

**ANALYSIS OF THE CARL LUMHOLTZ COLLECTION OF CASAS GRANDES  
CERAMIC ARTIFACTS AT THE AMERICAN MUSEUM OF NATURAL HISTORY**

by

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**VOLUME I**

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## **Abstract**

### **Analysis of the Carl Lumholtz Collection of Casas Grandes Ceramic Artifacts at the American Museum of Natural History**

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The Carl Lumholtz Collection of Casas Grandes ceramic artifacts at the American Museum of Natural History, with its complete and exact provenience, is the most comprehensive and diverse collection of Casas Grandes ceramics available to researchers in a United States or Canadian museum. This collection was excavated during Lumholtz's expedition of 1890-1891 to northern Chihuahua in Mexico. None of the museum collections outside of Mexico provide the data specificity of the Lumholtz Collection.

The artifacts analyzed in my dissertation were excavated in Cave Valley and from under the floors of ruined pueblos in the vicinity of San Diego, 10 miles south of Paquimé (Casas Grandes). While many of the collections of looted artifacts in museums have greatly enhanced our knowledge of the past, these collections may present a distorted picture of Casas Grandes ceramics since they consist of vessels chosen for their "aesthetic appeal to collectors" (Kelley, et al. 2011:214). Forgeries pose another threat to the efficacy of museum research.

The Mesoamerican versus North American origins argument for the florescence of the Casas Grandes Medio Period (1200-1450 A.D.) has been hotly debated for decades. Many scholars hold that the key to answering this question lies within the unique ceramic assemblages, since the design elements carry many stylized representations that can be correlated with Mesoamerican as well as Southwestern culture zones. Yet, theories centered on the ceramic

assemblages are often based solely upon design elements present in United States and Canadian museum collections that have meager documentation. This study seeks to remedy that void.

Chapter 1 sets the stage for the Casas Grandes Culture Zone while Chapters 2 and 3 elucidate early work in the region. Chapter 4 and 5 cover theoretical issues and Chapters 6 and 7 contain a comprehensive analysis of the Lumholtz Collection Casas Grandes ceramics. Chapter 8 offers my conclusions and a view toward future research. Appendix I through Appendix III provide visual references.

The Lumholtz Collection of Casas Grandes ceramics at the American Museum of Natural History creates a unique opportunity to study an assemblage that is well documented and legally acquired by a U.S. museum.

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## CHAPTER 1: INTRODUCTION

One of the very few collections of whole Casas Grandes ceramic vessels with documented provenience located outside of Mexico is the Carl Lumholtz Collection of Casas Grandes Ceramics at the American Museum of Natural History in New York City. This dissertation provides the first in-depth analysis of that material which was acquired during Lumholtz's first expedition to Mexico on behalf of the Museum (1890-1891). In order to minimize confusion, the term *Casas Grandes* is used when referencing the entire culture zone while the term *Paquimé* refers to the central site. Paquimé is also the designation used when referencing the UNESCO World Heritage Site.

Analyses of ceramic artifacts play a vital role in establishing the extent of the complexity and regional interactions of the Casas Grandes culture zone as well as its sociopolitical organization. Yet, for the most part, researchers utilizing Casas Grandes ceramic artifactual collections located in United States museums and Canadian museums are stymied by the fact that the majority of these collections have inadequate site provenience. In many cases these collections are the result of donations or purchases made in the early 20<sup>th</sup> century when looting was rampant and vessels acquired in Mexico could be sold for a significant profit across the border in Texas (Brand 1933, Hendrickson 2003, Kelley 2011, and others).

My analysis of the Lumholtz Collection proposes to fill in the blanks created by this void. Although this is a relatively small number of pieces as compared with the collections at the Smithsonian, the Royal Ontario Museum, the Amerind Foundation, and Arizona State Museum, Tucson, this collection was amassed by a single expeditionary party and remains virtually intact. The variety alone sets the collection apart. In my opinion, it presents a more representative picture of artifactual distribution than the collections that are a composite of various collectors' donations or purchases.

For over a century, collectors and museums have accumulated significant quantities of Casas Grandes ceramic artifacts, primarily whole polychrome jars and polychrome bowls. While many museums in the United States and Canada can boast extensive and beautiful collections of Casas Grandes polychromes, for the most part, these collections have only limited research potential. Due to the lack of recorded data, only a restricted amount of information can be garnered from those ceramics. Consequently, it is clear that the Lumholtz Collection at the American Museum of Natural History offers a unique opportunity to study a collection of Casas Grandes materials located outside of Mexico that has specific site provenience.

Prior to writing this dissertation I examined and photographed over 2500 Casas Grandes ceramic artifacts including those at The Smithsonian's National Museum of Natural History, Washington, D.C., the El Paso Museum of Archaeology, El Paso, Texas, the Museum of Indian Arts and Culture, Santa Fe, New Mexico, the Maxwell Museum, Albuquerque, New Mexico, the Amerind Foundation, Dragoon, Arizona, the Centennial Museum, University of Texas-El Paso, El Paso, Texas, and the Arizona State Museum, Tucson, Arizona. In addition, I spent two seasons in Chihuahua as lab director with Dr. Michael Whalen and Dr. Paul Minnis researching and documenting artifacts from Site 242 (1998) and Site 204 (2000).

My research of Casas Grandes ceramic artifacts began at the Hudson Museum, University of Maine, Orono, when I was invited by Dr. Steve Whittington to research a collection of Casas Grandes polychrome vessels that were contributed to the museum. In support of that research, I contacted Dr. Charles Spencer at the American Museum of Natural History who graciously provided access to their collection information to me. It was here that I first encountered the Carl Lumholtz collection of Casas Grandes material acquired during Lumholtz's first expedition to Mexico on the Museum's behalf (1890-1891).

I believe that the Lumholtz Collection stands apart from other collections for several reasons. Lumholtz conducted his excavations with full permission from the Mexican Government who allowed the materials to be sent to the United States even though the removal of artifacts had been legally banned by the Mexican government in the mid-nineteenth century (Kelley 2011). Additionally, the collection remains virtually unadulterated. Equally important is the availability of both the handwritten catalog and sections of unpublished field notes from that Expedition. Furthermore, I have also been able to review some of the correspondence between Lumholtz and the Museum as well as some of Lumholtz's handwritten field notebooks.

Complexity, sociopolitical organization, and regional interactions in prehistoric North America have been the focus of archaeological study for more than a century. The Southwestern cultures of Chaco and Hohokam as well as the Southeastern Mississippian society were considered as examples of complexity and regional organization. However, Casas Grandes (a.k.a. Paquimé) is "another complex late prehistoric polity that developed in the same region as the Chacoan and Hohokam cultures but has been much less intensively studied than its neighbors" (Whalen and Minnis 2009: 2).

### **THE CASAS GRANDES CULTURE ZONE**

Situated approximately 150 miles south of the international border between the United States and Mexico sits the 260 acre site of Paquimé, considered the "capital" of the Casas Grandes culture zone. The Casas Grandes culture sphere radiates outward from its cardinal hub of Paquimé with the majority of known sites to the north and northwest. For centuries Paquimé's ruins and its associated outliers have engendered considerable speculation as to the relationship of Casas Grandes with the southwestern cultures of the United States to the north and the Mesoamerican cultures to the south. Di Peso stated that the Casas Grandes culture area

includes all of present-day Mexico north of the Tropic of Cancer (at 23° north latitude) extending northward across present-day Utah and Colorado to 38 north latitude, west to the Pacific Coast at 124° longitude and east to 97° longitude (Di Peso 1974: 53). Some archaeologists have portrayed the Casas Grandes culture area as a “peninsula of Mesoamerica” where “changes in the prehistory of the Southwest were simply the furthest eddies of the ebb and flow of Mesoamerican history” (Mathien 1986: 1).

According to Donald Brand, “The northwestern corner of Chihuahua possesses an especial interest for the student of the historical geography of western America as it is situated upon the most direct and most likely line of cultural contacts between South (*sic*) Mexico and the American Southwest” (Brand 1933: 61).

The term *International Four Corners* (as it relates to the convergence of the states of Sonora and Chihuahua with Arizona and New Mexico) was coined by Dr. Paul Minnis, University of Oklahoma. Others such as Charles Di Peso and Beatriz Braniff refer to the region as the *Gran Chichimeca* (*chichimec*, a Nahuatl Aztec term, has been roughly translated to mean barbarian), while still others have dubbed the area the *Greater Southwest* (see Figure 1). Yet another archaeologist specializing in the region refers to this region as the *Southwest/Northwest* and the term *Desert Borderlands* has been applied by others. At other times, it was envisioned as an isolated island which evolved independently, “taking on only those things of Mesoamerica that were tossed up on its shore like driftwood or brought by infrequent and sporadic voyagers across the sea” (Mathien 1986: 1). Thus, there should not be any wonder that theoretical approaches to the region are equally disparate.



Figure 1: Map of the Greater Southwest (Ravesloot 1988: 2)

At its northern extreme, the Casas Grandes culture zone has been said to include the southeastern corner of Arizona and southwestern New Mexico and has been linked to sites as far away as Truth or Consequences, New Mexico, over two hundred miles northeast of Paquimé. On the east, Casas Grandes is bound by the desolate, dry regions east of the Carmen River drainage; tall, rugged, mountains mark the boundaries to the south and west. To the south, very little Casas Grandes material has been found beyond the Rio Aros valley. Rising to an average elevation of over 6,000 feet, the northern portion of the Sierra Madre Occidental creates the western boundary of the Casas Grandes culture sphere (Di Peso 1974: 6-7; Schaafsma 1995).



Figure 2: View of Paquimé looking towards the Rio Casas Grandes (author photo 2000)

The ruins of Paquimé were first chronicled by the Spaniards. It is possible that the first records were made in 1536 when a party led by Alvar Nunez Cabeza de Vaca, traveled westward across the Casas Grandes Valley. Later, in 1565, the area was visited by General Francisco Ibarra who called the large site “Paquimé” (Di Peso 1968: 23).

At an altitude of 4,000 feet, Paquimé is situated at the upstream head of the Rio Casas Grandes, about 5 miles south of the modern city of Nuevo Casas Grandes (population 100,000) and one-half mile south of the colonial town of Casas Grandes, approximately 150 miles south of the region where the states of Arizona, New Mexico, Chihuahua, and Sonora meet along the United States-Mexico Border (the “International Four Corners”) (Di Peso 1974: 3-4; Minnis and Whalen 1993: 34). In the late 1890s the banks of the Casas Grandes River were lined with groves of tall cottonwood trees. The primary vegetation was comprised of thorny shrubs such as mesquite, ocotilla, cats-claws, and tasajo. Irrigation created a fertile terrain capable of “rich yields” (Bandelier 1890: 25).

The plentiful waters of the Rio Casas Grandes create a floodplain of rich soil over half a mile wide (Minnis and Whalen 1993: 38). To the west and southwest lie the heavily forested Sierra Madre Occidental, while the expansive grasslands and desert shrub of the Chihuahuan desert plains stretch to the east and north interspersed by a series of small mountain ranges

including the Sierra Escondido and the Sierra Capulin. In the northwestern desert of Chihuahua a system of fertile valleys is created by four major river systems: the Rio Casas Grandes, the Rio de Santa Maria, the Rio del Carmen, and the Rio Bravo (a.k.a. the Rio Grande). Five miles south of Paquimé, at the Hacienda San Diego, a broad plain fans out from the eastern front of the Sierra Madre to the banks of the Rio Casas Grandes. Casas Grandes-related settlements concentrated along the basin's waterways, and the mountain slopes to the west are replete with prehistoric agricultural features (Bandelier 1890: 32; Di Peso 1974: Figure 284-5; Minnis 1989: 271; Douglas 1992: 3). It was in the region of San Diego, as well as in Cave Valley, that Carl Lumholtz and his party found a rich assortment of hundreds of Casas Grandes ceramic vessels buried under the floors of abandoned pueblos (Lumholtz 1902).

#### **THE LUMHOLTZ COLLECTION OF CASAS GRANDES CERAMIC VESSELS**

The Lumholtz Collection presents an extraordinary collection of over 415 whole or nearly whole pots ranging from Plainwares (over 60 pieces) to the widely collected Ramos Polychromes (approximately 64 pieces). Unlike many museum collections, the Lumholtz collection is rich in its array of Ramos Black (approximately 131 pieces) and Playas Red ceramics (over 60 pieces). Vessel sizes run the gamut from large jars to miniature bowls, with human and animal effigies present in a variety of types. In addition to the decorated pieces, the blackware ranges in size from tiny bowls no more than 1.5 inches across, to large ollas approximately 14 inches in height. Other wares are incised, punched, and coiled. Some redwares appear as animal representations while others are in the form of squash. A wide range of polychromes are present. Along with the Ramos Polychromes, polychromes of the Babicora, Carretas, Corralitos, Escondida, Huerigos and Villa Ahumada types are identified.

For the purposes of this dissertation, over 415 ceramic artifacts collected during Lumholtz's first expedition and curated at the American Museum of Natural History were photographed, classified by type, inventoried, and analyzed by me. With the exception of a very few unique sherd pieces, these were all whole vessels, a percentage of which had been partially or wholly restored. (See Appendix I for a complete photographic inventory of the ceramic artifacts; the bichrome and polychrome vessels were photographed in quarter turns so that the full layout of the design motif is shown.).

My analyses of the ceramic artifacts in the Carl Lumholtz Casas Grandes Collection include an overview of the size range of the whole jars and bowls as a means of assessing population aggregation and the possibility of feasting rituals of a political or religious nature. Additionally, the elements and motifs utilized on the Babicora Polychrome vessels, Ramos Polychrome vessels, and Villa Ahumada Polychrome vessels are analyzed. Current research on the design horizons for the Ramos Polychromes is also considered in relation to this collection; this is discussed in Chapter 7.

According to my assigned typology, the Lumholtz Collection includes a total of sixty-three (63) Plainware vessels including three (3) rubbed scored, two (2) pattern-incised, two (2) rubbed-incised, two (2) rubbed-corrugated, and three (3) tool punched vessels. Playas Red wares are represented by twenty-seven (27) jars, nineteen (19) bowls, one (1) saucer, three (3) Playas Red effigies, three (3) Playas Red Incised jars, one (1) Playas Red Incised bowl, one (1) Playas Red Scored Jar, two (2) Playas Red Tool Punched jars and three (3) Playas Red-on-Brown jars plus one (1) Playas Red-on-Brown bowl.

The total count of one hundred and thirty (130) Ramos Black vessels included sixty-seven (67) jars, fifty-six (56) bowls and seven (7) large rim pieces. Among the bichromes there

were four (4) Ramos Black-on-Red jars and one (1) Ramos Black-on-Red macaw effigy, two (2) Ramos Black-on-White jars, one (1) Ramos Black-on-White eccentric , five (5) Madera Black-on-Red jars, two (2) Madera Red-on-Brown jars and three (3) Villa Ahumada Black-on-White jars.

The Polychrome vessels were represented by thirteen (13) Babicora Polychrome jars and four (4) Babicora Polychrome bowls, four (4) Carretas Polychrome jars and one (1) Carretas Polychrome chalice vessel, three (3) Corralitos Polychrome jars, four (4) Escondida Polychrome jars along with three (3) Escondida Polychrome bowls, and one (1) Huerigos Polychrome jar. The Ramos Polychromes accounted for the greatest number of polychromes with thirty-eight (38) jars, fifteen (15) bowls, nine (9) effigies and two (2) saucers or eccentrics. Villa Ahumada Polychrome vessels included twelve (12) jars, one (1) bowl and three (3) effigies while the Villa Ahumada Ramos Variants included five (5) jars and ten (10) effigies. The balance of the nine (9) Polychromes was either non-local or too sooted to be identifiable. These vessels are all included in Appendix I.

In addition to the ceramic artifacts inventoried, I encountered fifty-one (51) non-ceramic artifacts that I also photographed. These are illustrated in Appendix II along with their designated locale as stipulated in the handwritten catalog. Notable among these Lumholtz Collection non-ceramic artifacts is a bracelet of *Glycymeris gigantean* shell similar to one described by Di Peso and attributed to the Viejo Period of the Casas Grandes culture zone (Di Peso, et al. 1974a:399) and a stone phallus similar to one found at Site 242 by Whalen and Minnis (Jones 2002: 51). Other non-ceramic artifacts on my inventory include several beads, a variety of ground stone implements, coral tubes, small charred corn cobs, various shells, a copper bell, and lithic artifacts (See Appendix II: Non-Ceramic Artifacts: AMNH 30 / 4138 to AMNH

30 / 4169, AMNH 30 / 4397 to AMNH 30 / 4404 and AMNH 30 / 5742 to AMNH 30 / 5757).

Appendix III contains images of the color plates from Unknown Mexico. Di Peso, et al. (1974) reference these plates as illustrations of vessel types excavated at Paquimé. A complete list of those illustrations correlated with the Di Peso designations (Di Peso, et al. 1974, Vol. 6: 147-299) appears in Chapter 6.

### **AUTHENTICITY OF COLLECTIONS**

“In years past many of the mounds of the Casas Grandes have been opened by Mexicans in search for antiquities which could be sold. These mounds contain the remains of ancient Indian communal dwellings of adobe, walls broken down, but still possessing coatings of plaster. Beneath the floors, usually below corner walls, the burials occur. Surrounding the skulls, ceremonial objects are found, including pottery, carved stone images, stone and shell beads, turquoise ornaments, copper bells, and other articles. Quantities of this archaeological material have been introduced into our American museums through Mexican speculators in pottery, and thus important cultural features have presented themselves. However, as yet few definite conclusions have been reached, first, because data as to specific site of origin or conditions found in excavation are lacking; secondly, prior to my attempted excavation in 1928, very little systematic work had been conducted in the region” (Carey 1931: 327).

There can be no doubt that the concern regarding authenticity is a valid one. While many of the collections of looted artifacts in museum collection have greatly enhanced our knowledge of the past, as pointed out by Kelley, et al., it is a “two-edged sword” (Kelley, et al. 2011:215). This is particularly true of Casas Grandes collections since, for the most part, these collections consist of vessels chosen for their “aesthetic appeal to collectors” (Kelley, et al. 2011:214).

Scholarly works such as those of the Van Pools’ work regarding shamanism (2007), Maria Sprehn’s work on craft specialization (2003), and Mitch Hendrickson’s design analysis (2003), all rely on museum collections as the foundations of their interpretations. As pointed out by Hendrickson “a serious caveat with using museum collections as the primary database is the question of vessel authenticity ...” (Hendrickson 2003: 93).

As early as 1916, Captain John Wright reported that among the twenty mounds within a radius of one mile from Pershing's campsite in the San Joaquin Valley "Fully a third of these have been wantonly destroyed by the Mexicans themselves who dig for the excellent adobe with which they were filled, and for the pottery which they send to Juarez, El Paso, and Laredo to sell" (Wright: Nov. 21, 1916 letter to W. H. Holmes: Smithsonian Museum of Natural History Archives).

In his 1933 Ph.D. dissertation, Donald Brand points out that "Since immemorial times the ruins of Chihuahua have been dug into and pilfered of their treasures in clay, stone and shell." Exacerbating this destruction has been "the presence of many agrarian colonies." Pricewise, Brand estimates "between two and five pesos for a whole Chihuahua polychrome olla, and five to fifteen pesos for the effigy pots and more exotic forms. Dealing through local collecting agents are the big buyers ... Only a negligible amount has been procured through licensed excavations, most of this residing in the Lumholtz collection of the American Museum of Natural History" (Brand 1933: 59-60).

Brand endorses the research value of Chihuahuan artifactual collections around the world. He singles out institutions such as Gila Pueblo [Archaeological Foundation], the National Museum (later known as the National Museum of Natural History at the Smithsonian), Santa Fe's Museum of New Mexico, the Royal Ontario Museum (that collection is featured prominently in Mitch Hendrickson's 2003 work) and small museums for their collections, as well as the private collections of Ledwidge and Houghton. However, most significantly, Brand stresses that "Practically none of the above collection material is of value for a study of the areal distribution of pottery types, since the pottery was commonly purchased in large groups lacking specific identification of provenience" (Brand 1933: 60).

Chief among the commercial activities involving looted Casas Grandes ceramics was the work undertaken by Edward Ledwidge, who was the cross border agent in El Paso for the Northwestern Mexico Railroad. In 1933, E. B. Sayles negotiated, on behalf of Harold Gladwin, for the purchase of a collection of whole pots from Gus McGinnis, who was the lawyer for the Hearst Hacienda located in the Babicora region. Gladwin's mission was to utilize the collection in his research for the classification of pottery types. Ledwidge was the facilitator of the sale at the El Paso end. According to Kelley, Ledwidge facilitated the illegal export of pots passing through El Paso via the railroad where Ledwidge had a major role (Kelley, et al. 2011: 197-199).

My own research includes an Excel spreadsheet of Casas Grandes ceramics provided to me by the National Museum of the American Indian ("NMAI") which indicates that between 1915 and 1923 Ledwidge sold upwards of 450 Casas Grandes vessels to NMAI as well as participating as a "collector / donor" with Harmon Hendricks (a board member of NMAI) in 1917 in NMAI's acquisition of another 22 Casas Grandes vessels. Hendricks also donated 13 Casas Grandes vessels to the museum in 1917.

The Lumholtz Collection fills an informational gap insofar as it represents material collected without the burden of theoretical constraints or financial worth. While many collections are the result of generous collectors and/or benefactors who donated their collections, a significant number of the pieces in those collections have more than likely changed hands several times. A preponderance of material is slanted by the taste of the collector or the theoretical preferences of the curator. However, as Donald D. Brand points out in his 1933 dissertation, the Lumholtz collection at the American Museum of Natural History stands out.

"Contributing materially to the study of Chihuahuan culture have been the various collections of artefacts (*sic*) made available to the research public at a number [of] institutions over the world. . . . Dealing through local collecting agents are the big buyers, usually foreigners residing in Chihuahua, Mexico City and the border towns. Through

these operators have been obtained most of the Chihuahuan antiquities now outside of Mexico. **Only a negligible amount has been procured through licensed excavations, most of this residing in the Lumholtz collection of the American Museum of Natural History**” (Brand 1933, pp. 59-60) (emphasis added).

## THEORETICAL ISSUES

Theoretical issues move to the forefront in Chapter 2: *Early Explorations and Expeditions* through Chapter 5: *Symbolism, Ritual, and Regional Interaction*.

In Chapter 2: *Early Explorations and Expeditions*, I provide an overview of early theoretical positions from Obregon’s Chronicle of General Francisco de Ibarra’s 1565 expedition to the mid-nineteenth to the mid-twentieth century. It draws upon the works of a variety of early theorists who either explored collections of Casas Grandes artifacts and/or conducted explorations and expeditions in the Casas Grandes region including Blackiston, Brand, Brew, Carey, Ekholm, Kidder, Lister, Saville, and Vaillant.

Included in that chapter is a brief description of the explorer Carl Lumholtz, the impetus for his Mexican expeditions, and how his 1890-1891 First Expedition proceeded. Lumholtz, aided by the sponsorship of the American Museum of Natural History and the American Geographical Society, was given a letter of introduction from the U.S. Secretary of State to the President of Mexico. In turn, he was granted the full cooperation of the Mexican government, even though the removal of artifacts had been legally banned by the Mexican government in the mid-nineteenth century. The ceramics documented in this dissertation are from those excavations.

Chapter 3: *Charles Di Peso and The Joint Casas Grandes Expedition* is an overview of the Joint Casas Grandes Expedition under the leadership of Charles Di Peso as well as a review of Di Peso’s theoretical positions. From 1958 to 1961, under Di Peso’s leadership and jointly sponsored by the Amerind Foundation located in Dragoon, Arizona and the Instituto Nacional de

Antropología e Historia, the Joint Casas Grandes Expedition undertook the massive task of excavating approximately 40 acres of the 260 acre site of Paquimé (Di Peso, et al 1974). Subsequent research challenges Di Peso's conclusions about the expanse of the Paquimé site.

Chapter 4: *Complexity and Sociopolitical Organization* offers a review of theoretical positions and arguments that continue to abound over the sociopolitical complexity of Casas Grandes as well as the markers indicative of this complexity. Additionally, the concept of whether Casas Grandes was primarily Southwestern or Mesoamerican in origin continues to haunt studies of the region. "In its relation to neighboring cultures it [Casas Grandes] shows closer affiliation to the Southwest, as evidenced by many details, than to Mexican cultures proper" (Carey 1931:372). Paquimé displays a greater variety of public and private ritual architecture, both in intricate multilevel platform mounds (each distinctive in form and structure), two I-shaped ball courts with platform mounds and ceremonial courts, and in smaller features, than any other single site in the Southwest (McGuire 1980: 19). The uniqueness of the large mounds, many in zoomorphic or geometric shapes, which are clustered in the northwest sector of the site, may signal the practice of complex rituals. Since massive public ritual architecture suggests systems of social integration among prehistoric peoples, this may also infer that Paquimé was a religious center. Equally important, the size and complexity of the architecture indicates significant planning and organization of labor resources (Minnis 1989: 277-281; Minnis et al. 1993: 40).

Also discussed in Chapter 4 is the argument for *in situ* development of the center of Casas Grandes as posed by Dr. Paul Minnis and Dr. Michael Whalen. Minnis and Whalen hold that models for distant stimuli for the florescence of the Medio Period may be due to a lack of

research in the area. As they point out, “Distant stimuli come from factors as diverse as commerce, conquest or migration” (Minnis & Whalen 2003: 314-329).

Chapter 5: *Symbolism, Ritual, and Regional Interaction* is an account of the theoretical arguments for the interpretation of the symbolism evident in the Casas Grandes culture zone’s architecture and pottery as well as whether the genesis for the Casas Grandes culture was Mesoamerican, Southwestern or *in situ*.

## **COLLECTION DATA**

Chapter 6: *Terminology, Typology, Morphology, and Vessel Size Analysis* provides a detailed analysis of the ceramic artifacts in the Lumholtz Collection including Casas Grandes vessel typology, the morphology of the collection, and data sets of the jar and bowl sizes as possible indicators of aggregation.

Chapter 7: *Material Composition, Vessel Design, and The Impact of Looting* continues an analysis of the collection with figures exploring the design, layout, elements, and motifs of the polychromes. Also included in that chapter are data sets comparing the ceramic assemblage of the Lumholtz Collection as it was amassed from 1890 to 1891 versus ceramic collections from nearby sites that were recently excavated.

Chapter 8: *Summary and Conclusions* offers a summary of my findings and my conclusions.

## **BACKGROUND OF STUDY**

Casas Grandes is popularly known for its unique and beautiful polychromes. Over fifteen years ago, I was introduced to the polychromes of Casas Grandes when I was invited by Dr. Steve Whittington, then the curator at the Hudson Museum, University of Maine, Orono to research the Palmer Collection of Casas Grandes ceramics as the topic for my Master’s Thesis. I

completed the requirements for my Master's Degree from Hunter College, The City University of New York, with my thesis entitled "Casas Grandes Ceramics and the *Pochteca* Model" (Lee 1997). Recently, the current curator at the Hudson Museum requested my help in preparing an exhibit of the Palmer Collection. In response, the materials I provided (including the text for the case labels and signs as well as copies of my personal photographs of Paquimé) were used for this exhibition.

For my thesis, in addition to an in-depth analysis of the Palmer Collection, I examined the polychromes of the Lumholtz collection at the American Museum of Natural History, and researched the Di Peso sherd collection housed at that museum.

Since earning my Master's Degree, I have spent three field seasons in Chihuahua researching and documenting ceramic assemblages of the Medio Period. My initial field season was spent working with Dr. Timothy D. Maxwell, Museum of New Mexico, and Sr. Rafael Cruz-Antillón, the Instituto Nacional de Antropología e Historia. I worked on the creation of a database of ceramic artifacts from the site at Galeana. In January, 1998 I attended the Sixth Southwest Symposium, hosted by the Instituto Nacional de Antropología e Historia and held in Hermosillo, Mexico, where I offered a poster presentation of a selection of polychrome ceramics from the Lumholtz Collection. At that time, I was invited by Dr. Michael Whalen of Tulsa University and Dr. Paul Minnis of the University of Oklahoma to work with them as a laboratory director for the 1998 field season.

During my first field season with Drs. Whalen and Minnis, I cataloged a significant portion of all ceramic, lithic, and stone artifacts from Site 242 which is located approximately 27 km from Paquimé "in the most distant part of the Core Zone" (Whalen and Minnis, 2009:33). Site 242 is considered a small ritual and administrative center due to its unique architecture, the

presence of an I-shaped ball court, as well as its artifactual assemblage which, in addition to the ceramic artifacts, included what appear to be macaw pen components and a stone phallus similar to one reported by Di Peso from Paquimé (Whalen and Minnis, 2009:33-36). (Also see AMNH 30 / 4403 in Appendix II.) My work during my second season concentrated on the ceramic artifacts from Site 204, the Tinaja site, which is categorized as one of the two largest Core Zone neighbors of Paquimé (Whalen and Minnis, 2009:12).

My research of the Lumholtz Expedition has included a review of the Scribner Archives at Princeton University as they relate to the publication of Lumholtz's *Unknown Mexico* (1902). While I was studying at the University of New Mexico, Albuquerque, I was invited by Professor Robert Leonard to study the notebooks of Elizabeth Black who conducted research on behalf of Charles Di Peso in the early 1960s. As a result, I created a summary and database of the ceramic research which has been used by other researchers, i.e. VanPool and VanPool, *Signs of the Casas Grandes Shamans* (2007).

In the Fall of 2003, I conducted a brief study at the University of New Mexico under the direction of Dr. Patricia Crown comparing the design elements on Mimbres vessels with those on Ramos Polychromes at the Maxwell Museum; the paper was entitled "Was Casas a Daughter of Mimbres" (Lee 2003). While living in New Mexico (2003-2006), I served on the Board of Directors of the Albuquerque Archaeological Society and was responsible for the revival of *Pottery Southwest*, a scholarly journal devoted to the study of Southwestern Ceramics. As the editor I arranged for the new publication to be available on the internet (where it is hosted by The University of New Mexico) and facilitated the creation of an archival CD of 21 years of past *Pottery Southwest* issues. Presently, I am on sabbatical from my editorship while I finish my dissertation.

As my dissertation reveals, the American Museum of Natural History's Carl Lumholtz Collection of Casas Grandes Ceramics is an underutilized resource for those of us working with the archaeological record of northern Chihuahua. It is my hope that this dissertation will remedy that and will make a significant contribution to future research efforts in the area.

