects like cloth, food, ceramics, and other items were traded between lords (ajaw) and retainers (sajal) were the primary means of cementing relationships for the ancient Maya. Therefore, it is perhaps not so surprising that tools used in this central activity of cloth production were deposited in the tombs of elite women. Due to the scarcity of such buried evidence and the focused studies of them, however, the exact meaning of such funereal repositories and what they mean in terms of the status and roles of elite ancient Maya women remains somewhat of a mystery.

Little studied before now, the bone tools catalogued in this work can shed some light on this puzzle. Relatively rare objects in a small corpus of bone items related to weaving from a tomb in at Naranjo in Northeastern Guatemala, they

²⁶ Patricia A. McAnany and Shannon Plank, "Perspectives on Actors, Gender Roles, and Architecture" in *Royal Courts of the Ancient Maya*, eds. Takeshi Inomata and Stephen D. Houston, (Boulder, Colorado: Westview Press, 2001), 94-95.

²⁷ Ibid., 96-97; Hendon, 45; Hamann, 167; and Susan D. Gillespie and Rosemary A. Joyce, "Gendered Goods: The Symbolism of Maya Hierarchical Exchange Relations," in *Women in Prehistory: North America and Mesoamerica*, eds. Cheryl Claassen and Rosemary A. Joyce (Philadelphia: University of Pennsylvania Press, 1997), 199-203.

arouse many questions which this exposition will attempt to answer. Who was the woman who owned these? How did she come to Naranjo? How did she use them in the act of weaving? How often were they used? What is the purpose or meaning of their burial with her? Through a careful iconographical, iconological, and categorical examination of the cache with which they were found, and of each individual bone, including a loose translation of the glyphs inscribed on them, I hope to contribute further data in the ongoing discourse elucidating the diverse positions of women in Classic Maya society.

Chapter 2

THE CACHE

The bones of this study are a noteworthy key to the world of the elite Classic Maya woman. They were obtained as part of a group of objects that made up a cache or part of a cache deposited in the burial of an elite woman ([Figures 1, 2, 3, and 4](#)).²⁸ Similarities between the titles in the glyphs on the bones and fragments indicate that all of the bones were found together. Additionally, all of the items in the cache including the bones were bathed in cinnabar which was more than 78% mercury, giving them a shared context and leading us to believe that they were discovered as a group. Cinnabar would have been distributed throughout the tomb as burials of important dynastic ancestors were often reopened and bathed in cinnabar in tribute to that individual.²⁹ The cache includes pieces of jade, flint blades, stingray spines, lip plugs and rings of a white stone, shark's teeth, and a spondylus shell. Such items are regularly found together in burials, often accompanied by ceramics and other items worn by the deceased. The goods found in this cache are prevalent

²⁸ All photographs and drawings unless otherwise stated are my own.

²⁹ Taube and Miller, 62; Arnaldo González Cruz, "The Red Queen," *Mesoweb*, 2000 [on-line resource for Mesoamerican studies]; available from http://www.mesoweb.com/palenque/features/red_queen/08.html; Internet; accessed February 25, 2005, p. 8 of 12. Ellen E. Bell, "Engendering a Dynasty: A Royal Woman in the Margarita Tomb, Copán," in *Ancient Maya Women*, ed. Tracy Ardren (Walnut Creek, California: Altamira Press, 2002), 97.

in elite graves and indicate greater wealth of the individual interred with them.³⁰ Occasionally carved bones that have survived the tough conditions of the rain forest are found in tombs as well. Fortunately, enough osseous works of art have been unearthed from burials to deduce that they were routinely included as tomb goods. Though bloodletting items such as the flint blade and stingray spines and spondylus shells with jade beads were also consistently parts of building dedicatory caches,³¹ the inclusion of the bones, jade diadem or necklace pieces, the red beads, and white stone jewelry, indicate treasure of a more personal nature as would be deposited in a tomb.

It can be surmised that the deceased was of an elite status because of the items in this cache and the titles included in the inscriptions on the bones, as well as the deposit of cinnabar. The female sex of the deceased can be conjectured from the fact that the bones are inscribed with the title of a woman and are related to weaving by the glyphs upon them. Weaving has been traditionally associated with women in the Maya culture and civilization. In fact, one of the primary aspects of the moon goddess in Maya mythology was that of a weaver and she was sometimes represented as a ceramic figure industriously weaving away ([Figure 5](#)),³² and on ceramic vessels with spindles full of yarn in her headdress ([Figure 6](#)). Many goddesses, such as Schellhas Goddesses I and O,

³⁰ Welsh, 146.

³¹ Freidel, Schele, and Parker, 242.

³² Susan Milbrath, *Star Gods of the Maya: Astronomy in Art, Folklore, and Calendars* (Austin: University of Texas Press, 1999), 153. Linda Schele and Mary Ellen Miller, *The Blood of Kings: Dynasty and Ritual in Maya Art* (Fort Worth: Kimbell Art Museum, 1986), 143-144, pls. 51-52.

sometimes had a headdress made of a spindle wrapped with thread, suggesting that there was an underlying assumption of women's role as weavers.³³

The woman's elite status is first made apparent by the nine round pieces and one small head of high-quality, apple green jade, which might have constituted the decoration for a sophisticated and beautiful diadem or necklace ([Figure 2](#)). Jade was a precious mineral highly prized by the Maya, particularly jade of a certain light green color similar to that of an apple.³⁴ Mesoamerican jade is technically known as jadeite, though it sometimes consists of other blue and green stones such as diopside, chrysopras, albite, serpentine, and various combinations of these materials.³⁵ It is extremely difficult to carve, even more so than the jade of China and New Zealand, typically nephrite, which is not as dense as jadeite.³⁶ It is partly because of its durability that the Maya valued jade so highly and why they deposited such large amounts of the material in the burials of royals and the elite.³⁷ The color of jade, which could range widely from a deep green, blue, or blue-green to a light green, white or purple, also enhanced its significance. The green color of the stone was identified in Mesoamerican

³³ Julia Ellen Guernsey, "A Thematic Survey of Women on Maya Late Classic Ceramic Vessels" (Masters Thesis, University of Wisconsin, 1992), 110; and Taube, *The Major Gods*, 64-69, 99-105.

³⁴ The jade objects deposited with one of the most famous rulers from the ancient Maya world, Pakal the Great of Palenque, were of this color.

³⁵ Adrian Digby, *Maya Jades* (London: British Museum Publications Limited for the Trustees of the British Museum, 1972), 14; Mary Miller and Karl A. Taube, *An Illustrated Dictionary of the Gods and Symbols of Ancient Mexico and the Maya* (London; New York: Thames and Hudson, 1993), 101.

³⁶ Karl Taube, personal communication.

³⁷ Digby, 14.

thought with the green of maize plants, a staple of the Maya diet, water, vegetation, fertility, and life.³⁸ In images where a piece of jade jewelry floats in front of the nose of a figure, it represented the royal breath of life, immortality, and rebirth.³⁹ Scholars have surmised that jade was used as a kind of currency and it was certainly a sign of great wealth.⁴⁰ Thus, these valuable apple-green elements of a diadem or necklace most likely signify that the deceased was at the very least an elite and wealthy person.

Other objects buried with the cache include one flint blade, two shark's teeth, four beads of a red mineral or spondylus shell, four stingray spines as well as fragments of one or two others, and two rings with two small bent objects made of alabaster or another glowing white stone, which were probably lip plugs ([Figures 1, 2, 3, and 4](#)). The flint blade, shark's teeth, and stingray spines were materials often used by the Maya in bloodletting, which was, as a form of auto-sacrifice, an important ritual performed by rulers and their families. They would pierce themselves and bleed onto pieces of bark paper, which would then be burned, in order to contact ancestor spirits and the gods.⁴¹ Maya monuments and vases often depict these instances where the ruler and/or his male and female relatives perform blood sacrifice and thereby conjure up an image of their

³⁸ Ibid, 10; Miller and Taube, 102.

³⁹ Clemency Chase Coggins, "Portable Objects" in *Maya*, eds. Peter Schmidt, Mercedes de la Garza, and Enrique Nalda (New York: Rizzoli International Publications, Inc., 1998), 255.

⁴⁰ Miller and Taube, 101.

⁴¹ Sharer, 539-540; and David Freidel, Linda Schele, and Joy Parker, *Maya Cosmos: Three Thousand Years on the Shaman's Path* (New York: HarperCollins Publishers Inc., 1993 [2001]), 202, 445-447 n.59.

ancestors or the gods to assist and advise them in their duties as rulers.⁴² Queens often appear on these monuments assisting in these rituals by giving blood themselves, such as on the Yaxchilan lintels and the murals at Bonampak. They also would cut themselves, and are commonly portrayed passing a spiked rope through an aperture in their tongues as part of the process. Though there have not been many female burials found, bloodletting implements like the ones in this cache appear when a woman was of high status and importance in society. Her lineage and position, her blood, would have been very valuable in these bloodletting ceremonies. Stingray spines and other bloodletting tools are normally only buried with men.⁴³ In order for such items to be deposited with a woman, she would have to be of the very highest rank of society and politics.

Jewelry and personal adornment are also important indicators of status. The lip plugs and rings made of a white mineral resembling alabaster are similar to ones found in the cenote at Chichén Itzá and in the burial of the queen at Waka' also known as El Peru.⁴⁴ Other examples were also found at the Yucatan site of Dzibilchaltún.⁴⁵ They could be made of jade, shell, wood, and various other materials, but it is clear from their status as burial objects with the elite and as precious sacrifices at Chichén Itzá that they were objects of high value, which

⁴² Such depictions can be found in the well-known lintels from Yaxchilan, pictured in Schele and Miller, 186-187, 177-178; and Miller and Martin, 106-109, pls.49-51; and held at the British Museum in London. See also Taube and Miller's section on 'Sacrifice', 144-146.

⁴³ David Freidel, personal communication.

⁴⁴ Clemency Chase Coggins, and Orrin C. Shane, *Cenote of Sacrifice: Maya Treasures from the Sacred Well at Chichén Itzá* (Austin: University of Texas Press, 1984), 238, fig. 8.1; David Freidel, personal communication.

⁴⁵ Taschek, 150, 164, figs. 16 and 30.

the wealthy and royalty would have owned. It can be assumed, therefore, that a cache holding such things as the stingray spines and other bloodletting tools, as well as jewelry elements such as rings and lip plugs made of alabaster, would have only been buried with a person of royal status and some importance.

Included in the burial was also a large spondylus shell dripping with cinnabar, a material very important to the Maya, and a small circular and hollow jade bead or censer with a pattern of holes drilled into it and a lid ([Figure 7](#)). The red beads ([Figures 1](#) and [2](#)) may also be made of spondylus shell. The spondylus shell is the shell of a mollusk, also known as a thorny oyster, found in the Atlantic and Pacific coastal waters of Central and South America.⁴⁶ The shell is very rough, spiked, and of a red coloration when the interior layer of white shell is scraped away, which related the shells to the vital substance of blood in the minds of the ancient American cultures.⁴⁷ Adding to its preciousness was the difficulty of its retrieval; red spondylus only appears at great depths and only the most skilled of divers were able to dive deeply enough to salvage the shells.⁴⁸ Its watery origins and relations to blood and sacrifice also gave it an association with fertility; Maya women are often shown wearing a spondylus shell at their waist and covering their groin area.⁴⁹ Spondylus shells with jade beads nestled inside were regularly deposited in dedicatory caches for buildings as well as

⁴⁶ Allison C. Paulsen, "The Thorny Oyster and the Voice of God: *Spondylus* and *Strombus* in Andean Prehistory," *American Antiquity* 39, no. 4 (Oct., 1974): 597.

⁴⁷ Taube and Miller, 153.

⁴⁸ Paulsen, 597.

⁴⁹ Taube and Miller, 153.

burials, both materials being related to the Maize God and important to the Maya.⁵⁰ The particular combination of a jade bead inside a spondylus shell was an important trope of caches for the lives of buildings and objects and the afterlives of deceased ancestors. It must have had a specific meaning for the ancient Maya, though it remains unknown today. Though shells were regularly left in the graves of all Maya, they are more numerous in the tombs of the elite, and spondylus shells were reserved for the upper echelons of society.

The cinnabar that envelopes this spondylus shell also had connotations of blood, sacrifice, and fertility due to its crimson color, and it was a highly valued substance for the Maya. Cinnabar is the red sulphide of mercury. Mercury is produced when cinnabar is heated and it was a liquid mirror substance included in offerings because the Maya viewed mirrors as important tools in their rituals.⁵¹ Cinnabar was liberally distributed in royal tombs by their descendents. The famous Red Queen of Palenque and the queen's burial found at Copán were literally bathed in the scarlet material.⁵² A similar spondylus shell covered in cinnabar with a jade bead inside of it was found with an important dedicatory cache in Copán⁵³ and other examples have been found at Tonina.⁵⁴ These items and the inscriptions on the bones, which give royal titles to the woman they

⁵⁰ Miller and Martin, 119, pl. 62; and Freidel, Schele, and Parker, 242.

⁵¹ Freidel, Schele, and Parker, 244.

⁵² Taube and Miller, 62; Cruz, p. 8 of 12. Bell, 97.

⁵³ Sharer, 311-313.

⁵⁴ Miller and Martin, 119.

name,⁵⁵ and the accompanying objects in the cache as well as the deposit of cinnabar make it clear that the deceased with whom they were interred was a royal woman, possibly a queen or princess.

Also of particular interest in connection with the bones are two small needles made of bone, one approximately six cm in length and the other about three cm. They are very thin and tapering, and each has a perforation at the thicker end. They are extremely yellowed, smooth and polished from use. These needles were used for embroidery, an important aspect of Maya fabric design in the Classic era and today, and for stitching together pieces woven on a backstrap loom to make huipils, a kind of blouse, for women. Since the size of a piece of fabric on a backstrap loom is limited by the arm length of the weaver, these pieces would have to be sewn together in order to make a full garment, and so they were a necessary element of clothing fabrication. These needles not only relate to the cloth production function of the weaving bones, but they are yet another indication that the person buried with these bones was a woman.

One can imagine that the woman buried with these belongings was perhaps a minor princess or even a queen in a royal household, buried wearing the diadem or necklace of precious light green jade, and the glowing white jewelry through piercings in her lips, with the tools that she utilized in the important rituals of her life, such as bloodletters, weaving bones, and sewing needles, at her side. She would have participated in certain important bloodletting activities using the stingray spines, shark's teeth, and flint blade.

⁵⁵ See pages 73-113 of this study.

One of her major roles within the household would have been the weaving of important fabrics and the construction of clothing for important ritual purposes.

The weaving bones are the most extensive, the most unusual, and interesting part of the known cache. Not only are they distinct from other osseous deposits in burials such as Jasaw Chan K'awiil I's tomb at Tikal, but they are also more numerous than other bone weaving tools found in any other context. In total there are twenty-four ([Figure 8](#) and [Figure 9](#)), some of which have been reassembled from broken pieces by modern conservators, and fifteen fragments ([Figure 10](#)). Thirteen of the bones are inscribed with glyphs giving us clues and hints as to who the woman they belonged to was and the bones with inscriptions are inscribed on only one side. Eleven are not inscribed at all, though two are carved with three lines spiraling down and around the bone. All of the bones have or had at some point a top decoration consisting of either a large carved head, a hand holding an object, bundled objects alone, or another decorative motif though these objects have been broken off some of the bones. Eight of the bones are adorned with the hollowed out head whose eyes and mouth are pierced through to the other side of it ([Figure 12](#) and [Figure 13](#)). In addition, these heads have a hole through the top of them into the hollowed out area in which were probably inserted feathers or another form of decoration, possibly bundles of cloth, or threads. Though without further evidence the objects that were infixed in these heads can only be supposition.

Ten of the bones have delicate hands holding objects as their decorative tops ([Figure 12](#)), though the objects the hands hold vary, and are difficult to

interpret. They could be bundles of paper, small plants or water lilies, or even bundles of fabric, which would tie in significantly to their purpose as weaving pins. Most of these hands have been pierced through in the space between the object, the thumb, and the index finger. It is possible that something could have been inserted here as with the heads, but due to the difficulty of the position and the lack of wear this seems unlikely. Three of the bones have had their whole tops broken off, while others have had only the objects held by hands broken away. Two simply have the bundled objects at the top without the hands, and one very intriguing bone has the identifiable shape of a quetzal bird, with the long tail feathers trailing down and around the bone ([Figures 40-41](#)). These tops also tell us that the bones would have been utilized as weaving implements – hands and birds are common motifs on the ends of pins or “awls” found by archaeologists to have been associated with weaving and cloth production.

The bones range in length from fifteen to twenty-five centimeters and from three to six millimeters in width for the body, while the fragments are about the same width and much shorter, varying in length from two to thirteen centimeters. All of the bones are extremely fragile at this point, especially the fragments. It is possible that the more complete bones were within a fabric or hide wrapped bundle, which would have protected them, and the fragments had either fallen out or were not part of the bundle originally, leaving them to be exposed to and weakened by the elements. Some of them were perhaps special bones which had a different purpose than the others. The fifteen fragments are more of a puzzle than the whole bones, though they also give us clues as to who the royal

woman was and where she came from. Seven of them have glyphs related to those in the inscriptions on the more complete bones, yet most are so damaged by the passage of time that it is impossible to read them. Even those fragments with glyphs only have partial captions. While some of them must have read similarly to the inscriptions on the whole bones, others are very different.

Houston and Stuart propose that these bones were not used at all and that they acted as “symbolic accoutrements of gender or as expressions of the queen’s idealized domesticity.”⁵⁶ While this is a possibility for some of the bones which are long and unwieldy for practical use, and whose glyphs remain fairly clear, most of these were in fact probably utilized, and rather frequently. Some bones of this collection exhibit wear as if their owner utilized them often. The high polish on many of the bones that could have been created by continual friction with a soft material such as the yarn used in weaving or the hands of the weaver is one indication. Polish is a gentle type of wear on objects which creates a smooth and shiny veneer covering the imperfections and cracks by filling them in and wearing the edges down causing scratches and other blemishes to disappear.⁵⁷ It is considered to be small scale abrasion, on a

⁵⁶ Houston and Stuart, 77 n.5. Bones Three and Seven have been drawn by Houston and Stuart and included by them in a discussion on the role of elite women in the Maya court, 64-66, Figure 3.2. Their discussion of these particular bones is limited to a few sentences, however, and the entirety of the inscription has remained untranslated in published form. I have, therefore, made and used my own translation in the discussion of the bones.

⁵⁷ See Genevieve M. LeMoine’s *Use Wear Analysis on Bone and Antler Tools of the Mackenzie Inuit*, or *BAR International Series 679* (Oxford: John and Erica Hedges, 1997); and Jean Bouchud, “Les aiguilles en os: Étude compare des traces laissées par la fabrication et l’usage sur le matériel préhistorique et les objets expérimentaux,” in *Methodologie Appliqué à L’Industrie de l’Os Préhistorique* (Paris: Éditions du Centre National de la Recherche Scientifique, 1977), 257-267.

molecular scale, which burnishes the surface of the material.⁵⁸ These cracks and striations are more than surface deep and so can reappear if the polish is removed or tampered with,⁵⁹ and the cracks in the set of bones in this study could have reappeared with age and the stress endured during entombment. The utilitarian points of these bones commonly display a greater degree of polish, indicated by a hard, sleek white surface, than the upper portions with glyphs that are less smooth and have more cinnabar embedded in them, implying that the hard points of these bones were in friction with some sort of substance more commonly than the rest of the bone. The fact that only the more utilitarian portions of the bone and not all of the bone are polished indicates that the bones were probably not given a polish as a step in fashioning them, but were polished with use in weaving. The slick, glossy surface of these bones, contrasting with the non gloss surface of areas that would not have encountered much friction in their use, could have been created by a polishing effect produced from contact with yarn and with the hands of the weaver.⁶⁰

The inscriptions are also indicative of this polish during use – while on some bones the glyphs retain hard incised edges, others, such as Bones Two, Three, and Six, ([Figures 28, 29, 32](#)) are softer and even virtually disappear the nearer they are to the workable end.⁶¹ On the inscribed bones where wear is apparent in the glyphs the cinnabar is very faint and has not become imbedded

⁵⁸ LeMoine, 8-9.

⁵⁹ Ibid.

⁶⁰ Ibid.

⁶¹ Pages 76-78, 84 of this thesis.

in the incisions and the glyphs are shallow with soft rounded and frictionless edges, indicating that the edge left from carving the glyphs was worn down by polish, and thus that the bones were employed frequently while the glyphs adorned them. Some of the other inscribed bones, on the other hand, where the glyphs are vividly red with cinnabar and show a sharp and defined edge, demonstrate little or no wear in the glyphs. The majority of the glyphs in the inscriptions are small with unbroken edges; it is unlikely that they would have caught on the threads of fabric during their application if they were used with the glyphs inscribed on them. In any case, due to the fact that Maya rulers possibly depended heavily on the production of fabrics by their wives, daughters, and sisters to supply the crucial tribute material for their relations with their allies, superiors, vassals and conquered subordinates,⁶² it is likely that a large part of the time of elite Maya women was taken up with cloth fabrication, and the tools used in that activity were treasured possessions. It can be deduced that most if not all of the bones of this discussion were actually used as weaving utensils at some point, though if it was the woman herself who used them or another is unclear. It is also uncertain if these bones may have been used in a variety of other purposes as well.

Some of these tools may not have been used in weaving. They could have behaved as symbolic possessions, were used rarely, were inscribed after the use had ended and before the burial, or they were carved specifically for the burial of the deceased they were deposited with. Evidence of use and condition

⁶² McAnany and Plank, 94-97; Hendon, 45; Hamann, 167; and Gillespie and Joyce, 199-203.

varies from bone to bone. Perhaps the bones lacking inscriptions were utilized more often, while those with worn inscriptions were used less regularly or only for special occasions. They could have been applied only to weave ceremonial clothing and cloth pieces used in important rituals while the others were employed in the more frequent creation of cloth for gifting ceremonies which occurred often. Some of the inscribed bones with the vivid and unworn glyphs may have simply been ceremonial or elite objects never intended for the actual purpose of weaving. Those that were utilized would have most likely been to pick up and/or hold the pattern in the warp as the woman wove ([Figure 11](#)), acting as picks, pickup sticks, lease sticks, or pattern sticks.⁶³ Picks are often slender “awls” applied to the warp, the threads which run lengthwise and through which the weft is passed, to pick up a pattern through them, while pickup sticks hold a pattern change in the warp.⁶⁴ Lease sticks are placed at the top of the length of fabric and maintain the spacing between the warp threads as well as the original cross of even and odd threads and they can also be used to control the width of the material. They act as a guide for the basic cross and layering of the warp, making the process of weaving easier, but they are not necessary.⁶⁵ Pattern sticks are additional, but smaller shed rolls which subdivide the warp kept by the main shed roll or heddle using only a portion of the warp threads. Shed rolls are usually large sticks made of a light wood which keep the even and odd

⁶³ Norbert Sperlich and Elizabeth Katz Sperlich, *Guatemalan Backstrap Weaving* (Norman, OK: University of Oklahoma Press, 1980), 33-34, 51-53, 101-118.

⁶⁴ Cahlander and Baizerman, 47; Schmidt de Delgado, 27; Anderson, 100-101.

⁶⁵ *Ibid*, 23-24.

threads of the warp separated (odd warps up and even warps down) close to the area where the weaver is working.⁶⁶ Pattern sticks can maintain an alternate crossing of warp threads for smaller portions of the textile where a pattern would be made.

The shape of the bones lends itself to the conclusion that they were used in weaving at least part of the time. Oval in cross section, the part of the bones where the glyphs are carved is generally curved upwards with the part just below the glyphs bowing back again. The polished hard tips often arc up slightly at the end. Such a shape lends itself to the possibility that these might have been weaving picks, using the uplifted tip to select threads in the warp while the woman wove and to lift them up so that a pattern stick or pickup stick could be inserted. Though most of these bones are long, picks can come in a variety of sizes⁶⁷ and they might have been made longer and more elaborate in design for their ceremonial and important purpose. They were probably not pickup sticks, which tend to be rather wide, and generally thicker than the bones in this set. Lease sticks were also larger and thicker. Pattern Sticks, however, are long and slender tools. It is possible that some of these bones served one purpose while others served different ends. Some, such as the longer, thicker bones, could have operated as pattern sticks, while the shorter, more slender bones were used as picks. The Maya woman in [figure 11](#), for example, uses a pick with a

⁶⁶ Schmidt de Delgado, 26.

⁶⁷ See the selection of bone weaving picks in Taschek, 168-169, figs. 34-35.

carved end that closely resembles Bone One ([Figure 27](#)).⁶⁸ Picks, pickup sticks, and pattern sticks would have been crucial for the more complicated and time consuming brocade patterns. Ikat fabric, a type of cloth woven from yarn that is predied to a certain pattern and which is currently popular amongst the modern Maya, requires a large number of these sorts of tools for weaving. In Indonesia, where ikat fabric has obtained the greatest heights of development, looms are literally festooned with dozens of these items. In the ancient world of Mesoamerica those fabrics which displayed the most skill and dexterity made by elite women were probably highly esteemed and operated as a demonstration of the wealth, abilities, fertility, and power of the family to which they belonged.⁶⁹ The tools used in the production of such fabrics must have held the same esteem by association.

The tools used in weaving are held precious by the Maya weavers of today, and were likely prized objects in the Classic period as well. The backstrap loom, one of the oldest types of looms in constant use through the history of humankind, was utilized by the classic Maya as it is used by the modern Maya.⁷⁰ Among today's Maya the important and essential tradition of weaving is one handed down from generation to generation, taught from mother to daughter and

⁶⁸ Pages 73-74 of this thesis.

⁶⁹ See Gillespie and Joyce, and their discussion of what the production of fabrics and the giving of fabrics meant to the sociocosmos of the Maya.

⁷⁰ Ciaramella, 33. See also Schevill, xvi.

granddaughter.⁷¹ The modern Maya weavers are unwilling to share their worn tools, which are passed down within a family, keeping and using them as very special possessions. Many of those who have studied weaving with the Maya have had to bring their own tools with them for this reason. Though it is hazardous to assume a direct correlation over a period of over a thousand years, it is highly possible, judging from the evidence of these bones left as a precious cache in a burial, that these bones would have been of crucial importance to the woman who owned them, reluctant to part with them even in death. The plenitude of elite objects in this burial cache indicates that the bones were elite articles given special status and having a significant connotation and meaning to the ancient Maya, probably in relation to women and the roles they played within society, so much so that they were deposited in the burial of a prestigious female figure. All of the jade, shell, and other items of this mortuary treasure are related to the important actions and rituals performed by royal men and women and to the adornment that they wore as a testament to status, save for the bone weaving tools and sewing needles. The association of these esteemed elite goods with those of the weaving tools and needles indicate a measure of veneration granted to them as well.

This exposition cannot determine what kind of bone these objects were made from, other than that due to their length and form the bone must be that of

⁷¹ Sperlich and Sperlich, xvi; and Tracy Bachrach Ehlers, *Silent Looms: Women and Production in a Guatemalan Town* (Boulder; San Francisco; London: Westview Press, 1990), 53-56.

a large mammal.⁷² They could have been constructed from the femur, tibia, humerus, or possibly radius or ulna of a deer, a jaguar, a tapir or even a human. Without having more of the original bone shape or a DNA test, an expensive process unavailable for this investigation and unreliable due to the degradation such materials often suffer in the tropical climate of the Maya region,⁷³ it is not possible to tell which one of the creatures served this purpose or if it was human.⁷⁴ All of the animals were sacred to the Maya, however, and the Classic Maya considered them to be powerful spirits whose remains could be used as totems or objects of authority. Picks such as these were often made from deer ulna,⁷⁵ so it is possible to surmise that the bones of this thesis were made of the same material. The Maya also often exhumed the bones of revered ancestors for ancestor worship,⁷⁶ or other purposes, and possibly even carved them as totems and tools,⁷⁷ so there is a small chance that the woman named on the bones was the donor of the materials and they would have been used or treasured by a daughter of the household. The probability is, however, that they

⁷² See Michael L. Ryder's chapter on animal bone identification in *Animal Bones in Archaeology: A Book of Notes and Drawings for Beginners* (Oxford and Edinburgh: Blackwell Scientific Publications, 1969).

⁷³ David Webster, "Studying Maya Burials" in *Bones of the Maya: Studies of Ancient Skeletons*, eds. Stephen L. Whittington and David M. Reed (Washington, D.C.: Smithsonian Institution Press, 1997), 8.

⁷⁴ Ibid. See also Raymond E. Chaplin's chapter "Bone Identification and the Establishment of Reference Collections" in *The Study of Animal Bones from Archaeological Sites* (London and New York: Seminar Press, 1971).

⁷⁵ Hendon, 39.

⁷⁶ Patricia McAnany, *Living with the Ancestors: Kinship and Kingship in Ancient Maya Society* (Austin: University of Texas Press, 1995), 60-63.

⁷⁷ Webster, 6.

were fashioned from the ulna of a deer. The gently curving shape of the ulna echoes that of the bones in this cache and it is one of the most customary substances used to create weaving picks in the ancient world.

There are many examples of carved and inscribed bones in the world of Maya art, such as the beautiful and well-known bones from Burial 116 at Tikal, however few of them are of a similar nature to our bones and there are only a smattering of works with similar glyphs.⁷⁸ The primary manner in which our bones and those of Burial 116 relate is in their gender specificity. As will be seen in Chapter Four, a close examination of the bones and translation of their inscriptions, the context and use of this set of bones and those of Burial 116 are entirely different. The shapes, purpose and inscriptions of the Burial 116 bones seem to be closely tied to the deceased's role as ruler of a large and important city state and the actions performed within that context as well as the male sex of that ruler. While some of the other objects in the cache contained in the burial of our lady such as the flint blade, stingray spines, and shark's teeth were likely used for ritual bloodletting, a practice primarily left to male leaders in the documents and images we have from the ancient Maya, it is highly unlikely that the bones of this study were applied to that purpose, serving a very different and much more specifically female end. The occurrence of bones specifically tied to the production of cloth and found in a burial such as these is rare in Maya art. One other bone with a similar inscription and shape was found in a burial at Dzibilchaltún, Mexico ([Figure 14](#)), but there are no others from that site. A few

⁷⁸ Coggins, "Painting and Drawing," 456-489; Houston and Stuart, 77, n.5.

other similar examples have been identified from Mirador in Mexico and Uaxactun in Guatemala by Karl Taube,⁷⁹ but such bones remain scarce. This unusually large set of osseous weaving tools contributed to a tomb of a royal woman as treasured objects, therefore, deserves to be examined closely.

⁷⁹ Houston and Stuart, 77 n.5.

Chapter 3

DISCUSSION OF THE BONES AND THEIR CORRELATIONS

In order to interpret these artful and fascinating bones further, several questions must be posed. How are these items specifically female? How do male burial treasures differ from these? Who was this royal woman? When would she have lived? What do these things tell us of who she was? It is only through answering such queries as these that we can hope to understand the bones and the woman who owned them. In turn, this understanding may help elucidate the roles of elite women in Classic Maya society in general.

Houston and Stuart note that Karl Taube has found other examples such as these, including a bone from Dzibilchaltún.⁸⁰ These bones all include the phrase *u puuhtz'* as well, and have all been identified as weaving bones. Taube has proposed that many bones from other burials will turn out to be weaving bones when closely examined.⁸¹ This is probably true in the case of the graves of women. It is doubtful, however, that any weaving bones will be found to be from the tombs of Maya men. Take, for example, Burial 116 at Tikal. This resting place of Jasaw Chan K'awiil I, one of the most powerful rulers of Tikal, was filled with one of the richest and most extensive burial deposits found in the history of Maya archaeology. These items included a large amount of jade ornaments as well as spondylus shells, stingray spines, pottery, and an

⁸⁰ Houston and Stuart, 77 n.5.

⁸¹ Ibid, 77-78 n.5.

extraordinary set of bones, over 89, all modified and many finely incised with scenes and inscriptions.⁸² Though not as large as the mortuary deposit at Tikal, what we have of the burial cache for our lady also includes jade ornaments, a spondylus shell, and stingray spines as well as carved and inscribed bones; all elements of an elite grave.⁸³ Though both tombs enclosed exemplary sets of incised bones, it can be seen that due to the sex of the deceased and their roles in the society, the bones have very different iconography and import.

Coggins notes that the bones buried with Jasaw Chan K'awiil I primarily record the dates of deaths of important individuals, perhaps rulers, and that one at least was used as a calculating tool. She suggests that these bones were used by Jasaw Chan K'awiil I in his role as the leading religious figure for Tikal.⁸⁴ They might also have related to his role as a ruler who took and sacrificed captives from other city-states and who led the city in its military and secular activities as many of the bones carry the glyph *b'aak*, which can mean "prisoner" as well as "bone" and some contain the emblem glyph of Palenque perhaps indicating an alliance. Though they also come in pairs and groups with some reappearing inscriptions like the bones of this study,⁸⁵ they clearly have a very different theme, not to mention shape. Even the more slender bones contained in the Tikal burial are short and squat with sharper points. They are not as long and slim as the bones of this study, which end in flattened sloped points and are

⁸² Coggins, "Painting and Drawing," 457-458.

⁸³ Welsh, 146.

⁸⁴ Coggins, 459.

⁸⁵ *Ibid*, 458.

not at all conducive to the possible purpose of bloodletting. Additionally, slim bones from Burial 116 such as those discussed by Coggins⁸⁶ continually contain only the phrase *u b'aak* as the introduction, whereas *u puuhtz'* (pin or needle), or *u puuhtz' b'aak* predominates for the set of bones in this discussion.

Many of the bones of Burial 116 are also covered in figural scenes – some with captives, or incredibly fine tableaux of a canoe rowing to or through the watery Underworld, and others picturing the jaw of the Celestial Serpent, the figure of K'awiil, god of lightening and thunder, associated with royalty, his serpent leg reaching along the length, or figures sitting in cartouches, among many other themes. These are themes associated with male rulers and their duties. The taking of captives was one of the primary objectives of monarchs. The canoe rowing into or through the Underworld echoes the myth of the Maize God who was rowed from the Underworld to his rebirth, and with whom Maya leaders were often associated. Figures of K'awiil are grasped repeatedly in the sculpted reliefs of the ancient Maya as a symbol of a lord's right to rule. These figures, called Manikin Scepters,⁸⁷ are also occasionally clasped by queens in reliefs, but the god is primarily associated with the masculine aspect of sovereignty. None of the bones of this study have any images carved upon them resembling a figural scene other than the hollowed out heads as the tops. The figural images on the bones of Tikal are spectacular in their fine delineated details, demonstrating a very skilled hand at work on some of the best examples

⁸⁶ Ibid, 459-460, fig. 108a-b.

⁸⁷ Miller and Taube, "Manikin Scepter," 110.

of osseous design from the Maya world. They are much finer than the bones of the woman in this study, a royal female of a much smaller city-state, and thus less exalted than a male ruler of one of the grandest cities of Classic Maya history.

So who is the lady that was buried with this set of bones and what must have been a lavish burial deposit, albeit modest in comparison with Jasaw Chan K'awiil I's? Clues lie in the titles on some of the bones and fragments. The glyphs on Fragment Three create a link with one of the rulers of the city state of Naranjo,⁸⁸ which is situated in Guatemala near Tikal and the Belize border. The emblem glyph for Naranjo is given at the end of that fragment, forging a clear connection with that site. There is also the possible *Chan Chaahk* name preceding that emblem glyph on Fragment Three. These two names, *chan* meaning serpent or sky and *Chaahk* being the name for the Maya Rain God, are the last part of the name, the god name as it is sometimes called, for four of the known rulers of Naranjo, including the renowned K'ahk' Tiliw Chan Chaahk, ruler during one of the greatest periods of Naranjo's history, c. A.D. 693-728. It is for this reason that scholars have proposed that these bones belonged to K'ahk' Tiliw Chan Chaahk's mother, Lady Six Sky (Ix Wak Chan).⁸⁹ Other glyphs included in the titles of the woman named on these bones indicate that it is not this queen, however. It is unfortunate that we are missing the rest of the bone,

⁸⁸ Page 105 of this study.

⁸⁹ Though her Maya name is understood by scholars, she is most commonly identified by the translation of her name, Lady Six Sky. For that reason, I have chosen to use that name in this essay.

which would have undoubtedly told us more of the deceased's relationship to the unknown Naranjo king. We know that she was a royal woman from the evidence of an untranslated feminine title which appears consistently as one of her titles on most of the bones. This title consists of an image of an over turned pot preceding the glyph for "Lady" and is used for many queens throughout the Maya world. The revered queen Lady Sak K'uk' from Palenque in Mexico, mother of Pakal the great, is given this title in many of that city's inscriptions, such as the one on the Oval Palace Tablet. This title is given to the clearly very important Lady Tunte Kaywak⁹⁰ on Altar 5 from Tikal, which records the disinterment of her bones and their reburial, an event that was momentous enough to pause a war. The title also appears on many of the stelae at Naranjo detailing the exploits of Lady Six Sky (682-741), the famous queen who came from Dos Pilas and rejuvenated the royal line. The lady who owned the bones of this study is in superior company when it comes to those who shared this title.

One other clue from Bones Seven through Ten⁹¹ gives us a firmer understanding of who she possibly is. Though her titles do include the untranslated feminine title, there is also the addition at the end of the glyph phrase on Bones Seven, Eight, Nine, and Ten, the *Wuk Tzuk*, or "Seven Provinces(?)" title. Though not fully understood, this title is particularly associated with the Naranjo/Yaxha region of northeastern Guatemala and is seen on Naranjo's Stela 8, Stela 13, Stela 19, on a vessel by the artist Aj Maxam, a son of

⁹⁰ Maya Workshop Foundation, *Notebook for the XXVIIIth Maya Hieroglyphic Forum at Texas* (Austin: University of Texas at Austin, 2004), 48. This queen has previously gone unnamed.

⁹¹ Pages 84-91 of this thesis.

the Naranjo king K'ahk' Ukalaw Chan Chaahk, c. A.D. 755-780, and his wife, and possibly on several other monuments and fragments, all primarily in parentage statements and in relation to queens of Naranjo. This title is also seen in Tikal on at least three monuments in reference to a captive of the Tikal ruler Yik'in Chan K'awiil, probably documenting Tikal's defeat of Naranjo and capture of Naranjo's king in A.D. 744.⁹² Though this title on the Tikal monuments is evidence of the defeated king's ties to the Naranjo/Yaxha region, on the stelae of Naranjo and the ceramic vessel it appears almost solely in relation to the queens named as the mothers and wives of the kings in the Middle Period and the following century.

On Stela 13 ([Figure 24](#)) this title accompanies the name of Lady Une' B'ahlam of Tuub'al, wife of K'ahk' Tiliw Chan Chaahk, c. A.D. 693-728, the great ruler of the so-called Middle Period in the early 8th century, and mother to K'ahk' Ukalaw Chan Chaahk, c. A.D. 755-780.⁹³ Her marriage to the king was most likely intended to strengthen authority over the conquered city of Tuub'al, which scholars believe lay to the west of Naranjo.⁹⁴ She is assigned the untranslated feminine title on this monument as well, indicating her important status as a queen. Assumably Lady Une' B'ahlam is present again on the back of Stela 19 ([Figure 22](#)) where the eroded image of a woman passing a spiked rope through her tongue is accompanied by a short inscription containing the soft outlines of

⁹² Martin and Grube, 79.

⁹³ Ibid, 74, 80.

⁹⁴ Maya Workshop Foundation, 44.

her name connected with the *Wuk Tzuk* title once again. Here she appears in relation to her son, K'ahk' Ukalaw Chan Chaahk, who resides on the front of the stela. Outside of these two statements, however, little else is known of her.

The parentage statement given on the very beautiful black on cream vessel by the artist Aj Maxam ([Figure 23](#)), whose parents are named as the king and queen of Naranjo, begins with the *yal*, “child of woman” glyph followed by the untranslated feminine title. The name of a queen, which Dorie Reents-Budet interprets as Lady Water-Venus,⁹⁵ comes next with a repetition of the glyph for “Lady” preceding the Yaxha emblem glyph, a statement of direction “of the west,” and the *Wuk Tzuk* title at the end. Yaxha was a rival city-state of Naranjo's which was located nearby to the southwest. These two cities repeatedly warred with each other, but two of Naranjo's kings are known to have married women from that town, probably in an attempt to establish dominion and political ties.⁹⁶ This queen, also known as Lady Shell Star, was the wife of the king K'ahk' Ukalaw Chan Chaahk whose mother, the aforementioned Lady Une' B'alam of Tuub'al, also used the *Wuk Tzuk* title, and mother of Itzamnaaj K'awiil, c. A.D. 784-810.⁹⁷

The name of Lady Shell Star of Yaxha appears again on the back of Stela 8 ([Figure 20](#)) in a parentage statement for the ruler Itzamnaaj K'awiil, who must have been a brother of Aj Maxam, the artist who painted the famous vessel

⁹⁵ Dorie Reents-Budet, *Painting the Maya Universe: Royal Ceramics of the Classic Period* (Durham, N.C.: Duke University Press, 1994), 65, fig. 2.33.

⁹⁶ Martin and Grube, 82-83.