## **CHAPTER 2: EARLY EXPLORATIONS AND EXPEDITIONS**

Systems of sociopolitical complexity and regional organization in prehistoric North America have been the focus of archaeological study for over a century. While these systems were in no way comparable to the complex societies of Mesoamerica, the Southwestern cultures of Chaco and Hohokam as well as the Southeastern Mississippian society were contemplated as examples of complexity and regional organization. However, as pointed out by Whalen and Minnis, Casas Grandes is “another complex late prehistoric polity that developed in the same region as the Chacoan and Hohokam cultures but has been much less intensively studied than its neighbors” (Whalen and Minnis 2009: 2).

### **HISTORICAL BACKGROUND**

The ruins of Paquimé were first chronicled by the Spaniards. It is possible that the first records were made in A.D.1536, when a party led by Alvar Nuñez Cabeza de Vaca traveled westward across the Casas Grandes Valley. Later, the area was visited by General Francisco de Ibarra who called the large site Paquimé (Di Peso 1968: 23).

Subsequent to Ibarra’s visit, the pueblo of Paquimé is documented in Obregon’s Chronicle. Baltazar de Obregon was one of Ibarra’s faithful soldiers during the A.D.1565 expedition into the northern areas of New Spain. He created the chronicle of that tour in later years and conveyed it via letters dated April 17 and April 24, 1584 to King Phillip II with the hopes of gaining the King’s favor (Hammond et al. 1928: pp. xxvii-xxix).

In Chapter XXX of his Chronicle, Ibarra reports his impressions of the city of Paquimé.

“Buildings of Paquimé

... I will start with the great expectations offered formerly and at the present time by this large city, which contains buildings that seemed to have been constructed by the ancient Romans. It is marvelous to look upon. Here the general and his army had taken quarters” (Hammond et al. 1928: pp. 205-206).

At this juncture Hammond, et al., indicates it is unclear as to whether “Ibarra may have gone east from Caguaripa and visited the *casas grandes* situated along the Casas Grandes River, which empties into Lake Guzmán just below the New Mexico border. The hypothesis has also been advanced that he might have continued northward and reached some of the notable ruins scattered along the Gila River in Arizona” (Hammond, et al. 1928, p. 206).

Ibarra continues his description of the city thus:

“Patios; pillars; walls

This city is located in some fertile and beautiful valleys surrounded by splendid and rich mountains and small mountain ridges. It is situated on the shores of the river, below Paquimé. This is the most useful and beneficial of all the rivers we found in those provinces. ... It can readily and at little cost be utilized for irrigating the fertile shores. There are many houses of great size, strength, and height. They are of six and seven stories, with towers and walls like fortresses for protection and defense against the enemies who undoubtedly used to make war on its inhabitants. ...

“Canals; estufas; copper plates

There were great and wide canals which they used to carry water from the river to their houses. They have broad estufas under their houses and buildings to protect themselves from the cold weather which is greatly felt there ... Metal slag which the natives had undoubtedly exploited, and stones to grind it, were found. It was believed that it was copper metal because we found two copper plates among the savage Indians, worked from molds as if they had been cast and made by some skillful and dexterous Spanish artisan” (Hammond et al. 1928: pp. 206-207).

## **EARLY EXPLORATIONS AND EXPEDITIONS**

Subsequent explorations and expeditions in the late 19<sup>th</sup> and early 20<sup>th</sup> century provided the building blocks for the mid to late 20<sup>th</sup> and early 21<sup>st</sup> century theoretical developments. For the most part these theoretical positions favored a north-to-south directionality, rather than the Di Peso model of Mesoamerican trader/warriors as the originators of the florescence of the Casas Grandes culture.

As early as 1829, Lieut. R.W. Hardy weighed in on the Southwestern origins side of the argument when he indicated in his *Travels in the Interior Mexico in 1825, 1826, 1827 & 1828* that Casas Grandes had its origins in the North, to wit, “Casas Grandes is one of the few ruins existing in Mexico, the original owners of which are said to have come from the north...” (Hardy 1829: 264-265).

Hardy’s early contention for a Southwestern connection is followed by John Russell Bartlett’s *Personal Narrative of Explorations and Incidents in Texas, New Mexico, California, Sonora, and Chihuahua* published in 1856. John Russell Bartlett was a commissioner of the United States and Mexico Boundary Commission who, during the years 1850, 1851, 1852, and 1853 conducted expeditions to Texas, New Mexico, California, Sonora, and Chihuahua. In Bartlett’s *Personal Narrative* he recounts his visit to Casas Grandes while travelling from Janos to Correlitos.



Figure 3: View of Paquimé sketched by John Bartlett (Bartlett 1856, Vol. 2: 348)

Bartlett compares the building materials utilized at Casas Grandes to those found “near the Pima villages, on the Gila, and they are unquestionably the work of the same people. The material, too, is the same as that of the ruins on the Salinas” (Bartlett 1856, vol. 2, p. 354). He further compares the ceramics of Casas Grandes to those of the Southwest:

“The whole valley and plain for miles about these ruins is strewn with fragments of pottery. I collected a number of specimens exhibiting various patterns, in order to show the taste of the makers in ornamental design, as well as for the purpose of comparing them with the pottery found at the Gila and the Salinas. They will also serve for comparison with the pottery of the Moquis [Hopi], Zunis, and other Pueblo Indians, as well as with the ornaments made by the present Pimos and Coco-Maricopas” (Bartlett 1856: vol. 2, pp. 361-362).

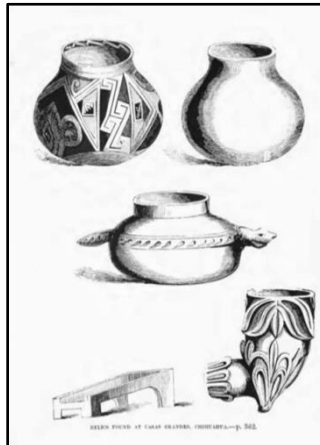


Figure 4: Sketch of Artifacts (Bartlett: 1856, vol. 2: 362)

Further support for Southwestern origins appears in Adolph F. Bandelier’s *Investigations in the Southwest*, 1892. In that work, Bandelier points to both architectural and artifactual reasons for the conclusion that Casas Grandes was Southwestern. With respect to architecture, Bandelier states: “Certain it is, however, that the architecture of the ruins is strangely like that on the Gila, and since the ancient buildings there are claimed by the Northern Pimas as those of their ancestors, ... some color is given to the surmise that the builders of Casas Grandes may have been of the same stock as the Pimas, Opatas, Yaquis, and kindred groups” (Bandelier 1892: 571).

On his journeys through northern Mexico, Bandelier observed numerous “remains of ancient habitations” along an 80 mile stretch of the Rio Casas Grandes banks from Ascension to Paquimé of the “same general character” interspersed with occasional isolated large structures. He concluded that “The main ruins [Paquimé] cannot be separated, archaeologically or geographically, from the remainder of the banks of the stream ...” (Bandelier 1890: 26).

Regarding the artifacts, Bandelier cites the likeness to the ceramic assemblages of the Gila. “The decoration on these vessels ... derives its patterns from symbolic figures, which are like those of the pueblos of New Mexico. ...The shapes are like those of New Mexican pueblo pottery, with the difference that the bottoms are convex” (Bandelier 1892: 552-553).

Additionally, Bandelier mentions other artifacts in the Southwestern context when he likens an axe from Casas Grandes with those of Arizona, “Stone axes are like the well-known instruments of the kind from Arizona” as well as declaring “I have seen many turquoise beads and ear pendants of turquoise precisely like those worn today by the Pueblo Indians or found in the ruins” (Bandelier 1892: 553).

#### **THE LUMHOLTZ EXPEDITION**

In the fall of 1890 Carl Lumholtz, a Norwegian explorer and naturalist, led an expedition to northern Mexico in an attempt to find the descendants of the earlier cliff-dwellers of the Southwestern United States. In his introduction to *Unknown Mexico*, Lumholtz relates:

“I first conceived the idea of an expedition to Mexico while on a visit to London in 1887. I had, of course, as we all have, heard of the wonderful cliff-dwellings in the Southwest of the United States, of entire villages built in caverns on steep mountain-sides, accessible in many cases only with the aid of ladders. Within the territory of the United States there were to be sure, no survivors of the race that had once inhabited those dwellings. But the Spaniards, when first discovering and conquering the district, are said to have come upon dwellings then still occupied. Might there not, possibly, be descendants of the people yet in existence in the northwestern part of Mexico hitherto so little explored?” (Lumholtz 1902: p. vii).

The Lumholtz Expedition of 1890-1891 to northern Chihuahua was the first of four that he would embark upon under the auspices of the American Museum of Natural History. Starting out from Bisbee, Arizona, Lumholtz and his party traversed the Sierra Madres from west to east arriving at Casas Grandes in early winter.



Figure 5: Map of Lumholtz Four Expeditions (Arqueologia Mexicana 1994:1:6:39)

The party continued southward along the banks of the Rio Casas Grandes and the Rio Piedres Verde where two excavations were undertaken – one in Cave Valley and the second in the ruined pueblos around San Diego. Most of the pieces found were associated with burials under the floors of ruined pueblos. The ceramics documented in this dissertation are from those excavations as described by Lumholtz:

“In the eastern part (Sierra Madre del Norte) we came upon a considerable number of caves containing house groups, the builders of which, generally, rested in separate burial-caves. In the same locality, as well as in the adjacent plains of San Diego, Chihuahua, we found numerous mounds covering house groups, similar in construction to those in the caves. **From underneath their floors we unearthed about five hundred beautifully decorated pieces of pottery**” (Lumholtz 1902, pp. x-xi) (**emphasis added**).

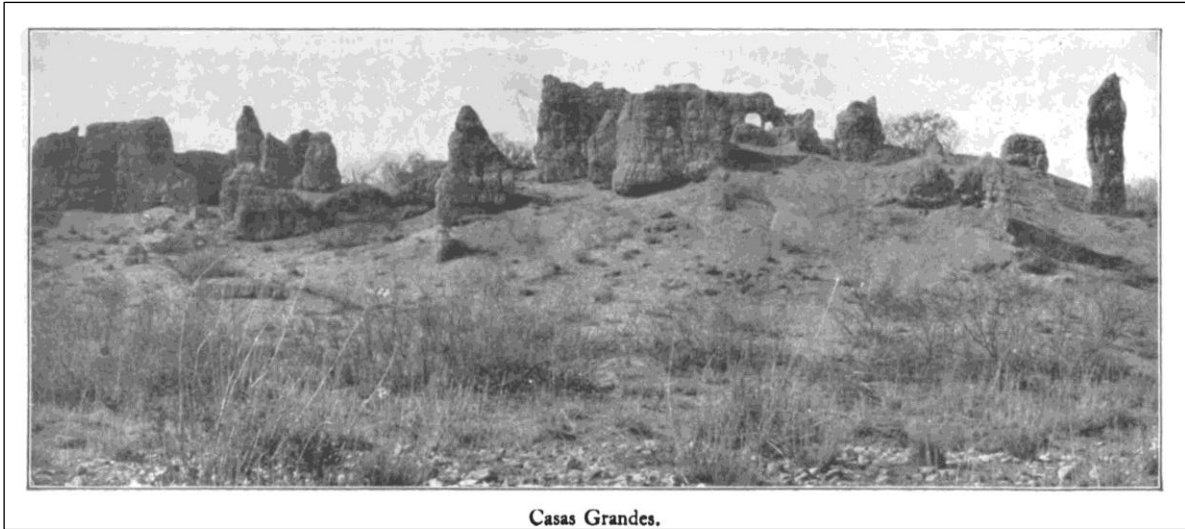


Figure 6: View of Casas Grandes (1890) (Lumholtz 1902: 85)

Unfettered by any predetermined concepts or archaeological paradigms, Lumholtz was free to explore the region and its archaeological sites with an open mind. Indeed, the focus of the First Expedition undertaken by Lumholtz was to ascertain if descendants of the cliff-dwelling peoples described by the early Spanish conquistadors were still residing in the cliffs dwellings of the Sierra Madre Occidental.

### **SUBSEQUENT EXPLORATIONS AND EXPEDITIONS (1894-1953)**

M. H. Saville's short paper, *The Plumed Serpent of Northern Mexico*, published in 1894, provides a somewhat ambivalent assessment of the Lumholtz collection. In Saville's description of one particular vessel (see Appendix I: AMNH 30 / 4431) he comments that "The tail ends in a conventionalized manner strongly resembling the Moqui<sup>1</sup> rain symbol" and notes that one of the two birds "is characterized by a toothed triangular ornament (a Moqui symbol) on the side of the breast ..." (pp.291-292). However, he goes on to compare the avian representations on the vessel with local northern Mexican "Trojan Mexicanas" and the snake representation may replicate the rain symbol. Saville continues that the vessel is "superior in quality and decoration to the pottery

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<sup>1</sup> Moqui was the name used in the late 19<sup>th</sup> and early 20<sup>th</sup> century to describe the pueblo peoples now known as Hopi (see *History of Arizona*, T. E. Farish, 1918).

of the ancient Pueblos, the angularity of the design strongly suggests the Arizona and New Mexico type” (p.292). This leads Saville to conclude that the presence of these symbols argues for “another connecting link between the cultures of New Mexico and Arizona and that of the more advanced peoples of Mexico and Central America” (Saville 1894: 292).

In his conclusion, Saville offers the possibility that the images “may possibly be an ideograph, Quetzal (bird) and Coatl (serpent)” (Saville 1894: 293). However, since Saville starts out with the equation that the design elements are Moqui in origin and then concludes that they may relate to feathered serpent god ceremonials, he basically leave the question of origins open ended.

Even as early as 1895, artifacts from the ruins of Casas Grandes had already achieved commercial significance. Lieut. Frederick Schwatka (*In the Land of Cave and Cliff Dwellers*, 1895) describes a vessel that he purchased which was taken from the mounds around Juarez City shortly before his arrival which he purchased. The anthropomorphic figure on the vessel purchased by Schwatka bears a very strong resemblance to one found in the Lumholtz Collection on AMNH 30 / 4503. He relates “Many other things had been found in this mound, including a number of utensils of pottery, together with the human bones of their makers” (Schwatka 1899: 53-54).

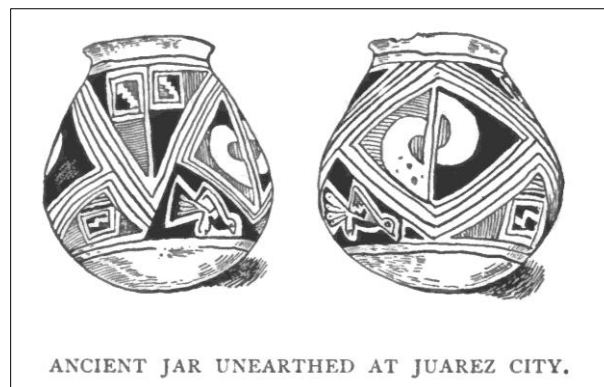


Figure 7: Image of Jar purchased by Lt. Schwatka in Juarez City (Schwatka 1899: 64)

In describing the vessel Schwatka states “It is like many other jars from Casas Grandes, as well as from better known ruins, and that have already figured in works on Mexico” (Schwatka 1895: 54). However, Schwatka does not go any further in diagnosing the origins of the ceramic iconography.

In 1905, Blackiston published his comments on the *Cliff Dwellings of Northern Mexico*. Consistent with the reports of others (Lumholtz 1902, Lister 1953), Blackiston reports observing burials beneath the floors. Blackiston relates his theoretical position regarding the origins of the inhabitants as “...veiled in mystery.” He determines “That they were not of the Nahuatl stock” based upon the dissimilarity of their ornaments. Further, Blackiston determines “That they were driven to the heart of the Sierras by or during the migratory movements of the Toltecs, Chichimecs, Aztecs, or some of the other kindred nations that were later destined to play such an important part in the history of the world ...” (Blackiston 1905: 361).

The following year “Accompanied by a Mexican guide” Blackiston reports on his climb to the Cerro de Montezuma (Blackiston 1906: 256). The detailed description of his journey culminates with Blackiston’s observation:

“The elaborately constructed road would in itself seem to countenance the theory of religious origin ... That there was direct communication, religious as well as military, between these ruins and those of the valley, there is little doubt, ... it may yet be found that the key to the culture of the inhabitants of the Casas Grandes lies deep in the heart of the Cerro de Montezuma” (Blackiston 1906: 261).

Among the early researchers of Casas Grandes ceramics, only a very few mention the Lumholtz collection at the American Museum of Natural History. In his 1916 paper, A. V. Kidder enumerates the collections he examined. In it he states:

“The present paper ... consists of a study of the Phillips collection in the Peabody Museum of American Archaeology and Ethnology at Cambridge. In it there are one hundred and ninety pieces of pottery, excavated principally at Janos, Ramos, and Corralitos ... Other collections examined were those in the Museum of the American Indian, the American Museum of Natural History, and the Fred Harvey Museum at

Albuquerque, New Mexico. **With the exception of the American Museum collection, which was made by Lumholtz, all these specimens were acquired by purchase in lots from local diggers and are accompanied with few or no data**” [Kidder 1916: 253] (emphasis added).

Brand reiterates Kidder’s view in his 1933 dissertation, “Practically none of the ... collection material is of value for a study of the areal distribution of pottery types, since the pottery was commonly purchased in large groups lacking specific identification of provenience” (Brand 1933:60).

A.V. Kidder in *The Pottery of Casas Grandes District, Chihuahua* (1916) clarifies his position on relationships in his statement:

“It is safe to say that the group belongs to the so-called Southwestern culture rather than to any Mexican culture presently known. This is shown by the structure of the vessels and the prevailing simplicity of their shapes (lack of complex forms, tripod types, the flat dish, etc.). The decoration is Southwestern in general plan, as is evidenced by the use of bands with framing lines; by the formality of arrangement and the regular repetition of elements. Of the elements themselves, the interlocking scrolls, the triangles with bent appendages, and particularly the opposed stepped figures, are all typically Southwestern” (Kidder 1916: ).

Kidder divided the elements he discerned in the Casas Grandes polychromes to fit into three categories: (1) Opposed stepped figures which he determined to be “typically Southwestern”; (2) Scrolls such as the interlocking scrolls which Kidder states “are found on the pottery of practically every Puebloan district”; and (3) the “club-shaped” element which later was interpreted as a stylized macaw (Kidder 1916: 262). See Figure 71: Kidder Plate VI (Kidder 1916) in Chapter 7.

Kidder reported on the burial customs of the region in his later work (1924). He observed a uniformity in the burial customs consistent with those reported by Lumholtz.

“The bodies were flexed tightly and disposed of in holes under the hard adobe floors of the rooms, usually in the corners and often four or five together. With the dead were placed offerings of shell and turquoise beads, as well as the beautiful pottery vessels that have caused the mounds to be so thoroughly ransacked” (Kidder 1962 [1924]: 318).

H. A. Carey in *An Analysis of the Northwestern Chihuahua Culture* (1931) supports Kidder's position "In its relation to neighboring cultures it [Casas Grandes] shows closer affiliation to the Southwest, as evidenced by many details, than to Mexican cultures proper" (Carey 1931:372). Carey expanded on Kidder's exposition of elements and motifs and concluded that "Although in execution of designs and general technique, Casas Grandes fine polychrome pottery probably surpasses many of the wares of the Southwest, the elements used are very few..." (Carey 1931: 346). He determined that "only nine design elements" dominated the Casas Grandes polychromes, as these were featured on approximately 80 percent of the vessels.

Carey credits the forms of the Casas Grandes vessels to southern (Mexican) influences. However, he goes on to say that "many of the design elements are undoubtedly Southwestern." In that context he singles out the Upper Gila spiral as a common occurrence while the macaw head design "is known only from this area". Carey acknowledges the plumed serpent as a local adaptation of southern influence along with the negative drawing process. Carey closes that "[D]esign, then, points to closer affiliation with the Southwest than with Mexico farther south but has nevertheless enough Mexican characteristics to show direct influence from that area" (Carey 1931: 369). See Figure 8.

Carey enumerates nine elements in the Casas Grandes design lexicon. "Of these, the first four are undoubtedly Southwestern designs" (Carey 1931: 346). Carey attributes the key designs, interlocked spirals, step designs and the circle in negative painting as originating in the San Juan area of the Southwest while the triangles having one side extended and bent and the dot within a small square are to be found throughout the Southwest. With respect to the leaf design (see "g" in Figure 8), he asserts that no similar design is found in either Mexico or the

Southwest. Carey suggests that this design may have some relationship to Southwestern interlocking spirals in that they “bear a superficial likeness to it” (Carey 1931: 347-350).

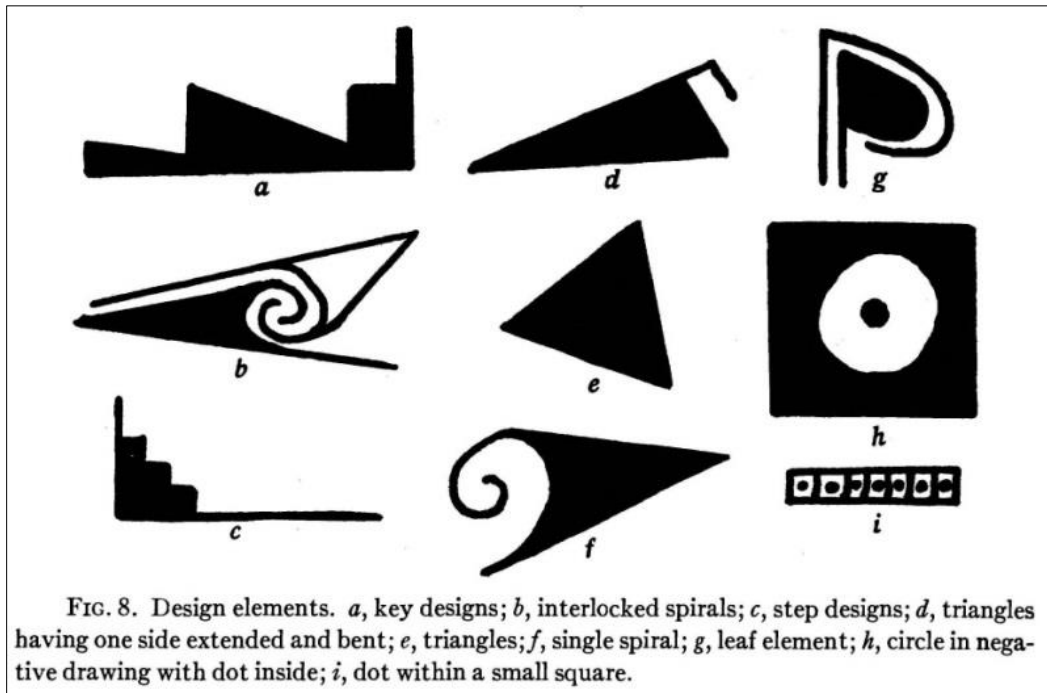


Figure 8: Design Elements (Carey 1931: 346)

Like Carey, Donald Brand categorizes the traits of the Chihuahuan ceramics as more readily identifiable with the Puebloan cultures of the United States Southwest than with the cultures further to the south in Mexico. While he recognized the individual significance of effigy and “exotic” forms, he concludes that “the general structure of the vessels and their prevailing simplicity of shape is Southwestern”. Brand points to individual decorative elements and techniques to support his conclusion.

With respect to the decorative techniques as originating in the Southwest, Brand explains “The use of bands with framing lines, and the regular repetition of elements in decoration is typically Southwestern.” Singled out among those elements as typically Southwestern are “interlocking scrolls, opposed stepped figures and ‘leaf’ designs,” although he grants that the “occasionally used plumed serpent is probably of Mexican origin” and that the “Macaw head is

probably of local origin, as the Macaw is a denizen of the Sierra Madre forests.” In sum, Brand determines that “the data in hand point to a probably early and slight influence from the south upon a basically Puebloan ceramic art” (Brand 1933: 94-95).

“The prehistoric or archaeological cultures of Northwest Mexico are definitely Southwestern in affiliation. Legged metates, tripod ware, complex ceramic forms, cloisonne ware, metal working, obsidian knives, pyramids – to mention only a few of the items typical of Central Mexican culture – were lacking in the Sonoran and Chihuahuan cultures” (Brand 1935: 287).

Brand points to a variety of Southwestern wares found in the area including “Gila red-on-buff, Middle Gila Polychrome, Mimbres black-on-white, Chupadero black-on-white, and El Paso Polychrome” as further support of his position that the Casas Grandes culture zone had its origins in the Southwest. Brand uses the variety of trade wares that were found to strengthen his conclusion that “... the cultures represented are considered to have colonized southward into Mexico. ...” (Brand: 1935: 290).

Brand’s opinion regarding Chihuahuan complex collections further supports my position that, in general, these collections have been biased by the emphasis on the collectability of the wares. He states: “the effigy and Polychrome wares have been collected and stressed to the neglect of the other wares constituting the Chihuahua ceramic complex.” Brand reiterates Kidder’s view in his 1933 dissertation, “Practically none of the ... collection material is of value for a study of the areal distribution of pottery types, since the pottery was commonly purchased in large groups lacking specific identification of provenience” (Brand 1933:60).

Brand points out that the Chihuahuan complex also consists of “painted wares, redware, blackware, and plain buffware, which can be classified, according to decorative technique, into some ten pottery types” (Brand: 1935: 291).

Donald Brand was prompted to conduct his intensive survey of the historical geography of northern Mexico by an inquiry of Dr. C. O. Sauer, when Sauer expressed an interest in the

possibility of “certain cultural items” found in southeastern Arizona spreading into Chihuahua. From 1930 to 1931, Brand conducted his research in which the area was “determined by the extent of the prehistoric Chihuahua (Casas Grandes polychrome) culture” (Brand 1933:1). According to Brand, “The northwestern corner of Chihuahua possesses an especial interest for the student of the historical geography of western America as it is situated upon the most direct and most likely line of cultural contacts between South (*sic*) Mexico and the American Southwest” (Brand 1933: 61).

Since his work was limited to a one year time period, Brand settled for a reconnaissance survey of over 400 sites “based on the visiting of all archaeological sites reported or discovered, and the gathering of a representative collection of surface artefacts (*sic*)” These sites included “mounds, caves, fortifications and potsherd areas” (Brand 1933:62). (See Figure 9).

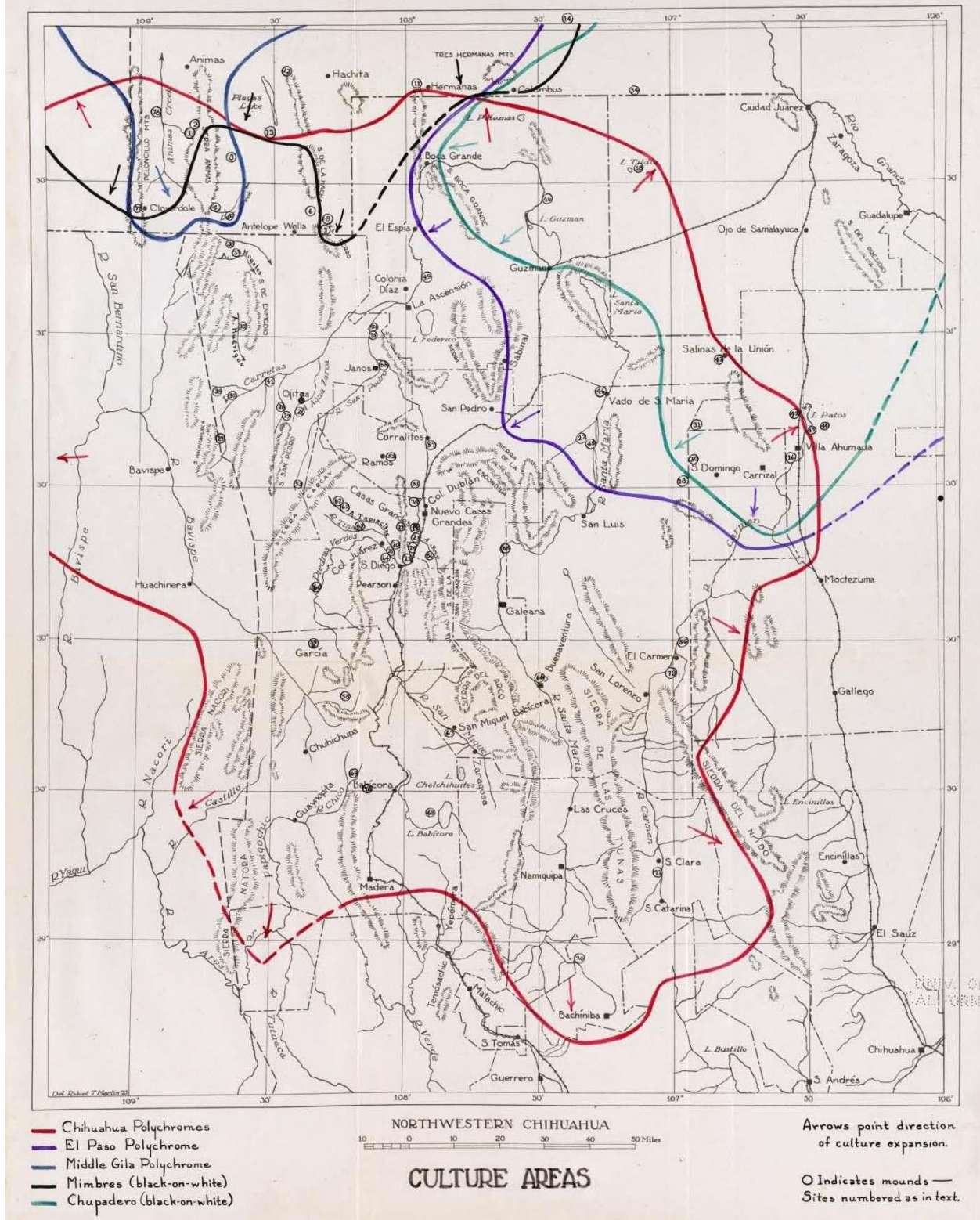


Figure 9: Culture Areas Map Illustrating Ceramic Distribution (Brand 1933)

Reconnaissance of the area is described by drainage units; Brand's description starts with the sites around the Animas-San Luis area in Arizona, proceeds through northeastern Sonora on an easterly projection into the Sierra Madre towards the Bavispe drainage area. Further south he heads to the Carretas River where he divides the region into "three archaeological sections. The desolate lower Playas valley ... contains only pure Mimbres sites" while "The upper Playas valley contains several Chihuahuan sites ... Some cave and cliff dwellings exist in the bordering mountains to the east and west" (Brand 1933: 64).

Sites selected by Brand for his study are enumerated on his Culture Area Map (See Figure 9). Of particular interest are the sites designated 60: Cave Valley and 64: San Diego since these are the localities where Lumholtz excavated.

George C. Vaillant, Associate Curator of Mexican Archaeology at the American Museum of Natural History, asserted in his 1932 paper *Some Resemblances in the Ceramics of Central and North America* that "On the southern periphery of the Pueblo area we find several cases of possible connection with Mexico" (Vaillant 1932: 6). After discussing the possible impact of effigy vessels on the Mexican/Southwestern connection, Vaillant goes on to say "Another connection between Mexico and the Southwest is the mixture of elements to be seen in Casas Grandes pottery, where upon north central Mexican vessel forms are applied patterns perhaps Pueblo in origin although they have a strong indigenous quality" (Vaillant 1932: 7-8).

Vaillant also considered the potential for West Mexican, Central America, and Mississippian influences in the Casas Grandes polychrome vessels. Vaillant states:

"Although the idea of vitalizing vessel forms by the application of elements is so wide as to be almost a universal New World trait, the modeling of such forms is restricted to the higher cultures of Middle America and northern South America.... The creation of a human or animal appearance in a vessel by filleting on bits of clay, or by incising or twisting the rim into a head form, is found in the West Mississippi area and throughout Central America" (Vaillant 1932: 17).

Vaillant's conclusions are discussed further in Chapter 6 (See also Figure 66).

Later, E. B. Sayles proposed that "In the Chihuahua series, texturing of the surface by incising, gouging, etc. is highly developed; this process, which is likewise characteristic of the Mimbres wares, was carried to a high degree of perfection. The smoothed corrugations of the Mimbres wares, however, die out in the Chihuahua series, and only the earlier types are marked by corrugating" (Sayles, 1936, p. 60). To illustrate his linking of the Chihuahuan (Casas Grandes) vessels with Southwestern origins he provided an elaborate comparison of design elements found in the Casas Grandes ceramics with those from Mogollon, Mimbres, and Salado wares (*Ibid.*).

In 1931 the Gila Pueblo Archaeological Foundation ("Gila Pueblo"), under the sponsorship of Harold Gladwin, embarked upon two expeditions – one in southwestern New Mexico and the second in Texas. The mission of these expeditions was to ascertain the source of the Hohokam culture; the results were inconclusive. Following those expeditions, in 1933, Gila Pueblo commenced an expedition into northern Chihuahua.

According to Gladwin, after the Salado dispersion from Southern Arizona, sometime around A.D. 1350 the Salado peoples appear to have taken an easterly course. He concludes that "the main body of the Salado people seems to have moved into northern Chihuahua." In support of this conclusion, Gladwin points to the presence of cliff dwellings with T-shaped doors, subfloor burials, and Gila Polychrome pottery. Additionally, he reasons that "those who had come from the Gila Basin brought with them the idea of building Casas Grandes of adobe." Like his contemporaries, Gladwin supports the conviction that the directionality of the Casas Grandes culture was from north to south "rather than in the reverse direction" (Gladwin 1936: 97-99).

Gladwin places the chronology for the pottery-making culture in Chihuahua as “falling between 1000 and 1450 A.D.” According to Gladwin, the Chihuahuan culture had “been recognized as broadly conforming to the Pueblo pattern.” He asserts that recent studies provide a clearer definition of the region’s culture and that these studies “demonstrated that the cultural development of Chihuahua was due, almost exclusively, to impulses from the north and that no single feature which occurs in the Southwest can be traced definitely to a southern origin” (Gladwin 1936: 103-104).

In conclusion, Gladwin holds that, as a result of the 1933 survey, “The Pueblo frontier has been carried four hundred miles south into Mexico.” He contends that “The results show that the culture of Chihuahua was integral with that of the Southwest.” Finally, in closing, Gladwin throws down the gauntlet by challenging those who hold the opposite view to provide “concrete facts” (Gladwin 1936: 104-105).

J. O. Brew’s *Mexican Influence upon the Indian Cultures of the Southwestern United States in the Sixteenth and Seventeenth Centuries* (1940) focuses on the impact of the Spaniards in the Sixteenth Century. However, his opening comments with respect to Southwestern archaeological investigation of earlier sites are noteworthy insofar as although “two highly developed prehistoric cultures” were present, there was a lack of evidence supporting the contention that there had been “extensive connection with the high cultures of Mexico.” He continues by specifying that “very few trade objects have been found which can be shown to have been manufactured in Mexico, and our studies seem to indicate that the rather extensive developments in architecture, ceremonialism, and the minor arts which we find in the Southwest between 500 and 1500 A.D. were largely indigenous” (Brew 1940: 341).

In the same volume, Gordon Ekholm's paper entitled *The Archaeology of Northern and Western Mexico* (1940) offers a broad view of Western and Northern Mexico. With respect to Casas Grandes, Ekholm agrees with Donald Brand and "concludes that all of the culture traits found in this Chihuahua region, except possibly one form of red-on-black pottery, can only be explained as a very late diffusion southward of Southwestern elements, specifically a combination of the Mogollon and Hohokam cultures" (Ekholm 1940: 327). However, Ekholm does equate the Casas Grandes hooded effigy vessels in some respects with those of the "Tarascan Area" (Ekholm 1940: 329). The possibility of a West Mexican connection to the Casas Grandes culture zone is discussed further in Chapter 5.

In *The Problem of Contacts between the Southwestern United States and Mexico* (1945), Emil Haury points out that while "Many American archaeologists have come to accept as a matter of course the doctrine that many Southwestern culture elements were derived from Mexico" he warns that these were "derived when chronologies were imperfectly known" (Haury 1945: 55). Haury admits to an early preference for the flow of cultural influences from north to south, but stresses that he has reverted to the south to north point of view "beginning with such basic factors as agriculture and pottery." He reports that "The growing body of literature has led to the single" conclusion that northwestern Mexico was not the main corridor through which the Mexican elements passed to infect the Southwestern cultures. But some sort of relationship did exist and whether this was through the "lowlands of the coast or through the sierras remains to be determined" (Haury 1945: 57).

One focus of Haury's work is the determination of a potential route and/or routes through which the Mexican traits were diffused. Haury speculated that the route was to the west of the Casas Grandes culture zone through parts of Sonora. In his work, Haury provides an extensive

list of primary and secondary elements with which to find parallels between Mexico and the Southwest. For example, under the heading of “primary element,” Haury cites corn and corn culture as being transmitted to the Hohokam, Mogollon, and Anasazi c. A.D. 1 and that pottery was transmitted to the Hohokam and Mogollon during that same time frame and then spread to the Anasazi c. A.D. 400.

Under the heading of “secondary element,” Haury lays out a long list of Mesoamerican traits making appearances in the Southwest pre-Casas Grandes, including ball courts, copper bells and macaws. In terms of pottery traits, he cites footed and legged vessels as well as embossed decoration, candeleros, effigy vessels, and baking griddles as Hohokam in origin. Haury credits early Mesoamerican Influence in the Southwest as pre-Casas Grandes and thus ascribes the presence of influences as coming from Mesoamerica as actually originating in the north. He sets forth several examples as substantiation of his theory (Haury 1945: 62-65). He concludes that if those parallels had southern origins they did not all move north at the same time nor did they all travel over the same route and/or come from the same source. Haury goes further to suggest that some traits were “distinctly Middle American in flavor...” (Haury 1945: 70-71)

Haury makes little reference to Chihuahua as the potential route for the transmission of the Mesoamerican cultural traits to the Southwest. In fact, he clearly states “In Chihuahua, the situation is somewhat better understood. On a probable Mogollon basis (Gladwin in Sayles 1936) Chihuahua culture was later strongly influenced from the Southwest, first from the Mimbres area and swayed still later by the southwardly expanding Salado” (Haury 1945: 70).

Perhaps the most compelling argument made by Haury in this discussion is the need to come up with an approach with respect to the “reorientation of thinking with respect to the

southern limit of the Southwest as a culture area.” He suggests that “some such term such as the ‘Greater Southwest’ be used to encompass both the American and Mexican sectors” (Haury 1945: 71).

In *Survey of Archaeological Remains in Northwestern Chihuahua* (1946), Robert Lister reports on a 1936 field season in Chihuahua, Mexico that was undertaken by the Anthropology Department of the University of New Mexico. The field season was divided into three phases: 1) exploration of the cliff dwellings of the Garabato canyons on the eastern slopes of the Sierra Madres, a site previously chronicled by Carl Lumholtz, 2) the Agua Zarca site and 3) the La Morita site. Both of the latter sites were in the area north of Casas Grandes near the modern town of Janos.

Based upon the results of the field season, Lister reports that a comparison of the open sites versus the cliff dwelling sites leads to the conclusion that “both types of ruins are representatives of the same culture and probably existed contemporaneously, at least in part.” Architectural details such as adobe wall construction as well as rocks set in adobe and combinations of poles and adobe support the conclusion that these sites were part of the same culture. Additionally, the presence of Playas Red and Casas Grandes Polychrome (which later came to be known as Ramos Polychrome) in both site types further strengthens that conclusion. Lister indicates that the current theory that the open sites were abandoned due to “increased pressure from nomadic tribes” is supported by the findings of their work since “a number of the architectural details found in the mounds were similar to those observed in the cliff dwellings...we find the same types of doorways being employed in both cliff and mound sites. Walls constructed of adobe, rocks set in adobe, and combinations of poles and adobe were used in the open sites as well as in the cliff dwellings” (Lister 1946: 451-453).

In *Excavations in Cave Valley*, Lister explains that he and his team “selected the caves of the Sierra Madre Occidental for our preliminary explorations in the hope of contributing to the general problem of Southwestern Mexican connections” (Lister 1953). He reports that of the 2,460 sherds collected, 96% were determined to be assignable to the Mogollon culture (Lister 1953: 168). He reports that upon examination of the cave sites there appeared to be little evidence of Casas Grandes pottery.

Lister reported that the three burials his expedition recovered in Cave Valley appeared to be “in Mogollon tradition.” Accordingly, Lister concludes:

“The existence of Mogollon culture in northwestern Chihuahua greatly strengthens the premise that Casas Grandes culture was strongly influenced by the Mogollon during its developmental stage. Also, it is hoped that the presence of Mogollon culture some 300 miles south of its previously known area of distribution may be taking a step forward toward solving problems concerning Southwestern Mexican connections. If we can continue to trace a culture from the Southwestern Co-tradition toward central Mexico, we may eventually reach a meeting place of cultures from the two areas” (Lister 1953: 168-169).

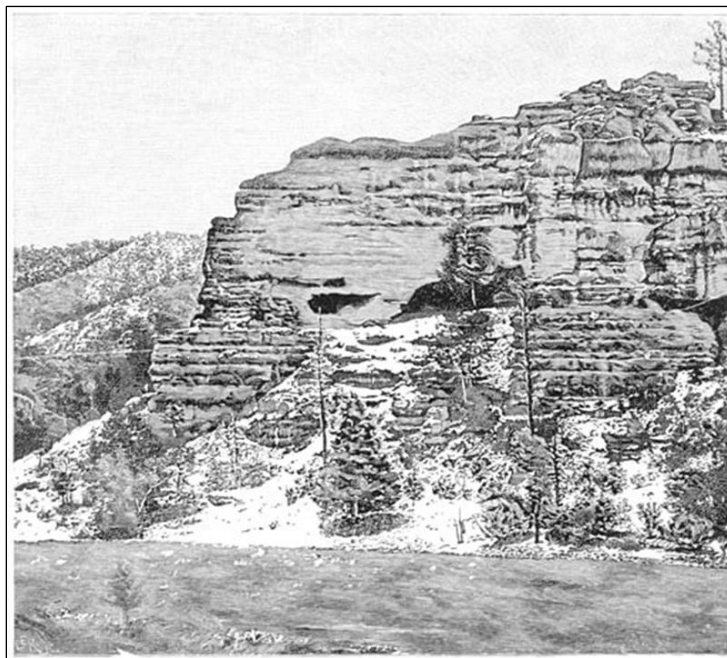


Figure 10: Burial Caves in Cave Valley (Lumholtz 1902: 70)

However, in my opinion, the lack of Casas Grandes polychromes at these sites may mean only that the sites had already been looted since I found some Ramos Polychrome ceramic vessels in the Lumholtz Collection that are credited to Cave Valley. By the time Lister excavated the caves may well have been heavily looted, since that was more than 50 years after the Lumholtz Expedition. In fact, Lumholtz relates a story of a Mormon settler who had removed much of the woodwork from the caves even prior to the Lumholtz expedition (archival notes at American Museum of Natural History).

### CHAPTER 3: CHARLES DI PESO AND THE JOINT CASAS GRANDES EXPEDITION

From 1958 to 1961, under the leadership of Charles Di Peso and jointly sponsored by the Amerind Foundation and the Instituto Nacional de Antropología e Historia, the Joint Casas Grandes Expedition undertook the massive task of excavating approximately 40 acres of the 260 acre site of Paquimé in northern Chihuahua, Mexico. As described by Di Peso, those 40 acres of Paquimé “were thoroughly stripped for study and analysis” (Di Peso 1968: 21). In 1974 the Amerind Foundation published the 8 volume results of the Joint Casas Grandes Expedition, entitled *Casas Grandes: A Fallen Trading Center of the Gran Chichimeca* (1974). Although many of Di Peso’s conclusions in that work have been questioned, *Casas Grandes: A Fallen Trading Center of the Gran Chichimeca* remains a benchmark in Chihuahuan archaeology.

Central to Di Peso's concept of the *Gran Chichimeca*<sup>2</sup> was his proposition that the cultures of northern Mexico and the American Southwest were of Mesoamerican origin. He postulated that at various times the cultures of Teotihuacan, Toltec, and Aztec fanned out from the Mesa Central of Mexico, leaving their imprint on the impressionable "Chichimecs"<sup>3</sup>.

Di Peso introduced the advent of the Medio Period, which he dated A.D. 1060 to A.D. 1340 by stating:

“It is believed that sometime around the year A.D. 1060 a group of sophisticated Mesoamerican merchants came into the valley of the Casas Grandes and inspired the indigenous Chichimecans to build the city of Paquimé over portions of an older Viejo period village. ... These organizers, who may have come from somewhere along the Pacific coast of Mexico, brought with them an aggregate of technological knowledge such as one might associate with an advanced hydraulic society” (Di Peso 1974: 290).

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<sup>2</sup> A term employed by Di Peso to support his theory that cultural developments throughout the International Four Corners region and the Greater Southwest were rooted in Mesoamerica. *Chichimeca* has been translated by some to mean “the land of the barbarians”.

<sup>3</sup> *Chichimec* refers to an inhabitant of the *Gran Chichimeca*; *chichimec* is an Nahuatl Aztec term; thus, according to Cordell its application for at least 2,000 years of prehistory in a region is misleading (Cordell 1993: 222).

This theme was the driving force underlying Di Peso's work at Paquimé. While Di Peso has been credited with broadening insights into the Greater Southwest-Mesoamerican connection, he has also been criticized for falling prey to his own convictions, often shoehorning data to fit his model. Di Peso portrayed his opinions as facts which were agreed upon by his colleagues in Southwestern and Mesoamerican archaeology. In reality, they were hotly debated. While his view of Mesoamerican prehistory was consistent with the paradigm of the 1960s and 1970s, his time frame for Casas Grandes as well as his Mesoamerican trading outpost theory were not.

The Joint Casas Grandes Expedition research project team was headquartered in Viejo Casas Grandes, a town just outside the ruins and from that locale the exploration fanned out. Di Peso defined the Casas Grandes Archaeological Zone as bound on the north by the Mexican-United States border, on the south by the Papagochic River, on the west by Sonora, and on the east by the desert of the Medanos de Samalayuca. “This is the expanse through which evidence of Casas Grandes material culture is found” (Di Peso 1974: 5-7). Research of the Joint Casas Grandes Expedition focused on two key questions: what role did the inhabitants of northern Mexico play in the interaction between Mesoamerican civilizations and the Southwest, and what was the exact chronology?

## **PAQUIMÉ**

The Joint Casas Grandes Expedition excavated about 15 percent of the Paquimé site (this percentage has been seriously questioned by Michael Whalen, et al. (2010)), the central site of the Casas Grandes culture zone. Multi-storied adobe room blocks contained some two thousand rooms which appear to have been primarily for residential use. The ceremonial zone and its contiguous rooms blocks, located at the westernmost portion of the site, was the area of Di

Peso's concentration. This excavated sector of public architecture included many low, rock-faced earthen mounds, an abundance of ritual structures (including two I-shaped ball courts), and hoards of exotic goods, particularly imported shells (Minnis and Whalen 1993: 35; Douglas 1992: 2-3). Sophisticated defense strategies, as well as an intricate and highly developed system for delivering water (which included walk-in wells, cisterns, and a means for draining waste water into an irrigation system) were reported (Di Peso, et al. 1974: 340-360).

Four major artifact groups of shell, macaws, turkeys, and agave were identified as imports at Paquimé, which, in addition to the ceramic assemblages discussed in Chapter 6 and Chapter 7, led Di Peso to postulate that it was both a trading and a ceremonial center. According to his report, several rooms warehoused millions of shell artifacts and other exotic goods, providing evidence of accumulated wealth controlled by a small segment of the community. Paquimé's location, hundreds of kilometers from the shell sources at the Gulf of Mexico and/or the Pacific Coast, led some to conclude that it was a center for trade in this important commodity; others consider the shell accumulation to be hoarded wealth (Minnis and Whalen 1993: 38; C. Schaafsma: personal conversations).

In support of his trade center hypothesis, Di Peso reports ceramic imports from both the north and the south. "Six pottery types were identified as coming from both the Chalchihuites Durango-Guardiana district, north of the Tropic of Cancer, and the west Mexican Nayarit-Jalisco area ..." (Di Peso, et al. 1974: 624). Di Peso indicates a disparity in the time frames for the representative ceramics. "All of these southern ceramic imports, though found in dendro-dated Paquimian proveniences with similarly dated potteries from Arizona and New Mexico, have been given much earlier dates in their source areas" (Di Peso, et al. 1974: 625).

## ARCHITECTURE

Paquimé displays a greater variety of public and private ritual architecture, both in intricate multilevel platform mounds (each distinctive in form and structure), two I-shaped ball courts with platform mounds and ceremonial courts, and in smaller features, than any other single site in the Southwest (McGuire 1980: 19). The uniqueness of these large mounds (many in zoomorphic or geometric shapes), which are clustered in the northwest sector of the site, may signal the practice of complex rituals. Since massive public ritual architecture suggests systems of social integration among prehistoric peoples, this may also suggest that Paquimé was a religious center. Equally important, the size and complexity of the architecture indicates significant planning and organization of labor resources (Minnis 1989: 277-281; Minnis et al. 1993: 40).

The buildings were constructed of “basket adobe work” in which walls are fashioned by weaving branches in and out of rows of poles creating a trellis or basket-like pattern which is then filled in on both sides by beating soil into the crevices. In some instances a “wash of gypsum” plaster was applied. Coupled with the building features, traces of an irrigation system were evidenced by artificial gravel hills (Bandelier 1890: 27, 30).

The excavated site radiated out from a Central Plaza adjacent to a multi-room high-rise structure. Each building or complex was named to reflect what Di Peso believed to be its key features and/or artifacts. According to Di Peso “the city planners surrounded the high-rise with three public-ceremonial zones.” He speculated that these “planners” were compelled to not only consider the needs of its citizens, but also those of the traders and craftspeople critical to the Casas Grandes economy. Consequently, he inferred that building types and sites were stringently regulated (Di Peso, et al. 1974: 398-399). Di Peso’s designation of “city” for the site

of Paquimé implies the existence of a political hierarchy of a statelike nature (which has not been supported by current research).

Recently, Michael Whalen, Art MacWilliams, and Todd Pitzel (2010) have provided a convincing argument contrary to Di Peso's "high-rise" description. Di Peso, et al., (1974) describe some of the buildings rising to a heights of from three to seven stories (Di Peso, et al. 1974: 675). Whalen, et al., provide a convincing argument for a maximum height of three stories. In their article Whalen, et al., (2010) contend that an analysis of the building materials, climate, and time since abandonment offer an opportunity to recalculate the original height of the structures. They conclude that they "see a central, linear room block, a small part of which contained three stories" (Whalen, et al. 2010: 527). Thus, Di Peso's approximation of 2,300 rooms at Paquimé is reduced by almost 50% which also reduces the population estimate by roughly 50%.

Furthermore, Whalen, et al. (2010) re-evaluate Di Peso's theory about an east wing when they point out that a) Di Peso's measurement calculations are faulty and b) the excavation "consisted of five long test trenches extending north to south and spaced at intervals of about 15m" (Whalen, et al. 2010: 542). Whalen (2010) reports that in 2007 he walked the site and took GPS readings. This led to two "observations." "First, the area of the putative east wing contains none of the major topographic relief that Di Peso cites as part of his evidence for the structure's existence" (Whalen, et al. 2010: 543). Secondly, Whalen reports "We saw nothing to indicate that any major adobe construction ever existed in this area" (Whalen, et al. 2010: 543). Whalen points out that these conclusions do not mean that Di Peso meant to deceive with the inclusion of the east wing. Rather, "the east wing was added in the later stages of the analysis of Casas

Grandes, long after fieldwork had ceased and the site was no longer accessible for observation” (Whalen, et al. 2010: 544).

The Joint Casas Grandes Expedition limited its investigations to the ceremonial area of Paquimé; thus, the partial data set poses more questions than it provides answers. Given the ceremonial nature of the excavated area, archaeologists concluded that this was a site where a non-subsistence economy prevailed. The presence of a possible market, complete with pens for raising macaws along with areas for turkey breeding (see Figure 11), and the concentration of exotic goods imply economic specialization and the production of goods which are assumed to have been for long-distance trade (Minnis 1989: 281-282, 290). Yet, these assumptions remain to be proven.

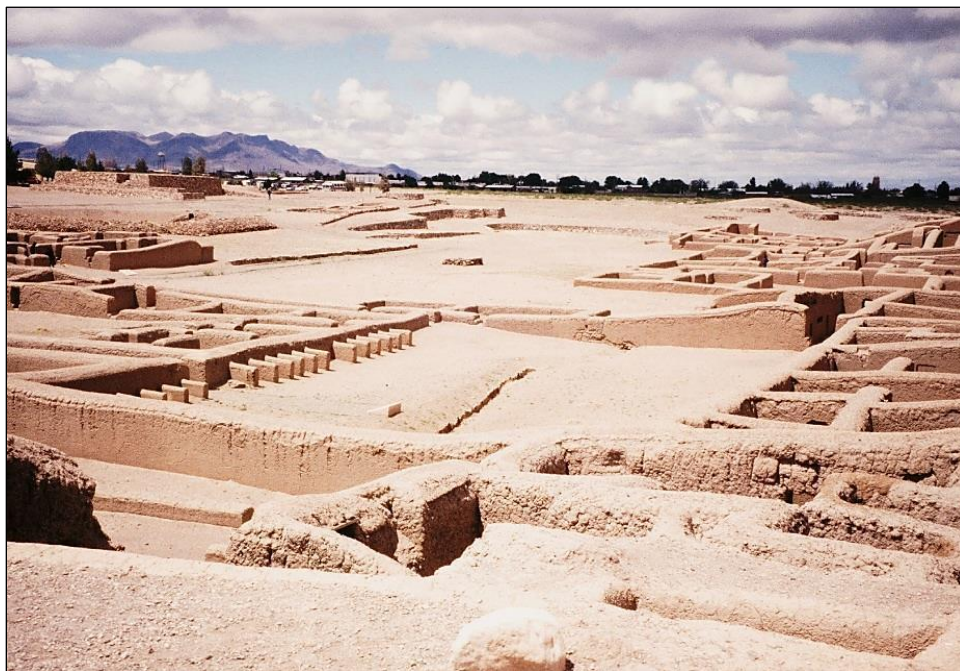


Figure 11: Overview of the Market at Paquimé with Turkey Pens on the left (author’s photograph 2000)

#### **ARTIFACTS: THE CERAMICS OF PAQUIMÉ**

Di Peso, et al. (1974) classified the ceramics of Paquimé according to form, decoration, and postulated use. They reported that “over a third of the bowls and about half the jars

recovered from other than fill levels came from burial associations” (Di Peso, et al. 1974: 6: 86). In some instances large Ramos Polychrome vessels had burials placed inside. However, for the most part, vessels found with the burials were of “standard size.” Additionally, eleven effigy vessels were found in association with burials. Five of the effigies were human; three were birds; two were animals; and one was a horned lizard. In terms of material and decoration, Ramos, Corralitos, and Escondida Polychromes as well as Ramos blackware and Playas redware were reported to be the most plentiful found in association with burials (Di Peso, et al. 1974: 6: 86).

Of the sixty-nine “eccentric<sup>4</sup>” vessels, fifty-five were unsooted and this was used to support the hypothesis that they were ceremonial in function. Di Peso theorized that vessels “such as the cruciform and triangular containers and the lobed jars, were used for ritual purposes, and the same inference seemed applicable to the effigy vessels” (Di Peso, et al. 1974: 6: 86). The inventory of the effigy vessels indicated that seventeen were human in form, ten were snakes, nine birds, seven were of assorted animals, and three each of lizards and fish. With the exception of one vessel, the effigies were all polychromes.

The human effigy vessels fell into three categories: “two-headed vases, man-bowls, and human effigies” (Di Peso et al. 1974: 90). There were three major shapes and one minor shape of animal effigies including the four-legged vessel, vessels with a head and a tail, vessels with two heads and a squat body, and globular vessels with two heads. Among the animal effigies, snakes were more numerous than birds, and birds “were almost as numerous as those of animals from the Paquimé site” (Di Peso et al. 1974 Vol. 6: 91). The bird effigies were predominantly of the head and tail version.

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<sup>4</sup> The term “eccentric” is used here in connection with vessels of unusual shapes such as the cruciform vessels and the lobed jars.

Di Peso, et al. (1974) divided the quality of the vessel decoration into three levels with Madera Black on red, Babicora Polychrome, Standard Villa Ahumada Polychrome, and Dublan Polychrome among the least well done. The textured variant of Corralitos Polychrome, Escondida Polychrome, Capulin variant of Villa Ahumada Polychrome, and Ramos Polychrome vessels were described as having the best control and aptness. The middle group, in terms of skill, was comprised of Carretas Polychrome, Huerigos Polychrome, and the Memmott Variant of Villa Ahumada Polychrome vessels (Di Peso, et al. 1974: 6: 168-209). Dublan Polychrome had the least diversity in elements and motifs, whereas Ramos and Escondida Polychrome had the most. The ovoid jar form appeared in almost all of the polychrome groups and often was decorated with red solid sectors outlined in black. The effigy and other eccentric vessels were primarily of the Ramos and Villa Ahumada Polychrome types (Di Peso, et al. 1974: 6: 92).

Decoration styles were both textured and painted. One primary attribute employed by Di Peso, et al. (1974) in the classification of the polychrome types and their variants was line width and line spacing. Another attribute was color: while most of the painted vessels were polychromes, there were three types which utilized a bichrome motif. They are the Madera Black on Red, the Ramos Black on White, and the Black on Orange Carretas, although these were in the minority. Most of the bowls had a band on the exterior; however, there were some vessels with interior designs. Specifically, bowls categorized as Huerigos, Escondida, and Carretas Polychrome exhibited interior decoration. Bands “were by far the most common type of layout” on the painted vessels and accounted for 87% of the decoration layout. These bands were subdivided into categories: paneled, two line bands, four line bands, semi-paneled, and three line bands. Those vessels with overall layouts were primarily “bisected<sup>5</sup>” while some with

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<sup>5</sup> The term “bisected” is used here to reference vessels where the design appears twice on the vessel. For a good example of this see Appendix I, AMNH 30 / 4428.

overall layouts had a centered figure and some had a quartered layout (Di Peso, et al. 1974: 6: 93-94).

“The negative circle occurred in all types but Dublan Polychrome, while dots and ticks also had a wide occurrence and range of uses. Narrow secondary bands were recorded with a variety of elements and motifs. Triangles, however, were the most common figure and had a number of fillers, although a solid color was most typical; many were hooked. . . . Barbed and stepped figures were among the most frequently motifs . . . The macaw, practically a hallmark of Casas Grandes design, was found on all types except Dublan Polychrome. . . . A solid color was the most common fill for figures, and variants of hatched and checkerboard motifs occurred on almost all types” (Di Peso, et al. 1974: 6: 1-2).

Casas Grandes ceramics were characterized by the band type of layout along with a “high proportion of linework, usually obscured by the elements and motifs” (Di Peso, et al. 1974: 6: 99). In Volume 6 of the Joint Casas Grandes Expedition report, Di Peso, et al. rely largely on Brand’s references for typology even though Brand clearly stated that “The prehistoric or archaeologic cultures of Northwest Mexico are definitely Southwestern in affiliation” (Brand 1935: 287).

Of the 771,274 sherds and 915 restorable vessels recovered at Paquimé “54.1% were plain brown ware, 6.0% were textured, 9.2% were redware, 4.2% were black ware and the remainder painted decorated types, mostly polychromes of which Ramos Polychrome (11.6%) was the most common” (Di Peso, et al. 1974: 6: 77). However, it is possible that a preference was given to collecting the painted ware over the plainware, thus, skewing the ratio (Woosley 1993: 109). It is important to keep in mind that only 15% of Paquimé<sup>6</sup> was excavated and that percentage represents a concentrated area located on an elevation furthest from the river; an area characterized by what was postulated to be ceremonial and marketplace architecture. Di Peso

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<sup>6</sup> As discussed earlier in this Chapter, the extent of the Paquimé site now appears to be far less extensive than proposed by Di Peso (Whalen, et al. 2010).

hypothesized that the pottery recovered from the excavations at Paquimé were manufactured in quantity “both for themselves and for gambling or for trade” (Di Peso, et al. 1974: 6: 77).