⁹⁷ *Ibid*, 81.

mentioned above. Though the inscription is eroded, enough remains to discern the *Wuk Tzuk* title in the glyph block at F6, on the far mid right. The relief on the front of Stela 8 ([Figure 21](#)), however, it is a curious anomaly. Though it has the parentage statement for Itzamnaaj K'awiil on the back, with the name of Lady Shell Star, the front image depicts a different woman, possibly the wife of Itzamnaaj K'awiil, performing the main act recorded there, though it is not clear what exactly that action is. The first part of her name resembles that of Lady Une' B'ahlam of Tuub'al, grandmother of Itzamnaaj K'awiil and wife of the famous K'ahk' Tiliw Chan Chaahk. Her name has resisted translation, but it is conceivable that the glyph in B4 is the *Wuk Tzuk* title as well. Parts of her appellation resemble the name of the Yaxha king K'inich Lakamtuun who was defeated by Itzamnaaj K'awiil as documented by Naranjo Stela 12. She was possibly another princess of the Yaxha domain married by the ruler of Naranjo to reestablish reign over Yaxha.⁹⁸

Itzamnaaj K'awiil was prolific in his erection of stelae, most of which detail his lineage. In Stela 14, which also contains a parentage statement on the back ([Figure 25](#)), it is possible that the *Wuk Tzuk* title appears again at E6, though very faintly, probably in relation to Lady Shell Star of Yaxha. Additionally what is presumably another parentage statement for Itzamnaaj K'awiil is present on a fragment of a stela now in the Museo del Radio Petén in Flores ([Figure 26](#)).⁹⁹ In the upper right hand corner of the fragment is the name of a woman of Yaxha

⁹⁸ Maya Workshop Foundation, 76.

⁹⁹ *Ibid*, 69.

which it is reasonable to assume is also Lady Shell Star, though her name has broken off, with the remnants of the *Wuk Tzuk* title.

These women were all prominent queens of Naranjo. Two were married to kings whose names ended in the Chan Chaahk appellation. One of these kings was the famous king of the Middle Period, K'ahk' Tiliw Chan Chaahk, son of Lady Six Sky, the queen who came from Dos Pilas to restore the lineage and rulership to Naranjo, and who practically ruled the city for much of her time there. Though scholars have proposed that the names in titles on these bones were an alternative version of Lady Six Sky's name, the *Wuk Tzuk* title does not endorse that identification. The *Wuk Tzuk* title has not been firmly translated, but it seems to be a title related to location and origin and appears repeatedly in relation to queens of Naranjo who came from towns under Naranjo's dominion such as Tuub'al and Yaxha. The girlhood home of Lady Six Sky, however, is always identified as Dos Pilas. Her origination as a princess of the powerful Dos Pilas was important in connecting the authority of Naranjo's new dynasty with that of Dos Pilas.¹⁰⁰ It would be strange, therefore, to suddenly give her the title of *Wuk Tzuk* on these bones and not at all in line with the pattern established of this title appearing with queens who came from towns in the same region of Naranjo.

The wives of K'ahk' Tiliw Chan Chaahk and K'ahk' Ukalaw Chan Chaahk, Lady Une' Bahlam of Tuub'al and Lady Shell Star of Yaxha, would both have been buried with extensive burial deposits. They appear prominently on the few monuments we know of from this site in relation to these two kings, and it is

¹⁰⁰ Martin and Grube, 74.

probable that further research and investigation at Naranjo would reveal additional references to and appearances of these two queens. Though the names given on the bones are not the same as the names given for either of these queens or of the unknown woman on the front of Stela 8, it is reasonable to assume that the weaving implements of this catalogue were buried with one of these ladies or another princess or queen from this period of time, c. A.D. 746-810. Rulers and their queens were known to adopt a variety of titles and names as exhibited by one of the monarchs of Naranjo, K'ahk Ukalaw Chan Chaahk, who is also known as 'He of Flint.'¹⁰¹ It is conceivable that the names included on the bones are the alternate monikers of one of these queens due to the evidence of the other glyphs included with them.

We know from the history and monuments of the courts of Naranjo and other city-states of the ancient Maya that women played an important role in Maya society. In Naranjo, Lady Six Sky basically governed as ruler for several years, performing the calendrical rituals and leading wars against other city-states in the reestablishment of Naranjo's power. In Yaxchilan several queens, especially one in particular, were accorded a great deal of honor and respect indicated by the number of monuments carved with their images and the buildings dedicated to them. The buildings at Yaxchilan dedicated to the queens are stated to be located at the literal and figurative heart of the city center in the inscriptions upon them.¹⁰² At Tikal we know that a woman once ruled for an

¹⁰¹ Martin and Grube, 81.

¹⁰² McAnany and Plank, 106-107.

extensive length of time, though not much is left in the way of evidence or documentation and she was commonly accompanied by a male ruler in her monuments.¹⁰³ Piedras Negras has several monuments bearing the image of Lady K'atun Ajaw, wife of K'inich Yo'nal Ahk II, who is prominently pictured on at least three stela faces, and their daughter, indicating that the queen and perhaps the daughter held a significant amount of political clout.¹⁰⁴ Two queens at Palenque are noticeably featured on several monuments, one a queen in her own right with the full range of titles for twenty years and the other a progenitor of one of the most eminent rulers in Maya history that we know of, K'inich Janaab' Pakal the Great.¹⁰⁵ She was also possibly a ruler at Palenque during a short period preceding Pakal's reign.¹⁰⁶

A throne back at the Dallas Museum of Art from the mysterious Site Q, a site of unknown location somewhere in the Petén region of Guatemala or Mexico, demonstrates that women acted as diplomats as well, traveling to other city states to demonstrate power and authority.¹⁰⁷ Other monuments, such as the two panels in the Cleveland Museum of Art, one from El Perú and another from an unknown site, as well as another wall panel located at the Dallas Museum of

¹⁰³ Martin and Grube, 38-39.

¹⁰⁴ Ibid., 146-147.

¹⁰⁵ Ibid., 159-161.

¹⁰⁶ Ibid.

¹⁰⁷ David Freidel and Stanley Guenter, "Bearers of War and Creation," *Archaeology* January 23, 2003 [on-line features]; available from <http://www.archaeology.org/online/features/siteq2/index.html>; Internet; accessed November, 2003.

Art are also indicative of the diplomatic and ritual roles that royal women occupied. Increasingly, we are coming to understand that women were not just bit players in Maya politics who occasionally contributed bloodlines or cemented alliances through marriage. They were individuals capable of ruling and whose contribution was essential and respected, despite the patrilineal and patriarchal primacy of the culture. This position has more overt and explicit authority than that of women in other patriarchal cultures where the overt instances of females as rulers and diplomats is much more rare. The fact that women in the ancient Maya world appeared continuously and prominently as rulers and diplomats who led wars and cemented diplomatic ties indicates that their standing was not as limited as has been assumed. Their participation in courtly rituals, contribution to ritual goods for the gifting economy, and performance of other courtly and political duties were vital to the functioning of Maya rulers and the city-states.

Scholars previously dismissed the importance of women in the Maya society as peripheral to the concerns associated with male dominance, but as more monuments and archaeological evidence come to light, the extent of women's authority among the ancient Maya is becoming clearer. In *Gender and Archaeology* Rosemary A. Joyce argues that the roles of women and men, at least as displayed on major monuments, were complementary, much as they were in other ancient American societies.¹⁰⁸ We cannot, of course, make a universal statement that crosses the boundaries of place, time, and social status

¹⁰⁸ Rosemary A. Joyce, "The Construction of Gender in Classic Maya Monuments," in *Gender and Archaeology*, ed. Rita P. Wright (Philadelphia: University of Pennsylvania Press, 1996), 167-195. Irene Silverblatt, *Moon, Sun, and Witches: Gender Ideologies and Class in Inca and Colonial Peru* (Princeton, New Jersey: Princeton University Press, 1987), 40-66.

about the importance of women's roles in Maya society due to restricted archaeological evidence.¹⁰⁹ For example we know that elite women appear to have been closely associated with weaving while lower class women seem to be associated with food production.¹¹⁰ We can, however, see in the art of the time and archaeological evidence of special events and daily activities the importance that the products of women's labor held. The queen buried with these bones was clearly of a high status due to the items buried with her. She lived in a city-state where a woman had recently functioned as a ruler and war leader and during a time when women were featured prominently on monuments of the town. Thus, as a queen, she may have been a woman of a great deal of political clout and strength, and these bones may have represented a part of that authority.

Clothing and fabric are so important to the identity of the modern Maya that, until recently, it was possible to determine to a limited extent the home town of a modern Maya woman by the pattern of the fabrics that she wore.¹¹¹ Textiles are markers of identity and objects of pride and economy. For many groups of contemporary Maya the image of a woman at her loom is important not only for financial reasons of support of her family, but also for the cultural meanings as the guardian of familial values and the glue that holds the family together.¹¹² Their society remains patriarchal, but Maya women have achieved an economic

¹⁰⁹ McAnany and Plank, 94-95.

¹¹⁰ Hendon.

¹¹¹ Carol Hendrickson, *Weaving Identities: Construction of Dress and Self in a Highland Guatemala Town* (Austin: University of Texas Press, 1995), 51-66. See also Schevill, 7-14.

¹¹² Hendrickson, 151.

authority through their crafts which is equal or greater than that of their husbands. Though this modern tradition is far removed from that of their Maya ancestors, the importance the ancient Maya attributed to weaving and other forms of cloth production seems clear in the numerous images they made of tribute scenes with tall stacks of fabric, of women offering large bundles of cloth, and of women weaving. The bone weaving implements of this study, carefully carved with glyphs and titles, including the title of a ruler of Naranjo, and buried with a royal lady of that city state, are a testament to the consequence that weaving, and thus the cloth production activities of women, held in Maya society.

The women of elite and royal households must have woven together in groups and all were required to contribute to the wealth of the home and to clothe both themselves and their male relatives. It is conceivable that some women or some of these groups emerged as master weavers whose works were of a higher quality and a greater degree of virtuosity in terms of design and technique. As finer examples of the art, their weavings might have had a greater value and been more sought after, much as the finer painted ceramic vessels appear to have been widely traded and appreciated.¹¹³ It is conceivable that a woman who demonstrated greater skill in her production of fabric would have been a great asset to her household with a certain amount of authority and respect accorded to her. Alternatively, the head of one of these weaving groups of the royal household, which could have been the primary wife of the ruler, may have been endowed with prestige and admiration for the work of herself and the women

¹¹³ Dorie Reents-Budet, presentation at the 29th Maya Meetings, UT Austin, 2005.

under her. Though the paucity of the archaeological evidence limits the ability to determine such distinctions, it is possible that the number of weaving implements buried with our lady are an indication of her skill as a weaver or as a head of an esteemed weaving group of the royal household. These tools, important to her art, her identity and her role as a woman in an elite or royal household would have been essential treasures to be buried with her, a testament to her high status not only within society as a whole, but also within her household and her class.

Chapter 4

EXAMINATION OF THE BONES AND THEIR QUALITIES

The Inscribed Bones

Bone One:

Delicately laid out, the first inscribed bone is also one of the most fragile and the smallest of all the complete bones. The top of Bone One has been incised into three different sections with the very top broken off, which might have been a hand holding one of the bundled objects. It is 17.3 cm long, but an astonishingly slim 3 mm wide and the glyphs are necessarily limited and small. They read **u b'a-k(i) K'UHUL IX** ([Figure 27](#)), or *u b'aak K'uhul Ix*, which is a shortened version of the longer inscription found on some of the other larger bones. It means essentially “The bone of Holy Lady.”

This inscription is interesting in the form it takes since the artist has chosen to put a significant distance between the **b'a-** and **ki-** glyphs, which form one word, and to conflate together the glyphs for the two words **K'UHUL**, “holy,” and **IX**, “lady.” As we will see in the other bones' inscriptions, the **b'a-** and **ki-** are often placed next to or conflated with each other and the **K'UHUL** and **IX** logograms are each separate. The convention of allowing greater distance between two syllabograms which form one word is used on ceramics as well. This is perhaps an indication of the importance accorded this particular bone by the owner. The distance between the two glyphs which make up the word *b'aak* might place emphasis on the bone itself as a tool used in a particular aspect of

weaving. It is also possible that this bone, not graced with the *puuhtz'*, “needle,” term, may have been used primarily for another purpose than weaving such as for the hair, bloodletting, or any number of other functions.

Only part of her title is given here apparently due to the confinement of space. Neither her full name nor other elements of her title appear as in the other bones. Her full name and titles, as given primarily on Bones Seven through Ten and somewhat on Bones Eleven and Twelve, are *K'uhul Ix Way Ch'een Ix Chak Tok Wayib Wuk Tzuk*, which roughly translates to “Holy Lady Nahual Cave Lady Great Cloud Resting Place Seven Provinces(?)” The bone is highly polished and is slightly yellowed in color, though its brightness seems to indicate a dazzling brilliance in years past. Its shape is significantly different from the others in this study, being straighter and less curved and does closely resemble the modern picks used by Maya women in weaving today. It may have served a different purpose in weaving than did many of the other bones. The polish created by wear points toward significant use and its size indicates that it was possibly utilized for small variations in a pattern or for very fine textiles, such as the lacy fabric seen worn by Lady K'ab'al Xoc in Yaxchilan Lintels 24, and 25 ([Figures 15](#) and [16](#)) and by the women in the Bonampak murals ([Figures 17](#) and [18](#)).¹¹⁴ This bone is one more likely to have been used without an inscription, which was added when the bone's use had ceased, before burial.

¹¹⁴ For a description of these fabrics as represented in the Bonampak murals, please see María Teresa Uriarte, “Dressed Lords and Ladies,” in *Courtly Art of the Ancient Maya*, eds. Mary Ellen Miller and Simon Martin (New York: Thames and Hudson, 2004), 242-243.

Bone Two:

Bone Two is much larger than Bone One, being 6 mm wide in the body, and 7 mm wide in the decorative end; a hand that was holding an object at one point, but which has been broken off. It is 21.75 cm long and width and length have allowed the inscription here to be less limited than with Bone One. The much longer inscription reads **u p'u-tz'(i) (feminine title) K'UHUL IX aj-la(?) tzi-l(a)?**, *u puuhtz' (feminine title) K'uhul Ix Ajal Tziil(?)* ([Figure 28](#)). This inscription is a little difficult to translate, but it might mean “The Needle of Holy Lady Dawn? ?.” The first glyph is the “fish-head” form of the possessive syllable **u**. The second glyph is a conflated form of the **pu-** and **tz'i-** syllabograms.¹¹⁵ Scholars have read the word *puuhtz'* as “needle” or “pin”,¹¹⁶ though this does not necessarily mean that it worked as a needle in the way that our culture conceives it. For reasons discussed in Chapter 1 the meaning intended is likely “weaving pick” due to the evidence of its shape, which gently arches where the glyphs are, recedes, and then comes forward again at the tip. The next two glyphs come after a considerable blank space along the bone. Together they are an as yet untranslated glyph identified as an introductory element of a female title.¹¹⁷ This female title was used by several of the queens from various city states such as Yaxchilan and Palenque. After another considerable empty region of the bone, there are another two glyphs; the full forms of **K'UHUL** and **IX**. These two, unlike

¹¹⁵ Michael D. Coe and Mark Van Stone, *Reading the Maya Glyphs* (London; New York: Thames & Hudson, 2001), 159-160.

¹¹⁶ Boot, 68, “*putz'*.”

¹¹⁷ John Montgomery, *How to Read Maya Hieroglyphs* (New York: Hippocrene Books, Inc., 2002), 200.

on the very small Bone One, have not been conflated and are separated out. The last two glyphs again follow a vacant stretch. They appear to be the name Ajal Tziil(?). The first glyph seems to be one of the names of this lady, *ajal*, pronounced “a-hal,” which can mean “dawn,” or “conquest.”¹¹⁸ There is also the possibility that this glyph block reads *ajaw*, the word for “lord.” If so, then Tziil(?) would be a location, and it is feasible that this bone is giving this woman title as ruler of Tziil(?), whatever that location might be. Tziil(?) is untranslated, however, or the reading is mistaken. In either case, it is unclear what this last glyph block means.

The inscription is very fine with a calligraphic quality, almost as if it had been painted instead of carved. The smooth flowing line gracefully changing from thick to thin resembles the glyphs found on some of the finest painted vases ([Figure 19](#)). The bone of which this needle is made is of very high quality, gleaming white, and is highly polished with a smooth, glossy surface over much of the bone. It is unbroken except for the very top. The bottom two glyphs have become so smoothed, probably from the polish that use creates as discussed above, that the red pigment has barely adhered to them. Due to the polished wear of these lower glyphs, it is likely that this bone would have been inscribed during its use. It is of high quality workmanship and must have been a treasured object either for its purpose or for its intrinsic value and meaning.

Bone Three:

¹¹⁸ Boot, 13, “*ahal*.”

The same inscription is on the third bone as well ([Figure 29](#)). It is topped by one of the large heads, which had been broken off and is now reattached, but it is otherwise similar to the second bone. Stylistically the overall design for both bones also seems to be the same while that of Bone One is different. Slimmer than the second bone at 5 mm, Bone Three is also slightly longer at 22.1 cm. The bottom two glyphs are slightly more worn as well, so much so that they are almost indiscernible. Judging from the high degree of polish on these two bones and their similar inscriptions, they were cherished and possibly favorite bones for use in weaving. Despite the polish it is not as pure in color or condition as Bone Two and there are some small cracks and discoloration, another indication of use, but also of a weakness of the bone itself.¹¹⁹ The style of the glyphs shares the same calligraphic quality as Bone Two; both look as if they could have been painted. The sixth glyph of **IX** is less finely carved than the other logograms for **IX** on either bone. The titles she has been given on both bones indicate that she was considered to be a very important and holy individual, probably a member of the upper echelons of the royal family of her city state. The untranslated feminine title, which resembles an upturned pot infixed with a *k'in* sign, is a tricky glyph that is most often considered to indicate a very important, holy status for a woman, usually a queen. It can be found, for example, in the titles of Lady Six Sky of Naranjo, who acted as ruler of Naranjo for several years until her son came of age, and even then she appears to have continued to rule in his

¹¹⁹ LeMoine, 7-9.

name.¹²⁰ Several other queens of Naranjo, wives of Lady Six Sky's son and grandsons, were given this title. The famous Lady Sak K'uk' of Palenque, mother of K'inich Janaab' Pakal, probably the greatest ruler of Palenque, also bore the title in some inscriptions.¹²¹

Bone Four:

Bones Four and Five greatly differ from Bones Two and Three, as they do from the other bones in the cache. The inscription on each of them is unusual and the quality of the glyphs is cruder than that on many of the other bones. The decorated ends differ as well. There is no hand holding an object or a carved head at the top of Bone Four, but just the object itself, which resembles the image of corn silk emerging from the top of an ear of corn or some kind of flower. The top end of the side with the inscription is smooth and rounded, with the object rising above it as if from a sheath. The glyphs read **u pu-tz'(i) b'a-k(i) K'UHUL IX chi-ch(i)? K'UHUL IX** ([Figure 30](#)), *u puuhtz' b'aak K'uhul Ix Chich(?) K'uhul Ix*, which roughly translates to "The needle bone of Holy Lady Rabbit(?) Holy Lady." The glyph work is very deeply, but carefully carved, though the glyphs have a blocky appearance, differing from the calligraphic quality of the other bones, and the seventh glyph block is very difficult to identify. One possibility is that this glyph block reads *chich*, or rabbit(?), though it could

¹²⁰ Martin and Grube, 74-77; and Rebecca Lynn Herr, "Women of Yaxchilan and Naranjo: A Study of Classic Maya Texts and Contexts" (M.A. Thesis, University of Texas at Austin, 1987), 565-567.

¹²¹ Martin and Grube, 161.

also be *chik*, for bird, or even coatimundi.¹²² They exhibit an etching like quality and this style is an atypical way for the Maya to carve their glyphs. The glyphs are blocky and the line is square, blunt, and regular, not at all the graceful, curvilinear lines of the inscriptions of Bones Two and Three, or even One. The bone itself is of a pure and glowing color, with a few striations from weakness inside the bone, and highly polished. The glyphs are not worn down at all, their edges are still clear and etched, and they are deeply embedded with cinnabar. There are two likely possibilities for the state of the glyphs with such a polish. One is that the bone was well used but not adorned with an inscription during its use, and was only carved with glyphs after the owner no longer used it, either because of death or some other reason. The other is that the bone was made, polished and carved with glyphs specifically for the burial of the deceased. The bone was broken across glyph three, but has been reattached by modern restorators. It is one of the longest bones at 24.6 cm and it is of the typical 6 mm width at the widest part of the body.

Bone Five:

Like the fourth bone, the fifth has no hand or head for the decorated end, but an object which resembles an ear of corn. It was broken and reattached across the top of the second glyph and the upper portion of the bone is not as polished or pure in color as Four. The top half of the bone is much weaker and appears to be porous and full of striations, as evidenced by the high degree of

¹²² Boot, 26-27, "*chich*," "*chik*."

cinnabar embedded in the pockmarks and cracks, though it is highly polished towards the bottom. Five is another of the longer bones at 24.2 cm and is 6 mm wide in the main part of the body. The carving style on Four and Five is very similar, though the inscriptions differ slightly. It is likely, however, that the same artist or workshop inscribed both bones and none of the others, as none of the other inscribed bones bear any resemblance to this style of carving. In fact, like Four, the inscription on Five is extremely unusual. The glyphs are blocky and non-calligraphic with a regular, unmodulated line. Most of the glyphs are difficult to identify and they create a very different sort of caption than what is on any of the others.