Although Di Peso postulates that the florescence of Casas Grandes was the result of *pochteca* domination, particularly as evidenced in the cultural power center at Paquimé, the ceramics research reported in his Volume 6 relies heavily on Southwestern sources such as Brand and Sayles. Conversely, it was conceded that comparisons with Mexican wares from both inland and western sources revealed that “similarities, when found, were of a minor or broad nature. The designs of most of the Mexican types were more complex and utilized a greater range of colors than the Casas Grandes ceramics” (Di Peso, et al. 1974: 6: 103). Only 15 of the excavated sherds were postulated to be from Jalisco, Durango, and Nayarit and none from central Mexico (Di Peso, et al. 1974: 6: 79).

In fact, in comparing Casas Grandes pottery with Southwestern types, Di Peso, et al. (1974) noted “similarities” with Gila, Tonto, and Escondida Polychromes both in decoration techniques and motifs, which included “dots, serration, stepped lines, stepped and barbed figures, interlocking hooked triangles and the use of the bird wing” (Di Peso, et al. 1974: 6: 101). While certain Mesoamerican influences may be discernible in the Casas Grandes ceramics, these influences may have traveled southward from the American Southwest, as Lumholtz observed on his first encounter with the pottery of Casas Grandes:

“Though the designs in general remind one of those of the Southwestern Pueblos, as, for instance, the cloud terraces, scrolls, etc., still most of the decorations in question are richer in colouring (*sic*).

This kind of pottery is known only from excavations in the valleys of San Diego and of Piedras Verdes River, as well as from Casas Grandes Valley. It forms a transition from the culture of the Pueblos of Arizona and New Mexico to that of the Valley of Mexico, a thousand miles farther south” (Lumholtz 1902: 94).

According to Hagstrum “Pottery has been used to evaluate social interaction and movement in several ways, including design similarity . . . Such analyses of ceramic vessels can indicate either exchange of vessels themselves or social contact that results in adoption of similar design patterns, manufacturing techniques, or resource use” (Hagstrum 1995: 289). Thus, if Di Peso’s hypothesis that the Toltec-inspired *pochteca* were responsible for the florescence of the Casas Grandes culture sphere, it is reasonable to expect the design and form of Toltec and/or Mixteca-Puebla ceramics to be reflected in the ceramics. They are not.

Quite simply, the appearance of similar design elements in Casas Grandes ceramics which resemble Mesoamerican iconographic traits does not mean that the use of those elements carries the same symbolism. In fact, it may not be symbolic at all, but merely pleasing to the eye of the potter. Furthermore, Di Peso himself noted that “many of the iconographic traits, such as the bird-serpent motif, are distributed from Peru to the Southwest” (Di Peso, et al. 1974: 303). Additionally, Randy McGuire points out “snake symbolism in general has a great antiquity in the Southwest” where it was associated with water symbolism rather than the sky symbolism of the Toltec and Aztec (McGuire 1980: 24).

### **MESOAMERICAN CONNECTIONS**

The Casas Grandes culture sphere radiates outward from its cardinal hub of Paquimé with the majority of sites to the north and northwest. Artifacts bearing this distinctive signature have been found as far north as Mesa Verde in Colorado (Bradley 1989: 126). For centuries Paquimé’s ruins and its associated outliers have engendered much speculation as to the relationship of Casas Grandes with the southwestern cultures of the United States to the north and the Mesoamerican cultures to the south.

According to Di Peso there were no “natural barriers” between northern Mexico and Mesoamerica. (Di Peso, et al. 1974: 55). However, he failed to acknowledge the significance of reliable rainfall outlined by the 400 mm isohyet prevalent during the first millennium A. D. For the most part, Mesoamerica lies in the tropics between 10 degrees and 25 degrees north latitude, with adequate rainfall to create an ecosystem which placed maize agriculture at the center of Mesoamerican culture. Mesoamerica benefited from a wide range of products available for use and trade due to the diversity of its topography and climate ranging from jungle-covered lowlands to glacial mountain peaks over 15,000 feet high. Mesoamerican farmers developed highly sophisticated agricultural techniques. In turn, the rural populations produced sufficient surpluses to support the Mesoamericans living in the cities and towns (Baugh 1992: 153). This varied greatly from the ecosystem of northern Mexico, where the desert environment of Chihuahua precluded the growing of corn without the aid of irrigation (Braniff 1993: 68). On the other hand, northern Mexico does not mirror the Southwestern United States. The Gulf of California and the Sierra Madre Occidental create two major topographic and ecological zones which have no counterpart in the Southwest. Similarly, the river systems originating in the high mountains of the Sierra Madre have no parallel (Kelley 1996: 77).

## **OUTLYING SITES**

The Joint Casas Grandes Expedition site distribution map indicates a density of sites related to Casas Grandes within about 30 km of Paquimé. However, it is not clear if this is an indication of a decrease in population outside the Casas Grandes system, or merely the perimeter of the Joint Casas Grandes Expedition research area. The mountains of Chihuahua are replete with both open and cliff dwelling sites. To the Southwest of Paquimé lie the cliff dwellings of the Rio Garabato and to the West are those of the Piedras Verdes and the Tres Rio regions.

Hundreds of small sites dot the banks of the Rio Casas Grandes and its tributaries (Minnis 1989: 273, 290-292).

Within a 30 km radius of Paquimé the larger sites exhibit “greater architectural diversity and more eroded adobe mounds than those farther away” (Minnis and Whalen 1993: 43); this may be indicative of a different occupation history for communities close to Casas Grandes. A greater concentration of ballcourts and ballcourt-like features exist within this radius. Stone circles located near some of the ballcourts may indicate ritual activity. These sites with ballcourts are often interpreted as ceremonial exchange centers which served to integrate the “component communities” (Whalen and Minnis 1996c: 742). However, even these larger sites lack Paquimé’s unique ritual mounds. These site patterns may correlate with the sociopolitical mechanisms of Paquimé regional control and/or they may evidence migrations from Paquimé or from other unrelated cultures (Minnis and Whalen 1993: 42-43; Whalen and Minnis 1996c: 741-742; Minnis 1989: 292).

Hundreds of smaller villages are located along the main river drainages. According to Di Peso, these farming communities produced food for Paquimé which provided them with protection and religious rituals. He concluded that this set-up permitted artisans and other specialists to occupy the center (Di Peso et al. 1974: 500-546). However, no real artisan workshops have been found to substantiate this conclusion (which Di Peso based primarily on the masses of shell warehoused at the House of the Well). Interspersed with these tiny hamlets were a number of intermediate-sized sites. It has been postulated that these intermediate sites may have represented secondary administrative communities acting as agents for the central authority (Minnis and Whalen 1993: 42).

The “central place model” would explain the outlying administrative communities which might have been second-tier market places, gleaning hubs, and/or control centers for the Casas Grandes polity. These sites contained cultural expressions in their architecture, ballcourts, and designs reflecting a “cosmic order and equilibrium that was the result of inseparable opposite positions” which Braniff linked to the “symbols, rites, and myths” closely identified with agriculture and fertility in the Mesoamerican settlement pattern. However, the Casas Grandes sites lack the symmetry present in the Mesoamerican sites (Braniff 1993: 68-69).

Di Peso envisioned the political and commercial dominion of the Casas Grandes culture sphere as having “a sovereign boundary” on its west along the spine of the Sierra Madres, which was protected by a series of “fortresses” and fire communication towers known as *atalayas*. A “chain” of these sites, located on the mountain crests, were conceived of as a communications network capable of sending fire and/or smoke signals from the westernmost point in the Sierra Madres throughout the Casas Grandes network. This presumed fire communication network falls within a 65 to 130 kilometers radius of Casas Grandes (Minnis 1984: 189). Puddled adobe cave dwellings were constructed “in the form of multi storied structures that contain T-shaped entries” (Minnis 1984: 189). Features of these villages included raised fire hearths, subfloor burials, and ceramic types similar to those found in other Medio Period Casas Grandes sites.



Figure 12: Raised Fire Hearth (author's photograph 1998)

A series of foot paths crisscrossed the rough terrain, linking these outlying facilities with the network of communities in the Casas Grandes Valley. In each district, there seems to have been a "lead-town" that was larger than its neighbors. Di Peso (1974) further postulated that the spider web of foot paths extended beyond the Sierra Madres to the Gulf of California coast facilitating the shell trade headquartered at Paquimé. He compared these foot paths to the roadways linking Chaco Canyon pueblos insofar as both systems exhibited similar engineering. The low side of the paths was banked to make the path level, although they were not as wide as those of Chaco. However, it does not necessarily follow that there is a relationship evidenced here since any regularly used pathway would probably have its bed leveled to make for easier travel.

Many of these foot paths converged at the Cerro de Moctezuma, "a steep and bald mountain, at least two thousand feet higher than the valley," located to the southwest of Paquimé. At the pinnacle stands "an ancient circular watchtower" with two feet thick stone walls. Situated near the tower is a large ruined house similar to those at Paquimé. From this vantage point it is possible to get a clear view of the entire surrounding area. The approaching

pathway follows a sharp ridge which drops off steeply on its western side. It has been estimated that the apex of the Cerro de Moctezuma is about an eight mile walk from Paquimé (Bandelier 1890: 31).

The trails across the Cerro de Moctezuma provided a direct route from Paquimé to the ruins of the Piedras Verdes valley. Other trails head south toward the villages of the San Miguel valley near the present-day town of San Diego in the region excavated by Lumholtz (1902). “Still others led westward up the Cañon de San Diego, across the continental divide, into the Tres Rios country, and then down into the Nacori drainage” (Di Peso, et al. 1974: 360).

Along the eastern slopes of the Sierra Madres, a series of terraces, known as *trincheras*, were determined to be part of an elaborate irrigation system. A system of staggered stone walls, *trincheras*, wended their way up from the base of a mountain. It was posited that the terraces served to slow the water flowing into the irrigation system in the valley bottomlands thus avoiding the danger of seasonal floods (Di Peso, et al 1974: 338-341). A system such as this would have required considerable planning and coordination of a large labor force both to build and maintain it. However, Paul Minnis et al. (2006) indicates that the findings of their research results in a position that is “contrary to Di Peso, *trincheras* do not appear to have been constructed as part of a regionally organized plan to protect floodplains” (Minnis 2006: 715).

The map of the Casas Grandes region created by the Joint Casas Grandes Expedition plots the location of hundreds of Medio Period sites. However, the methodology used to accumulate these data is insufficient to determine any biases in the data (Minnis 1984: 186). A recent survey project has inventoried a total of eighty-seven sites centering on the drainages of the Rio Casas Grandes, the Rio San Pedro, the Rio Carretas, and the Rio Santa Maria. Sites within 30 kilometers west and southwest of Paquimé differ from those further away. The closer

sites evidence macaw breeding with pens similar to those at Paquimé; these sites also share similar architectural features as the central power nucleus although many of the larger mounds have yet to be excavated (Minnis 1984: 186-191).

A comparison of the existing settlement data indicates a correlation between the size of largest sites and the distance from Paquimé, in that the larger sites fell within a 30 km radius. The sites range in size from a few rooms to hundreds of rooms, with indications that “site size hierarchies do exist.” The larger sites appear to be present during the Medio Period rather than during the earlier periods. In the areas further away from Paquimé the residential sites appear in clusters and “there appears to be increased aggregation of population compared with earlier time periods” (Minnis 1984: 188).

Paul Minnis postulates that complex regional systems incorporate secondary centers of control and/or elite residence. If the larger sites, which are concentrated to the northwest of Casas Grandes within a 30 km radius, are these secondary centers, their dispersion could indicate the scope of the Casas Grandes culture sphere (Minnis 1984: 190).

#### **CHRONOLOGY: CASAS GRANDES PERIODS AND REVISED DATES**

Di Peso’s chronology for the Casas Grandes culture sphere has been the subject of long and heated debate. Its dating is significant in establishing the interactions of its contemporaries and the Mesoamerican influence on the American Southwest. Before the Joint Casas Grandes Expedition, some Southwestern archaeologists placed the Medio Period between A.D. 1300 and 1400, others argued for earlier dates of A.D. 1100-1300 and others brought the ending date to A.D. 1450 (McGuire 1993: 35-36). One concern is that the Joint Casas Grandes Expedition “defined floors as comprising both the fill in the 10 centimeters above the floor and floor contact artifacts.” As such, primary and secondary materials were intermingled in the data set without

distinguishing between the two. Concern is also voiced because “the massive excavations of contiguous features by the Joint Casas Grandes Expedition were made without the use of statistical sampling procedures” (Douglas 1992: 12).

Di Peso dated the Casas Grandes Archaeological Zone from a Preceramic Horizon (pre-A.D. 1) to the Viejo Period which included the Convento Phase and the Perros Bravos Phase (A.D. 700 to A.D. 1060) through its florescence in the Medio Period (A.D. 1060 to A.D. 1340) to its decline in the Tardío Period (A.D. 1340 to A.D. 1660) and into the Espanoles Period (A.D. 1660 to A.D. 1821). This dating fitted neatly into his Mesoamerican trading center model. However, recent developments in dating technology have thrown Di Peso’s conclusions, which were based on these time frames, into question. Flaws in his research launched an array of questions regarding Casas Grandes as well as its relationship to Mesoamerica and the Southwest.

This time frame provided the fertile ground necessary for his *pochteca* model to flower and grow. Accordingly, he substantiated the integration of the various Mesoamerican cults into the native cultures of the Casas Grandes valley starting with the Perros Bravos phase of his Viejo Period. He postulated that small groups of southern warriors or traders of the Tezcatlipoca cult infiltrated the northern frontier of the Mesa Central establishing cults “throughout the frontier.” (Di Peso, et al. 1974: 142) He concluded that throughout the ensuing periods, including the Buena Fe phase (a forerunner to the Medio Period) from A.D. 1060 to A.D. 1205 (Di Peso et al. 1974: 296), waves of Mesoamerican trader-warriors saturated the *Gran Chichimeca* with their cultures and religious doctrines, culminating in the establishment of the cultural power nucleus at Paquimé.

For a good deal of these data, Di Peso relied on Spanish chronicles set down after the conquest. One of the weaknesses of his work is that he superimposes descriptions of 16th

century Aztecs onto 11th century Toltecs. Di Peso envisioned the downfall of the Casas Grandes polity with the eviction of their *pochteca* masters. He postulated that in A.D. 1340, the population, suffering from a prolonged drought coupled with the burden of the “merchant yoke,” “cast off their social oppressors in order to retrench so that they might better survive” (Di Peso, et al. 1974: 309). Shortly thereafter he postulated Paquimé was invaded and torched (McGuire 1993: 31).

One of the cornerstones of Di Peso’s chronology is the dendrochronology of 53 samples from the timbers at Paquimé. However, a reevaluation of these materials reveals a complete lack of cutting dates. A study undertaken by Jeffrey S. Dean and John C. Ravesloot reveals that of “48 dated samples on which the heartwood-sapwood contrast should be observable if present, only 2 retained sapwood.” What this means is that the timbers were hewn down to such an extent as to render the dating inaccurate.



Figure 13: Hewn Beams at Paquimé (author’s photograph 2000)

While Di Peso chose to use these samples as near cutting dates, in fact, there was a discrepancy of close to 200 years. Dean and Ravesloot applied the Robinson-Ahlstrom

regression equation to estimate the number of sapwood rings based upon the heartwood rings in a sample. They then correlated this data with live pine trees south of Paquimé. Next, they established the latest date for the wooden elements based upon the physical placement of the room to determine the earliest possible time the room could have been used. Applying these data to each of 29 rooms in five units they established new felling dates for the timbers which unequivocally established Paquimé as a fourteenth-century site. “The single noncutting date used by Di Peso to set the beginning of the [Medio] phase at A.D. 1205 produced an estimated felling date of A.D. 1319-1373” (Dean and Ravesloot 1993: 83-103).

Although these dates relate to Paquimé, dating of the earlier Perros Bravos phase (A.D. 950 to A.D. 1060 +/- 190) should also be adjusted upward “to conform to the beginning of the Buena Fe phase at around A.D. 1200” (Dean and Ravesloot 1993: 98). Di Peso linked the Mimbres Classic Black-on-white and Reserve Black-on-white ceramics found at the Convento Site (dated as A.D. 700 (+/-50) to A.D. 900) (Di Peso et al. 1974: 99-133) to similarities between Convento Phase ceramics to “the ceramic schools located along the coastal area in western Mexico where a widespread tradition of pre-fired polishing of red paint on a brown, cream, or buff background occurred in association with textured and painted wares” (Di Peso et al. 1974: 130). The upward revision of the Medio period termination date to as late as A.D. 1500 also necessitates the abbreviating of the Robles phase of the Tardío period, which originally was dated from A.D. 1340 to 1519. This would bring the occupation of Casas Grandes much closer to the Spanish *entrada* (Dean and Ravesloot 1993: 98).

The nuclear center of Di Peso’s Casas Grandes Archaeological Zone for the Medio Period is the site of Paquimé (Di Peso, et al. 1974: 295). Di Peso rests his case for in the dispersion of Mesoamerican trade goods via Casas Grandes into the Southwest on the dating

sequence he assigned to the Medio Period of Paquimé. However, the dating of Paquimé proposed by Di Peso is inaccurate. For example, prior to Di Peso's work the chronology of Casas Grandes was considered from a Southwestern perspective. Earlier researchers in the area (Kidder 1916; Carey 1933; Brand 1933; and others) relied upon the presence of Southwestern pottery types to date Casas Grandes sites.

Specifically, the presence of Tonto and Gila polychromes and their related tree ring dates were used to assign chronology. Since these ceramic types were dated post-A.D. 1300, Casas Grandes was considered a fourteenth century phenomenon (Dean and Ravesloot, 1993: 84). However, Di Peso recalibrated the dating of the Gila Polychrome depending upon tree ring dates gleaned from buildings at Paquimé which he dated at A.D. 1060-1340. These tree ring dates relied upon samples which were not intact. Although Di Peso allowed for some exterior wear whereby he treated the dates as near-cutting dates, new technology reveals that these dates were off by approximately 200 years (Dean and Ravesloot, 1993: 91-103). Accordingly, dating must also be adjusted, altering a myriad of interaction assumptions to reflect a more diverse and richer cultural exchange.

Di Peso has stated that the end came to Casas Grandes on "that luckless day in the spring of 1340, when the enemy put the sick Diablo Phase city to the torch" (1974: 2: 294). However, this chronology, like the others is based on flawed dating. Specifically, Di Peso's abandonment date is based on "one carbon-14 date and a single noncutting tree-ring date" (Doyel 1993: 60).

## **CONTEMPORANEOUS CULTURES**

One of the key questions regarding Casas Grandes is the extent to which it influenced or was influenced by its contemporaries. While some argue that it was a hegemony exerting its influence widely throughout the American Southwest, others assert that, although Casas Grandes

exhibits clear signs of greater complexity than most of its peers, it was but one of many independent actors in the Greater Southwest. Hundreds of communities contemporary with Casas Grandes in the International Four Corners exhibit similar architecture and had similar pottery types; however, exactly what the regional relationships were has yet to be determined. One thing is certain; re-dating of the Medio Period eliminates the contemporaneity of Paquimé with the Toltecs.

The peak of the Medio Period correlates with the Classic Hohokam period when the Hohokam platform mounds were built. These two cultures have been linked in a macroeconomic model, postulating that the Hohokam dependency on Paquimé for copper bells, macaws and shells demonstrated the extent of the Casas Grandes trading network (Wilcox 1991: 274). However, it can be argued that, in fact, they were competitors since there is evidence of Hohokam-Trincheras trade relations and much of the Hohokam shell may have come from the Trincheras area of Sonora (Lindauer 1994).

Contrary to Di Peso's trade model, McGuire points out that there was little motivation for the Southwestern peoples "to reorganize themselves around production for distant polities." Given the fact that their subsistence base would not expand as a result of this production nor were the Mesoamerican polities in a position to exercise military power at such great distance in order "to collect tribute payments" the impetus is absent for such an expenditure of resources and energy (McGuire, et al. 1994: 248-249).

One means of seeking connections among Casas Grandes and contemporaneous southwestern cultures in the International Four Corners region is through the measurement of mound sizes, which reflect not only the amount of material utilized, but often the marshaling of labor forces involved. According to Lumholtz (1902), mound sizes excavated in the plains

around San Diego ranged in size from five to twelve feet to as high as twenty to twenty-five feet. “In shape they are more or less conical, flattened at the top; some are oblong, a few even rectangular. The highest among them rose to twenty or twenty-five feet, but the majority varied from five to twelve feet. The house walls inside of them were from eight to sixteen inches thick” (Lumholtz 1902: 94). Although the number and diversity of mounds at Paquimé are unusual, these mounds are comparable in size and perhaps construction labor when compared to other sites in the prehistoric Southwest (Di Peso, et al. 1974: 4: 270). The Joint Casas Grandes Expedition estimated that the eighteen excavated mounds at Paquimé comprise a total of 11,924 cubic meters of materials, of which 60 percent consisted of local terrace gravel and 30 percent was trash. These can be compared to two trash mounds at Pueblo Bonito (in Chaco Canyon) which averaged approximately 7200 cubic meters each, a total of 14,400 cubic meters for the site. Combined with the smaller Pueblo Alto and other Chaco town sites, the volume of mounds at town sites in Chaco Canyon proper is just under 36,000 cubic meters, significantly higher in volume than Paquimé. Similarly, four of the ten Hohokam platform mounds at Las Colinas total 18,455 cubic meters. This rough comparison of Paquimé to Chaco and Hohokam mound volume intimates that mound activity at Paquimé corresponds closely to other prehistoric Southwestern communities (Minnis 1989: 278-279). To date, in both Sonora and Chihuahua, no major regional centers have been located in northern Mexico in a span of 120-180 miles separating the regional networks of the Southwest from the northernmost Mesoamerican regional centers (Haas 1994: 222).

### **DI PESO’S CONCLUSIONS**

Di Peso proposed that the trader/warrior forces of the Mesa Central cultures of Mexico moved into the Greater Southwest, establishing a web of trading networks which consolidated

the American Southwest into "a cultural and economic whole." According to Di Peso, the Mesoamerican *pochteca* wended their way to Casas Grandes via the Guasave culture of Sinaloa, uniting the entire region under the Toltec religious doctrine. Underlying Di Peso's trade hypothesis was his calculation that there was a sophisticated mercantile system operating in pre-Hispanic Mesoamerica with an economic base from which trade in all agricultural and commercial goods was controlled (McGuire 1993: 32-33).

Di Peso postulated that three types of economic systems came into play in the Greater Southwest. The first of these he labeled a "soil member subsistence economy," an economy based on hunting and gathering in which a certain amount of bartering took place. The second system he termed an "ordered subsistence economy of part or full time dry farming soil parasites." This was a culture which engaged in agriculture as well as some trade in ceramics and shell. Finally, there emerged a "stratified market economy of soil exploiters" (Di Peso 1983: 13-16). This third economic model originated when the Mesoamerican agents, the *pochteca*, incorporated the *Gran Chichimeca* into their world systems market economy. Di Peso envisioned this market economy as three-tiered. At the base was the Mesoamerican market system underlying a "mid-level foreign port of trade," which supported the outlying centers whereby resources were gathered and redistributed. He further hypothesized that each level had its own social structure. Di Peso envisioned Paquimé as a hybrid culture, part gleaner center and part "port of trade," with *pochteca* at the helm. Under the control of these Mesoamerican agents were the crafts specialists engaged in producing the trade goods for the core market system. Paquimé was also the storehouse for "lots of foreign goods" (McGuire 1993: 33).

Since the case for Casas Grandes as a Mesoamerican trading outpost rests largely on the supposed appearance of Mesoamerican features in its architecture and the reflection of

Mesoamerican symbolism in its material goods, it is important to take into account the fluidity of these features and their earlier appearance in culture areas far to the north of Casas Grandes.

Elements which Di Peso credited to the *pochteca* of Casas Grandes clearly appeared at earlier times in the cultures of their northern neighbors. This does not deny the Mesoamerican roots of these cultural components, but rather a case can be made that these elements moved southward from the International Four Corners region into northern Mexico and, specifically, into Casas Grandes, rather than northward via *pochteca* traders from Mesoamerica as postulated by Di Peso.

While Di Peso's hypothesis that the Southwestern ceramic types such as the Salado Polychromes was dispersed from the Mesoamerican outpost at Paquimé and his re-dating of Gila Polychrome to fit his time frame for Paquimé generated controversy among his colleagues, most of his colleagues concur that the combination of detailed field work and the incorporation of many fields of study into a form of "scientific holism," mark Di Peso's most significant contribution to Southwestern archaeology (Riley 1993: 13-22).

As discussed in the following Chapter 4 and Chapter 5, the argument for a Mesoamerican versus a Southwestern genesis of the Casas Grandes culture zone still remains center stage. Many early assessments with respect to the origins of Casas Grandes came from archaeologists, ethnographers, and explorers who approached the issue with a Southwestern point of view, while others employed a Mesoamerican perspective. Thus, the theoretical clash continues until the present time. The Casas Grandes ceramic assemblage in the Carl Lumholtz Collection offers to shed new light on these arguments. The revised dating of Paquimé makes a strong case that whatever Mesoamerican features can be discerned from the ruins and artifacts, it is likely that the origin of those features was southward via Chaco and Mimbres, and/or the symbols and iconography are the result of "borrowings". Additionally, today's distinction between Mexico

and the American Southwest must be blurred by recognition of the fact that the border between them is a modern political one. It is neither environmental nor ethnographic.

## CHAPTER 4: COMPLEXITY AND SOCIOPOLITICAL ORGANIZATION

Was Casas Grandes complex and, if so, how and why? The how is firmly established and is discussed in detail later in this chapter. Complexity during the Casas Grandes Medio Period (1200-1450 A.D.) is clearly reflected in its site hierarchy (the central site of Paquimé, smaller administrative sites, and individual pueblo sites), monumental architecture (non-residential, public, and ritual), distinctive pottery, and evidence of aggregation, as well as indications for the existence of an “elite” population. However, the why, remains in dispute.

Arguments for a Mesoamerican origin rather than a Southwestern origin of the Casas Grandes culture zone remain hotly debated issues. For many, complexity was not manifest in the American Southwest. The underlying assumption for the Mesoamerican origin was that ethnographic cultures, north of Mesoamerica, were all egalitarian and non-complex. This would be consistent with the theoretical position of Lewis Henry Morgan who utilized historical ethnographic data to reach archaeological interpretations. Thus, the Casas Grandes Medio Period provides the ultimate interpretive challenge for the Mesoamerican versus the American Southwest origins argument.

“The debate about Mesoamerican influence on the Southwest remains highly charged and polarized. Some researchers, who by and large work in the frontier area of Mesoamerica, still argue that Mesoamerican-based groups or individuals entered the Southwest and directly affected the development of the region (Di Peso 1983; Kelley 1986a; Weigand and Harbottle 1993). Others, who primarily work in the Southwest, argue for more indirect but still significant connections through mechanisms such as elite exchange networks (McGuire 1989; Minnis 1989; Nelson 1990)” (Cobb et al. 1999: 179).

However, the debate over the origins of the Casas Grandes Medio Period appears to have overlooked the possibility that some of the “Mesoamerican-like” traits attributed to a “south-to-north” route may have reached northern Chihuahua via the American Southeast. In my research I have observed striking similarities between Chihuahuan effigy pots and Mississippian effigies. Among them is the handsome fellow excavated by the Lumholtz First Expedition (1890-1891) at

“Rancho San Diego 10 miles south of Casas Grandes Chihuahua, under floors of ruined pueblo” (Lumholtz Collection Handwritten Archive Notes, courtesy of the Division of Anthropology, American Museum of Natural History) (see Figure 14). The only other Chihuahuan “head pot” that I have observed resides in the National Museum of Natural History in Mexico City. He bears a striking similarity to the head pots excavated in Arkansas such as the Late Mississippian ceramic effigy jar (1300-1500 A.D.), from Rose Mound, Cross County, Arkansas shown in Figure 15. George Vaillant’s comment regarding possible Mississippian influence on Casas Grandes effigy jars is discussed in Chapter 2. Alice Kehoe has pointed out that via a tangle of inter-related routes it was quite possible that the “ideas and small objects probably passed from Mexico to the Southeast, and from the American Southwest to the Southeast, or back” (Kehoe 1992: 177). The research potential for Mississippian and/or Caddoan influence on the Casas Grandes culture zone is discussed in Chapter 8.



Figure 14: AMNH 30 / 4506 (Lumholtz Collection)



Figure 15: NMAI 17/3277 (Cherry 2009: 35)

“Ever since Europeans first encountered the Southwest, there has been controversy about complexity. Coronado traveled north in 1540 hoping to reach Cibola—reputedly, a very rich and very complex place” (Lekson 2005: 159). Since at least the 1840s, “The connection of southwestern ruins to the higher civilizations of Mexico has been a constant theme in arguments

about southwestern complexity” (Lekson 2005: 160). In the past half century, since the Joint Casas Grandes Project led by Charles Di Peso excavated the westernmost portion of Paquimé (Casas Grandes’ central site), Paquimé has been viewed as “the center of one of the most complex polities of the pre-Hispanic U.S. Southwest and northwestern Mexico” (Whalen, et al. 2010: 527). Under Di Peso’s direction the Joint Casas Grandes Expedition sought to indisputably establish Mesoamerican roots for the Casas Grandes Medio Period.

*Ancient Society* by Lewis Henry Morgan (1877) resonates among American anthropologists as a cornerstone of cultural studies. Morgan classified all human societies on an evolutionist basis of three levels of sociopolitical complexity: Savagery, Barbarism, and Civilization. Morgan’s framework was embraced by the founding fathers of American Anthropology (Cordell and Fowler 2005: 5). Its initial impact on Southwestern archaeology can be seen in the works of Bandelier as well as that of Jesse Walter Fewkes, and Frank Hamilton Cushing. Bandelier, Fewkes, and Cushing made significant contributions in the early years of the development of professionalism in Southwestern archaeology and anthropology (1890-1910). (Cordell and Fowler 2005: 17-19).

It was Morgan who set Adolph Bandelier to work in the Southwest and Mexico. Bandelier looked for connections between the Southwest and ancient Mexico in his travels in the 1880s. Carroll Riley recounts Bandelier’s series of field trips from 1880 through 1892 in which Bandelier “attempted to trace out” his hypothesis that “the Southwest was the primitive homeland for Mesoamerican civilization.” Following in Bandelier’s theoretical footsteps, Carl Lumholtz and Walter Fewkes sought a similar connection. Subsequently, the first few decades of the 20<sup>th</sup> century saw political geography mutate into a cultural boundary (Riley 1978:3-8).

Edgar Lee Hewett was among the forefathers of Southwestern archaeology who adhered to Morgan's views.

“Hewett was a founding father, indeed, and one of the most effective popularizers of southwestern archaeology. His opinions on matters such as Chaco Canyon and its monumental buildings shaped subsequent thinking. Hewett (1936: 13) likened the enormous Chaco ruins to monuments of Egypt, Mesopotamia, Asia Minor, and Middle America, but he believed that their construction ‘was no unwilling work under the lash of priestly or kingly task masters; the American Indians were never so ruled. It was the spontaneous impulse of a virile people, comparable to the heaping up of great mounds far in excess of actual needs, by insect communities’ [Hewitt 1936: 23]” (Lekson 2005: 161).

According to Lekson, when complexity “frothed to the top of the southwestern stew in the 1970s” it was interpreted as meaning hierarchical, centralized political structures, in other words, “institutionalized leadership” (Lekson 2005: 157-165). While these institutionalized leaderships may have at their head a chief, or a king, or a queen who may have been appointed, elected or anointed – whether they are several as in a council or they are managerial elites – the common denominator is that once centralized decision-making is established, the outcome will have significant consequences.

“At the broadest scale we have found that the Southwest and Mesoamerica share many commonalities, but that the two regions were distinctive in the structure of relations. The Southwest was neither strictly the northernmost edge of Mesoamerica nor an isolated cultural climax separate from surrounding culture areas. The degree of sociopolitical complexity and community or polity size and of rank-size differentiation within polities was less in the Southwest than in Mesoamerica” (McGuire 1994: 264-265).

In North America the concept of mid-level complex societies is particularly applicable since the markers for sociopolitical complexity and regional interaction of those late prehistoric societies did not achieve the scale of their Mesoamerican neighbors to the South (Whalen and Minnis 1996: 282). Steve Lekson points out that “Southwestern complexity is presented to us in curiously short bits; a presence/absence condition in particular times and places” (Lekson 2005: 170).

One way of contemplating complexity in the Southwest is what Warren DeBoer dubbed “on again, off again” complexity. As DeBoer explains it, “these societies periodically oscillate between aggregated and hierarchical configurations, often in the context of monumental ceremonial centers and dispersed configurations in which the ideals of egalitarianism and local autonomy are reasserted.” Thus, DeBoer probes, “debates concerning the extent and nature of cultural complexity in the prehistoric Southwest expose a more interesting question: Why is this an issue? Perhaps the issue is not ‘how complex is it?’ but ‘how is it complex?’” (DeBoer 2001: 23-27).

According to Randall McGuire, et al.:

“The degree of sociopolitical complexity in the Southwest was lower in both the horizontal and vertical dimensions ... overall community or polity size and rank-size variation within polity settlement systems appear much less developed in the Southwest than in the Mesoamerican periphery ... The differences in social organization were not simply differences of degree but appear more as differences of kind. The social systems of the two areas are analogous to two families of languages with some cognates but different deep structures” (McGuire 1994: 247).

The definition of complexity as it is applied to the Greater Southwest has altered over the past several decades. Yet, certain specific requirements for classifying a society as complex remain constant. These markers include the presence of a large population, monumental public works (including large public, ritual, and/or residential architecture), specialized labor, a concentration of surplus evidenced by indications of feasting, social differentiation which may be indicated by differentiated mortuary practices (indicating hereditary statuses), hierarchical sociopolitical organization, long-distance trade, and standardized artwork or symbolism. The combination of all, or most, of these features, along with the apparatus to organize these markers into a coherent, functioning whole is indicative of a complex society. No one assembly of these markers can set the stage for a complex society since there are several levels and configurations of complexity. One point of agreement seems to be that social differentiation and the imbuing of

decision-making authority in a centralized entity is a clear indicator for political complexity (Cordell 1984; Lekson 1996, 1999; Neitzel 1999; Redman 1991; Tainter 1988; Whalen and Minnis 2001, to name just a few).

In *Primitive Social Organization*, E. R. Service (1962) sets forth a theoretical framework for considering the social differentiation in hierarchical societies. Service viewed economic specialization and the control of resources as the foundations for the development of status differentiation. Accordingly, when the control of resources and their distribution became complicated, those who assumed the role of distributor (or redistributor) gained in social status (Service 1962:135-139).

Over the next two decades, Gregory Johnson would elaborate on those concepts and introduce the theory of a distinct sequential hierarchy versus a simultaneous hierarchy. According to Johnson, the integration of numbers of organizational units and the coordination of activities would not be possible without the existence of decision-making hierarchies (Johnson 1978). Johnson specified *horizontal specialization* (an increase in the number of decision making units) and *vertical specialization* (the increase in the number of hierarchical levels) as the two processes responsible for increased complexity in these organizations. In addition, Johnson (1978: 100-104) suggested that the development of an ascribed ranking system may coincide with the vertical specialization of a decision-making organization. Pressures on decision-making organizations as well as informational communication created by the expansion of these organizations, inevitably led to Johnson's introduction of his scalar stress theory.

Johnson argues that perceiving social systems as organizations provides a set of concepts for the study of the general properties of hierarchical structured organizations. The necessity for

all organizations to deal with similar problems forms the basis for this approach. Essential to this position is the problem of scalar stress (Johnson 1982: 32).

As described by Johnson

“data suggest that there is some kind of organizational threshold ...in groups of approximately six individuals [or units, i.e. families]. Note that:

1. The development of within-group leadership (hierarchical organization) appears to be most common in groups of six individuals.
2. Horizontally organized (nonhierarchical) groups of greater than six members appear to be under some kind of stress as evidenced by decreasing consensus in decision making and decreasing member satisfaction with group performance.
3. In groups of fewer than six members, not only does decision quality increase with group size, but horizontally organized groups may exhibit superior performance in comparison to hierarchically organized ones. (See also Bridges, Doyle and Mahan 1968)” (Johnson 1982: 392-393).

Scalar stress accounts for the rise of what Johnson defined as “simultaneous hierarchies.”

“In a simultaneous hierarchy, the benefits often will be reaped by the elites and the costs will be borne by the remainder of the population” (Cordell 1994b: 132). In my opinion, this may be an oversimplification since, in some instances, the general population benefits from a variety of institutions created under the aegis of the elites. In sequential hierarchies, also known as horizontal hierarchies, the costs and benefits are shared equally rather than in the “simultaneous” or vertical hierarchy.

There can be no doubt that scalar stress is a key component, if not the primary component, in the development of complex sociopolitical organizations. Clearly, this is not unique to archaeological theory, since corporations worldwide rely on their organization charts to effectively run their businesses. “Levels of Authority” and “Span of Control” are familiar terms in most business and bureaucratic environments as well as in the archaeological record. Whenever it becomes necessary to manage the activities of groups of individuals, whether in

business or in political hierarchies, “it becomes necessary to divide the work to be supervised among a number of managers and, in turn, to have their efforts coordinated by a higher level of managers who also have their span of control limited by their work capacity” (Ravesloot 1988: 13). This, in turn, creates status differentiation. As recommended by Ravesloot, “the archaeological study of social variation and change should investigate the general properties of contemporary hierarchical organizations to interpret changes in organizational size and structure in prehistoric societies” (Ravesloot 1988: 11-13).

Linda Cordell (1994b) proposes that an examination of available data in light of Johnson’s (1989) theory of scalar stress offers a path to a greater understanding of aggregation in the Southwest. Cordell provides a succinct explanation of that theory as it related to the Southwest:

“Johnson suggests that for efficient decision making, there is a limit of about 6 to 14 participants. If we assume that nuclear or extended family households were the low-order building blocks of Southwestern communities, and that leaders of households served as participants in community level decision making, then settlements with consensual decision making would be limited to about six households. Community of more than six or so households would need some higher-level decision making structure” (Cordell 1994b: 132).

Steve Lekson reiterates her position: “I believe that scale will play an increasingly active role in models of process in the ancient Southwest (and elsewhere) because – for some things – size *is* important” (Lekson 1996: 86).

In addition to the debate over the degree of prehistoric complexity in the Southwest, the dispute is fueled further because Southwestern archaeologists argue over “the necessity to choose between competing criteria and to defend their significance in a theoretical field with minimal consensus” (Fish 1999: 45). Suzanne Fish holds that this dispute “is at the crux of efforts to understand the polities of the ‘great towns’ that are distinguished by size and elaborate public architecture” (Fish 1999: 45).

The analysis of complexity in the Southwest is made even more problematic by the lack of a clear definition of polity. A persistent dilemma in analyzing Southwestern complexity is the uncertainty of polity definition. Suzanne Fish offers one definition: “Polity: a territorial and sociopolitical entity with more than one level of settlement hierarchy marked by sites with public architecture” (Fish 1999: 46). However, she continues that Southwestern settlements require further comprehensive or systematic studies in the extended surroundings of Chaco, Paquimé, and the Phoenix basin sites. According to Fish, one means to a better definition of polities may lie in finely-tuned distributional and stylistic analyses. “Studies of material culture and particularly those of ceramics have seldom been geared toward questions of polity delineation in the Southwest” (Fish 1999: 57-58).

In Chapter Five: *Symbolism, Ritual, and Regional Interaction*, I take a more detailed look at distributional and stylistic analyses as utilized by Patricia Crown in *Ceramics & Ideology: Salado Polychrome Pottery* (1984) and the relevance of these analyses to the Lumholtz Collection. For example, it is my opinion that the Casas Grandes polychromes are evidence of the emergence of a new religious ideology as a regional cult. This is apparent in the consistent presence of serpent and macaw effigies as well as the *shamanic* images with the head of a plumed serpent (see on AMNH 30 / 4503). Here, access to the “other world” imbues the practitioner(s) with powers ideal for achieving elite status.

The interpretation of complexity in the Southwest is complicated further because “complex” is often defined differently, either as the generic meaning, “complicated” or “intricate,” or in the technical sense “referring to societies that are hierarchically organized, usually with features of organization that are not found in egalitarian societies such as bands or

tribes” (Gumerman 1994d). Concomitant with the second definition one can anticipate an array of roles, status differentiation, and levels of authority.

At a University of New Mexico seminar, Don Fowler suggested that archaeological paradigms are cyclical – they come full circle about once every hundred years (personal conversation 2005). This is evident among theoretical concepts regarding the origins of Casas Grandes. Early theorists, i.e., Donald Brand 1933, et al., credited the genesis of Casas Grandes to Southwestern influences travelling from north to south. Theoretical assumptions then moved southward to a Mesoamerican influence, e.g., Di Peso (1974), and then back to a Southwestern origin, e.g., Steve Lekson’s (1999b) Chaco Meridian theory which proposes that people from Chaco Canyon first moved north to Aztec Ruin and then migrated south to Paquimé along a straight line corresponding to approximately 107 degrees, 57 minutes longitude. Recent literature disparages both arguments and points to *in situ* development. “When there isn’t much research in a region, attributes are ascribed to outside influence. As research increases, there is more evidence for *in situ* development” (Whalen and Minnis 2003:314-322). Thus, is it any wonder that Complexity and Sociopolitical Organization pose problems of interpretation for those working in the Greater Southwest?

There are noticeable upswings in the scope of certain characteristics in the development of complex societies versus simpler ones. Michael Whalen and Paul Minnis delineate these as “size”, “differentiation,” and “integration.” With respect to size, they postulate that these complex societies are large both in population size as well as in geographic area and scale (“the amount of labor invested in central places and monuments”) (Whalen and Minnis 2001: 6). Differentiation is defined as the level of distinction among the kinds of people and groups who “maintain separate identities by a variety of means” such as “levels of subordination and

economic inequality” as well as a wide range of “specialists ... who do not produce basic resources.” Finally, integration is determined as referring “to the extent and sophistication of interaction among society’s diverse parts” (Whalen and Minnis 2001: 6). All of these features are manifest in Casas Grandes.

## **MARKERS FOR COMPLEXITY AND SOCIOPOLITICAL ORGANIZATION**

As stated earlier, there are some general markers that are indicative of complexity and the concomitant sociopolitical organization and regional systems. First among these is aggregation. With respect to Paquimé, there can be no doubt that during the Medio Period large numbers of people occupied many of the 2000 residential units reported by Di Peso (1974:2). Additionally, the existence of several smaller administrative centers as well as individual puebloan sites (Whalen and Minnis 2001) supports the idea that there was a fairly large Casas Grandes population at least during the Medio Period, if not before.

I believe that Ravesloot’s definition for complexity is applicable to Casas Grandes: “Organizations are systems with multi-echelon deciders whose components and subsystems may be subsidiary organizations, groups, and (uncommonly) single persons” (Ravesloot 1988:11). These systems can be subdivided into two distinct groups: informal and formal. In an informal group the components are usually families and/or circles of friends who are involved either by birth or common interests, while formal groups have been defined as the mechanism for accomplishing the explicit goals and objectives of a group. In each instance the binding force is their involvement “in regular sets of activities and interrelationships” (Ravesloot 1988:11). Inevitably, the social differentiation enhanced by decision-making authority leads the elites to the acquisition of more power in order to enhance and strengthen their position.

With few exceptions, Southwestern discussions of complexity address the vertical dimension – the degree of centralization in authority. Much less attention has been paid to the horizontal axis, the degree of diversity in the constituent elements that a polity incorporates. Johnson (1982) characterized Southwestern complexity as sequential, in which the integrated whole is composed of the same kind of social subunit (Fish 1999: 48). However, as noted by Phillips and Sebastian (2002:6) “When dealing with power in the Native American Southwest, absence of evidence is not evidence for absence.”

Complexity is often viewed through the spectrum of power. According to Randall McGuire:

“An idea of power is implicit in most discussions of complexity ... People are elite by virtue of the fact that they have more power than others ... distribution of power becomes an issue only if the social group is ranked or stratified. The debate about elites and complexity in the southwest is really an argument about power ... power over vs. power to ... we might do better to ask what were the different forms and structures of power that existed in the past” (McGuire 1990:170).

Elites achieve and maintain their power in a variety of ways, including the creation of monumental public works, ritual feasting, distinctive burial practices, craft specialization, regional systems, and access to religious ritual. My observations indicate that each of these components is evidenced in the Casas Grandes culture zone. “Power in the prehistoric Southwest was both real and ambiguous; large-scale feasting happened because those with power actively promoted feasting as a way to resolve the ambiguities of their power” (Phillips and Sebastian 2002: 6).

## **ARCHITECTURE**

“Architecture both reflects and emphasizes the distinctions upon which social and political organizations are based” (Whalen and Minnis 2001b: 651). Monumental architecture in the archaeological record is considered an indicator of the amassing of a large labor force, i.e.,

the Mayan pyramids. In the case of Casas Grandes, this is most notably demonstrated at the central site of Paquimé which is replete with ritual architecture in addition to the residential units. However, in a recent paper, the size of Paquimé and its architectural grandeur has been significantly diminished from that reported by Di Peso (1974) (Whalen, et al. 2010). Further explorations undertaken by Whalen and Minnis indicate the presence of some outlying “administrative” sites with evidence of scaled down ritual architecture as well as small residential sites (Whalen and Minnis 2001b: 666).

This “central place model” would explain the outlying administrative communities which might have been second-tier market places, gleaning hubs, and/or control centers for the Casas Grandes polity. These sites contained cultural expressions in their architecture, ball courts, and designs reflecting a “cosmic order and equilibrium that was the result of inseparable opposite positions” which Beatrice Braniff linked to the “symbols, rites, and myths” closely identified with agriculture and fertility in the Mesoamerican settlement pattern. However, according to Braniff, the Casas Grandes sites lack the symmetry present in the Mesoamerican sites (Braniff 1993: 68-69).

As discussed in Chapter 3, The Joint Casas Grandes Expedition reported that about 15 percent of the Paquimé site was excavated. (Note: this percentage is questionable since the presence of additional architectural features to the east of the excavated portion of the site has been called into question (Whalen, et al. 2010: 527-550)). Approximately two thousand rooms, which appear to be primarily for residential use, were present in the multi-storied adobe room blocks<sup>7</sup>. The ceremonial zone and its contiguous rooms blocks, located at the westernmost portion of the site, was the area of concentration. This excavated sector of public architecture

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<sup>7</sup> See discussion in Chapter 3 relating to a recent article by Michael Whalen, Art MacWilliams, and Todd Pitzel, (2010) in which they re-evaluate the size estimates proposed by Di Peso.

included many low, rock-faced earthen mounds, an abundance of ritual structures including two I-shaped ball courts, and hoards of exotic goods, particularly imported shells (Minnis and Whalen 1993: 35; Douglas 1992: 2-3). Sophisticated defense strategies as well as an intricate and highly developed system for delivering water (which included walk-in wells, cisterns, and a means for draining waste water into an irrigation system) were reported (Di Peso, et al. 1974: 340-360). The site map in Figure 16 provides the layout of the residential, ritual, and public architectural features within the part of the site excavated by the Joint Casas Grandes Expedition.

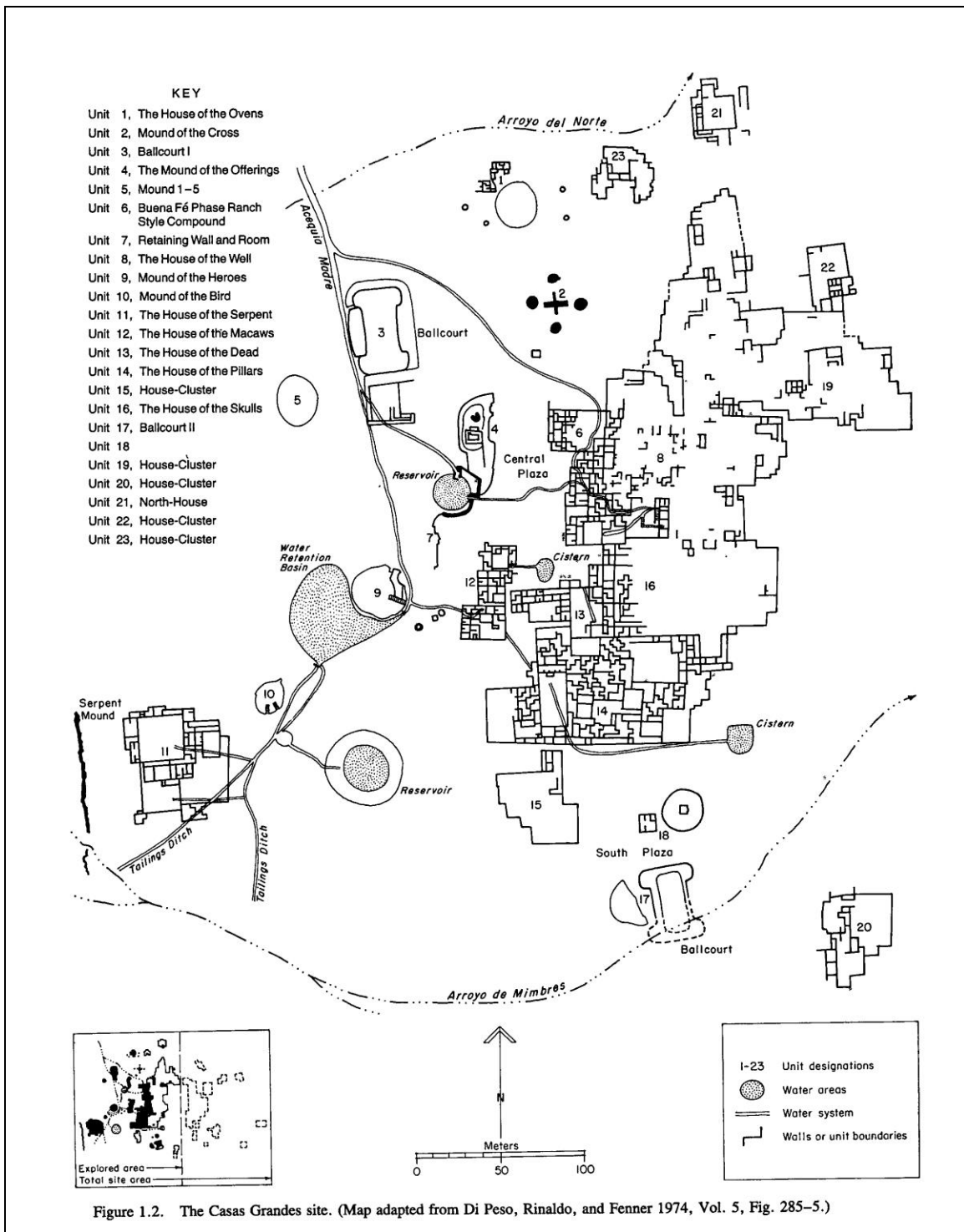


Figure 16: Site Plan of Paquimé (Ravesloot 1988 after [Di Peso 1974])

Paquimé’s architecture displays a greater variety of public and private ritual architecture, such as intricate multilevel platform mounds (distinctive in form and structure), two I-shaped

ball courts with platform mounds and ceremonial courts. “This is distinctive from any other single site in the Southwest” (McGuire 1980: 19).



Figure 17: Elaborate Architecture with “T” shaped Doors and Platform Mound in Background (author’s photograph 1998)

The uniqueness of these large mounds, many in zoomorphic or geometric shapes, which are clustered in the northwest sector of the site, may signal the practice of complex rituals. Since massive public ritual architecture suggests systems of social integration among prehistoric peoples, this may also indicate that Paquimé was a religious center. Equally important, the size and complexity of the architecture indicates significant planning and organization of labor resources (Minnis 1989: 277-281; Minnis et al. 1993: 40).

Many of these features would conform to those cited by Renfrew and Bahn (2007) as archaeological indicators of ritual since Paquimé, the primate center, presents a myriad of special

architecture, (i.e The Mound of the Serpent) wherein rituals could take place. Additionally, Paquimé boasts two ball courts, a cruciform structure, and what Di Peso dubbed “The House of the Macaws” which contained 174 scarlet macaw burials and 62 military macaw burials (Di Peso, et al. 1974: 733). Given the skeletal remains of decapitated young macaws at that site, it is fair to reason that this was a ritual site. Chapter 7 provides a table listing the distribution of macaw skeletal remains at Paquimé as well as a site plan of Paquimé illustrating where the macaw burials were found.

According to Di Peso, the hundreds of small villages located along the main river drainages were farming communities which produced food for Paquimé; in turn, Paquimé provided them with protection and religious rituals. Interspersed with these tiny hamlets were a number of intermediate sized sites. Minnis and Whalen postulate that these intermediate sized sites may have represented secondary administrative communities acting as agents for the central authority (Minnis and Whalen 1993: 42). Di Peso postulated that this set-up permitted artisans and other specialists to occupy the center. However, no evidence for artisan shops have been found to substantiate this conclusion, which he based primarily on the masses of shell warehoused at the House of the Well (Di Peso, et al. 1974: 383).

A comparison of the existing settlement data indicates a correlation between the size of largest sites and the distance from Paquimé, in that the larger sites fell within a 30 km radius. The sites range in size from a few rooms to hundreds of rooms, with indications that “site size hierarchies do exist.” The larger sites appear to be present during the Medio Period rather than during the earlier periods. In the areas further away from Paquimé, the residential sites appear in clusters and “there appears to be increased aggregation of population compared with earlier time periods” (Minnis 1984: 188). If the larger sites, which are concentrated to the northwest of

Casas Grandes within a 30 km radius, are these secondary centers, then their dispersion may indicate the scope of the Casas Grandes culture sphere (Minnis 1984: 190). Figure 18 illustrates the outer zone and inner zone with the larger sites predominantly to the northwest as discussed by Minnis. The small residential sites excavated by the Lumholtz Expedition were to the south of Paquimé. Lumholtz (1902) indicates that there were approximately 50 mounds on the plains around San Diego. These sites were smaller sites of one, two, or three story pueblo style structures.

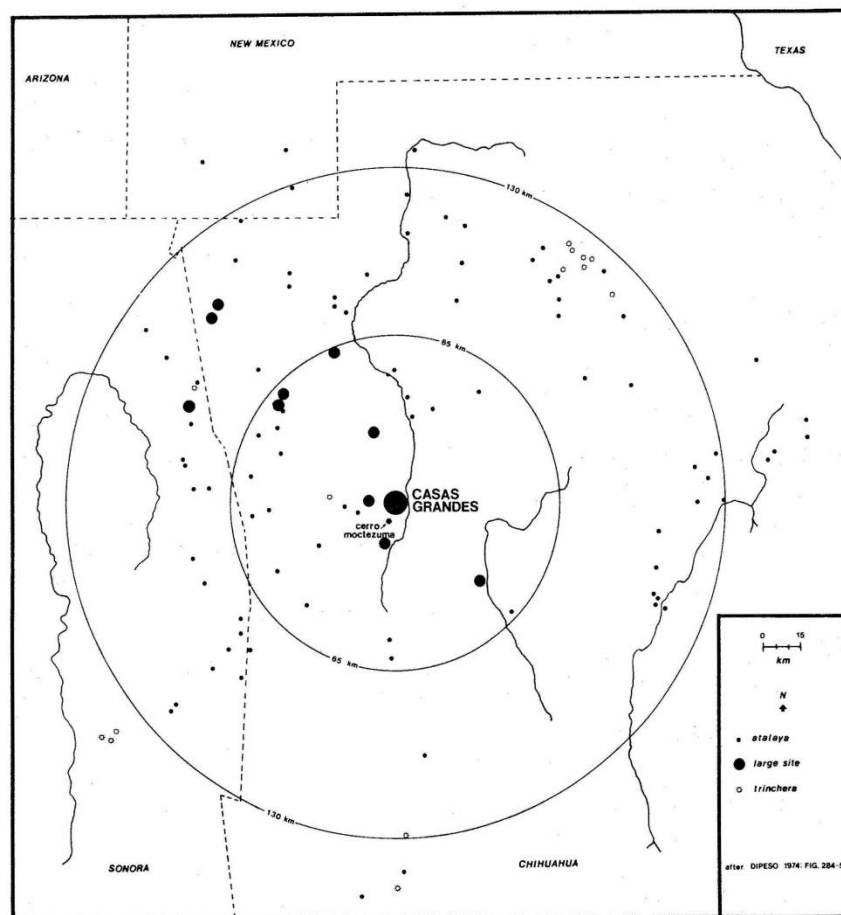


Figure 18: Core Zone Map (Minnis 1984: 187 [after Di Peso 1974: 284-5])

In *The Neighbors of Casas Grandes* Whalen and Minnis (2009) cite Emerson (1977) and Lightfoot (1984) when they delineate the markers for complexity in the Casas Grandes region:

“Artifacts and architecture are signifiers of the spread of ideological power.” In particular, they

cite Emerson’s argument that “certain forms of architecture and artifacts are signifiers of sacred and secular power” as well as Lightfoot’s position that among the markers of complexity “symbols of authority or power lie in architecture and in what has been termed the ‘built environment,’ both domestic and public” (Whalen and Minnis 2009: 11). Certainly, the ballcourts, platform mounds, cruciform mound, and Mound of the Serpent, among others, as well as the symbolism on the polychrome ceramic vessels fill the bill in this respect.

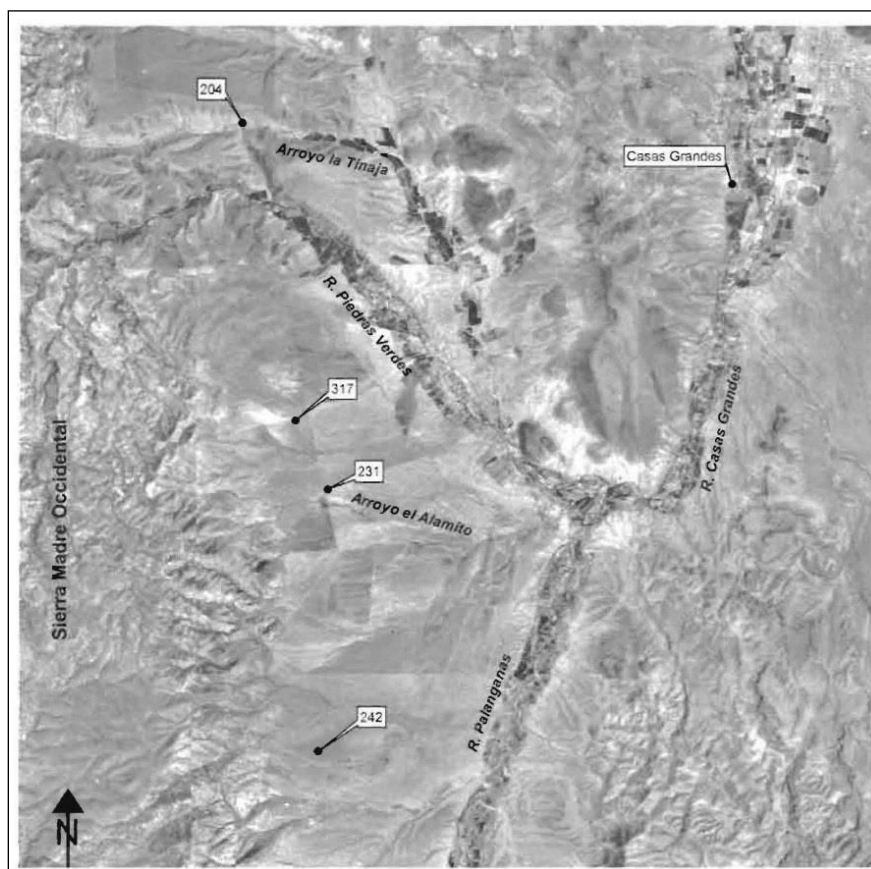


Figure 19: Locations of Sites 204, 317, 231, and 242 (Whalen and Minnis 2009: 4)

Whalen and Minnis consider Site 204 in Figure 19 to be one of the largest neighbors of the primate center of Paquimé, while Site 242 is categorized as an administrative center. In the case of Site 204, Whalen and Minnis describe it as “dominated by a large mound that covers about 7,500 sq. m.” (Whalen and Minnis 2009: 13). That mound was designated as Mound A. Mounds B and C are two small room-block mounds. This site also offers “a diversity of other

sorts of features” which included “A ball court of the formal I shape and a large earthen oven...” (Whalen and Minnis 2009: 13). The focus of the excavation was the pueblo room structures. In one instance, the excavation of four rooms also revealed a portion of a plaza (Whalen and Minnis 2009: 17). As cited by Whalen and Minnis, Donald Brand “plausibly argued that the Tinaja valley and the adjacent Tapicitas valley were corridors for communication between the Sierra Madre and the Casas Grandes region” (Whalen and Minnis 2009: 12).