It seems to read **a-ALAY TABAY yi-ch(i) u pu-tz(i) b'a-k(i) K'UHUL IX** ([Figure 31](#)), *alay tabay yich u puuhtz' b'aak K'uhul Ix*. It appears that this caption is a dedicatory formula, also known as a Primary Standard Sequence (PSS).¹²³ The first glyph is the introductory glyph to a PSS, whose exact transliteration has not been determined, but which seems to mean “here is” or “here it is.”¹²⁴ The second glyph is the head of God N and has been spelled as *tab'iy* and *tabay*, though it essentially has the meaning of “ascended” or “it is raised up.” These two glyphs together constitute the introductory phrase, which can be interpreted as “came into being, was presented, was blessed.”¹²⁵ The next word, *yich*,

¹²³ See Coe and Van Stone's chapter on ceramic texts, 98-107. Though their study focuses primarily on those Primary Standard Sequences which appear on ceramic vessels, such texts appear on other objects as well.

¹²⁴ David Stuart, *Sourcebook for the 29th Maya Hieroglyphic Forum* (Austin: Department of Art and Art History, The University of Texas at Austin, 2005), 122.

¹²⁵ *Ibid.*, 261-262.

usually comes before or after another phrase meaning “his/her writing” or “his/her sculpture,” but is here present alone. *Yich* literally means “its face” and is presumably speaking of the surface of this and/or the other bones.¹²⁶ This introductory phrase is followed by the possession phrase of the other bones, “The needle bone of Holy Lady.” Such a statement of ownership often operates as a closing statement in the PSS.¹²⁷

This PSS could be for Bone Five alone, or for the entire set of bones. It is my inclination to believe that this PSS was meant for the entire set of bones, since the polish and wear on the glyphs is the same as that on Four and so it is likely that the inscription, and possibly the bone, were carved upon the event of the burial of the deceased as a dedicatory action, while the bone may have been used during lifetime without an inscription. Though such PSS records are commonly known from ceramics and some stone monuments, we are increasingly seeing them in the images of textiles, such as at Bonampak, and in portable objects like jewelry.¹²⁸

Bone Six:

Bone Six ([Figure 32](#)) is like Two and Three in style and carving. The inscription is very calligraphic and is in the same form as the other two. It is so fine that it almost appears to be painted, the scribe’s touch so light and yet so

¹²⁶ Boot, 37, “*ich*.”

¹²⁷ Montgomery, 267-269.

¹²⁸ *Ibid*, 269.

sure that he gave the glyphs a fluidity and movement. The inscription reads like that of Two and Three also: **u pu-tz'(i) (feminine title) K'UHUL IX aj-la tzi-l(a)?**, *u puuhtz' (feminine title) K'uhul Ix Ajal Tziil(?)* or “The Needle of Holy Lady Dawn? ?.” There is a hand holding an object at the decorative end as with Bone Two, but the object has not been lost here. This bone is highly polished as well, demonstrating some wear in the last two glyphs whose edges are smooth and worn, but not as much as Bones Two and Three. It has developed a slight yellow color with age and appears to be somewhat porous, exhibiting a few cracks and weak areas where the cinnabar was able to penetrate deeply despite the high sheen of the polish. Despite the weakness of the bone demonstrated by the porosity, the polish indicates that it was highly utilized before being rubbed with cinnabar and deposited in the burial. It was broken across the top of the second glyph. It is 22 cm long and 6 mm wide in the body and the hand holding the object is eight cm wide.

Bone Seven:

A different type of carving from that which adorned the first six bones is evident in Bones Seven through Ten ([Figure 33](#)). This new form has a very calligraphic element, yet it does not seem to be as light or as fluid as that of Two, Three, and Six, or as blocky and unusual as that of Bones Four and Five. The scribe has chosen to bunch all of the glyphs together in one long string rather than putting them two at a time as with the previous bones and the forms of the glyphs for *k'uhul*, *ix* and *puuhtz'* are more detailed. The inscription on all four

reads essentially the same, but the glyphs take a different form each time. Sometimes they are carved individually and sometimes they are conflated with glyphs that are placed before and after them on the other bones. This style seems to be the most dominant of the different styles however as it is on the greatest number of bones, and I believe it gives us the most complete form of the lady's titles, though this title differs from those on the first six bones.

Bone Seven ([Figure 34](#)) appears to read **u pu-tz'(i) IX wa-y(a)? CH'EEN-n(a) IX CHAK to-k(o) WAY-IB WUK tzu-k(u)**, *u puuhtz' lx Way Ch'een lx Chak Tok Wayib Wuk Tzuk*, which roughly translates to “The Needle of Lady Nahual Cave, Lady Great Cloud, Resting Place, Seven Provinces(?)” This is by far the longest inscription yet, giving a full list of titles and names for this important woman. It begins with the usual glyph coupling with which Bones Two, Three, Four, and Six began, that state the possession of this pin or needle. After that, however, the inscription is completely different. The *b'aak* glyph has been left out and our lady is given the title of *ix* again, but without the *k'uhul* title before it. The **IX** glyph has been conflated with the glyphs for the word *way*. *Way* has several possible meanings, including room, quarter, water(-surface), nahual, co-essence, alter ego,¹²⁹ or spirit. Nahuals (pronounced nawals), or co-essences were anthropomorphic beings which acted as spirit counterparts to elite individuals¹³⁰ and this seems to be the most common translation. Caves were

¹²⁹ Boot, 85, “way.”

¹³⁰ Sharer, 619.

seen as portals and entrances to the underworld.¹³¹ Since the word following *way* is *ch'een*, the word for cave, the 'nahual' translation seemed best suited to the name.

Following this title she is given the further appellation of *Ix Chak Tok Wayib*, or "Lady Great Cloud¹³² Resting Place." *Chak* is typically the word for the color "red," as well as "rain," and the god Chak.¹³³ Here though it means "great" and is part of a royal title which has not been well studied, *chak tok*, or "great cloud." *Wayib'* is generally agreed to mean "resting place," usually given to a location where the elite might have been able to dream or elicit dreams of their spiritual co-essence.¹³⁴ The likelihood is that this addition of *wayib'* and the *wuk tzuk* glyphs that follow it declare where the woman came from or where she is buried. Though *tzuk* may not mean "province" and may not even be a term for location, the phrase *wuk tzuk* does appear to be associated with the denizens of a particular area of the Maya realm. *Wuk Tzuk*, or "Seven Provinces(?) (Partition or Segment?)"¹³⁵ is a title commonly included in the titles of the wives of at least two successive rulers in inscriptions from Naranjo, such as on Stela 8 and Stela 19, as well as the vessel from Naranjo by Aj Maxam ([Figures 20-23](#)).¹³⁶ Two of

¹³¹ Ibid., 524.

¹³² Boot, 76, "*tok*."

¹³³ Boot, 23, "*chak*."

¹³⁴ Coe and Van Stone, 133.

¹³⁵ Ibid., 78, "*tzuk*;" Maya Workshop Foundation, 86; Stuart, 89.

¹³⁶ Ian Graham, *Corpus of Maya Hieroglyphic Inscriptions* v.1, pts.1-2 (Cambridge, MA: Peabody Museum of Archaeology and Ethnology, Harvard Museum, 1975-), Stela 8, Stela 19; Reents-Budet, *Painting*, 61, fig. 2.30, and 65, fig. 2.33.

these women were from Yaxha, a city to the southwest of Naranjo, and one from Tuub'al, though *Wuk Tzuk* appears in the titles of a Naranjo king defeated by Tikal as well. The inclusion of this phrase in these bones likely means that she was a noble from the area of Naranjo.

On many of the monuments associated with these women ([Figures 20-26](#)) the term *Wuk Tzuk* is preceded by a directional glyph which means "West." Whatever function that term serves in those inscriptions, as an indication of origin or other qualification, it is possible that the word *wayib'* has the same function in the inscriptions on these bones. All of the glyphs are deeply and clearly incised and there seem to be fewer slips of the hand or mistakes than are present in the previous bones' inscriptions. Though the line of the glyphs is certainly more flowing and variegated than Bones Four and Five, they are not as calligraphic as Two, Three, and Six, though they equal those three captions in quality. At the top of Seven is one of the hollowed out heads, but it is one of the smallest of the set at 1.3 cm wide. Seven is one of the longer bones at 22.3 cm, but the width of the main body is narrower than most at 5.5 mm. The end of seven is highly polished, evidence of a good deal of use there. The upper portion of the bone, however, exhibits some polish and smoothing of the edges of the glyphs, but also a good deal of porosity and striations where the bone has deeply yellowed and the cinnabar has penetrated deeply. There has been some discoloration on this upper part of the bone and the gleaming white of the decorated end has faded here to a dingy yellow.

Bone Eight:

Bone Eight is very like Seven, though it has lost its decorated top ([Figure 35](#)). Broken through the seventh glyph and reattached, Eight demonstrates a polished sheen, though not as much of one as Bone Seven. There is a greater degree of yellowed discoloration all over the bone, but Eight reveals about as much porosity. It is of about the same width at 5.5 mm wide, but shorter at 21.5 cm long. The inscription is slightly longer, giving even more titles. It reads **u b'a-k(i) (feminine title) K'UHUL IX wa-y(a) CH'EEN-(na) IX CHAK to-k(o) WAYIB WUK tzu-k(u)**, or *u b'aak (feminine title) K'uhul Ix Way Ch'een Ix Chak Tok Wayib Wuk Tzuk*. This inscription has almost the same meaning as bone Seven but here our lady has had the feminine title and the *k'uhul* from the captions on Bones Two, Three, and Six given back to her – “The Bone of (Feminine Title) Holy Lady Nahual Cave, Lady Great Cloud, Resting Place, Seven Provinces(?)” The initial *u* has been given a different form than that of Seven, and the word *b'aak* has been substituted for *puuhtz'*, which does not appear at all in this version of the inscription. The meaning or purpose of this switch is uncertain. As discussed above it is possible that those bones lacking the *puuhtz'* glyph were used for functions other than weaving. It is interesting to note that on all of the bones except for Four and Ten, either the “fish-head” form of **u** accompanies the word *puuhtz'* without including *b'aak*, as on Seven, or the other form of **u**, as represented on Eight, is coupled with the word *b'aak* alone without the addition of *puuhtz'*. Though the **u** is formed differently and the feminine title and *k'uhul* are included, many of the other significant glyphs from Bones Seven and Eight, such

as the conflated forms of *Ix Way*, *Ix Chak Tok*, *Wayib*, and *Wuk Tzuk* are drawn in exactly the same way. The calligraphic use of line in the glyphs on both bones is also very alike.

Bone Nine:

Bone Nine ([Figure 36](#)) is in almost the same style as Seven and Eight. As on those two bones the glyphs on Nine are very deeply and finely incised with a smooth and modulated line. The glyphs on Nine are also not as calligraphic as those on Bones Two, Three, and Six, though they are more flowing and painterly than those on Bones Four and Five. As with Seven, the “fish-head” **u** precedes the word *puuhtz'*, and the form of **pu-tz'(i)** is the same, as is **CH'EEN-(na)**, **wa-y(a)**, **WAYIB**, and **WUK tzu-k(u)**. The glyphs are also relatively small and it appears that very few mistakes were made; the lines are all clearly delineated and there are almost no carved elements out of place. This bone has some of the clearest and most finely carved glyphs of the group. The inscription reads like Seven and Eight, though many of the glyphs have been separated and have not been combined into one glyph block, which makes the inscription slightly longer. It reads **u pu-tz'(i) (feminine title) K'UHUL IX wa-y(a) CH'EEN-n(a) IX CHAK-k(a) to-k(o) WAYIB WUK TZUK** or *u puuhtz' (feminine title) K'uhul Ix Way Ch'een Ix Chak Tok Wayib Wuk Tzuk*.

This caption means almost the same thing as those of Seven and Eight. It translates as “Her Needle (Feminine Title) Holy Lady Nahual Cave, Lady Great Cloud, Resting Place Seven Provinces(?)” In Nine the **u** is different from either

Eight or Seven, **IX** has not been conflated with **CH'EEN-(na)**, and the **IX** and **CHAK-k(a) to-k(o)** glyph blocks have not been pressed into one either. In addition, a fin form **ka-** glyph has been placed between the **CHAK** and **to-k(o)**. This glyph is used as a phonetic element, emphasizing that *Chak* ends with the – **ka** sound.

Oddly, even with all the glyphs separated out and the longer inscription, Nine is the smallest of the three bones at only five mm in width and 20.2 cm in length. Like Eight, the decorated top of Nine has been broken off. Nine's color is close to pure white, and it has a high degree of polish, possibly from wear. It does not demonstrate the measure of yellow discoloration exhibited by the other two. Its surface has been polished to a high sheen, though the edges of the glyphs seem fairly unworn. The cinnabar has embedded deeply in the glyphs, though not into the surface of the bone which displays a low degree of porosity.

Bone Ten:

The top of Bone Ten has one of the largest decorative carved heads in the set at 1.4 cm in width ([Figure 37](#)). Like Nine, Ten is highly polished with a color near white over most of the bone, though the glyphs are somewhat faded and difficult to read at the beginning of the caption owing to the degree of porosity, like those of Seven and Eight. The inscription is very similar to that of Nine, though the glyphs are not as clearly inscribed. The caption on Ten reads **u pu-tz'(i) (feminine title) K'UHUL IX wa-y(a) CH'EEN-(na) CHAK-k(a) to-k(o) WAYIB' WUK TZUK**, *u puuhtz'(feminine title) K'uhul Ix Way Ch'een Chak Tok*

Wayib' Wuk Tzuk, which translates to “The Needle of (feminine title) Holy Lady Nahual Cave, Great Cloud, Resting Place Seven Provinces(?)” The **u** is the same as that on Eight and the form of *puuhtz'* is identical to that of Nine and Seven. This inscription is one of only two which combines the non-“fish-head” form of **u** with the word *puuhtz'* rather than *b'aak*. On the only other bone which has this configuration, Bone Four, the *puuhtz'* is actually followed by *b'aak*. It is not so in this caption, however. The rest of the inscription and the form of the glyphs are virtually the same as those of Nine, except that Ten lacks the second **IX/IXIK** glyph before the **CHAK-k(a) to-k(o)** glyph block.

The cinnabar is deeply set in the glyphs of Ten, but it is also not as vividly red as that covering the previous three bones. It is of a darker, more burgundy tint. Though the glyphs are not as clear as those of Nine, they are, however, not as worn or smoothed as those on Seven and Eight, and all four bones are very similar to each other in terms of the inscription and the style of the glyphs relative to the other inscribed bones. We can propose from this similarity that the same hand or workshop has carved at least these four bones, though making any further suggestions on the different artists that might have carved the other bones is a delicate matter.

Bone Eleven:

Bones Eleven and Twelve, on the other hand, are quite unusual for this set ([Figure 38](#)). Though they have a similar inscription as the preceding four, at least a shortened version of it, the carving is of an extremely poor and

amateurish quality. They are deeply incised in places, but at times it is almost too deep. The glyphs are not very clear and contain many mistakes. There are elements out of place, and even though these bones are wider than most of the others, there is much less detail in the glyphs and parts of the lady's title have been left out. It almost seems as if the artist of Eleven and Twelve is attempting to copy the inscription from Bones Seven through Ten, but the skill and experience required to create the beautiful and very fine contours and edges is not there. The glyphs on Eleven and Twelve do not look as practiced or finessed as those on any of the other inscribed bones, not even the unusually blocky glyphs of Four and Five. This can be seen in the very uneven carving depth of the strokes, which ranges from extremely deep to very light in a random manner and non calligraphic manner, unlike any of the other incised bones or even the fragments. The line is also uneven and sketchy. It contains none of the fluidity, calligraphic quality, or solidity that characterize the lines on the other bones.

The inscription on Eleven appears to read **u b'a-k(i) IX/IXIK wa-y(a) CH'EEN-(na) CHAK to-k(o) WAYIB-(?)**, or *u b'aak lx Way Ch'een Chak Tok Wayib'* ([Figure 38](#)). As can be seen, the text of the inscription is not very different from that on Ten. It reads "The Bone of Lady Nahual Cave, Great Cloud, Resting Place. It has, however, eliminated the untranslated royal feminine title, the *Wuk Tzuk* title, some of the **IX/IXIK** glyphs present in the previous four bones, and the **-ka** present in Bones Nine and Ten. Like the caption on Eight, the non-"fish-head" form of **u** has been used with the word *b'aak*. The glyphs exhibit only the simplest and basic of elements to identify

them, however. The detail given to the captions on all the other inscribed bones is essentially missing in this example. The top of Eleven is another hand holding an object, also fashioned somewhat more crudely and simply than the hands on the other bones. At 7 mm wide it is one of the widest bones in the group so it creates quite a contrast with Bone Nine, one of the thinnest bones with one of the most finely carved inscriptions. The hand measures 8 mm across and the bone is 22.1 cm in length. It is polished, but not as highly as the other bones, and it exhibits a good deal of porosity, as the cinnabar has filled many cracks and voids in the surface of the bone. This implies a lower quality of bone. It was broken below the glyphs and has been reattached, and is discolored a bit more than the other bones, though not as much as Bone Eight.

Bone Twelve:

Bone Twelve's decorative end is also a hand holding an object, which is of about the same rough quality as that topping Eleven, but is 6 mm wide in the body, 7 mm wide at the hand, and 22.65 cm long. The glyphs on Twelve ([Figure 38](#)) are even more poorly done than on Eleven and exhibit an obvious amateur quality to them. Mistakes and misplaced lines of carving abound. The glyphs are not finely incised, and are barely discernible with fewer details than the inscriptions of the other bones. Twelve was broken through the 6th glyph and is polished, but is still rather porous at both ends, indicating a poorer quality of bone. It is slightly discolored though not as much as Eleven, and it is unusually straight in comparison with the other inscribed bones. It exhibits almost none of

the curvature present in the others. The inscription appears to read **u b'a-k(i) IX/IXIK wa-(ya) CH'EEN-(na) CHAK to-k(o) b'i U B'aak Ix Way Ch'een Chak Tok Wayib'(?),** which translates to “The Bone of Lady Nahual Cave, Great Cloud, Resting Place.” Like Bone Eleven, this is a similar inscription to the earlier four bones with some differences. Besides the same variations as Eleven where the royal feminine title, the *Wuk Tzuk* title, and many of the *Ix* titles have been eliminated, *wayib'* has apparently been simply shortened to the syllabogram for **bi-**, which alone can mean ‘road’, ‘name’ or ‘line’ (of writing).¹³⁷ It is likely that it has simply been included as a substitution for the more complicated *Wayib'* glyph in this case. This simplification, along with the other qualities of this particular caption and that of Bone Eleven indicate that an unskilled hand likely carved and incised these two bones. The reason why bones of such quality would have been included in the cache of an important elite woman is unclear, but their enclosure would seem to imply that they had some sort of meaning to the owner or those who buried her.

Bone Twenty:

The last inscribed bone, Bone Twenty, is incomplete ([Figure 39](#)). It appears to have an inscription like that of Bones Seven through Ten, and the style of at least the first two glyphs also seems similar. It looks to be missing a large part of the inscription, however. The restorer of the bones has put these two halves together, though due to the fact that most of the caption is missing it

¹³⁷ Boot, 20, “*b'i*,” “*b'ih*.”

is not clear whether these two halves actually belong to each other. It is apparent on the other hand that the entirety of the Lady's name and titles for this bone are lost. The first two glyphs appear to be the "fish-head" form of *u* and a conflated form of *puuhtz'* and *b'aak*, so it seems to initially say what many of the other bones do, "The Needle Bone of..." The last glyph just after the break looks to have a *ni-* appended to the bottom of it, but it is unclear what the top glyph is or if it is similar to anything else we can see on the inscribed bones. The lines to the left of the main glyph might make a bar indicating the number five, but whether this is a date or another syllabogram is unknown. The bone itself at its current length is 19 cm, though it is probable that it would have been much longer with the full inscription. It is 6 mm wide in widest part of the body, and the hand holding the object at the top is 7.5 mm wide. This hand, however, presents the object with the palm towards the glyph side of the bone, whereas on the other bones with inscriptions and a hand holding an object for the decorated end they all have the back of the hand towards the glyphs. Despite the large missing mid section, the remaining glyphs do demonstrate a high degree of quality, with a varying, smooth, and calligraphic line, and the bone is a gleaming polished white. In fact it is whiter than all the other bones except perhaps Bone One, and it demonstrates a remarkably low level of porosity. As we can see, however, it has been broken in at least two places, which indicates a certain amount of weakness of the bone.