Site 63 on Donald Brand’s Map of Culture Areas (included in Chapter 2, Figure 9), corresponds with Whalen and Minnis’ description of Site 204.

“Six miles above the Tinaja-Tapiecitas junction a series of large compound mounds extend 300 yards along the left bank terrace of the Arroyo Tinaja. The site has been extensively pothunted. Many scoop metates, both whole and broken, litter the ground. The ruins are composed of adobe and stone. The potsherds here were all Chihuahuan a condition typical of the Tinaja drainage sites” (Brand 1933: Appendices p. 54).

Site 242, as shown on the aerial view in Figure 19, is defined as an administrative site displaying “architecture of power” similar to that of Casas Grandes in that a “distinct and elaborate building style was used to emphasize and reinforce the special status of the communities that displayed it” (Whalen and Minnis 2009: 88). Additionally, the room block at site 242 was “nearly 3 m. high, making it unique among small Medio settlements” (Whalen and Minnis 2009: 34). Whalen and Minnis describe further unique features at site 242 such as a large I shaped ball court with a platform mound at one end.



Figure 20: Ballcourt at Site 242 Facing West (author's photograph Summer 1998)

Whalen and Minnis comment that “Platform mounds, although present at the primate center of Paquimé, are almost unknown among neighboring communities” (Whalen and Minnis 2009: 34). Finally, there are “at least 11 large, C-shaped stone features that cluster about the room block mound. These features clearly are not remains of large ovens ... Instead, they may be open-sided residences of some sort” (Whalen and Minnis 2009: 34).

The smaller sites of 317 and 231 were excavated in 1996 when the authors were seeking to analyze ceramic type frequencies as they related to the Medio Period (Whalen and Minnis 2009: 26-27). Both of these sites fell into the “small” settlement category. Due to the severe looting at site 231, as well as the color of the adobe walls being close to the color of fill, excavations at this site were extremely challenging. “Eventually, walls were located, two small rooms were completely cleared, and major portions of two large ones were dug” (Whalen and Minnis 2009: 30-33).

Site 317, excavated in the same summer, posed other issues as well as opportunities. This site had previously been bisected by a bulldozer “down to sterile soil” (Whalen and Minnis 2009: 28). This afforded an opportunity to examine the “first two profiles of a Medio Period

mound” (Whalen and Minnis 2009: 28). At this site Whalen and Minnis completely excavated four large rooms and a small one.

Whalen and Minnis’ research suggests four factors to support the conclusion that Casas Grandes culture zone includes a site hierarchy: (1) the presence of a primate center (Paquimé), (2) the presence of smaller administrative centers such as site 242, (3) the existence of large non-administrative sites such as site 204, and (4) the existence small settlements such as site 231 and site 317.

## **FEASTING**

“Feasts are inherently political” (Dietler 2001: 66). Feasting in the context of Southwestern archaeology is fundamentally defined as large-scale feasting. Thus, the question is posed “Is large-scale feasting part of the politics of equality, or of the politics of inequality?”

With respect to feasting in the Southwest, Phillips and Sebastian conclude that “large-scale feasting correlates with evidence for inequities of power – and vice versa” (Phillips and Sebastian 2002: 9). However, James Potter points out that:

“feasting can be an important mechanism for redistributing food among community members, and thus can be instrumental in promoting economic and social interdependence among community members. At the same time, to varying degrees, feasting can be an active context in which social hierarchy is established. Indeed, the hosting of feasts may be a particularly effective means through which to demonstrate one’s economic and political abilities, and to engender prestige and the support of followers” (Potter 2000: 472).

Evidence of communal feasting is not exclusive to Southwestern sites; it has been noted as far back as the time of Odysseus as a means to exert power and influence labor (Phillips and Sebastian 2004:233). With respect to the role of ceramics in communal feasting, Katherine Spielmann notes that the vessels associated with these feasts often have their own significance insofar as they may “present evidence of exotic exchange” (Spielmann 2004: 210). Mills credits

the increase in vessel size to the possibility of “larger sized, extended households with increasing participation in supra-household ritual feasting” in her analysis of food consumption in the northern Southwest (Mills 1999: 99-114). Vessel and rim size in the Lumholtz Collection of Casas Grandes Ceramics are discussed in Chapter 6 as possible indicators of feasting. Among those artifacts are some large Playas Red rims measuring over 8 inches in diameter.

The presence of large roasting ovens (possibly used for processing agave) at Paquimé leaves no doubt that it was a site for large feasts. As noted by Whalen and Minnis (2001), there is a wide range of oven sizes dotting the landscape in the Casas Grandes Inner Zone and the Outer Zone. An example of one such large roasting oven was seen at Site 242 (personal observation 1998). For the most part, archaeologists interpret small ovens as being for domestic use. The large ovens are assumed to be used for large-scale food preparation or feasts. In this context, the authors point out “Public feasts can be seen as a kind of competitive generosity that is sponsored by and intended to benefit a society’s political entrepreneurs” (Whalen and Minnis 2001: 133). Cordell and McBrinn cite Whalen and Minnis as reporting that at Casas Grandes local leaders appropriated Mesoamerican symbols and rituals, “especially feasting,” as one means of boosting their status. This was contrary to the assumptions that these features were the manifestation of emissaries from Mesoamerican states being present at Casas Grandes (Cordell and McBrinn 2012: 277).

Whalen and Minnis consider the concentration of food production sites (the *trincheras*) located in the Core Zone, versus the paucity of these sites in the Middle Zone, as another predictor of feasting at Paquimé. Surplus food production at those sites could indicate that these farmers were contributing this commodity to the support of the central site. In explaining the disparity between the density of *trincheras* sites in the Core Zone versus the Middle Zone,

Whalen and Minnis purport that this is “unlikely to be attributable to population density” ... “An alternative explanation is that Core Zone communities were required to contribute to the support of Paquimé to a greater extent than were their more distant neighbors” (Whalen and Minnis 2009: 266). “Feasting seems to have been a very important activity in the Paquime polity. Arguably, the largest earthen oven in the North American Southwest is at Casas Grandes; we estimate that this oven may have been able to prepare nearly 3,300 kg of food per cooking episode” (Minnis, et al. 2006: 716).

Moreover, the presence of large agave ovens was interpreted as an indication of the production of intoxicating beverages. Di Peso posited that these ovens “gave allusion to the presence of the Maguey Goddess (Mayahuel) and her 400 sons in the Casas Grandes religious order. Certainly, there was a strong hint that the intoxicating liquor prepared in these pits had religious significance” (D Peso et al. 1974:564). While I have no grounds on which to dispute Di Peso’s association of the pits with the Aztec Maguey Goddess, it is my opinion that once again he was stretching to support his *pochteca* model.

## **BURIAL PRACTICES**

“In segmentary societies, and others with relatively limited differentiation in terms of rank, a close analysis of grave goods can reveal much about disparities in social status” (Renfrew 2007: 145). Gordon Rakita scrutinized the diversity of mortuary practices from the early Viejo Period (700-1060 A.D.) (Di Peso, et al. 1974: 1: 97) through the late Medio Period (1200-1475 A.D.) and the diversity of mortuary practices over that time span in order to discover possible changes in mortuary ritual as Paquimé grew and fell. According to Rakita, the Medio Period represented the time span of greatest diversity and complexity of mortuary practices. His conclusions indicate “that the Medio period was a period marked by radical shifts in funeral

practices” and that that these radical shifts were indicative of “modifications in religious and political organization at Paquimé” (Rakita 2010: 2).

While graves in the Viejo period were located in public spaces within full view of the community, over 40% of the burials Rakita allocates to the Medio period were sub-floor pits inside rooms. This would be consistent with my findings in the Lumholtz data. In addition, there appeared to be an increase in grave goods during the Medio period. Although he reports that most burials still contained no or few grave goods, some burials displayed a dazzling richness including one grave with over “60 artifacts of 28 different types” (Rakita 2010: 3-4).

Today, opportunities for mortuary studies in the Casas Grandes region have been severely reduced in large part due to a century’s worth of heavy looting. This is especially true of the late Medio Period sites: “local looters have learned how to quickly locate burials and remove the desired whole pottery vessels for sale” (Rakita 2012). The sub-floor burials and their accompanying artifacts excavated by the Lumholtz Expedition date to the same Medio Period as those discussed by Rakita (See Chapter 6: Burial Context of Lumholtz Collection), and provide evidence of Medio Period burial practices that can no longer be recovered by modern excavations.

## **CRAFT SPECIALIZATION**

“The ostensive purpose of all craft specialization is production of material objects through modifications of raw materials – a creative act of reorganization that invests the material with information by means of human labor” (Clark and Parry 1990: 295). Whether part-time or full-time, craft specialization has been defined as the regular and repeated production of goods in quantities greater than the needs of the artisan’s household (Clark and Parry 1990; Rice 1981; Sprehn 2003; Stark 1985). Clark and Parry state that “Archaeologists commonly rely on the

presence of craft specialization to infer aspects of cultural complexity” (Clark and Parry 1990: 290). Within that context, craft specialization has been extensively studied with respect to state-level societies.

As defined within the social complexity paradigm, craft specialization refers to those who produce surplus goods on either a part-time or full-time basis. “*Part-time* specialists are those for whom production remains subsidiary to other subsistence pursuits. *Ad hoc* specialization is sporadic, information production of goods for exchange...” (Clark and Parry 1990: 298). The ability to make a determination of part-time versus full-time specialists in the archaeological record may be difficult to ascertain since potsherd frequencies and distributions can be altered “due to wasters<sup>8</sup>” (Stark 1985: 162). Additionally, one single craftsperson may alternate among different types of production as well as different goods, due to personal economic needs (Clark and Parry 1990: 302). “The presence of specialists necessitates greater numbers of transactions and higher levels of integration. It can also provide elites with the means of controlling certain goods” (Toll 1991: 102-103).

“Cross-cultural research conducted by Clark and Parry (1990) has demonstrated that intensification of craft production and some general measures of cultural complexity co-vary, especially those variables of complexity related to social stratification and political integration. Their research suggests that archaeological identification of the social and political contexts of craft production will be most successful when distinctions between attached and independent, and part- and full-time specialists can be demonstrated... previous models for the organization of ceramic production have been overwhelmingly based on analyses of complex societies. Much more attention needs to be paid to middle-range societies, such as those in the American Southwest” (Mills and Crown 1995: 4-6).

Brumfiel and Earle (1987) elucidate three basic models for the rise of craft specialization. The first model, “commercial development,” accounts for an increase in specialization and exchange “as an integral part of the spontaneous process of economic growth.” As specialization

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<sup>8</sup> “Wasters” refers to those pieces of broken pottery found in abundance leading to an inference that a workshop was located there.

intensifies, the allocation of labor evolves, and ultimately there is a transition to greater social complexity. However, there are very few cases wherein this model is demonstrable. The “adaptationist” model implies that the development of specialization and exchange was motivated by redistribution and the need to facilitate market change in an environment where resources were highly diversified. Finally, the “political” model “proposed that political elites consciously and strategically employ specialization and exchange to create and maintain social inequality, strengthen political coalitions, and fund new institutions of control” (Brumfiel and Earle 1987: 5-9). In all instances, the level of consumer demand as well as the stability of the market determines the extent of craft specialization.

The distinction between independent specialists and attached specialists creates another means of ascertaining how and why craft specialization attained its importance in the development of social complexity. The independent specialist produces his or her product for unspecified markets. These markets may arise under various conditions whether they are economic, social, or political. They develop in response to resource diversity and an increasing population as well as a stable level of supply and demand. Conversely, patronage is the motivation for the development of attached specialists. These specialists “produce goods or provide services to a patron, typically either a social elite or a governing institution” who has the power to command specialist production (Brumfiel and Earle 1987:5-6). Simply put “When craftsmen retain rights of alienation, *specialized* production is independent craft specialization. If an outside sponsor ... controls the finished goods, it is *attached* specialization” (Clark and Parry 1990: 298). Clark and Parry compare and contrast patronized craft specialization with full-time craft specialization. They conclude “patronized craft specialization correlates with agrarian, rank and chieftdom societies; and full-time craft specialization correlates

best with complex, highly-stratified states, urban centers, and intense agriculture” (Clark and Parry 1990: 321).

Clark and Parry (1990), in their cross cultural study of craft specialization, utilized the Human Resources Area Files, a database of ethnographic information on a wide range of cultures, to support the assumption that “more complex societies have more complex divisions of labor” (Clark and Parry 1990: 291). Thus, “For painted vases, higher labor expenditures envalues (*sic*) the object with a special social message indicative of privileged consumption” (Clark and Parry 1990: 296). After a thorough elucidation of their methodology and reasoning, Clark and Parry state that in utilizing craft specialization as an archaeological determinant for types of societies, whether social, political, economic configurations are under consideration, it is critical for the investigator to differentiate the type of craft specialization. For example, were the specialists attached or independent; were they part-time or full-time (Clark and Parry 1990: 321)?

Maria Sprehn (2003) favors the economic model as the impetus for craft specialization in her dissertation on *Social Complexity and the Specialist Potters of Casas Grandes in Northern Mexico*. Sprehn’s study covers an assortment of Chihuahuan polychromes including Babicora, Villa Ahumada, and Ramos Polychromes from the Smithsonian Museum of Natural History, Washington, D.C.; The Maxwell Museum, Albuquerque; Arizona State Museum, Tucson; San Diego Museum of Man; Museo Culturas del Norte, Casas Grandes; and the American Museum of Natural History totaling 679 vessels. These vessels are reported to be from the “upper Rio Casas Grandes valley, Rio San Pedro valley, Rio Santa Maria valley, and the Babicora basin” (Sprehn 2003: 37). Sprehn cites accounts which conclude that the widespread distribution of these vessels throughout the International Four Corners region is an indicator of the economic

importance of the Casas Grandes polychromes. Of those vessels, 58 vessels are from the Lumholtz Collection excavated at Rancho San Diego. Records indicate that close to 300 other vessels came from “unknown” locales and the balance cover a wide range of locations, primarily CH:D:9 (Casas Grandes District), CH:D:5 (Rancho Corralitos), CH:E:14:5 (Galeana Vicinity, Rio Santa Maria). 26 vessels were from Paquimé (Sprehn personal communications 2002).

Sprehn reports that “substantial evidence for political and economic differentiation” as well as the widespread distribution of the intricately decorated polychromes throughout the International Four Corners area have led to the conclusion that Paquimé “participated in a wide sphere of economic interaction” (Sprehn 2003: 1-3). Sprehn’s deduction is that “It appears that the economic system supported an incipient elite class with the surplus produced by people working as specialists” (Sprehn 2003: 240).

However, Sprehn’s conclusion are contradicted by a recent study conducted by Professor Daniella Triadan and her colleagues utilizing Instrumental Neutron Activation Analysis and petrography on samples from Paquimé as well as four sites from the Regional Paquimé Project and the Sayles collection at Arizona State Museum. Triadan’s report concludes that “These results strongly support that the manufacture of Ramos Polychrome was not a specialized activity beyond household production” (Triadan et al. 2005). A more detailed discussion of Dr. Triadan’s study is provided in Chapter 7.

Aside from the Lumholtz polychromes and those from Paquimé, it is important to keep in mind that looting and poor early documentation practices have rendered the site specificity for many Chihuahuan polychromes difficult to pinpoint. Collectors are well-known for selecting only the most beautiful and the cleanest vessels for their collections. Therefore, it only stands to reason that the vessels donated to museums would be of high quality and probably made by craft

specialists. My analysis of the Lumholtz Collection offers a broader perspective on ceramic assemblages, i.e. the ratio of non-polychromes to polychromes in the range of 2:1. Thus, it adds another dimension to the issue. Since the provenience of Casas Grandes polychrome vessels outside of Paquimé is limited, the polychromes may not fit an economic exchange model.

In their analysis of the presence of Design Horizon A (early Medio Period) versus Design Horizon B (late Medio Period), Whalen and Minnis (2012) make reference to Sprehn's 2003 work. While they concur that specialists produced large and medium sized Ramos Polychrome ovoid jars, they indicate that this does not necessarily lead to the conclusion that these jars were made by the same specialists and then exported to their neighbors. Yet, Whalen and Minnis do agree that "the Design Horizon B style was standardized, widespread, and carefully executed all across the region" (Whalen and Minnis 2012: 419).

"Archaeologists often assume that craft products will become more standardized as their production becomes more specialized" (Mills and Crown 1995:33-34). However, this may not always be the case since the impact of social variables may effect standardization and, in some cases, the specialist producing the craft may choose to express his or her individuality with their design patterns.

### **COMPLEXITY CONCLUSION**

I concur with what Warren DeBoer calls "on again, off again" complexity. Taking the Casas Grandes culture as a whole rather than just the central site of Paquimé, one has a more fulsome picture. Casas Grandes did not just spring up and then disappear. There were multitudes of smaller sites dating back to the pre-ceramic era including some of the *trincheras* and *atalayas* illustrated in Figure 18 that did not suddenly appear and then suddenly vanish with the demise of Paquimé.

## CHAPTER 5: SYMBOLISM, RITUAL, AND REGIONAL SYSTEMS

The elaborate motifs present on some of the Casas Grandes polychrome vessels and the attendant ritual paraphernalia found both at Paquimé and at some outlier sites, provide further support for the discussions set forth in Chapter 4 with respect to the complexity of the Casas Grandes culture zone.

According to Leslie White:

“All human behavior originates in the use of symbols. It was the symbol which transformed our anthropoid ancestors into men and made them human. All civilizations have been generated, and are perpetuated, only by the use of symbols. It is the symbol which transforms an infant of homo sapiens into a human being.... All human behavior consists of, or is dependent upon, the use of symbols. ... The symbol is the universe of humanity” (White 2005 [1940]: 451).

The Processualists view symbols as “tokens” whereby the symbols represent reality. Alternatively, the Struualists view these symbols as “girders” wherein the symbols frame a cultural reality. Post-modernists view symbols as “arbitrary fragments” of phenomenological experience (Robb 1998: 329). Aside from “code breaking,” there is no exact methodology for understanding symbols in archaeology. Rather, it is important to “ask the right questions” (Robb 1998: 341). However, asking the “right questions,” when those are framed within a preconceived hypothesis, may be a hazardous approach. If the researcher approaches those symbols with a predetermined notion of what they will find, it can wreak havoc with the results. This was evident in Charles Di Peso’s imposition of Toltec iconographic interpretations at Paquimé (Di Peso, et al. 1974: Volumes 1, 2, and 3).

Terminology for symbols varies in different venues. Whether it is called style, material culture, or symbolism, these elements communicate to both the users and the observers. Wobst explains “Like other populations, human populations maintain themselves by exchanging matter,

energy, and information with their environment... as well as among their members” (Wobst 1977: 319-320).

The meaning of one particular symbol may differ from one context to another, dependent upon its cultural association. Thus, meaning cannot be inferred from the symbol alone without reference to supplementary representations, whether in ceramic assemblages, architecture, or other cultural entities. Symbols play a potent role in establishing dominance. While the focus of my study is on the Carl Lumholtz Collection of Casas Grandes ceramics, it goes without saying that those ceramics did not exist within a cultural vacuum. The symbolism on Casas Grandes ceramic vessels is interpreted within the context of the center site environment at Paquimé and its ritual architecture as well as other artifactual remains. Chapter 4: *Complexity and Sociopolitical Organization* discusses the extensive ritual, monumental, and residential architecture of Paquimé as a key marker of complexity.



Figure 21: Complex Architecture at Paquimé with “T” shaped doors (author’s photograph 1998)

As noted earlier, symbols can aid in our interactions with the world around us. What is more, symbols can be used to legitimize positions of power within the natural world as well as

between the natural world and the spiritual world. This can be seen in religious or ritual representations whether as a depiction of an “other worldly” creature in paintings, sculpture, rock art, on a ceramic vessel, or in smoke. These symbols, taken together, can create a structure upon which an ideology can be built. They can “relate to supernatural or superhuman beings or forces that go beyond or transcend the everyday material world. In other words superhuman beings are conceptualized by humans and have a place in the shared cognitive map of the world” (Renfrew and Bahn 2007: 230).

### **SYMBOLISM OF CASAS GRANDES POLYCHROMES**

The interpretation of symbols in the Casas Grandes culture has been a topic of discussion for over a century. Zoomorphic motifs and their interpretations continue to dominate the conversation regarding Chihuahuan ceramic iconography. While early treatises on the painted wares provided basic labels such as clubs, spades, and triangles (Kidder 1916, Carey 1931, Saville 1894, and others), later interpretations have bestowed more iconographic identifiers to these same images associated with various religious-sociopolitical hypotheses, for example, as images of macaws, serpents, or shamans (VanPool, et al. 2002, 2007, 2010, Hendrickson 2003, Di Peso, et al. 1974 and others).

In the case of the shamanic representations on some Casas Grandes polychromes, these representations take a zoomorphic form as seen at the bottom of the vessel in Figure 22:

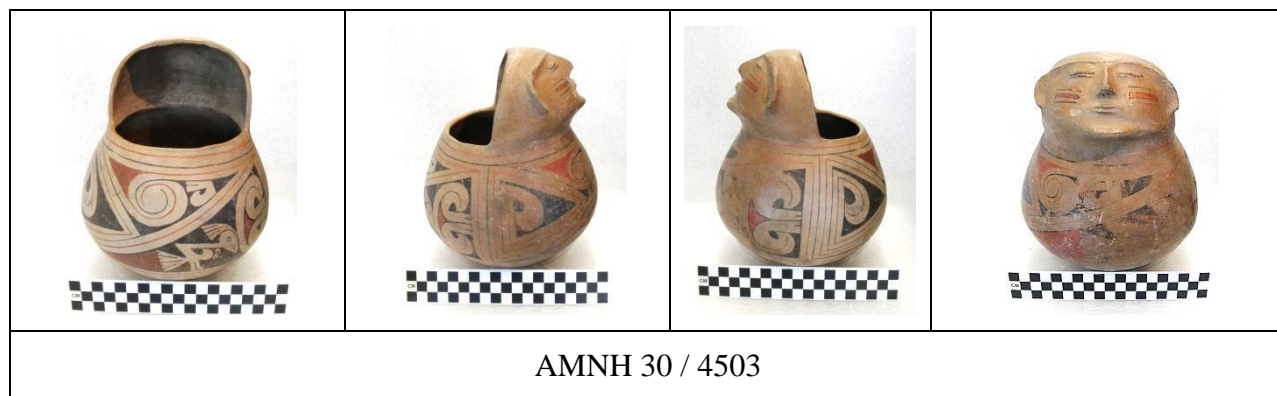


Figure 22: Vessel Scrolled Interlocking Triangles, Macaw Motif, “P”, and Shamanic Figure

Christine VanPool (2001) proposes that “Symbolic structures are an important component of all human societies and are certainly reflected in the archaeological record. This is especially true in areas such as the American Southwest and northern Mexico where we are certain that many, if not all, of the ceramic traditions were used to convey important information.” Van Pool references Patricia Crown’s work on the Salado Polychromes (1994) wherein Crown “demonstrates that the symbolism on Salado pottery was probably part of a movement to stabilize social relationships during a period of great upheaval in the American Southwest” (VanPool 2001: 73).

In *The Symbolism of Casas Grandes*, Christine VanPool looks to Helms (1993) in proposing that elites at Paquimé gained power through their knowledge of and connection to the “distant spiritual world” associated with Mesoamerica. VanPool casts the shamans illustrated in Casas Grandes iconography as the elites of Paquimé. She purports that these elites utilized their knowledge of the distant spiritual in conjunction with “their knowledge of West Mexico and the U.S. Southwest” to support their positions of power (VanPool 2003b: 360-361).

Along with Helms, VanPool suggests that the distinction between local and foreign is significant in the way ideas and items are viewed by prehistoric societies. Helms (1993) presents a model of social structure and hierarchical authority based on the dichotomy of “inside” and

“outside” worlds and shows how links to the outside world can work to increase the status, prestige, and power of aspiring and established leaders. In this respect, the symbols can be interpreted as “markers.” Conversely, if the symbolism can be determined as more widespread among the population of Casas Grandes, then this symbolism may be indicative of a shared religion and thus be proclaimed “girders.”

I have applied the model set forth in Patricia Crown’s *Ceramics and Ideology: Salado Polychrome Pottery* to Casas Grandes polychrome vessels in order to ascertain whether the symbolism can be defined as carriers of sociopolitical, economic, religious or ethnic messages. Crown utilized a series of “If, Then” statements to explore the applicability of four possible models for determination of the messages.

### **Leadership Elites:**

The model for this analysis as it applies to Leadership Elites is:

“1. IF the Medio Period Casas Grandes Polychromes are associated with a segment of society holding a leadership role.

THEN:

There should be independent evidence for the existence of an elite within sites where these polychromes occur.

With production controlled by an elite, the pottery should be produced at sites with evidence for elite occupation, and the pottery should reflect production by specialists attached to the elite. Pottery produced by attached specialists is likely to have special purpose functions and this may have forms unlike common utility wares at the same sites. The pottery might be standardized in metric attributes of form, but should have labor-intensive designs.

The pottery should be widely exchanged between sites with elites at the production loci.

The pottery should be differentially distributed within sites and within burial populations. It should occur only in high-status contexts associated with an established elite. Within burial populations, the pottery would be found with a limited number of burials distinguished by type of burial, location, and/or numbers of goods from burials of lower status. Assuming that elite positions would be ascribed, the pottery might not be differentiated by age and gender positions within the community. Within non burial

contexts, the pottery should be differentially distributed within the community and particularly associated with high-status households” (Crown 1994: 4)

Most of Crown’s parameters set forth in the first test fit the Casas Grandes culture area, although the differential distribution may be difficult to quantify due to the minimal information regarding burials outside of Paquimé. The material remains at Paquimé support the concept of an elite class of people due to its elaborate architecture, distinctive polychrome vessels, and stores of imported goods. However, the existence of a guild of specialists remains in question. Di Peso made a case for a myriad of specialists including Shell Workers, Lapidaries, Coppersmiths, Builders, Woodworkers, Stone Cutters, Potters, Weavers, Bone Workers and Aviculturalists (*sic*) (Di Peso, et al. 1974: 500-603). Yet, it is not clear if these were full time specialists. To date, no indication of a ceramics workshop has been found at Paquimé or the surrounding environs. There is evidence that some vessel forms of Ramos Polychrome were produced by part-time specialists at Paquimé itself (Sprehn 2003). Sprehn’s findings, as well as craft specialization as a marker for complexity, were discussed earlier in Chapter 4 wherein Sprehn asserts “The evidence for specialized production of the several Chihuahuan Polychrome classes shows that the development of specialized production was not a temporary variant of production organization, but a process associated with increasing complexity” (Sprehn 2003: 244).

Crown indicates “Pottery produced by attached specialists is likely to have special purpose functions and this may have forms unlike common utility wares at the same sites” (Crown 1994: 4). However, many of the polychrome vessels, whether they were Babicora, Villa Ahumada, or Ramos Polychrome vessels, exhibit similar morphology. Given the limited documentation associated with many collections of Casas Grandes polychromes it is difficult to determine if the pottery was “differentially distributed within sites and within burial populations”

(Crown 1994: 4). My research has shown that polychrome vessels as well as effigy vessels were recovered in burials outside the Paquimé site both by the Lumholtz Expedition as well as by Donald Brand on his 1933 expedition (Brand 1933: 55). Chapter 6 provides details regarding burials that are recorded in the unpublished notes of Lumholtz's First Expedition. Those notes include descriptions of ceramic vessels found in conjunction with the burials. Donald Brand reported "six burials with ollas at the heads of the interred" at the Lower Tinaja site (Brand 1933: 55) (See Figure 42 in Chapter 6).

### **Economic Alliances:**

"2. **IF** the Medio Period Casas Grandes Polychromes are associated with Economic Alliances

THEN:

There should be independent evidence for the existence of such a system of competitive emulation.

The pottery should be widely distributed within sites participating in the economic system, but not occur in any sites outside of the interaction sphere.

The design styles on the pottery might have a clinal distribution as suggested by Rice's model.

There may not be any ritual content to the designs on the pottery. The designs might be strictly geometric, but standardized from site to site. Designs might also be distinctive from designs on pottery outside of the alliance.

The pottery might have any function. If pottery exchange were an important component of maintaining the regional system, then production would emphasize standardization both in forms and designs, designs would be efficiently executed, and production would probably entail general specialists, with mass production and high-volume exchange of the pottery throughout the interaction sphere" (Crown 1994: 5).

The association of Medio Period Casas Grandes Polychromes with economic alliances poses another challenge. Ceramic vessels likened to the Medio Period Casas Grandes Polychromes are reported in a number of locales outside what has been designated the "Core Zone" (Whalen and Minnis 2001). However, much of that distribution has been attributed to

local emulation rather than commercial exchange. Additionally, if the ceramic vessels were part of an economic alliance, “There may not be any ritual content to the designs on the pottery. The designs might be strictly geometric, but standardized from site to site. Designs might also be distinctive from designs on pottery outside of the alliance” (Crown 1994: 5). Since many of the motifs identified in the Casas Grandes polychrome pottery have been interpreted as carrying religious symbolism, this statement would not prove true.

### **Religious Ideologies:**

“3. IF the Medio Period Casas Grandes Polychromes are associated with Religious Ideologies

THEN:

There should be independent evidence for the emergence of such a religious ideology at this period.

The pottery should be restricted to ritual contexts communal structures and burials, and perhaps households of religious leaders).

The pottery should be associated with a single mortuary ritual.

Pottery found in burials should lack evidence of use for secular activities prior to placement in burial. [not at Paquime]

The designs should reflect a system of beliefs through the presence of ubiquitous and redundant icons. Although it may not be possible to identify sacred versus secular vessels on the basis of imagery. Furthermore, the existence of religious content may be confirmed through the presence of these same icons in clearly ritual contexts (e.g. kiva murals, ritual objects).

Production of a limited range of vessel forms for ritual consumption might entail “product specialists”, individuals skilled in the production of a limited range of vessel forms for specific purposes. As such, the vessels should be standardized in form, but with labor intensive designs.” (Crown 1994: 6).

Alternatively, if pottery production was related to the development and spread of a religious ideology, but the pottery was not restricted to ritual or mortuary use within the tenets of that ideology, then only expectations (a) and (e) above may be met” (Crown 1994: 6).