The Non Inscribed Bones

Bone Thirteen:

The other eleven complete bones in the set are not inscribed with glyphs, yet they are still intriguing ([Figure 9](#)). Undistinguished by glyphs, many of them are exceptional for their decoration and can attest to the elite status of this woman. Bone Thirteen for example has another hand holding a bundled object as a decorated end, though like the incised Bone Twenty, the palm of the hand is turned slightly upwards, towards the more detailed and decorated side. Instead of glyphs there are three lines spiraling down around the bone three times, as the spirals thin and eventually diminish. It was broken at some point about halfway down through the third spiral, which indicates some weakness at that point. Indeed, the bone seems to skew suddenly in a different direction at that point. The bone itself, however, is polished and extremely white with very little permeability, suggesting that this was a bone of good condition and well used. The area from the tip to about eight cm up seems to be exceptionally polished and hardened as if this bone was employed often. The incised edges of the spirals are also slightly softened and smoothed, though not smoothed enough to prevent the cinnabar from embedding into them. The owner might have utilized it frequently in her endeavors.

This bone is also thicker than the other bones at about 4-5 mm, whereas the other bones are almost all about 3 mm thick. The hand measures 8.5 mm in width, the body 6.5 mm, and it is the longest bone at 24.7 cm. The sturdiness and quality this bone exhibits in its thickness, width, and length might have made

it a favorite for use, especially with thick brocades and complicated weaves that might have needed a stronger pattern stick or bobbin.

Bone Fourteen:

Bone Fourteen, on the other hand, is very small, and it has the smallest head of all the others as a decorative top. Other than the head it is a very plain bone with no decoration. Despite this, however, other factors imply a high degree of use by the owner. Like Thirteen it is highly polished with a shiny hard white surface. It was perhaps another favorite bone as well, but for a smaller finer kind of weaving, such as the gauzy garments apparent in the Bonampak murals. It is not very absorbent or permeable, as little cinnabar has sunk into the surface. Such a quality was likely a positive characteristic, since the less porosity, the fewer the cavities, and the stronger and more durable the bone. The features of the head are very small and worn smooth as if whatever work the bone was employed in would have caused wear all the way to the top end of the bone. The bottom tip, however, is broken off, though the area there seems very worn and more highly polished as if from exceptionally frequent utilization. Fourteen also does not exhibit the curvature present in many of the others and is unusually straight. Another exceptional feature is that it is round instead of the ovoid flattened shape of the other bones, such as Bone Thirteen. It is one of the smallest bones at 5 mm wide in the body, 8.5 mm wide in the head, and 14.9 cm long, though it appears to have kept a certain thickness at 5 mm. With the tip

that was broken off Fourteen would have been longer, perhaps as long as Bone Sixteen, which Fourteen resembles in decoration and shape.

Bone Fifteen:

The fifteenth bone is similar to Bone Thirteen though it is thicker and wider. Fifteen measures in at 7 mm in width in the body and 9 mm in width with the decorative end, also a hand holding a bundled object. It is one of the longest at 24.6 cm, almost as long as Thirteen. Like Bone Thirteen, it is an unusually thick bone, but even more so at 6 mm, indicating possible use in weaving very thick and heavy designs and fabric. These two bones would likely not have been used for something delicate or small, the way Fourteen probably was. Their thickness and apparent sturdiness would have best employed in the production of thick and durable fabrics. Bone Fifteen has three lines spiraling down and around it like Thirteen. The hand on top, however, has been switched to a mirror image of Thirteen's top. The palm is still slightly turned upwards, but the hand is to the right of the object rather than the left. Though Fifteen is extremely porous in the upper portion and has been very permeated by the cinnabar, the tip past where the spiraling lines end is worn smooth and polished like that of Thirteen. These similarities would seem to imply that these two bones might have been a pair in their use. Fifteen is, however, not as curved as Thirteen, and it seems unusually straight where many of the other bones have a certain amount of curvature to them, likely dictated by the shape of the bone from which they were carved.

Bone Sixteen:

Like Fourteen, Bone Sixteen has a head worn smooth for its decorative end. The head is small in size relative to those other bones with heads, but the body is thick again like Thirteen and Fourteen. In fact, it seems as if those bones that are not carved with glyphs are actually thicker, though not necessarily wider, than those without glyphs. The bones with glyphs appear to be slightly hollowed out on the non-engraved side, but this is not the case with those lacking captions. Sixteen is actually not as wide as many of the other bones at only 5 mm, but the thickness of the body is greater at 4 mm. Like Bone Fourteen again, it has a more rounded shape and less of the ovoid one present on other bones. It also demonstrates low degree of permeability and even the head has retained very little cinnabar relative to the other bones, though the body is somewhat more porous than Fourteen. It is polished smooth and looks to have been well used. It is probable that Bone Sixteen would have been used to weave delicate fabrics, in the way that Fourteen likely was. Like Bone Fifteen, it demonstrates an unusual straightness, and it does not curve as the others do. The head at the top is 9.5 mm wide and the bone is 21.4 cm long. It is possible that Fourteen was about the same length at one time, due to the other similarities between the two. From the tip to a few centimeters above the tip the bone is worn extremely smooth, and has developed a highly polished and shiny look.

Bones Seventeen and Eighteen:

Bones Seventeen, Eighteen, Nineteen, and Twenty-One are all similar, varying only in the tops and slightly in measurements. They are all very porous over most of the body and slightly yellow in color. Like Bone Fifteen they are porous over the majority of the bone except for the tip which appears polished and fairly unpermeated by the cinnabar. Seventeen is topped with one of the hollowed out and pierced heads, but the head itself exhibits a minimal amount of wear in comparison with some of the others such as Bones Fourteen and Sixteen. The bone was broken off near the head at a point where there seems to be greater evidence of absorption of cinnabar and thus weakness, but it has been reattached. The cinnabar on Bone Seventeen has permeated the surface deeply, demonstrating the bone's porosity, but the color of the bone turns towards a pure white color as it nears the tip. The tip of Seventeen is worn like the other non-inscribed bones, and the very end that curves as it does on many of the others has been broken off. It is of an average width and height at 5.5 mm wide in the body, 1.2 cm width in the head, and 23.4 cm in length, and it demonstrates the increased thickness that many of the other un-inscribed bones do as well. Bone Eighteen is very similar to Seventeen, except with a hand holding an object as the ornamental top. The carving of the hand does not seem to be as fine or detailed as it is on many of the other hands and it is very permeable, having turned a deep red color from the cinnabar, about the same as Bone Fifteen. Like Seventeen, the adorned end was also broken off at a point where the bone displays greater permeability through the amount of cinnabar embedded in the bone. The body of Bone Eighteen is very thick also, and it is

exceptionally long and unusually straight where many of the other bones have a slight S-curve to them, though Eighteen does bend about halfway down. The tip is worn and polished hard as if it was well used, but it is not as white in color as Seventeen. At 25.2 cm long Eighteen is one of the longest bones, and it is 6 mm wide in the body and 8 mm wide at the hand.

Bones Nineteen and Twenty-One:

The head which crests Bone Nineteen is the smallest of all the heads. Its width at 8 mm is that of many of the hands, such as Bone Eighteen. The head is slightly smoothed and polished as well. The bone is worn and seems to display about the same permeability as Bones Seventeen and Eighteen. It was also broken at about the same point in the body, though this point of breakage does not exhibit the same weakness as the other two as indicated by the amount of cinnabar absorbed into the surface. The body is very thick in the same way as the other two, but not very wide at 5 mm. The area near the tip is highly polished and appears well used like those of Seventeen and Eighteen, but the remainder of the body of the bone is also more impermeable than the other two, with a whiter coloration. Bone Twenty-One is much like the previous three, though the hand that tops it holds the bundled object by grasping the stem of the object firmly, which then descends down the side of the bone for a short distance, rather than delicately with the fingertips like the others. This feature makes it appear as if the object is actually a flower whose stalk is being held. It is very long at 25.2 cm. Bone Twenty-One, like the other non-inscribed bones, is very thick, but it is

only 6 mm wide in the body and 8 mm wide in the unusual hand form. The tip also appears to be well worn, and the body of Twenty-One is very porous, having been well permeated by the cinnabar. It does not exhibit the s-curve of many of the other bones, though it does curve slightly throughout.

Bone Twenty-Two:

Bone Twenty-Two has a very unusual top is one of the most intriguing bones yet. It is of average size at 22.1 cm in length, and a large 7 mm width in the body. But the top is unlike any of the others. All the other bones have the hands holding bundled objects or heads at the top, but Twenty-Two has a quetzal, a bird highly prized by the Maya for its beautiful iridescent green-blue feathers ([Figures 40-41](#)). It is as if the bird has perched there on the top of the bone, allowing its long tail feathers to trail down the top of the bone. At the very top, directly underneath the bird's body and right where the tail feathers begin, the bone is pierced completely through by a neat round hole, as if meant as a place to attach some kind of decoration or for holding something useful in weaving. The body of the bone is very white and hard, and it appears extremely smooth and polished near the functional tip. It is thinner than the other bones without glyphs, but the quality of the bone is exceptionally high. Its bright white gleam demonstrates very little permeability, though the carving at the top where the bird is perched appears to be weaker and shows the remains of a good deal of cinnabar. The bird is somewhat worn and smooth, however, and the face and beak of the bird have almost been smoothed away. Twenty-Two is also

unusually straight, and the quality of the bone, combined with the coloration and evidence of polish indicate that this bone was likely another favorite for use. It was possibly used for a different purpose in weaving than the others.

Bones Twenty-Three and Twenty-Four:

Bones Twenty-Three and Twenty-Four, the last two whole bones of the set, are much like the other non-inscribed bones. Their surfaces both appear to be very permeable, perhaps more so than any of the other bones. In fact Twenty-Three's surface is so porous it looks to be solid red in some areas, completely saturated with the cinnabar or hematite. Twenty-Three has another hand holding an object for its decorative end, though parts of the hand and the object seem to have been worn down to smoothness so that the delineation of the carving is not as sharp as it is with some of the others. Twenty-Three is very long and is one of the straightest bones of the group, measuring in at 25.2 cm in length. Like the other bones without glyphs, it is very thick and the tip has been worn smooth and white with use or handling. Though worn smooth, the tip also demonstrates a good degree of degradation, which appears to have come from its years of burial, since almost no cinnabar has penetrated there. Bone Twenty-Four is a much shorter bone as its tip has been broken off like that of Bones Fourteen and Seventeen. Topped with a head, it is only 16.6 cm in length and 6 mm wide in the body. The head is, however, the largest of the uninscribed bones at 1.5 cm in width and it remains unworn and pervaded by cinnabar. The bone does appear worn and polished at the tip before the break, however, and it does

not seem to be as absorbent in that region either. What is left of its length looks as if it was thick and relatively straight like the others.

The Fragments

Included with this amazingly large set of lovely bones are fifteen fragments of bone that look to be the remnants of whole bones much like those above ([Figure 10](#)). Seven of these fragments are inscribed with glyphs. There appear to be two decorative endings, both hands, though one is a hand holding an object with glyphs on the main body of the bone and the other is a fist with a spiraling design down the body somewhat like Bones Thirteen and Fifteen. Including the piece with a fist, there are four portions of bone with spiraling lines, three of which might possibly be part of the same bone. It is difficult to tell, however, since the pieces do not fit together easily. Two of the spiral fragments are from the part of a bone near the tip where the lines end, so only one or the other of those two could be part of a whole bone with the decorative end and the fragment that could be a middle piece. Four of the fragments are extremely fragile and seem to be virtually disintegrating. Three of those have glyphs that are barely discernible and the fourth could have had glyphs, though it is so damaged that it is impossible to say at this point. As stated previously in the introduction to the entire collection, it is likely that the fragments which suffered a good deal of damage, such as Fragments One, Four, Six, Seven, and Eight, had fallen out of whatever bundle that the others had been preserved in, thereby exposing them to the elements of soil and water erosion. All of the fragments are

generally thin, thinner than the whole bones, and so it is possible that their small width is one reason for the breakage.

Fragment One:

Fragment One is a decorative end with a hand holding an object ([Figure 42](#)). The object has basically disintegrated and the hand shows a good amount of damage, but some of this injury seems to have been sustained in antiquity due to the way the cinnabar has adhered to the surface. It is likely that the hand was already worn when it was buried, but the object has fallen apart during its time underground. Cinnabar fills the cracks and crevices of the worn object the way it fills the lines of the inscriptions, whereas the areas which appear to have been broken off after having been buried are white and lacking in any sort of traces of cinnabar. The inscription, which is partially obscured by a large abraded area, is similar in both style and form to that of Bones Seven through Ten. The first two glyphs read *u puuhtz'*, with the glyphs all following each other closely rather than two at a time. The line is also extremely graceful and calligraphic. The third glyph is almost unreadable due to damage sustained by the bone, though it can be surmised that it is either the glyph for *b'aak* as on Bone Four, the feminine title glyph such as on Bones Nine and Ten, or an **IX/IXIK**. It is difficult to tell if the harm incurred was from antiquity or from a more recent occasion of erosion, but the cinnabar does fill the many abrasions which cover the surface so it is possible that these wounds are from antiquity before the bone was interred. Fragment One is slim at 4 mm in width at the widest part of the body, and 5 mm

wide in the hand, and the length is 28 mm, or 2.8 cm. Despite these small dimensions, it is one of the widest fragments, demonstrating just how small these other bones must have been and how fragile. This fragility might explain why these particular bones have fallen to pieces. Though some of them do demonstrate wear and polish, they are extremely thin and delicate, and so it would have been necessary to use them with care, if they were used at all. As with Bones One and Twenty-Two, it is possible that the bone this fragment comes from was used for a different purpose in weaving than the others in the set.

Fragment Two:

Unlike Fragment One, Fragment Two has maintained very clear, fine glyphs ([Figure 43](#)). It appears to be from near the end of an inscription and it follows the pattern of Bones One through Six of putting two glyphs together and then allowing a large blank space before the next two. The reading of the inscription on the other hand, is for the most part that of Bones Seven through Ten. The first glyph is *ch'een*, which followed *way* on Bones Seven through Ten, and after a long distance a conflated form of *Chak Tok Wayib'* is clearly visible. The last glyph on this fragment, however, differs from any on all the other bones and is difficult to identify. It is possibly the date on the Maya solar calendar of *10* or *15 Yaxk'in*, though the event this date marks is unknown. It is possible, although unlikely due to the slimness of the bone at this point, that there were further glyphs on another portion of this bone after the ones we see here. This

fragment of the bone is also very slender, fine and small. It is only 3.3 mm in width, though it stretches to 43.4 mm, or 4.34 cm in length.

Fragment Three:

Fragment Three is even finer and more diminutive ([Figure 44](#)), being a fraction of the width of a person's thumb ([Figure 45](#)). The top glyph has been destroyed by abrasion, but the others appear to read **b'a-y(a) CHAN(?)-n(a) cha-k(a)? K'UHUL Naranjo AJAW**. These seem to form the title of a king of Naranjo. The bottom three glyphs, *Chan Chak K'uhul Naranjo Ajaw*, are epithets that were traditional to many of the kings of Naranjo.¹³⁸ They were part of the designation for at least four kings spanning the late 7th to the early 9th centuries A.D.¹³⁹ The word *b'ay*, which might mean "fat,"¹⁴⁰ does not seem to be a part of any known king's name, and without the rest of the inscription this makes it impossible to know which king the caption is referencing. This term could also be a statement of relationship or another title like *b'a yal*, which means "first born" and is also an elite title.¹⁴¹ This fragment is significant because we do know that the owner of these bones might have had a connection to a king of Naranjo, enough of one to be given or allowed a bone such as this, though whether she was a sister, a wife, a mother, aunt, or just an elite acquaintance is unknown.

¹³⁸ Martin and Grube, 68-83.

¹³⁹ Ibid.

¹⁴⁰ Boot, 20, "b'ay."

¹⁴¹ John Montgomery, *Dictionary of Maya Hieroglyphs* (New York, Hippocrene Books, 2002), 43, "B'A YAL."

Other factors, such as the *Wuk Tzuk* title given to her on the whole bones, point to this as well. Another miraculous feature of this bone is its small size at only 2.8 mm in width at its largest point, and yet the incredibly fine and calligraphic quality of its glyphs. Though only 24.7 mm, or 2.47 cm, in length, this is one of the most noteworthy bones of the collection because of the concrete link it creates between our deceased lady and the city of Naranjo and its king. Clearly our lady held a high position in her society.

Fragment Four:

Fragment Four ([Figure 46](#)) is extremely worn, though relative to the other fragments it seems to have been fairly thick at some point. Even worn it is about the same size as Fragment One at 3.7 mm in width. The glyphs are so ruined that they are barely visible and pieces of it flake away at the slightest touch. Though it seems that virtually no cinnabar has become embedded in the bone, some glyphs are discernible, despite the poor condition. It is part of the title of the lady as seen on Bones Seven through Ten stated yet once again, **IX wa-y(a) CH'EEN**, *Ix Way Ch'een*. The bone is exceptionally porous and its coloration is slightly yellowed. Its exposure to the elements through the years it was in the tomb has made it exceedingly fragile and the lines of the inscription have become shallow and indistinct. It looks as if it would have been part of an average sized complete bone, perhaps like Bones Seven or Eight, since it is almost 4 mm wide and it is near the end of the longer inscription found on those bones. The length of this brittle fragment, however, is only 25.7 mm, or 2.57 cm.

Fragment Five:

Fragment Five is worn, though not as much as Four and it has some red pigment still set in the inscription ([Figure 47](#)). Five seems to come from what was the top portion of the bone as it has the opening glyphs of the captions from the whole bones at the top, **U pu-tz'(i)**, *u puuhtz'*. After the bat-head **tz'i-** glyph is the top of what appears to be a **K'IN** sign within a cartouche, meaning that this is probably the top of the glyph for the undeciphered feminine title that precedes **IX** as in Bones Two, Three, Six, Eight, Nine, and Ten. The calligraphic quality of the glyphs also resembles the first three of those bones, though the glyphs have all been brought close together as in Bones Seven through Twelve rather than paired as twos and separated by long blank spaces. The glyphs for **pu-** and **tz'i-** have also not been conflated as they were in Two, Three, and Six, but are instead laid out separately one after another. Like Four, Fragment Five is yellow and extremely worn despite the legibility of its glyphs. There are depressions covering the surface where parts of the bone have chipped away, and though it seems to have fared better than Fragments Four, Six, and Seven, it is also extremely brittle. In comparison to its compatriots, it is also fairly thick at 4.2 mm in width, and it was probably from a bone of an average thickness, though it measures only 21 mm, or 2.1 cm, in length.

Fragment Six:

The glyphs are hardly discernible on Fragment Six, due to its current state ([Figure 48](#)). It seems to have a **pu-tz'(i)** at the top and so begins in the way of the other captions. Other than that first glyph however, the damage the bone has suffered through the years prevents observation of any other glyphs. It is extremely brittle and is in even worse condition than Fragment Four. It has become especially yellowed and it flakes very easily. At its widest point Six measures in at 4.2 mm, the same as Five. Six, however, tapers throughout its short 21 mm, or 2.1 cm length, to 3.73 mm, where Five remains constant in width.

Fragment Seven:

Fragment Seven ([Figure 49](#)) is in an even poorer state of repair, and the glyphs on it have become vague suggestions and are virtually indistinguishable from the degradation the bone's surface has suffered. It is apparent at least that it was carved with glyphs at some point as several of the dips in the surface appear to have too much of a regularity to have been nature made. There might be an **IX/IXIK** glyph at the top. Its color is an aged yellow and Seven remains extremely fragile as well. Despite this brittleness Seven is the widest fragment at 4.7 mm, and its length is 19.1 mm, or 1.91 cm.

Fragment Eight:

Seven's vulnerability is even slightly better than Fragment Eight ([Figure 50](#)), which appears as if it could have been inscribed with glyphs at one point, but

it has so deteriorated that the entire surface has crumbled away. It is a yellowed color and is extremely brittle. It is possible that this is a stingray spine in very bad shape but the level of corrosion has made it difficult to tell. As the most deteriorated fragment, Eight is also the smallest at 3.3 mm wide and 13.1 mm, or 1.31 cm, in length.

Fragments Nine through Twelve:

Fragments Nine through Twelve all have the same design incised upon them. They were not inscribed with glyphs but instead were encircled with spiraling lines as Bones Thirteen and Fifteen were. Some of these fragments could have come from the same bone, though it is difficult to fit them together, and Fragments Nine ([Figure 50](#)), 3.2 mm in width and 42 mm in length, and Ten ([Figure 50](#)), 2.8 mm in width and 26.1 mm in length, come from the same area of a bone where the design ends near the tip, making it impossible for these two fragments at least to be from the same bone. They are both a strong white color and appear highly polished, durable, smooth and impermeable. Cinnabar has embedded itself only in the spiraling incisions on these two bones. Fragment Eleven ([Figure 50](#)) appears to be from somewhere in the middle of a whole bone, as the twisting lines extend from end to end. It seems to be more permeable than Nine and Ten due to the amount of red pigment absorbed in its surface, though not as absorbent as some others. It is almost as yellowed by age as some of the most decayed fragments, and it demonstrates a good amount of degeneration. It is from a slim bone at 2.8 mm in width and 26.1 mm in length.