Given the above parameters, it is possible that the production of the Casas Grandes polychromes is associated with the emergence of a new religious ideology as a regional cult in the late 1200s. Crown's hypothesis that in order to qualify as markers of religious ideologies the pottery found in burials should lack evidence of use for secular activities prior to placement in burials is not supportable from my analysis of the pottery found in association with burials by the Lumholtz Expedition (see the unpublished notes in Chapter 6 for more details). Some of those vessels show evidence of pitting and sooting as evidence of use as cooking and/or serving vessels prior to burial.

However, Crown's requirement that "The designs should reflect a system of beliefs through the presence of ubiquitous and redundant icons;" is met since the Casas Grandes polychromes certainly do conform to this stipulation (Crown 1994: 6). Thus, it is possible that the production of the Casas Grandes polychromes can be associated with the emergence of a new religious ideology as a regional cult in the late 1200s. "Regional cults incorporate groups that differ in language, culture, and natural resources, and they stress intergroup peace, engendering the flow of information, services, material items, and people across ethnic and political boundaries" (Crown 1994: 6). Yet, here again, it cannot be stated with certainty that the pottery has been "restricted to ritual contexts, communal structures, and burials, and perhaps households of religious leaders" since it is widely dispersed (Crown 1994: 6).

With respect to the Medio Period Casas Grandes Polychromes and their association with religious ideologies, this is supported through the architectural features of Paquimé such as the Mound of the Serpents, the Cruciform, the I-shaped Ballcourts, as well as The House of the Macaws. Many of these features appear at Site 242, a smaller administrative center which is discussed in Chapter 4.



Figure 23: Macaw pens at Paquimé (author's photograph 1998)

**Ethnic Affiliation:**

“4. IF the Medio Period Casas Grandes Polychromes are associated with the migration of an ethnic group and the pottery was a symbol of ethnicity

THEN:

There should be independent evidence for the movement of population at this time in conjunction with the movement of the pottery.

The pottery should be restricted in distribution to rooms or sites occupied by migrants and burials of migrants.

The designs should reflect ethnic status, although not necessarily a system of beliefs.

The pottery technology should reflect the traditions of the migrant population rather than the traditions of any indigenous populations already occupying the areas where the pottery was made.

The organization of production would probably match that for the “homeland” area.

As formulated, each of these models implies a monocausality to the Casas Grandes polychrome issue, and the answer may lie in some combination of these factors” (Crown 1994: 6-7).

Finally, if the pottery iconography was symbolic of ethnicity and associated with the migration of an ethnic group, then the limitations imposed on the archaeological record by a century of looting, agriculture, and residential development inhibit definitively answering many

of these questions. In my conversations with Dr. Crown (2003-2004) about the applicability of these models to Casas Grandes, she indicated that, due to the limited provenience of most museum collections, it would be almost impossible to utilize the Ethnic Affiliation model.

### **MACAWS AND SERPENTS**

The two dominant creatures in the Chihuahuan ceramic assemblages are the macaw and the serpent. These may appear in realistic imagery or highly stylized elements. They can be found individually in a variety of shapes and sizes as well as in combination with each other. Whalen and Minnis point out “The supernatural role of macaws recently has been interpreted in several different ways. One study (McKusick 2001) asserts that the birds had powerful supernatural attributes in Mesoamerican religions and that bird sacrifices were crucial parts of religious rituals” (Whalen and Minnis 2009: 245-256). However, Christine and Todd VanPool frame the macaws as locally significant since they were “associated with the spirit journeys of the shamans and priestly leaders of the primate center” (VanPool and VanPool 2007).

According to Christine VanPool “... by identifying what aspects of an animal the prehistoric ceramicist chooses to emphasize, we can understand what characteristics of that animal were considered important” (VanPool 2001: 85). Thus, I would venture that the decapitation of the macaws found at Paquimé, coupled with the images of serpents with macaw heads on Casas Grandes Polychrome vessels (as in Figure 24) is an indication of that bird’s importance. What might be theorized is that the macaw, with its loud screech, imposed upon the body of a serpent represented some sort of “calling” to the supernatural.

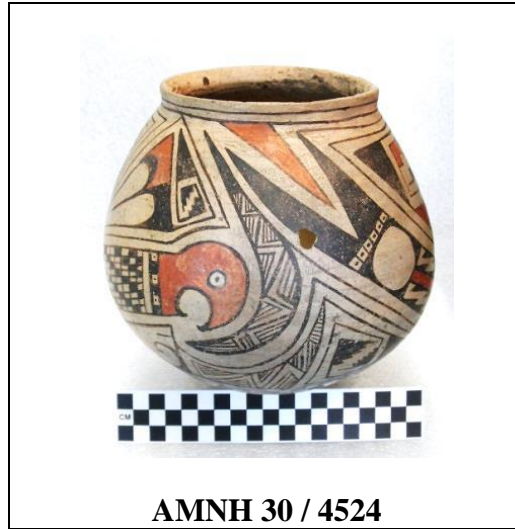


Figure 24: Macaw headed serpent

Although Fenner identified both the P-motif and the half/whole spade motifs as representative of the macaw in her analysis of Ramos Polychromes from Paquimé (Di Peso et al. 1974:6: 99), others, such as Crown (1994:165-166) and VanPool and VanPool (2007:114-115), argue that the half and whole spade motifs found on Ramos Polychrome vessels, can be both the macaw and plumed/horned serpent. Arguments on all sides may carry equal weight; however, the perspective of the researcher may override evidentiary judiciousness.



Figure 25: Examples of the Spade Motif on the left and the "P" Motif on the right

*Macaws:* One of the most diverse images on Casas Grandes polychromes is that of the macaw representation. Di Peso speculated that:

“Sometime early in the Medio Period, a breeding population of scarlet macaws was traded into the Paquimian area, perhaps from its nearest rain forest habitat in northern Veracruz, the Huastecan homeland of Cuextlan, wherein the pre-Iberian bird trading center of Oxitipar was located. With this stock, they established a considerable breeding center which served a large portion of the American Southwest. They sold these birds to the Anasazi, Mogollon, and Sinagua during the Medio Period ...” (Di Peso, et al. 1974:632).



Figure 26: Two Examples of Macaw Motifs: “P” on the left and effigy on the right

The macaw image proliferates whether in its most simplistic format such as the “P” (See AMNH 30 / 4104), or as the most realistic imagery such as those in effigies (See AMNH 30 / 4527). In some instances the “P” representations have been termed a fish hook turned in on itself. Kidder called the representation the “Club-like element” (Kidder 1916: 267), whereas Carey described it as a “Leaf element” (Carey 1931: 346) (See Figure 8 in Chapter 1).

While Di Peso links the popularity of the macaw imagery with southern origins, Donald Brand attributed its popularity to be of local origin. “Macaw head is probably of local origin, as the Macaw is a denizen of the Sierra Madre forests” (Brand 1933: 95). Gloria Fenner (1974) indicates the universal manifestation of the macaw imagery as depicted by the spade and “P” elements on almost all of the painted Casas Grandes ceramic types as reasonable proof that the imagery could be considered a “hallmark” of the Casas Grandes type (Di Peso, et al. 1974:6: 99).

These elements were noted to be the most numerous anthropomorphic and/or zoomorphic motifs on the Ramos Polychromes (Di Peso, et al. 1974: 283).

“Throughout this broad area, only Paquimé exhibited evidence of having actually bred an abundant number of birds: breeding boxes, eggshells, and nestling and juvenile carcasses. Further, the wares of these local breeders were very much represented in the intricate socio-religious macaw iconography of the town ...” (Di Peso, et al. 1974: 632).

“Paquiménos may have acquired scarlet macaws through trade and bred this initial stock for ritual consumption and for export into the American Southwest” (Di Peso et al. 1974).

Conversely, it is not unreasonable to hypothesize that the breeding stock may have come from the north of Paquimé, to wit, southwestern New Mexico, since their presence in that region has been recorded as early as A.D. 1000 (Creel and McKusick 1994:511).

Duality images, especially bird/snake images, play another significant role in the symbolism found on Casas Grandes ceramics. VanPool and VanPool (2007) hypothesize that “Because of the emphasis on duality Medio period rules governing symbolic decoration form structural pairs.” Specifically, among other motifs, they cite, “male:female; legs extended:legs flexed; pound sign:modified pound sign; natural:supernatural; bird:snake...” (VanPool and VanPool 2007:127). Several examples of this duality appear in the Lumholtz Collection such as AMNH 30 / 4480.

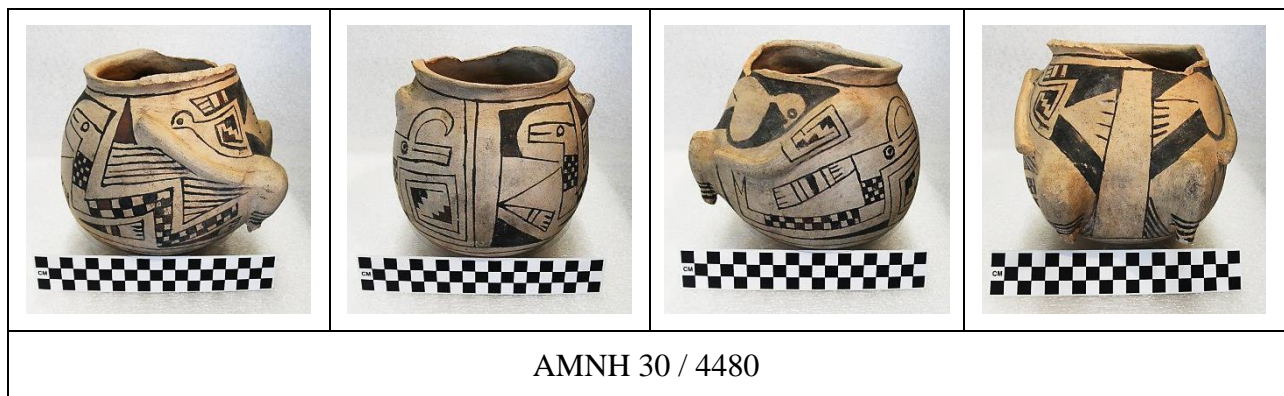


Figure 27: Effigy Vessel with Dual Serpent and Avian Motifs

*Serpents, Horned Serpents, and Plumed Serpents:* A great deal of conjecture surrounds plumed/horned serpent imagery as depicted on Casas Grandes polychromes. Di Peso used its presence to further his argument for Mesoamerican origins of the development of Casas Grandes. Di Peso postulated that the presence of signs of Mesoamerican deities supported the presence of priests among Paquimé's populace. In turn, these priests would have played a significant part in mortuary rituals (Di Peso, et al. 1974: 2: 546-575). "The plumed serpent motif, which seems to be one of the most persistent and most easily recognizable of Quetzalcoatl's iconographic forms was well known to the Paquimians" (Di Peso, et al. 1974: 552). Quetzalcoatl is the Mesoamerican deity whose name is derived from the Nahuatl language means "feathered serpent." According to Miller and Taube: "The earliest known appearance of the quetzal serpent in Central Mexico occurs at the Temple of Quetzalcoatl at Teotihuacán" (Miller and Taube 1993: 141). The feathered serpent imagery appears in Mesoamerica throughout the Classic and Post Classic Periods (c. 300 A.D. to 1500 A.D.).

Helen Crotty cautions in her discussion of Hewett's *Awanyu* (Plumed Serpent), his 1908 dissertation, versus interpretations of the same imagery as by Crown (1994) and Haury (1945):

"... the same motif that Hewett in his 1908 dissertation named 'the prayer feathers' of the Plumed Serpent is variously identified by others as a hand sign, a bear paw, a bird wing or bat wing, and growing corn. This is perhaps as good an object lesson as any in the hazards of assigning meaning to prehistoric imagery" (Crotty 1995:200-212).

*Serpents:* In the case of simple serpent representations, these are usually very realistic and are often found as appendages on zoomorphic effigy vessels or as relief figures such as seen in AMNH 30 / 4493 or as molded figures such as the one on AMNH 30 / 4488.

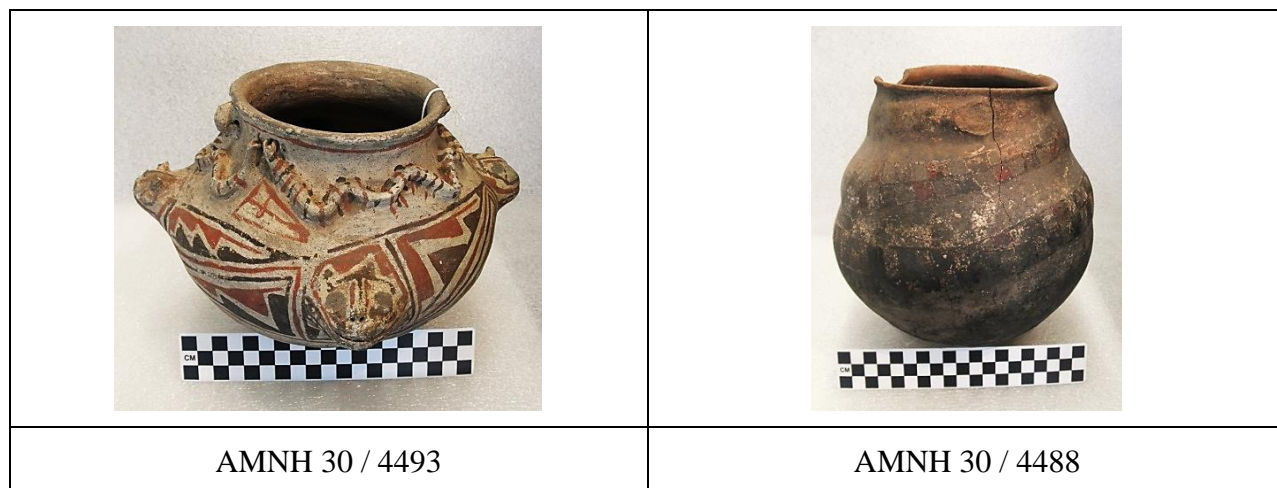


Figure 28: Serpent Motifs: One in Relief on Macaw Effigy Vessel and One in Molded Form

Depictions of the serpent representations varied over time and place depending upon the type of polychrome and whether the vessel is Horizon A (pre-1300) or Horizon B (1300-1450) (Whalen and Minnis 2012).

A wide range of ritual significance has been attached to the symbolism of the horned/plumed serpent (e.g. Van Pool 2003, Van Pool and Van Pool 2010, Crotty 1995, Crown 1994, Schaafsma 1998). However, in some instances little has changed in the basic interpretations which range from the contention that the horned/plumed serpent is a derivative of the great Mesoamerican god, Quetzalcoatl, to the argument that it is roughly analogous to modern Pueblo water serpents (i.e. Crown 1994, Crotty 1995, and Hewett 1938).

Di Peso linked the plumed serpent imagery with the Mimbres culture (Di Peso, et al. 1974: 308). However, as discussed in Chapter 3, Di Peso's chronology was flawed. Di Peso's temporal analysis was adjusted upwards due to his misinterpretation of tree ring data, hence the Mimbres correlation has been invalidated.

Moreover, although Di Peso chose to correlate the plumed serpent imagery with that which first appeared on Mimbres pottery (A.D. 1000-1130), his reasoning was faulty. As pointed out by VanPool, et al., in their phylogenetic analysis of the diffusion of the

plumed/horned serpent throughout the Greater Southwest, “the horned serpent traditions may have been introduced with the introduction of maize agriculture or perhaps even earlier, the horned serpent traditions of the Southwest appear to have developed relatively independently of Mesoamerican influence, at least after A.D. 1000” (VanPool et al. 2008:58). Cobb points out “The major drawback to equating North American snakes with Mesoamerican gods is the lack of an organized Southeastern or Southwestern religion with central deities” (Cobb 1999: 177). Additionally, “Because there were multiple horned serpent cults in the late prehistoric Southwest, single-source models of the origin of the cult may be incomplete. The Mimbres-Casas-Jornada horned serpent tradition could be derived from eastern sources” (Phillips et al. 2006: 21-22).

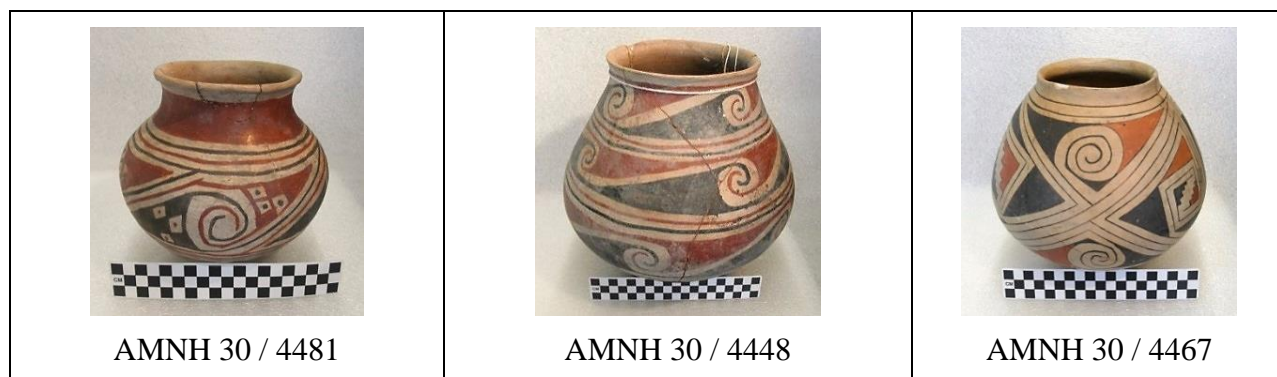


Figure 29: Three Scrolled Triangle Motifs Interpreted as Horned Serpents

Explanations of the stylized motifs range over time from the earlier labeling of the entwined images depicted above in AMNH 30 / 4448, AMNH 30 / 4481, and AMNH 30 / 4467 as hooked triangles, to the later interpretations that these same images were stylized depictions of horned serpents with backward facing horns. (See Appendix I.)

“The first consistent evidence for an organized cult using horned serpent imagery comes from the Mimbres Classic phase, beginning about A.D. 1000” (VanPool et al 1999) although “By about A.D. 1300, the Mimbres cult had been replaced by two regional cults” (Phillips, et al.

2006: 19). These two regional cults came to be known as the Salado Regional Cult and the Casas Grandes Medio Period. In the case of the Casas Grandes Medio Period, the horned serpents were generally depicted with forward facing horns. However, in the Lumholtz Collection at least two vessels exhibit “split” horns with one horn facing forward and the other facing backward as seen on AMNH 30 / 4431 and AMNH 30 / 4525.

Kidder interpreted the “P” element as a stylized representation of the macaw (Kidder 1916: 263) while others interpret it as horned serpent imagery. Interestingly, the “P” element combined with the hooked triangle motif as seen on AMNH 30 / 4104 (see Appendix I) has been interpreted as symbolic of a system of duality (VanPool and VanPool 2010: 41).

The differentiation between the forward facing horn and the backward facing horn on serpent iconography has engendered further speculation as to its origins and its symbolic significance, not to mention the arguments about the double horned serpents as seen on AMNH 30 / 4525 and AMNH 30 / 4431, as well as on AMNH 30 / 4480, or whether or not the plumes are actually horns. While some have equated the backward facing horn with Salado polychromes and the forward facing horns with Casas Grandes polychromes, this has not held true in my research in the Lumholtz Collection as evidenced on AMNH 30 / 4431 (See also Appendix I.)



Figure 30: Ramos Polychrome with Horned Serpent and Bird Motif

“Both icons and motifs of horned/plumed serpents differ through time and across the Southwest” (VanPool et al. 2008:48). The horned/plumed serpent is almost always a painted image encircling a vessel. Often the horned/plumed serpent is accompanied by the image of a bird as seen on AMNH 30 / 4431, while at other times it appears on either side of the vessel in an elaborate pattern without its avian accessory as seen on AMNH 30/ 4525.



Figure 31: Ramos Polychrome with Dual Horned Serpent Motif

However, it continues to be a matter of disputed interpretation. As so aptly pointed out by Helen Crotty:

“The Plumed Serpent of Mexico lacks a horn, and the horned serpent of the Southwest lacks feathers; it is difficult to see why they should be confused except for the fascination with Southwest-Mexican parallels that pervades the literature (e.g. Hewett’s Awanyu and an Aztec Plumed Serpent that was supposedly transformed into the Milky Way). In any event, horned serpent imagery is documented in the Southwest well before 1300, and the Casas Grandes version of the 1300s does not seem to have influenced Anasazi artists” (Crotty 1995: 346).

Chapter 6 and Chapter 7 provide detailed analyses of the ceramic assemblage from Lumholtz’s First Expedition. In order to appreciate the layout on the Casas Grandes polychromes, I have photographed all the polychrome vessels in counterclockwise quarter views— See Appendix I.

## RITUAL PARAPHERNALIA

Ritual Paraphernalia identified at Paquimé includes a variety of artifacts similar to those found at Site 242 as reported by Whalen and Minnis (2009) as well as among the artifacts from Lumholtz's first expedition. The proximity of these sites to one another is shown in the following map. Site 242 (a smaller administrative center) is discussed in Chapter 4.

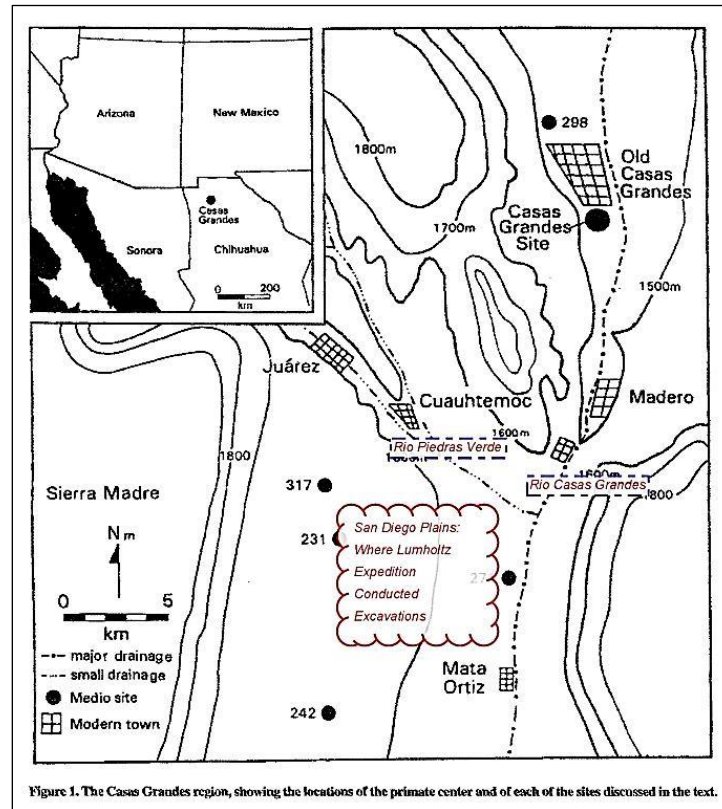


Figure 32: Map showing Sites 317, 231, and 242 (Whalen and Minnis 2003: 653) with author's notations in red.

These include carved stone artifacts with macaw heads as well as other animal representations. Additionally, a stone phallus identified while I was working with Whalen and Minnis at Site 242 and comparable to one cited by Di Peso (1974: 559), is very similar to one recovered by Lumholtz, along with stone animal heads and a flute-like ceramic piece. They are shown below in Figure 33. In Appendix II, I provide a photographic inventory of the non-ceramic artifacts I encountered while researching the Lumholtz Collection.

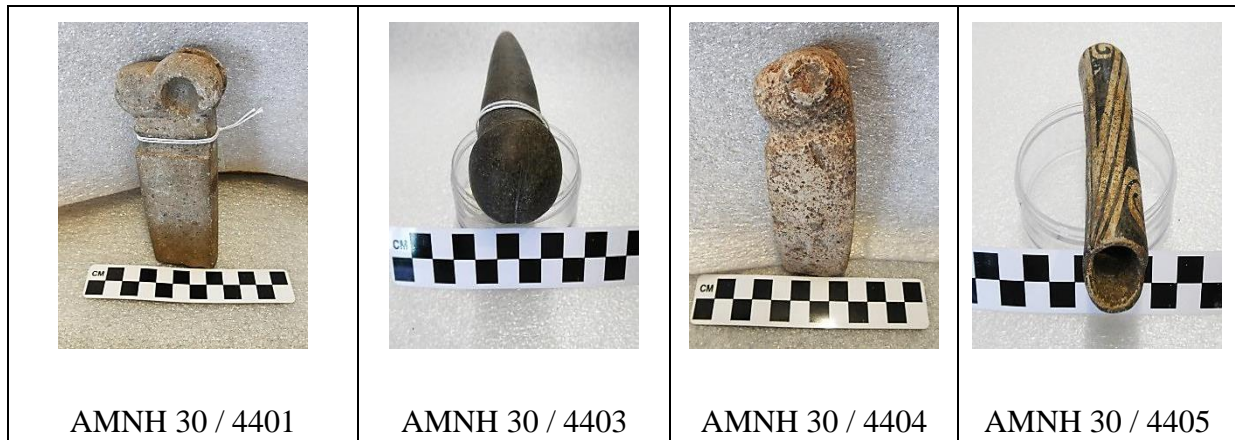


Figure 33: Ritual Paraphernalia from the Lumholtz Collection

According to the handwritten acquisition records from the Lumholtz's First Expedition, each of the artifacts in Figure 33 was found at Rancho San Diego, 10 miles south of Paquimé, under the floors of ruined pueblos. Another stone artifact similar to AMNH 30 / 4401 with a macaw head is on display at the American Museum of Natural History in the Hall of Mexico and Central America. The excavation of these artifacts on the plains of San Diego within 10 miles of Paquimé and near Site 242 would be indicative that there may well have been more ritual and/or administrative centers in the area. Given this artifactual data, it is reasonable to conclude that even though Paquimé was the primate center, similar rituals may have been undertaken at other outliers in addition to the Site 242 reported by Whalen and Minnis (2009, 2012).

Although the Lumholtz site information is not specific with respect to the architecture at the San Diego sites, the presence of ritual artifacts as well as the description of two to three story buildings and "T" shaped doors would support the possibility of more ritual sites. These would still be within the 30 kilometer radius of Paquimé dubbed the "Core Zone" by Whalen and Minnis (2001, 2009). The Lumholtz party that explored the caves of Cave Valley took great pains to record room measurements as well as locale specifics in that area. These notes are included in the Burial Context of the Lumholtz Collection in Chapter 6: *Terminology, Typology, Morphology and Vessel Size Analysis* along with a map of some burial sites.

In *The Neighbors of Casas Grandes*, Whalen and Minnis indicate that all of the ritual paraphernalia could be dated to the late Medio Period (1300 and later). This is the same time period for the Horizon B Ceramics discussed in Chapter 7. Even though ceramics of Horizon A (early Medio Period before 1300) as well as Horizon B appear in the Lumholtz Collection, it is likely that this ritual paraphernalia was found in closer proximity to the Horizon B ceramics (Whalen and Minnis 2009: 237-258).

## **REGIONAL SYSTEMS**

In her critique of the efficacy of the regional system concept, Jill Neitzel (2000) warns that it is necessary for Southwestern archaeologists to reconsider the regional system concept. “When first proposed this concept was intended to replace the culture area concept, which is based on the assumption that all members of a society share norms equally” (Neitzel 2000: 25). At the outset “the regional system concept marked a major analytical breakthrough for Southwest archaeology.” While she credits the regional system concept with providing the opportunity to view “broad-scale patterns in the prehistoric record in new and productive ways” she concludes that “the term implies nothing about the actual extent or boundedness of the area or the nature of the inferred interaction” (Neitzel 2000: 25-36).

“Appreciation of the necessity for studying regional interaction arises from the realization that no society exists in isolation from others” (Whalen and Minnis 2001: 14). Prior to their work on the Casas Grandes regional system, such interaction spheres were widely studied with respect to Chaco Canyon and the Hohokam. The existence of a central site such as Paquimé lends itself to further explorations in order to ascertain the extent of the system, the source of trade goods, and the periphery. “We defined prehistoric regional systems as consisting of a

number of interacting but geographically separate communities that were dependent on each other through the exchange of goods and services” (Crown and Judge 1991:1).

Paul Minnis postulated that complex regional systems incorporate secondary centers of control and/or elite residence (Minnis 1984: 190). The map of the Casas Grandes region created by the Joint Casas Grandes Expedition plots the location of hundreds of Medio Period sites. However, the methodology used to accumulate these data is insufficient to determine any biases in the data (Minnis 1984: 186). A recent survey project inventoried a total of eighty-seven sites centered around the drainages of the Rio Casas Grandes, the Rio San Pedro, the Rio Carretas, and the Rio Santa Maria. Sites within 30 kilometers west and southwest of Paquimé differ from those further away. The closer sites evidence macaw breeding with pens similar to those at Paquimé (see Figure 23); these sites also share similar architectural features as the central power nucleus although some of the larger mounds have yet to be excavated (Whalen and Minnis 2001).

“Di Peso’s explanation for cultural changes at Casas Grandes, although based to a large extent on the *pochteca* model, is also based on Foster’s [1960] donor-recipient frontier culture conquest model, on Wittfogel’s [1957] model of semi-complex hydraulic societies, on Jacobs’ [1969] concept of the economy of cities, and on evolutionary models of social complexity [Fried 1967; Service 1962, 1971]” (Ravesloot 1988: 6).

In his modeling of Casas Grandes after Toltec trader-warriors, Di Peso envisioned that “If the *pochteca* patterned their social organization after that of contemporary Mesoamerica, then nobility<sup>9</sup> was determined by both birth and deed” (Di Peso, et al. 1974: 2: 476). Thus, he considered that the hierarchical organization was based upon hereditary inequality.

While the intensive work conducted by the Joint Casas Grandes Expedition shed light on the central site of Paquimé, very little was produced with respect to its regional context.

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<sup>9</sup> Di Peso’s statement may be misleading. The Aztec *pochteca* were technically commoners, not nobility, although there was a class of hereditary nobility among the Aztecs.

Di Peso's position that Paquimé was a gateway commercial center for Mesoamerican interests diminished his motivation to pursue further explorations in order to ascertain whether or not Paquimé might have been the central site for an independent regional system.