Fragment Twelve ([Figure 50](#)) is the top of a bone in the form of a hand clenched in a fist. This clenched fist is different from the other hands evident in the complete bones where all the hands are uniformly holding an object, but it is very similar to other bones of this type found at other locations such as Dzibilchaltún. It is also of a white coloration with a polished strong surface which seems relatively unblemished, though there does appear to be some degradation. It is a slim bone at 3.3 mm in width at the widest part of the body and 3.73 mm in width in the hand. Twelve is, however, a short fragment at 15.9 mm in length.

Fragments Thirteen through Fifteen:

Fragments Thirteen through Fifteen are the ends of bones and any of them could have been the tips of some of the other fragments or perhaps the tips of the complete bones which have had their ends broken off, such as Bones Fourteen or Twenty-Four. Since they are the ends of bones, they are the thinnest of the fragments. Fragment Thirteen ([Figure 50](#)) is 2.8 mm in width, Fourteen ([Figure 50](#)) is 2.57 mm in width, and Fifteen ([Figure 50](#)) is 1.87 mm to 2.1 mm in width. They are all still in fairly good shape with little degradation, however, though they do show some signs of brittleness and flaking. Their color is still mostly white and their polish is high. It does not seem that they have endured the same weathering or poor conditions that Fragments Four through Eight have. Thirteen demonstrates some deterioration towards the broken end, but is otherwise relatively impermeable with very little cinnabar absorbed into the surface. It is one of the longer fragments at 29.87 mm, or 2.987 cm, in length,

and the polish of wear on its surface along with the gently rounded tip seem to indicate a good deal of use for the bone of which this fragment was a part. Fragment Fourteen is more pure in color than Thirteen and shows less decay than almost all the other bones. It is highly polished, with a smooth, hard surface, which indicates that it was likely used often. It is very similar to Thirteen though it is in better condition, and it is only 33.13 mm, or 3.313 cm, in length. Fifteen is probably the worst preserved bone and is probably made from a weaker bone, as it demonstrates a very yellow color from age and a high degree of porosity revealed by the amount of red pigment absorbed into the surface. It is the longest fragment at 88.67 mm, or 8.867 cm, in length.

Conclusion

Overall, many of these bones exhibit a great deal of craftsmanship and skill in carving, though the inclusion of some bones, such as Bones Eleven and Twelve, in the burial deposit are puzzling because of their apparent lack of skill in carving not only the decorative ends but the glyphs as well. Two of the inscribed bones, Bones Four and Five, could have been used as uninscribed bones during the lifetime of the deceased, but were apparently incised with glyphs after their daily use had ceased due to the clear and unworn quality of the glyphs. It appears that there were at least five styles utilized, and perhaps five different artists or workshops at work, on the different inscriptions for these bones. Bone One has one style unto itself. Bones Two, Three, and Six have a second form, while Bones Four and Five have a design completely distinct unto them. Bones Seven, Eight, Nine, and Ten have some similarities to the grace of the second

style, yet their inscriptions have a complexity not seen in Bones Two, Three, and Six. Bones Eleven and Twelve, however, are completely lacking in the skill and experience that seem to be present in the other bones. Bone Twenty initially appears to partake of the fourth style in Bones Seven through Ten, but too much of the bone is missing to be certain. It is possible that a different artist could be assigned to each style, though that is a difficult thing to determine for certain, and it could be that these were carved by the same artist at different periods in his training. In addition, due to the fact that different titles are used within each style, it is possible that a different woman is named by each title. This is difficult to determine, however, since the elite could and often did use more than one title. It is clear, however, from the craftsmanship of these bones, and the inscriptions upon them, that the woman with whom they were buried was an elite and likely very important woman.

Though only half of the bones and fragments have glyphs, the beauty of their carving and incisions and the slender elegance of their forms alone is enough to express their importance. Through an examination of the qualities, the inscriptions, and the meaning of the bones as we have laid them out here we may come to a greater understanding of what they indicate about the society in which they were created. Clearly, the woman with whom they were buried was of a high status, and though we are unaware of many of the other objects that were likely buried with her, one of her critical duties, or one of the significant signs of her eminence, was weaving.

List of Figures



Figure 1. Cache: *Upper left*, bone embroidery needle; *center, from top to bottom*, eight of the jade objects including the head, and three small round rings made of a reddish stone; *right, from top to bottom*: two rings, two shark's teeth, two lip plugs.

Photograph © Justin Kerr, K8019e.¹⁴²

¹⁴² All images unless otherwise stated are my own photographs and illustrations.



Figure 2. Cache: *Right, from top to bottom:* eleven jade objects, including the head, and two of the rings of reddish material above the head, and one to the lower left of the head; *upper left,* two sharks' teeth.



Figure 3. *From the upper right in a clockwise direction: two rings, two lip plugs, two of the stingray spines.*



Figure 4. Four stingray spines.

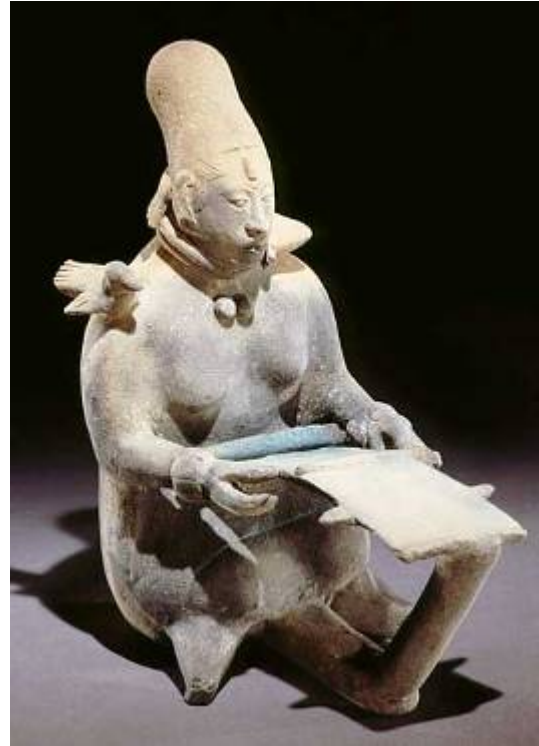


Figure 5. Ceramic figurines of the Goddess of Weaving or of an elite woman dressed as the Goddess in the process of weaving on a backstrap loom. In two of the images the woman is accompanied by a bird, a common motif of such figures.

Photograph © Justin Kerr, K2019, K6000, K6766a.



Figure 6. Vase with complex mythological scene involving the Moon Goddess, who wears spindles of wool in her hair. Photograph © Justin Kerr, K1485.

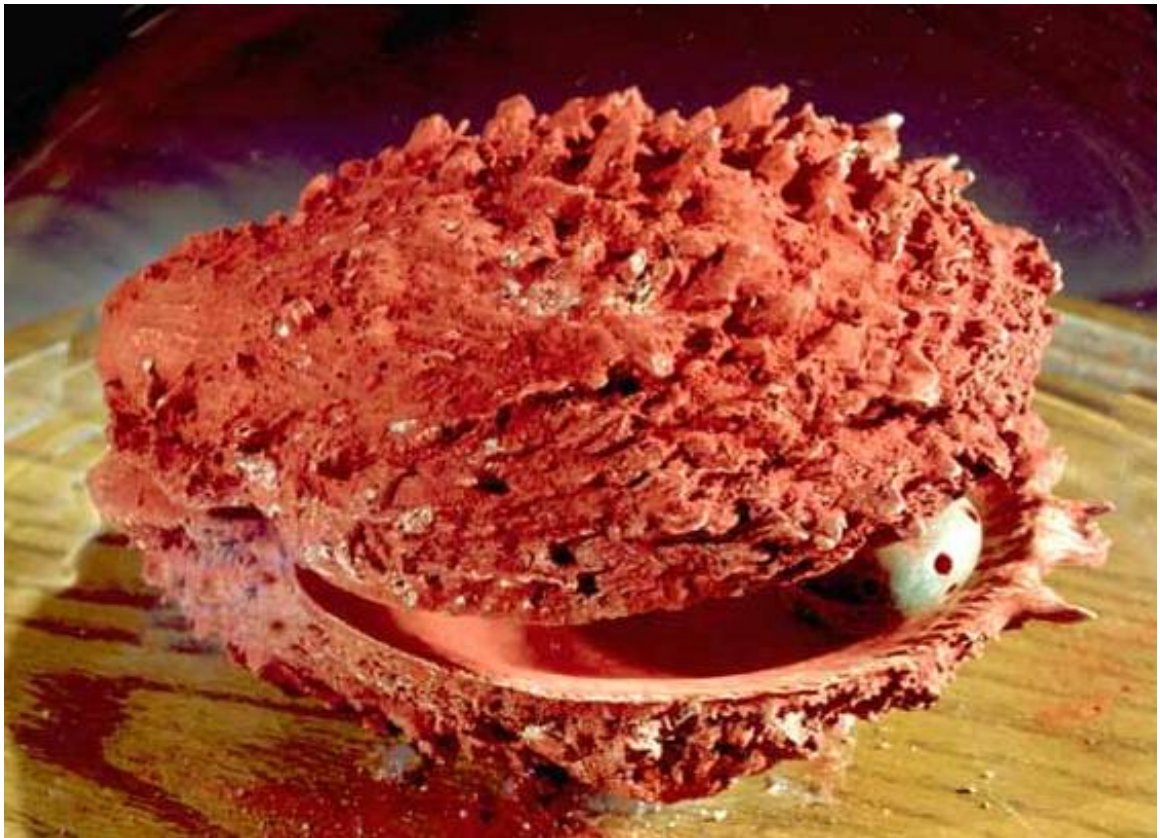


Figure 7. Cache: Spondylus shell covered in cinnabar with a large jade bead carved to represent a miniature censor nestled inside. The deep red color is due to the cinnabar covering it and not natural to the shell which is normally a lighter pinkish red.

Photograph © Justin Kerr, K8019.

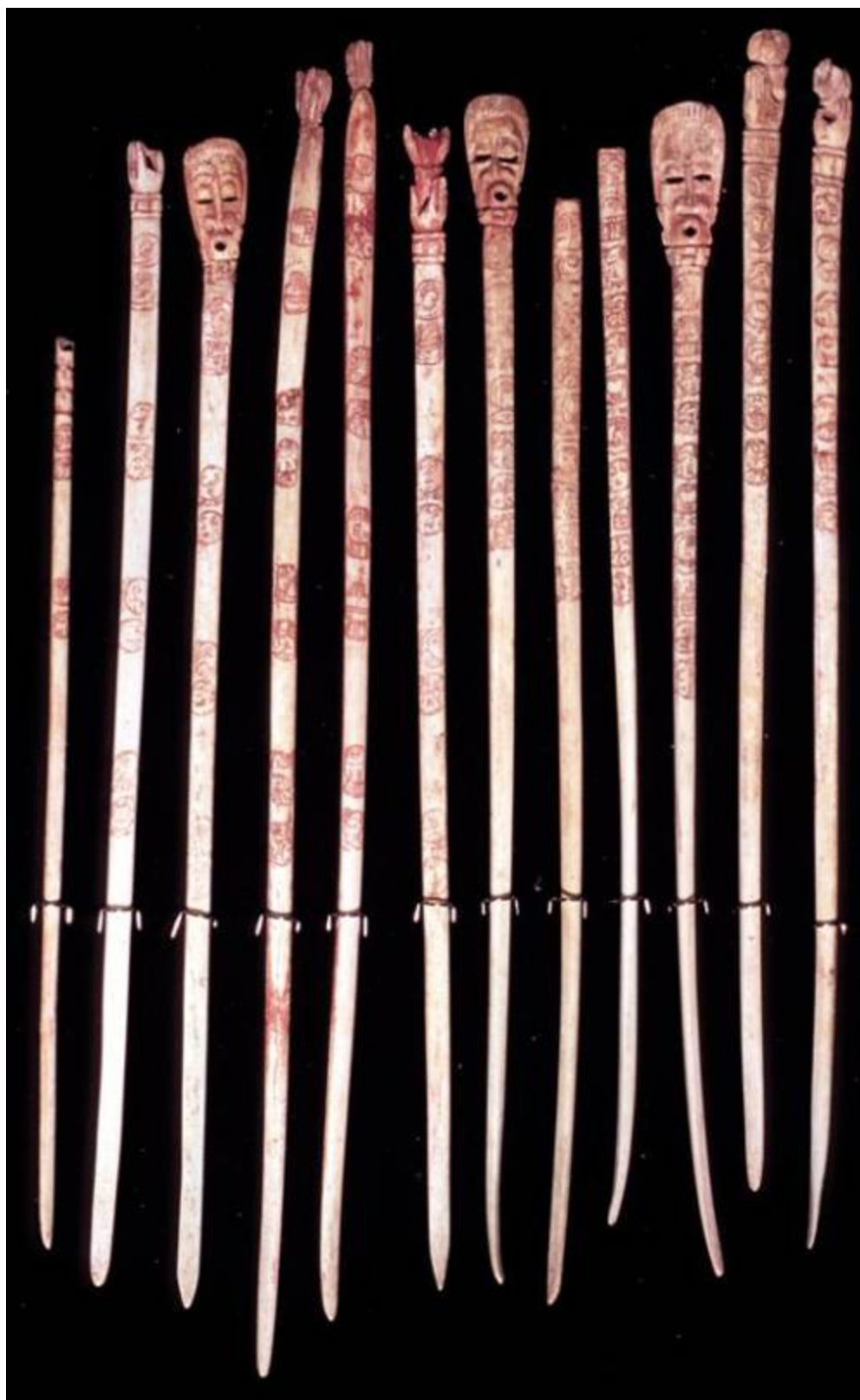


Figure 8. Cache: Bones One through Twelve.



Figure 9. Cache: Bones Thirteen through Twenty-Four.



Figure 10. Cache: Fragments One through Fifteen.



Figure 11. Example of backstrap loom with lease and pattern sticks inserted. The woman is using a pick with a decorative end which resembles Bone One.

Reprinted, by permission, from Marilyn Anderson, *Guatemalan Textiles Today*, fig. 109. Photography by Marilyn Anderson. © 1978 by Watson-Guptill Publications.



Figure 12. Examples of the different decorative ends.



Figure 13. Example of the hollowed out head

Photograph © Justin Kerr, K8019b.

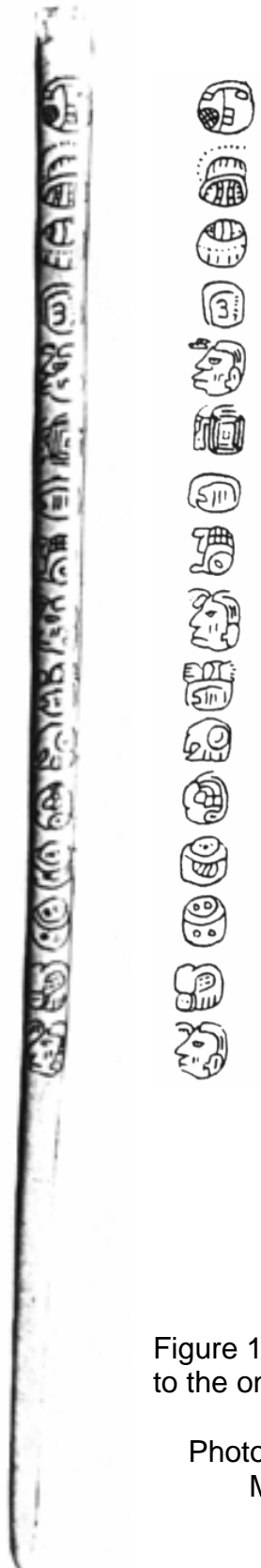


Figure 14. Carved bone from Dzibilchaltún with a similar inscription to the one on the bones from Naranjo.

Photograph and drawing by Jennifer T. Taschek, courtesy of the Middle American Research Institute, Tulane University.



Figure 15. Yaxchilán Lintel 24

Photograph © Justin Kerr, K2887.



Figure 16. Yaxchilan Lintel 25

Photograph © Justin Kerr, K2888.



Figure 17. Bonampak Murals: Structure 1, Room 1, west wall, detail.

Reprinted, by permission, from Mary Miller and Simon Martin, eds., *Courtly Art of the Ancient Maya*, fig. 74. Photograph from the Bonampak Documentation Project. © 2004 by Thames and Hudson.



Figure 18. Bonampak Murals: Structure 1, Room 3, east wall, detail.

Reprinted, by permission, from Nikolai Grube, ed., *Maya: Divine Kings of the Rainforest*, fig. 378. Digitalized photograph by AKG, Berlin. © c2001 by Könemann.



Figure 19. The Princeton Vase

Photograph © Justin Kerr, K0511.

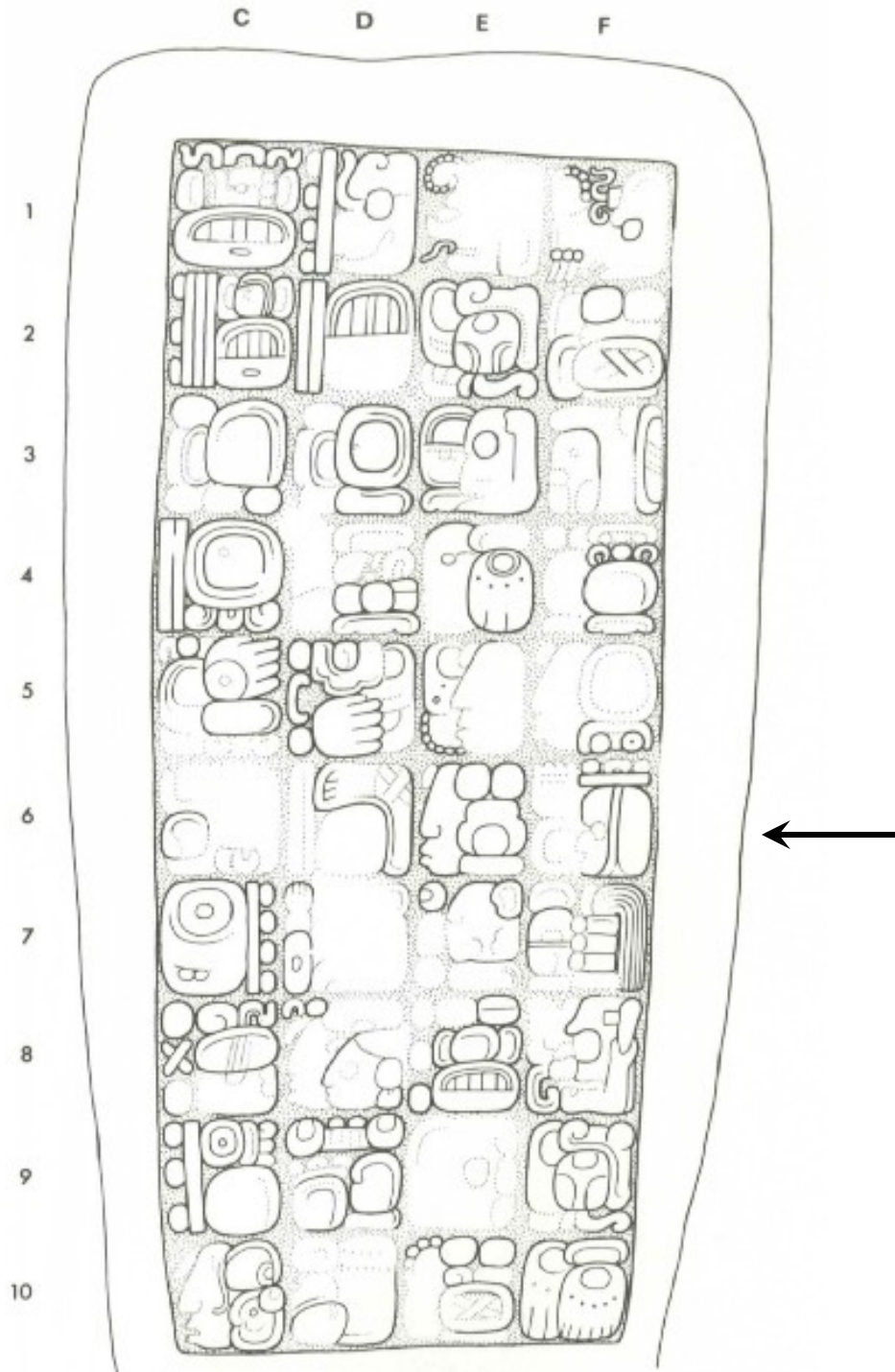


Figure 20. Naranjo Stela 8, back. The arrow points out the *Wuk Tzuk* title.

Stela 8, back from *Corpus of Maya Hieroglyphic Inscriptions*, Vol. 2, Part 1, *Naranjo*, reproduced courtesy of the President and Fellows of Harvard College.

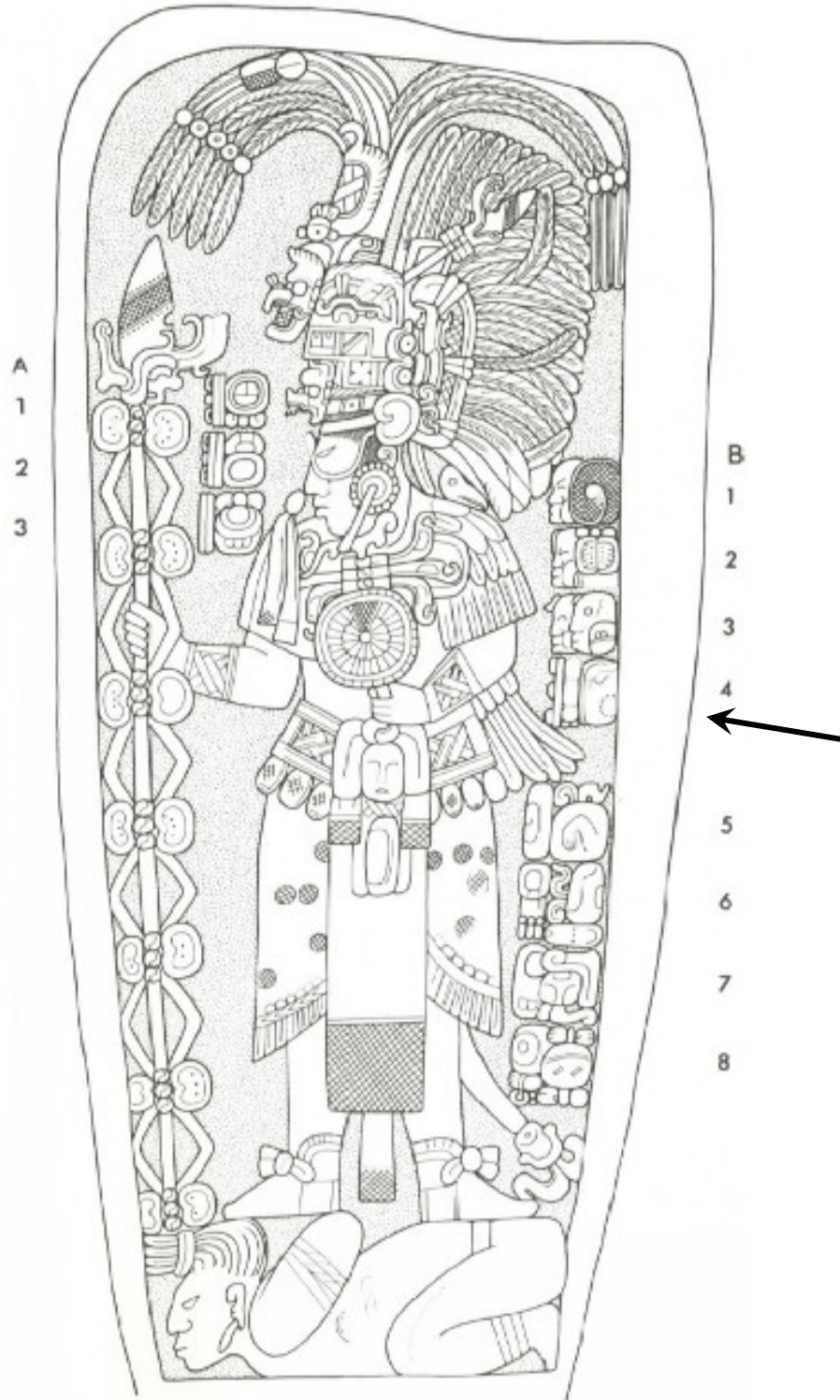


Figure 21. Naranjo Stela 8, front. The arrow points out the *Wuk Tzuk* title.

Stela 8, front from *Corpus of Maya Hieroglyphic Inscriptions*, Vol. 2, Part 1, *Naranjo*, reproduced courtesy of the President and Fellows of Harvard College.



Figure 22. Naranjo Stela 19, back. The arrow points out the *Wuk Tzuk* title.

Stela 19, back from *Corpus of Maya Hieroglyphic Inscriptions*, Vol. 2, Part 1, *Naranjo*, reproduced courtesy of the President and Fellows of Harvard College.



Figure 23. Inscription from the Black on Cream vase by Aj Maxam. The *Wuk Tzuk* title has been highlighted.

Reprinted, by permission, from Dorie Reents-Budet, *Painting the Maya Universe*, fig. 2.33. Illustration by Barbara MacLeod. © 1994 by Duke University Press.

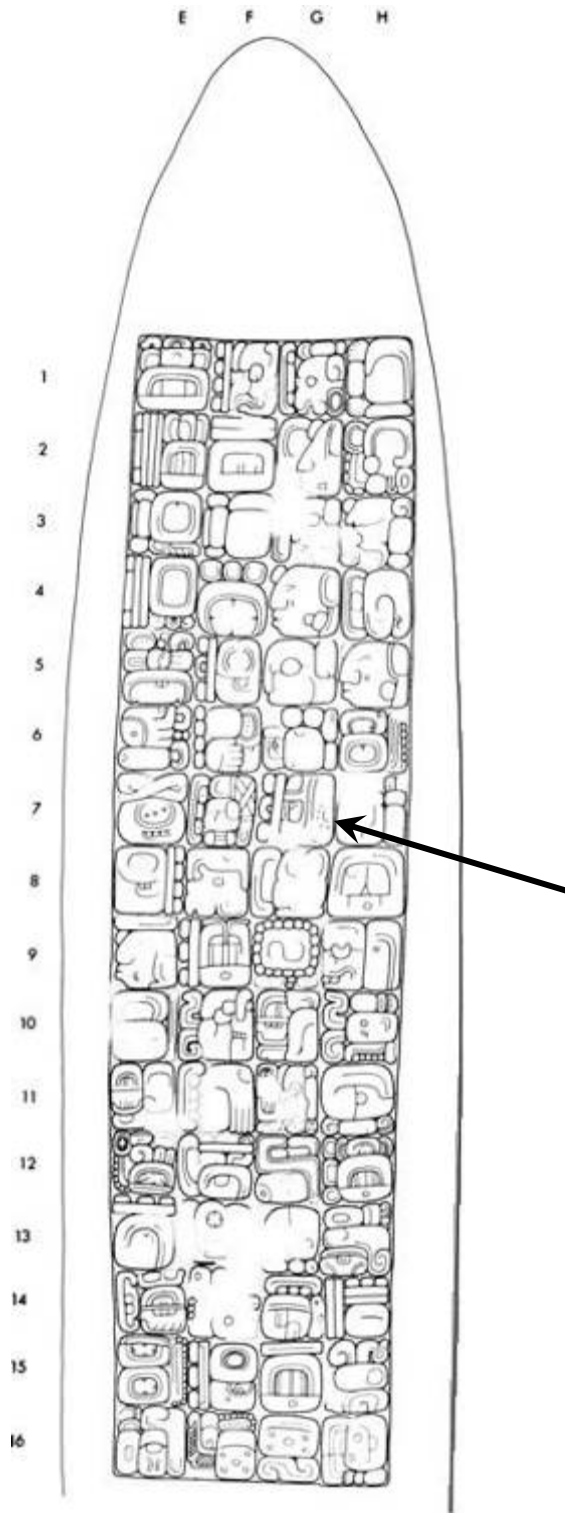


Figure 24. Naranjo Stela 13, back. The arrow points out the *Wuk Tzuk* title.

Stela 13, back from *Corpus of Maya Hieroglyphic Inscriptions*, Vol. 2, Part 1, *Naranjo*, reproduced courtesy of the President and Fellows of Harvard College.

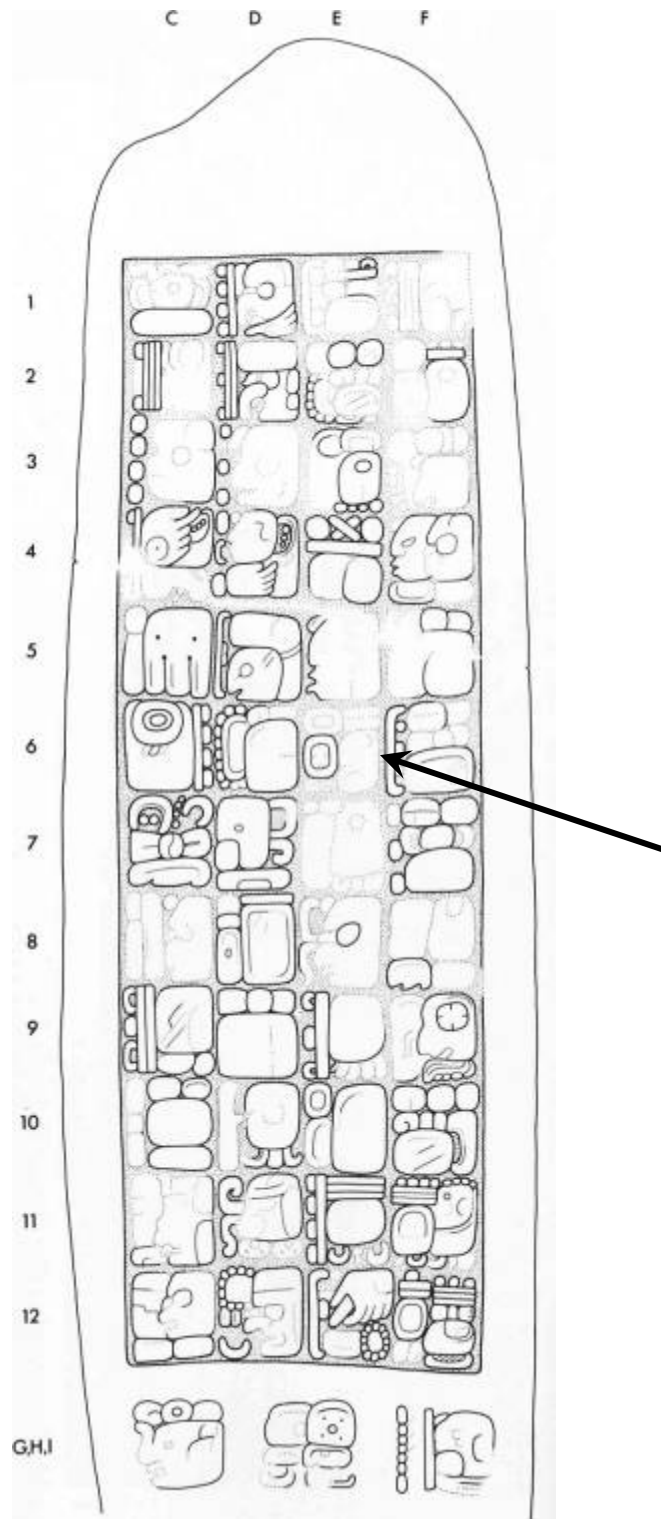


Figure 25. Naranjo Stela 14, back. The arrow points at the *Wuk Tzuk* title.

Stela 14, back from *Corpus of Maya Hieroglyphic Inscriptions*, Vol. 2, Part 1, *Naranjo*, reproduced courtesy of the President and Fellows of Harvard College.

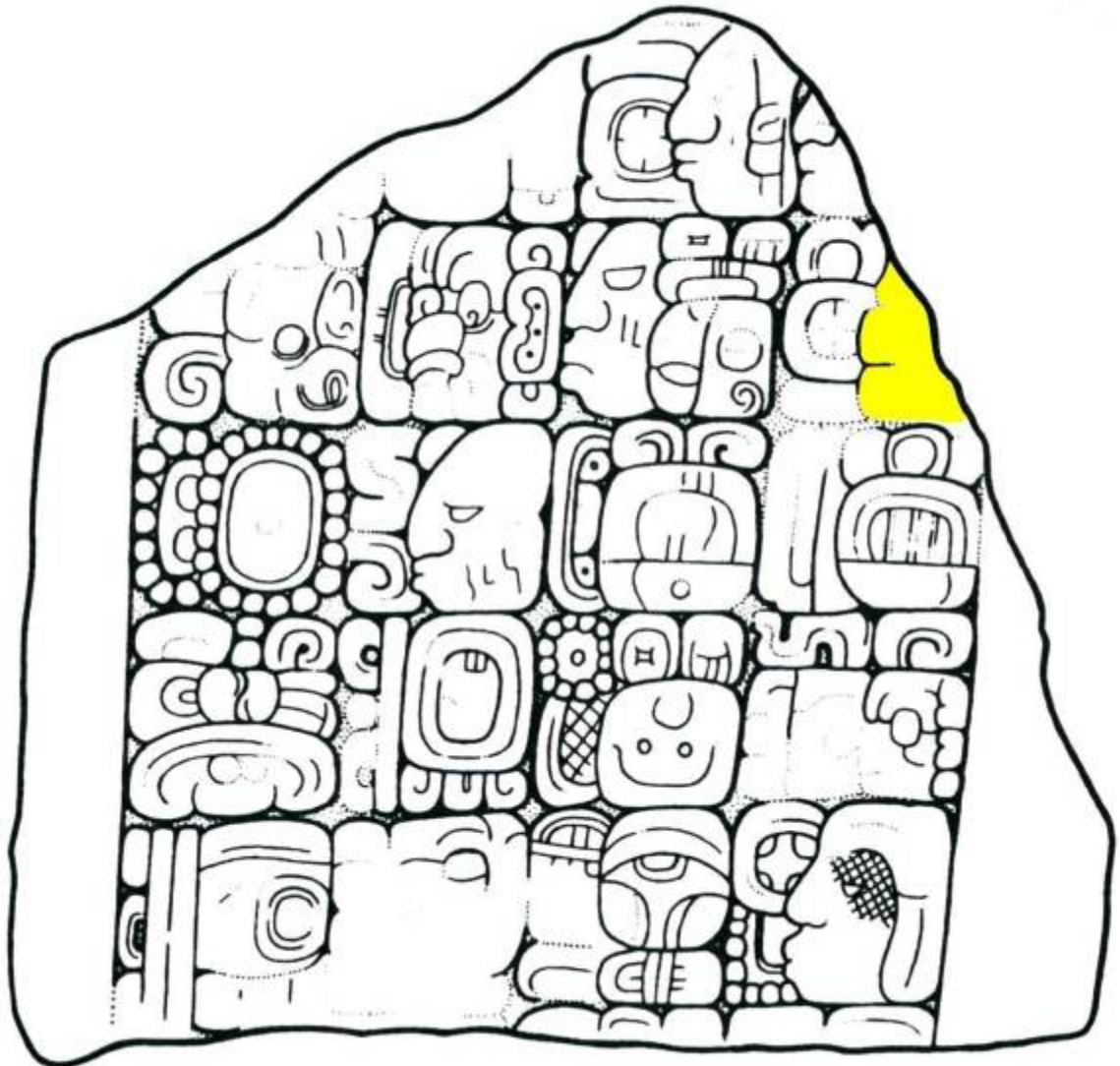


Figure 26. Fragment of a Stela now at the Museo del Radio Petén in Flores. The remnants of the *Wuk Tzuk* title have been highlighted.

Reprinted, by permission, from the Maya Workshop Foundation, *Notebook for the XXVIIIth Maya Hieroglyphic Forum at Texas*, page II-69. Illustration by Nikolai Grube. © 2004 by the University of Texas at Austin, Department of Art and Art History.



Figure 27. Bone One.

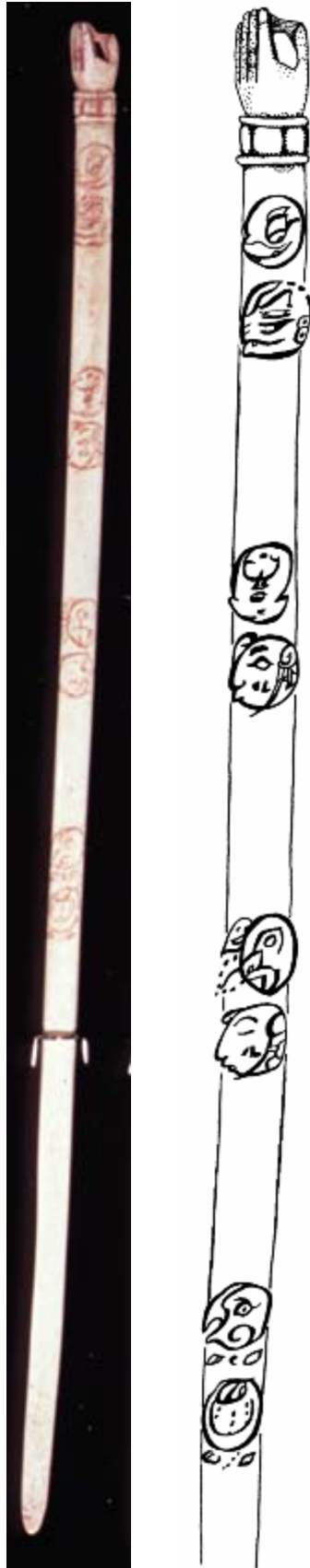


Figure 28. Bone Two

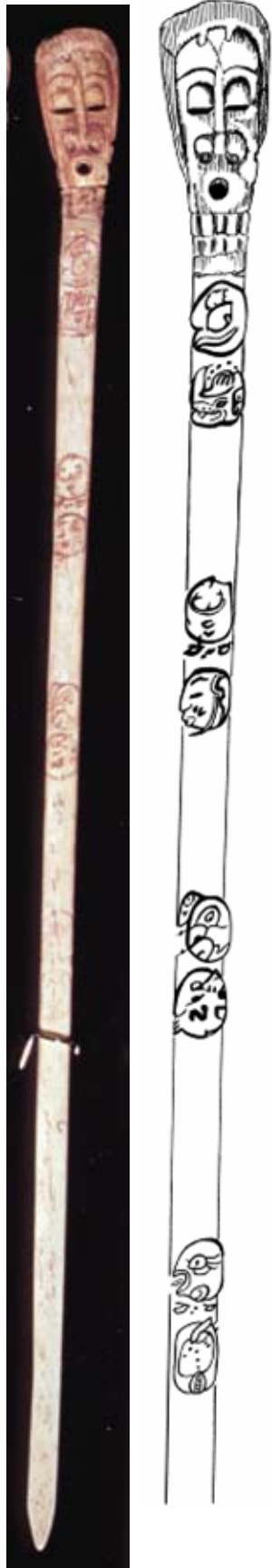


Figure 29. Bone Three

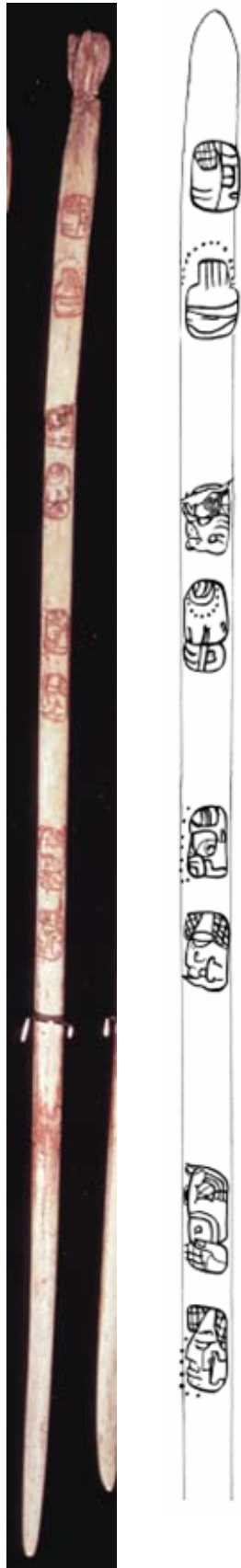


Figure 30. Bone Four

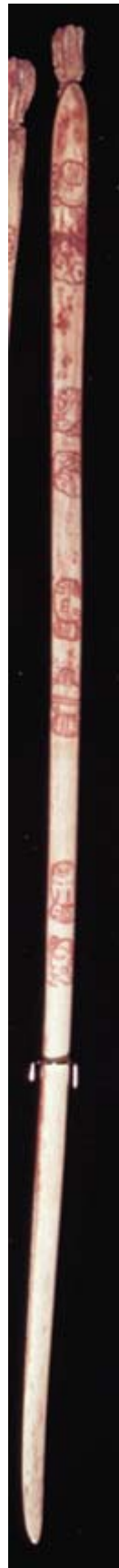


Figure 31. Bone Five



Figure 32. Bone Six



Figure 33. Bones Seven through Ten



Figure 34. Bone Seven



Figure 35. Bone Eight

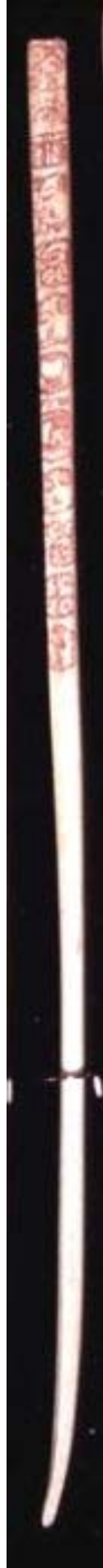


Figure 36. Bone Nine



Figure 37. Bone Ten

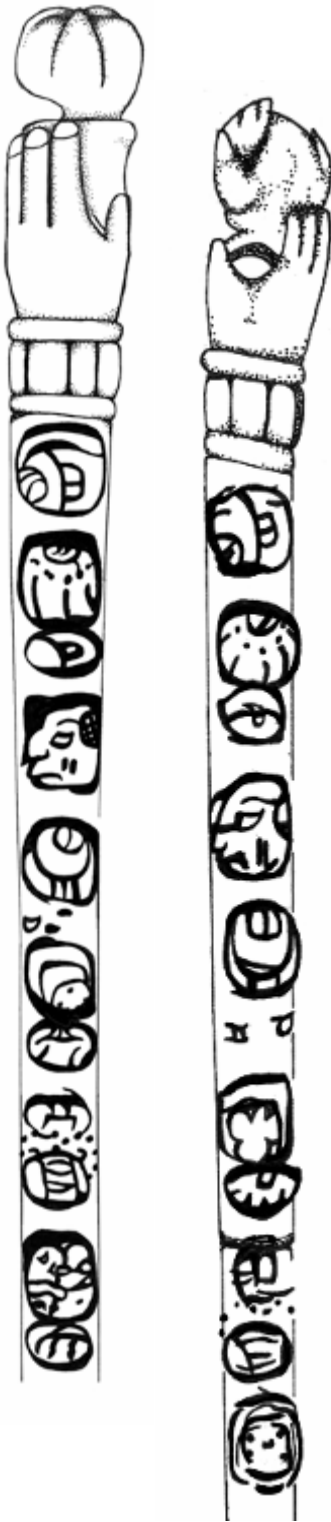


Figure 38. Bones Eleven and Twelve



Figure 39. Bone Twenty



Figure 40. Bone Twenty-Two, decorative end.



Figure 41. Quetzal Bird perched in a tree.

Courtesy of Lou Hegedus

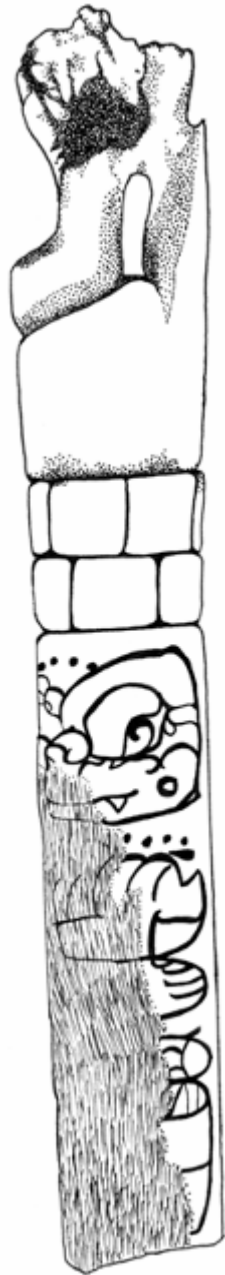


Figure 42. Fragment One



Figure 43. Fragment Two



Figure 44. Fragment Three



Figure 45. Fragment Three, comparison with thumb

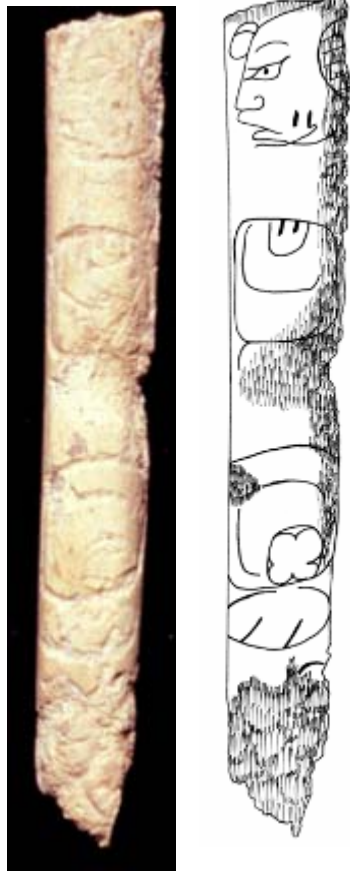


Figure 46. Fragment Four

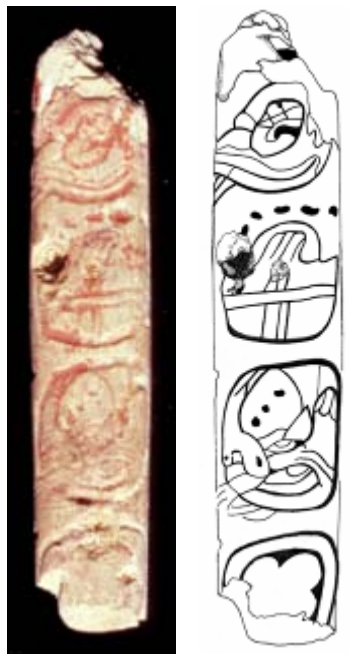


Figure 47. Fragment Five

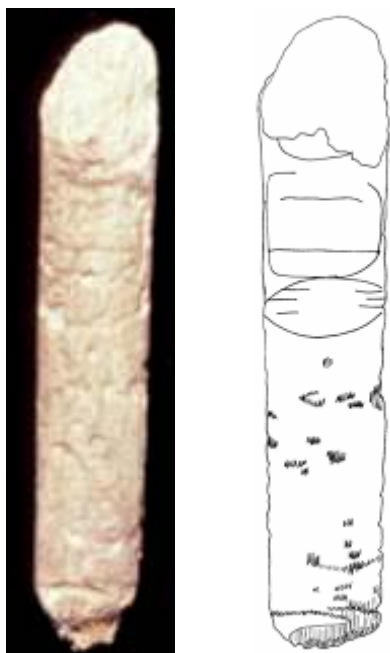


Figure 48. Fragment Six



Figure 49. Fragment Seven

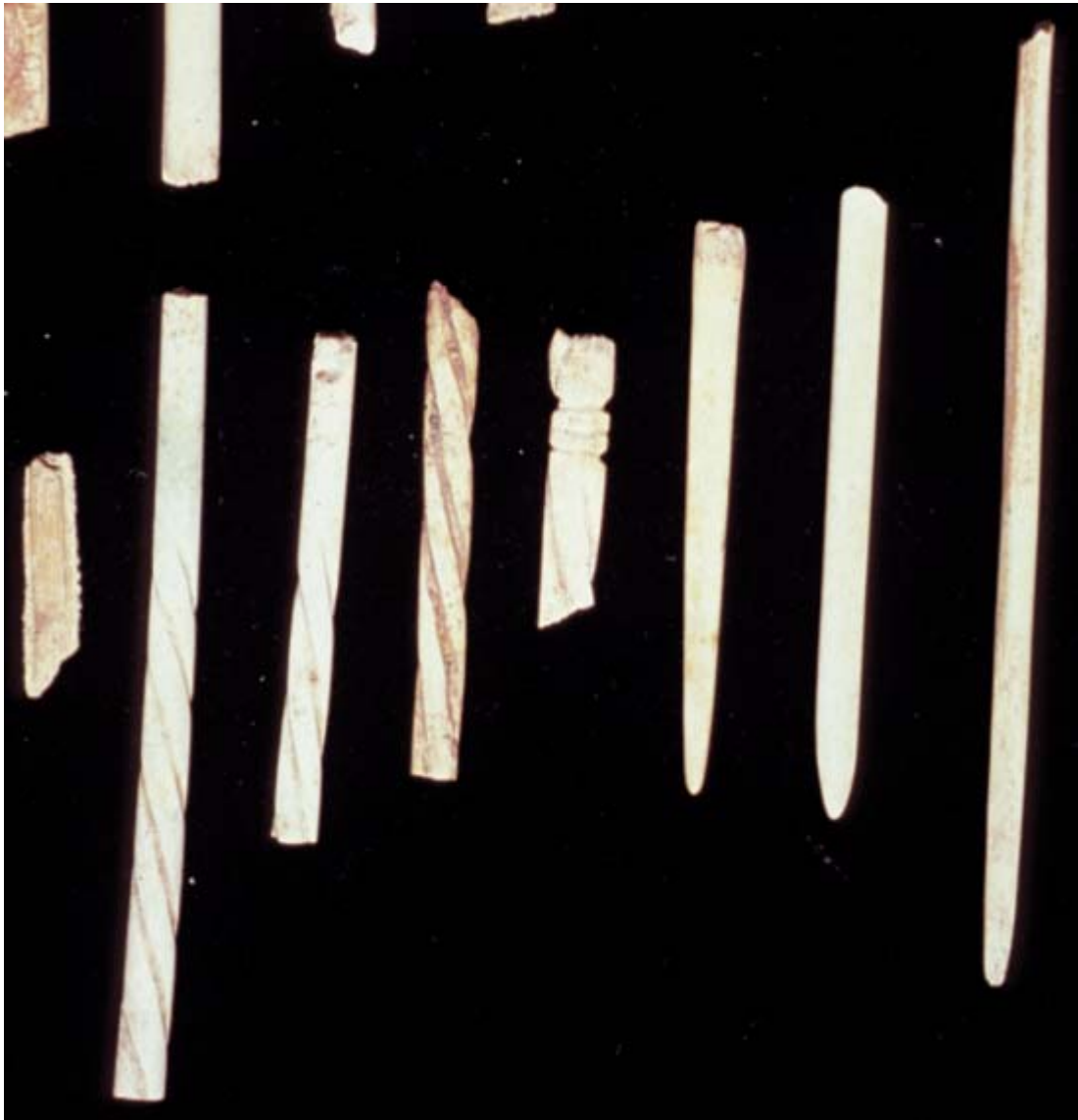


Figure 50. Fragments Eight through Fifteen

BIBLIOGRAPHY

- Anderson, Marilyn. *Guatemalan Textiles Today*. New York: Watson-Guption Publications, 1978.
- Bausum, Dolores. *Threading Time: A Cultural History of Threadwork*. Fort Worth: TCU Press, 2001.
- Bell, Ellen E. "Engendering a Dynasty: A Royal Woman in the Margarita Tomb, Copán." In *Ancient Maya Women*, ed. Traci Ardren, 89-104. Walnut Creek, CA: Altamira Press, 2002.
- Erik Boot, compiler. "A Preliminary Classic Maya-English/English-Classic Maya Vocabulary of Hieroglyphic Readings." *Mesoweb*, January, 2002 [on-line resource for Mesoamerican studies]; available from <http://www.mesoweb.com/resources/vocabulary/Vocabulary.pdf>; Internet; accessed October, 2003.
- Bouchud, Jean. "Les aiguilles en os: Étude compare des traces laissées par la fabrication et l'usage sur le materiel préhistorique et les objets expérimentaux." In *Methodologie Appliqué à L'Industrie de l'Os Préhistorique*, 257-267. Paris: Éditions du Centre National de la Recherche Scientifique, 1977.
- Cahlander, Adele with Suzanne Baizerman. *Double-Woven Treasures from Old Peru*. St. Paul, Minnesota: Dos Tejedoras, 1985.
- Chaplin, Raymond E. In *The Study of Animal Bones from Archaeological Sites*. London and New York: Seminar Press, 1971.
- Ciaramella, Mary A. "The Weavers in the Codices." In *Research Reports on Ancient Maya Writing No. 44*. Washington, D.C.: Center for Maya Research, 1999.
- Coe, Michael. *Piedras Negras Archaeology: Artifacts, Caches, and Burials*. Philadelphia: University Museum, University of Pennsylvania Press, 1959.
- Coe, Michael and Mark Van Stone. *Reading the Maya Glyphs*. London; New York: Thames & Hudson, 2001.
- Coggins, Clemency Chase. "Painting and Drawing Styles at Tikal: An Historical and Iconographical Reconstruction." Ph.D. dissertation, Harvard University, 1975.

- _____. "Portable Objects." In *Maya*, eds. Peter Schmidt, Mercedes de la Garza, and Enrique Nalda, 248-269. New York: Rizzoli International Publications, Inc., 1998.
- Coggins, Clemency Chase and Orrin C. Shane. *Cenote of Sacrifice: Maya Treasures from the Sacred Well at Chichén Itzá*. Austin: University of Texas Press, 1984.
- Cruz, Arnaldo González. "The Red Queen." *Mesoweb*, 2000 [on-line resource for Mesoamerican studies]; available from http://www.mesoweb.com/palenque/features/red_queen/01.html; Internet; accessed February 25, 2005.
- Digby, Adrian. *Maya Jades*. London: British Museum Publications Limited for the Trustees of the British Museum, 1972.
- Ehlers, Tracy Bachrach. *Silent Looms: Women and Production in a Guatemalan Town*. Boulder; San Francisco; London: Westview Press, 1990.
- Emery, Kitty F. "The Economics of Bone Artifact Production in the Ancient Maya Lowlands." In *Crafting Bone: Skeletal Technologies through Time and Space*, Proceedings of the 2nd meeting of the (ICAZ) Worked Bone Research Group, Budapest, 31 August – 5 September 1999, ed. Alice B. Choyke and László Bartosiewicz, BAR International Series 937, 73-83. Oxford: Archaeopress, 2001.
- Freidel, David, Linda Schele, and Joy Parker. *Maya Cosmos: Three Thousand Years on the Shaman's Path*. New York: W. Morrow, 1993.
- Freidel, David and Stanley Guenter. "Bearers of War and Creation." *Archaeology Online Features*, January 23, 2003 [On line version of *Archaeology* magazine]; available from <http://www.archaeology.org/online/features/siteq2/index.html>; Internet; accessed May, 2004.
- Gillespie, Susan D., and Rosemary A. Joyce. "Gendered Goods: The Symbolism of Maya Hierarchical Exchange Relations." In *Women in Prehistory: North America and Mesoamerica*, eds. Cheryl Claassen and Rosemary A. Joyce, 189-207. Philadelphia: University of Pennsylvania Press, 1997.
- Graham, Ian. *Corpus of Maya Hieroglyphic Inscriptions* v.1, pts.1-2. Cambridge, MA: Peabody Museum of Archaeology and Ethnology, Harvard Museum, 1975-.
- Grube, Nikolai, ed. *Maya: Divine Kings of the Rain Forest*. Cologne:

Könnemann, c2001.

Guernsey, Julia Ellen. "A Thematic Survey of Women on Maya Late Classic Ceramic Vessels." Masters Thesis, University of Wisconsin-Milwaukee, 1992.

Hamann, Byron. "Weaving and the Iconography of Prestige: The Royal Gender Symbolism of Lord 5 Flower's/Lady 4 Rabbit's Family." In *Women in Prehistory: North America and Mesoamerica*, eds. Cheryl Claassen and Rosemary A. Joyce, 153-172. Philadelphia: University of Pennsylvania Press, 1997.

Hendon, Julia A. "Women's Work, Women's Space, and Women's Status Among the Classic-Period Maya Elite of the Copan Valley, Honduras." In *Women in Prehistory: North America and Mesoamerica*, eds. Cheryl Claassen and Rosemary A. Joyce, 33-46. Philadelphia: University of Pennsylvania Press, 1997.

Hendrickson, Carol. *Weaving Identities: Construction of Dress and Self in a Highland Guatemala Town*. Austin: University of Texas Press, 1995.

Herr, Rebecca Lynn. "Women of Yaxchilan and Naranjo: A Study of Classic Maya Texts and Contexts." M.A. Thesis, University of Texas at Austin, 1987.

Houston, Stephen and David Stuart. "Peopling the Classic Maya Court." In *Royal Courts of the Ancient Maya, Volume One: Theory, Comparison, and Synthesis*, eds. Takeshi Inomata and Stephen D. Houston, 54-83. Boulder, CO: Westview Press, 2001.

Joyce, Rosemary A. "The Construction of Gender in Classic Maya Monuments." In *Gender and Archaeology*, ed. Rita P. Wright, 167-195. Philadelphia: University of Pennsylvania Press, 1996.

LeMoine, Genevieve M. *Use Wear Analysis on Bone and Antler Tools of the Mackenzie Inuit, or BAR International Series 679*. Oxford: John and Erica Hedges, 1997.

Martin, Simon and Nikolai Grube. *Chronicle of the Maya Kings and Queens: Deciphering the Dynasties of the Ancient Maya*. New York: Thames and Hudson, 2000.

Maya Workshop Foundation. *Notebook for the XXVIIIth Maya Hieroglyphic Forum at Texas*. Austin: University of Texas at Austin, Department of Art and Art

History, 2004.

McAnany, Patricia. *Living with the Ancestors: Kinship and Kingship in Ancient Maya Society*. Austin: University of Texas Press, 1995.

McAnany, Patricia A. and Shannon Plank. "Perspectives on Actors, Gender Roles, and Architecture." In *Royal Courts of the Ancient Maya*, eds. Takeshi Inomata and Stephen D. Houston, 84-129. Boulder, Colorado: Westview Press, 2001.

Milbrath, Susan. *Star Gods of the Maya: Astronomy in Art, Folklore, and Calendars*. Austin: University of Texas Press, 1999.

Miller, Mary and Karl A. Taube. *An Illustrated Dictionary of the Gods and Symbols of Ancient Mexico and the Maya*. London; New York: Thames and Hudson, 1993.

Miller, Mary and Simon Martin, eds. *Courtly Art of the Ancient Maya*. New York: Thames and Hudson, 2004.

Moll, Roberto Garcia. "Shield Jaguar and Structure 23 at Yaxchilán." In *Courtly Art of the Ancient Maya*, eds. Mary Miller and Simon Martin, 268-270. New York: Thames and Hudson Inc., 2004.

Montgomery, John. *Dictionary of Maya Hieroglyphs*. New York: Hippocrene Books, Inc., 2002.

_____. *How to Read Maya Hieroglyphs*. New York: Hippocrene Books, Inc., 2002.

Pancake, Cherri M. and Suzanne Baizerman. "Guatemalan Gauze Weaves: A Description and Key to Identification." *Textile Museum Journal* 19 and 20 (1980-1981): 1-26.

Paulsen, Allison C. "The Thorny Oyster and the Voice of God: *Spondylus* and *Strombus* in Andean Prehistory." *American Antiquity* 39, no. 4 (Oct., 1974): 597-607.

Reents-Budet, Dorie. *Painting the Maya Universe: Royal Ceramics of the Classic Period*. Durham, N.C.: Duke University Press, 1994.

_____. Presentation at the 29th Maya Meetings, UT Austin, 2005.

Robertson, Merle Greene. *Sculpture of Palenque*. Princeton, New Jersey: Princeton University Press, c1983-

- Ryder, Michael L. *Animal Bones in Archaeology: A Book of Notes and Drawings for Beginners*. Oxford and Edinburgh: Blackwell Scientific Publications, 1969.
- Schele, Linda and Mary Ellen Miller. *The Blood of Kings: Dynasty and Ritual in Maya Art*. Fort Worth: Kimbell Art Museum, 1986.
- Schevill, Margot Blum. *Maya Textiles of Guatemala*. Austin: University of Texas, 1993.
- Schmidt, Peter, Mercedes de la Garza, and Enrique Nalda. *Maya*. New York: Rizzoli International Publications, Inc., 1998.
- Schmidt de Delgado, Hildegard. "Aboriginal Guatemalan Handweaving and Costume." Ph.D. thesis, Indiana University, 1963.
- Sharer, Robert J. *The Ancient Maya*, 5th ed . Stanford, CA: Stanford University Press, 1994.
- Silverblatt, Irene. *Moon, Sun, and Witches: Gender Ideologies and Class in Inca and Colonial Peru*. Princeton, New Jersey: Princeton University Press, 1987.
- Sperlich, Norbert and Elizabeth Katz Sperlich. *Guatemalan Backstrap Weaving*. Norman, OK: University of Oklahoma Press, 1980.
- Stuart, David. *Sourcebook for the 29th Maya Hieroglyphic Forum, March 11-16, 2005*. Austin: University of Texas at Austin, Department of Art and Art History, 2005.
- Taschek, Jennifer T. *The Artifacts of Dzibilchaltún, Yucatan, Mexico: Shell, Polished Stone, Bone, Wood, and Ceramics*. New Orleans: Middle American Research Institute, Tulane University, 1994.
- Taube, Karl A. *The Major Gods of Ancient Yucatan*. Washington, D.C.: The Dumbarton Oaks Research Library and Collection, 1992.
- Uriarte, María Teresa. "Dressed Lords and Ladies." In *Courtly Art of the Ancient Maya*, eds. Mary Ellen Miller and Simon Martin, 242-243. New York: Thames and Hudson, 2004.
- Webster, David. "Studying Maya Burials." In *Bones of the Maya: Studies of Ancient Skeletons*, eds. Stephen L. Whittington and David M. Reed, 3-12. Washington, D.C.: Smithsonian Institution Press, 1997.

Welsh, W. B. M. *An Analysis of Classic Lowland Maya Burials*. Oxford, England:
B.A.R., 1988.