The Joint Casas Grandes Expedition's work substantiated the presence at Paquimé of social differentiation, accumulation of wealth, monumental public works, long-distance trade, and specialized labor. Yet, as pointed out by Whalen and Minnis "the first problem in interpreting Paquimé is that we have a large, obviously influential community with almost no firmly established regional context." That problem is exacerbated by the lack of settlement data as well as the absence of precise locations for most of the hundreds of sites shown on Di Peso's regional map (Di Peso, et al. 1974: Figure 284-5). Paquimé's postulated display of wealth accumulation, craft production, and status differences all led Di Peso to hypothesize that it was the capital of a centralized political entity.

During the florescence of the Casas Grandes culture sphere, other regional networks prospered in the Southwest. Among these were the Salado network bounded on the west by the Classic Hohokam in southeastern Arizona and by Casas Grandes on the east. A succession of large pueblo sites of the Little Colorado network ranged from western New Mexico into Arizona in the Mogollon highlands north of the Salado. Another network attributed to the O'otam spread along the southern boundaries of the Hohokam (Haas 1994: 221-222).

To the south, the contemporary cultures of northern Mexico included the Chalchihuites in the Durango region of north central Mesoamerica and Guasave on the coast at the northwestern tip of Mesoamerica as well as the Trincheras culture of Sonora. It appears that these cultural centers differed significantly from those of Mesoamerica. The "series of polities that ran from Jalisco to Durango" were spatially separated by about "150 to 200 kilometers" (McGuire, et al.

1994: 248). These centers appear “to have directed an independent polity that was a tight cluster of settlements surrounded by an area of very low population density.” A similar pattern is assumed for the coastal settlements of the “Mixteca-Puebla” (McGuire, et al. 1994: 248). This northern Mesoamerican fringe oscillated over time from about A.D. 500 to 1350 and the regional centers flourished at different times.

Others such as J. Charles Kelley and Michael S. Foster argue for a West Mexican Aztatlán genesis. According to Michael S. Foster (1999) “Explanations for the Medio period florescence fall into two groups.” He explains that one group saw the florescence of the Medio period as “a local phenomenon” while the second group “focuses on Mesoamerican interaction” (Foster 1999: 150). Citing J. Charles Kelley (1986, 1992, 1993), Foster points out that “With regard to Casas Grandes, Kelley argues that the expansion of a mercantile system with links to central Mexico operating within the Aztatlán tradition during the Postclassic period established a trading outpost at Casas Grandes incorporating it into the Aztatlán sphere of influence” (Foster 1999: 150).

Furthermore, Foster argues that “...without the expansion of the Aztatlán tradition and the development of the Late Aztatlán Mercantile System and its ties to the Mixteca-Puebla tradition of central Mexico, it is unlikely Casas Grandes would have achieved its unique place in the prehistory of the Greater Southwest” (Foster 1999: 162).

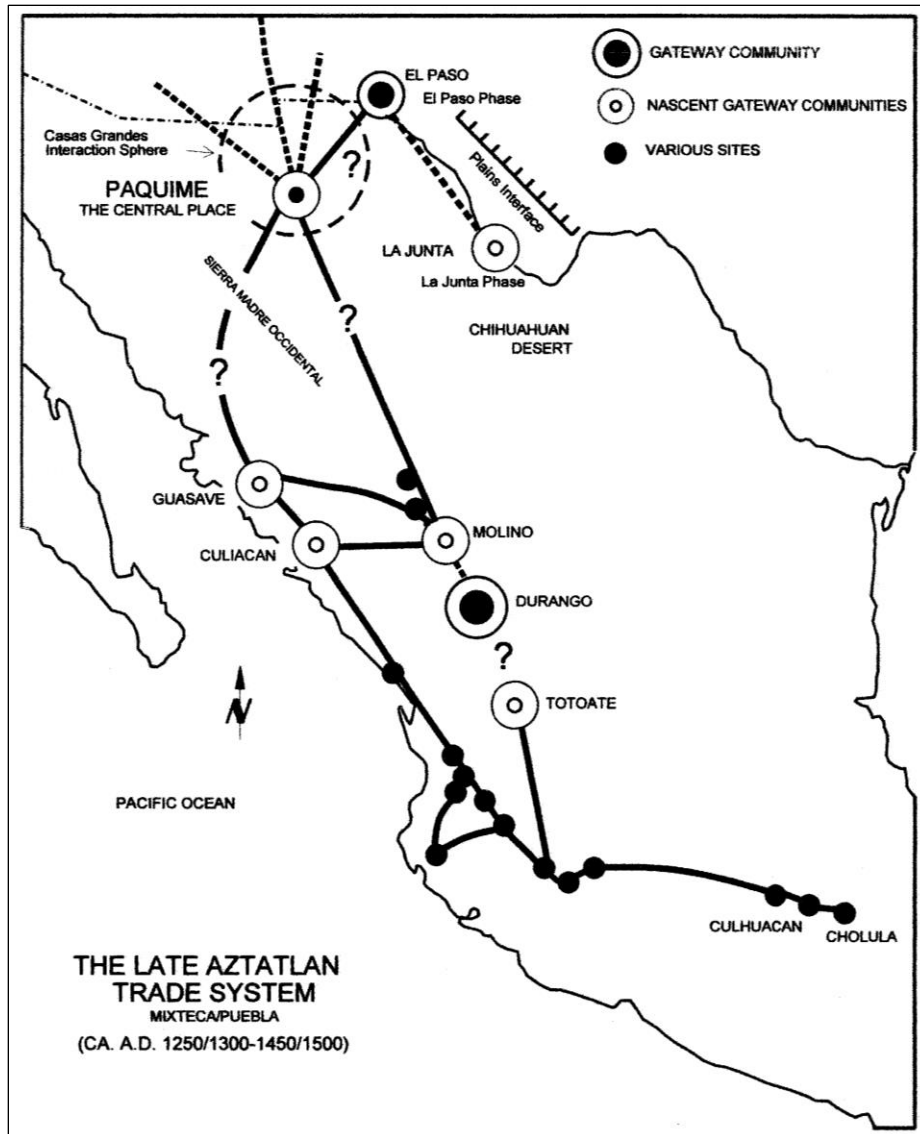


Figure 34: The Late Aztatlán Trade System (Kelley 1999: 148)

J. Charles Kelley argues that “The only probable Mesoamerican source for the conversion of Paquimé into the center (a Mesoamerican gateway community) of a major interaction sphere lies in the Mixteca-Puebla and Late Aztatlán development west and east of the Sierra Madre Occidental” (Kelley 2000: 151).

Kelley cites Lumholtz (1902:2: 367-370) as providing one of the best “ethnohistorical” examples of mobile traders with his description of “Tarascan mobile traders (*huacaleros*) who, as late as 1895, were still carrying on extensive short- and long-distance trade on foot” (Kelley

2000: 137). Kelley is convinced that a litany of features such as architecture, iconography, and copper products supports his contentions. He calls his southwestern archaeologist colleagues to task for an “isolationist” point of view “who devote their professional efforts to an attempt to deny a Mesoamerican presence at Paquimé” (Kelley 2000: 151).

Whalen and Minnis argue that the Paquimé regional system did not extend “much beyond c.a. 130 km to the north and south of Paquimé.” Deliberations on the impetus for the origins of the regional system included adaptive explanations. However, they favor Sebastian’s (1992) “model which combines the concepts of individual power seeking and factional competition with an environmental situation which places some groups at a productive advantage.” This makes perfect sense since Paquimé sits on the western banks of the Rio Casas Grandes in one of the most verdant valleys in the area. The development of a source of surplus and the control of distribution thereof could easily result in the beginnings of status differentiation. Based upon their intensive survey work, it became clear that “the most intensive interaction took place within a radius of 30 km around Paquimé” while a secondary zone extended “to about 60 km northwest of Paquimé” (Whalen and Minnis 1996: 283-285).

## CHAPTER 6: TERMINOLOGY, TYPOLOGY, MORPHOLOGY, AND VESSEL SIZE ANALYSIS

### WHY THIS ANALYSIS

The American Museum of Natural History's Lumholtz Collection of Casas Grandes ceramics stands apart from other collections for several reasons. Firstly, Lumholtz conducted his excavations with the full permission from the Mexican Government who allowed the materials to be sent to the United States, even though the removal of artifacts had been legally banned by the Mexican government in the mid-nineteenth century (Kelley 2011). Secondly, the collection remains in its original state. More importantly, the collection predates much of the looting and agricultural development of the early twentieth century. Many sites since then have been destroyed either by looting or agricultural development.

As pointed out by Kelley, et al. (2011)

“Looting has warped our understanding of the ancient Chihuahua Culture in two ways. The first and obvious way is the destruction of archaeological deposits that could have provided us with fuller inventories and contextual information. Because of the looting to date, there are certain things that we will never know about ancient life in Chihuahua's northwest quadrant. Although there will always be things we don't know about any archaeological area ... present efforts to understand Chihuahuan archaeology begin at a far different resource condition than was the case in the adjacent Southwest” (Kelley, et al. 2011: 214).

Thus, the American Museum of Natural History's Carl Lumholtz Collection of Casas Grandes ceramics provides a significant contribution to future research efforts in the Casas Grandes culture zone. Although looting had begun even prior to the Lumholtz Expedition, as mentioned by Swatzka (1895), it is clear that this collection offers today's researcher an exceptional opportunity to include an unsullied collection as part of their study. Equally important, are the availability of both the handwritten catalog and sections of unpublished typewritten copies of field notes from that Expedition.

## COLLECTION PHOTOGRAPHS

For the purposes of this dissertation, over 416 ceramic artifacts collected during Lumholtz's first expedition into Chihuahua, Mexico and curated at the American Museum of Natural History were photographed, classified, and inventoried by me. Multiple views of individual vessels are provided on the color plates in Appendix I (AMNH 30 / 4080 to AMNH 30 / 7494). All the digital images of these artifacts were taken by the author (with permission of the Division of Anthropology, American Museum of Natural History) with an Olympus Stylus 7030 digital camera. For the most part, the ceramics were placed on a cart against a white background. A reflective umbrella was used to enhance the natural light. Occasionally, a flash was used. Since most of the vessels have round bottoms they were stabilized by placing each on a round clear plastic base appropriate for its size. Then the base, upon which the vessel was supported, was rotated to capture the layout of the decorative traits.



Figure 35: Work Area for Photographing the Collection (author's photograph 2011)

With the exception of a very few unique sherd pieces, these were mostly whole vessels or nearly whole vessels, a percentage of which had been partially restored. My sample set is comprised of 15.14% Plainware, 14.9% Playas Redware, 31.49% Ramos Blackware, 1.2%

Madera Black-on-red, 0.48% Medanos Red-on-brown, 1.2% Ramos Black-on-red, 0.72% Ramos Black-on-white, 3.85% Babicora, 1.2% Carretas Polychrome, 0.72% Corralitos Polychrome, 1.68% Escondida Polychrome, 0.24% Huerigos, 15.38% Ramos Polychrome, 8.19% Villa Ahumada Polychrome (including the Ramos Variant), and 3.61% unknown or non-local.

In addition to the ceramic artifacts inventoried, I encountered fifty-one non-ceramic artifacts that I also photographed. These appear in Appendix II: Non-Ceramic Artifacts. Notable among these non-ceramic Lumholtz Collection artifacts is a bracelet of *Glycymeris gigantean* shell similar to one described by Di Peso, et al. and attributed to the Viejo Period of the Casas Grandes culture zone (Di Peso, et al. 1974:399), as well as a stone phallus similar to one found at Site 242 by Whalen and Minnis (Jones 2002: 51), and one reported by Di Peso from Paquimé (Di Peso, et al. 1974: 559). Other non-ceramic artifacts on my inventory include several beads, a variety of ground stone implements, coral tubes, small charred corn cobs, various shells, a copper bell, and lithic artifacts (See Appendix II: Non-Ceramic Artifacts: AMNH 30 / 4138 to AMNH 30 / 4169, AMNH 30 / 4397 to AMNH 30 / 4404 and AMNH 30 / 5742 to AMNH 30 / 5757).

### **CERAMIC TERMINOLOGY**

Type: A group of pottery vessels that are alike in every characteristic except, possibly, form.

Archaeologists have been warned to be wary of the pitfalls in assigning types as well as the hazards of “over” typing by the imposition of an array of sub-types and variants.

Ware: A class of pottery members that share similar fabric, technology, and surface treatment.

Temper: A material, i.e. crushed pot sherds, crushed sandstone, and/or sand, added to clay to make it more workable and to withstand changes in temperature in firing and use in cooking.

Names: Southwestern pottery types are named by using a binomial system modeled on biological classification. The first part of the name tends to be a geographical indicator. This is not necessarily where the type was first found nor where it was manufactured nor does it indicate that it is found exclusively in this area. The second part of the name is descriptive, i.e., Black-on-white or Red or Buff.

- Polychrome is the term used for types with more than two colors, i.e. Ramos Polychrome;
- Plain, Banded, Corrugated, Tooled, or Rough are terms used to further classify unpainted types;
- Bichrome is the term used for types with just two colors, i.e. Ramos Black on Red.

Paint: Two types of paint were used to decorate pottery in the prehistoric Southwest.

- Mineral Paint was made from natural nodules of iron, manganese, lead, or kaolin or a combination. This were finely ground and mixed with water or plant extract as described below since plant is a better binder than water.
- Organic or carbon paint which was made by boiling beeweed or tansy mustard plants for long periods of time.

Methods of Construction: There were two major methods of forming pottery in the prehistoric Southwest:

- Coiling and scraping is the method whereby the vessel is built by adding coils of clay to the wall and scraping the exterior wall with a tool to thin and bond the coils together. In the case of Corrugated wares only the interior of the vessel is scraped and the surface is not polished. In the case of Plainware, the surface is then smoothed and may be polished by rubbing with a stone.

Slip: Is a thin mixture of fine clay that is wiped onto the surface of a vessel to provide a smooth even surface for the painted decoration.

Firing: In order to harden the vessel and make it strong enough for use in cooking, service, and storage, pottery must be fired. In the Southwest, pottery was fired in an open or pit kiln. The two atmospheres produced in these firings are known as oxidizing or reducing. An oxidizing atmosphere in which an excess of oxygen is present produced red, buff, or brown colored vessels. A reducing atmosphere in which oxygen is prevented from reaching the vessel produces shades of white or gray. If the fire is smothered with earth or other material while it is still burning, it produces black vessels (Oppelt 2010, Rice 1976, Shepard 1980).

#### **CASAS GRANDES CERAMIC TYPOLOGY**

Over the past century, scholars working in the Casas Grandes culture zone of Chihuahua have created a typology vocabulary with respect to Chihuahuan (a.k.a. Casas Grandes) ceramic wares. Kidder (1916) coined the phrase “Painted Wares” to describe the polychrome vessels he examined. Fifteen years later, Carey (1931) expanded the lexicon to include Red-and-black on buff, Red-and-black on brown, and Red-and-black, white slip. Shortly thereafter Donald Brand added Casas Grandes, Babicora (Crude Casas Grandes), Villa Ahumada, and Huerigos to the vocabulary (Brand 1933, 1935). Accordingly, Brand divided the polychromes into three types “on the basis of general decorative technique, paste, and distribution.” He attributed the fine clay, unslipped well-decorated type to the area around northwestern Chihuahua. While Brand called this type “Casas Grandes Polychrome,” this is the type now known as Ramos Polychrome. The lesser types have come to be known as Babicora Polychrome, Villa Ahumada Polychrome,

and others that Brand consigns to the peripheral areas around Bavispe, Baticora, the Rio Carmen, Janos and La Ascencion (Brand 1933: 79).

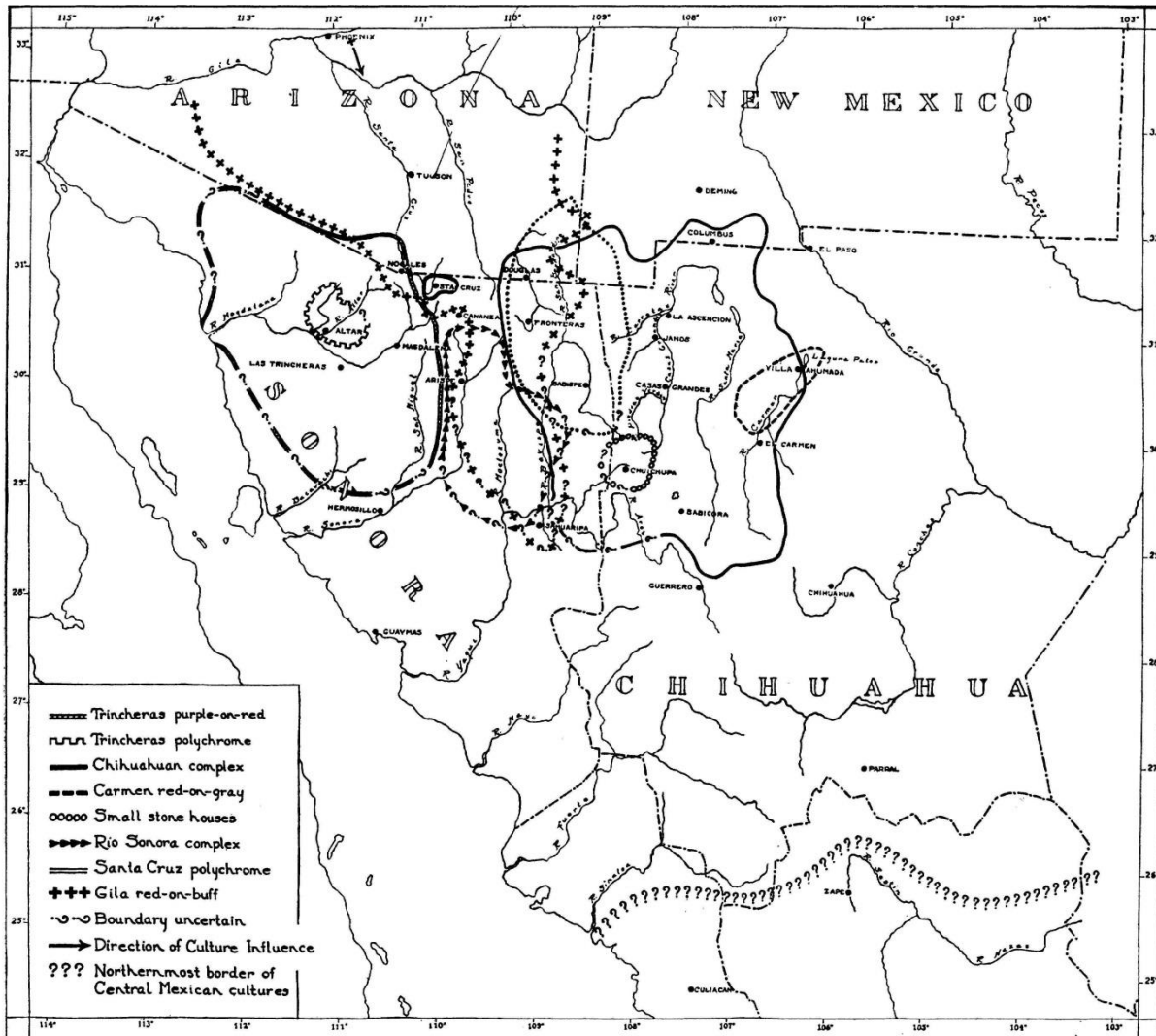
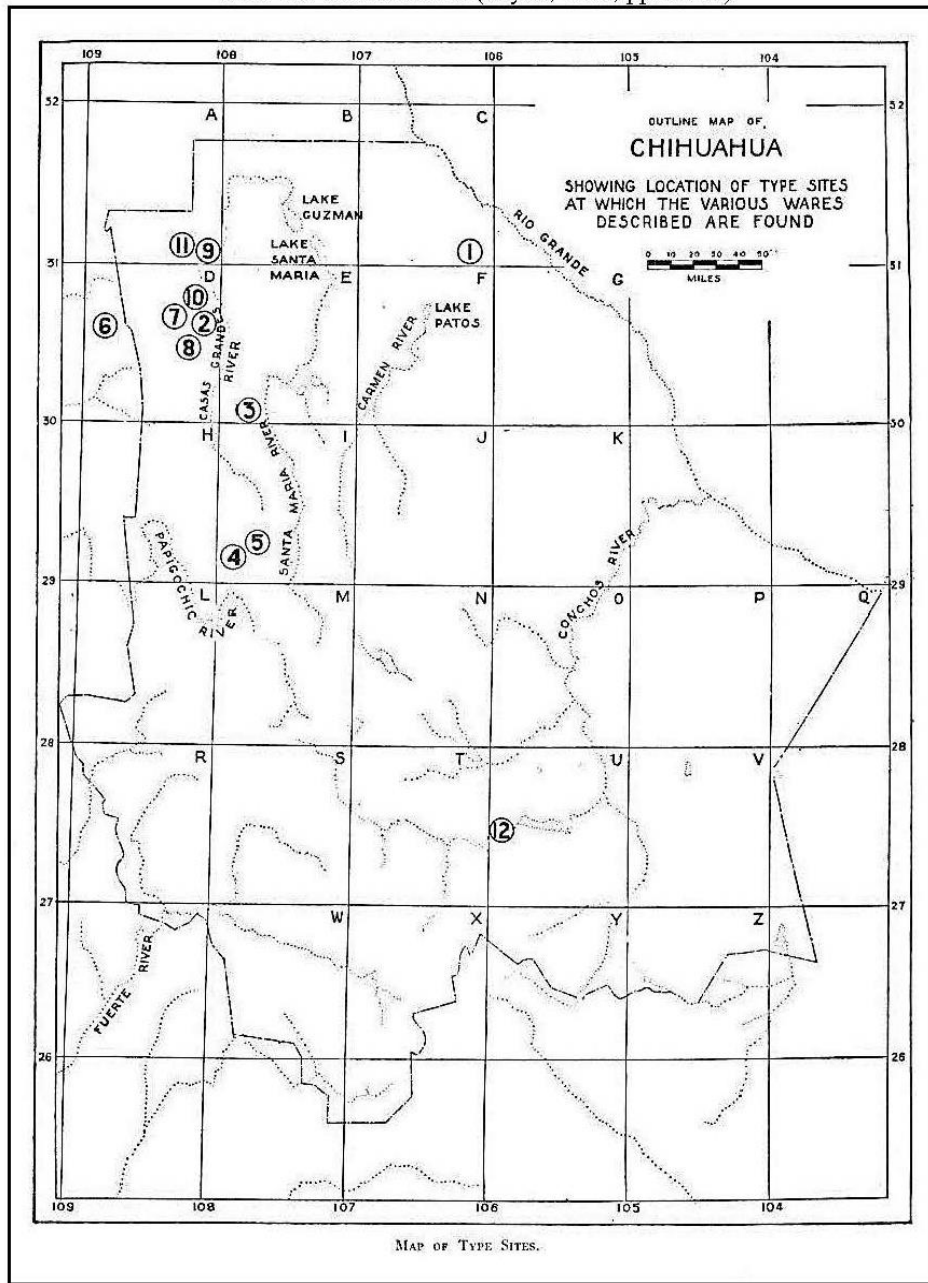


Figure 36: Brand Distribution of Pottery Types (Brand 1935: 292)

Gladwin (1934) added Galeana Polychrome and Nacozari Polychrome to the descriptors and E. B. Sayles (1936) further expanded the terminology with the addition of Ramos Polychrome, Dublan, Carretas and Corralitos as well as Madera Black-on-red, Medanos Red-on-brown, and Corralitos Incised. Sayles' typology which is mapped on Figure 37 from his 1936 work "Some Southwestern Pottery Types" provided a synthesis of studies by Brand (1935), Carey (1931), Kidder (1916), and others.

MAP OF TYPE SITES (Sayles, 1936, pp. 62-63)



- |   |   |
|---|---|
| 1. Medanos Red-on-brown; Chihuahua C:15:2     | 2. Dublan Polychrome; Chihuahua D:8:1               |
| 3. Villa Ahumada Polychrome; Chihuahua E:14:5 | 4. Babicora Polychrome; Chihuahua I:9:11            |
| 5. Madera Black-on-red; Chihuahua I:9:11      | 6. Carretas Polychrome; Chihuahua D:5:1             |
| 7. Playas Red; Chihuahua D:8:1                | 8. Playas Red Incised; Chihuahua D:8:1              |
| 9. Ramos Black; Chihuahua A:16:3              | 10. Corralitos Polychrome, Incised; Chihuahua D:8:1 |
| 11. Ramos Polychrome; Chihuahua A:16:3        | 12. Conchos Red-on-brown; Chihuahua U:5:2           |

Figure 37: Map of Type Sites (Sayles 1936)

In connection with his Map of Type Sites, Sayles offered a detailed description of each type. An abbreviated version is set forth in Table 1 along with a reference to an example of each from the Lumholtz Collection.

Table 1: Type Descriptions from Sayles (1936: 1-56)

Type	Color	Shapes	Examples from the Lumholtz Collection
Medanos Red-on-brown	Surface cream to light tan.	Jars: Small, full-bodied, with rounded shoulder and bottom	AMNH 30 / 4478
Dublan Polychrome	Cream or light tan surface	Jars and Effigies	
Villa Ahumada Polychrome	Brown or tan surface; white or ivory slip on zone of decoration	Bowls, jars, and effigies	AMNH 30 / 4490
Babicora Polychrome	Dark cream to light brown or tan surface	Bowls, jars, and effigies	AMNH 30 / 4442
Madera Black-on-red	Brown or dull tan to deep red or orange	Bowls, jars, and effigies	AMNH 30 / 4514
Carretas Polychrome	The surface is light yellowish-brown to deep orange	Bowls, jars, and effigies	AMNH 30 / 4469
Playas Red	Brilliant reddish-brown, or orange	Bowls, jars, and effigies	AMNH 30 / 4183
Playas Red Incised	Dull brownish-red or tan	Jars, effigies	AMNH 30 / 4322
Ramos Black	Dark grey to jet or black surface	Bowls, jars, and effigies	AMNH 30 / 4188
Corralitos Polychrome Incised	Dull brownish-red or tan	Jars, effigies	AMNH 30 / 4414
Ramos Polychrome	Surface mellow old ivory shade ranging from almost pure white to brown	Bowls, jars, effigies, bottles (vases), and eccentric forms	AMNH 30 / 4468
Conchos Red-on-brown	heavy red-on-brown ware	Sherds only	

Di Peso, et al. (1974) added to the vocabulary with the creation of subcategories to all of the previous types, as well as by adding Escondida, Gila, and Tonto. In fact, he went one step further with the inclusion of a myriad of sub-subcategories based on similarities among some

type features. However, “The conflicting traits listed in individual type descriptions and the problem of affixing variant status on incomplete vessels has caused most archaeologists to disregard Di Peso’s categories” (Hendrickson 2003: 8-9).

Hendrickson reiterates the classificatory conundrum later in his text “descriptions provided by Carey, Brand, Sayles, and Gladwin narrowed the immense variation in the Chihuahuan tradition into identifiable and ‘usable’ types. Problems began with the publication of Di Peso’s analysis of the sherd and whole vessel remains recovered from Paquimé” (Hendrickson 2003: 84). Given the overlap encountered by Di Peso and his colleagues at Paquimé, they created a group of smaller inter-related types such as the Paquimé and Ramos variants of Babicora and Villa Ahumada polychromes based upon the quality of the paste. Insofar as there are a limited number of Babicora polychromes in this study and they are predominantly whole vessels, I have resisted the temptation to subdivide them into variants. However, in the case of the Villa Ahumada polychrome vessels, a very few did exhibit the attributes of the Villa Ahumada – Ramos Variant and they have been classified accordingly. Moreover, in my opinion, Di Peso’s eagerness to shoehorn his data in order to fit his *pochteca* model may have inspired him to create these subcategories to justify time frames within a Mesoamerican model.

Volume 6 of Charles Di Peso’s eight volume *Casas Grandes: A Fallen Trading Center of the Gran Chichimeca*,” an exhaustive analysis of the ceramic assemblages accumulated by the Joint Casas Grandes Expedition, cites the color plates from Lumholtz’s “Unknown Mexico” to illustrate the various vessel types (Di Peso, et al. 1974, Vol. 6: pp.147-299). Those citations include:

- Ramos Polychrome: Lumholtz Vol. 1 Pl 1 a (Di Peso, et al., 1974: 250) (AMNH Vessel Number 30 / 4499),

- Ramos Polychrome: Lumholtz Vol. 1 Pl 1 b (Ibid.:250) (AMNH Vessel Number 30 / 4498),
- Ramos Polychrome: Lumholtz Vol. 1 Pl 1 c (Ibid.:250) (AMNH Vessel Number 30 / 4519),
- Ramos Polychrome: Lumholtz Vol. 1 Pl 1 d (Ibid.:250) (AMNH Vessel Number 30 / 4524),
- Ramos Polychrome: Lumholtz Vol. 1 Pl 1 e (Ibid.:250) (AMNH Vessel Number 30 / 4526)
- Ramos Polychrome: Lumholtz Vol. 1 Pl II (Ibid.:250) (AMNH Vessel Number 30 / 4431),
- Playas Red: Lumholtz Plate III d (Ibid.:147) (AMNH Vessel Number 30 / 4324),
- Escondida Polychrome: Lumholtz 1902: Vol. 1 Pl.III e (Ibid.: 226) (AMNH Vessel Number 30 / 4434),
- Villa Ahumada Polychrome: Lumholtz Pl III c (owl effigy) (Ibid.:299) (AMNH Vessel Number 30 / 4531),
- Babicora Polychrome: Lumholtz Pl III g (Ibid.: 183) (AMNH Vessel Number 30 / 4448),
- Carretas Polychrome: Lumholtz 1902: Vol 1 Pl IV b (Ibid.: 198) (AMNH Vessel Number 30 / 4460),
- Villa Ahumada Polychrome: Lumholtz IV c (Ibid.:299) (AMNH Vessel Number 30 / 4456),
- Ramos Polychrome: Lumholtz Vol. 1 Pl V g (Ibid.:250) (AMNH Vessel Number 30 / 4520), and
- Villa Ahumada Polychrome: Lumholtz Pl. V f (Ibid.:299) (AMNH Vessel Number 30 / 4411).

My analysis incorporates typological information culled from Kidder (1916), Carey (1931), Brand (1933, 1935), Sayles (1936), Di Peso (1974), and Van Pool, et al. (1999) as well as my own personal field experience. Brand's mapping of the distribution of pottery types (Figure 36) as well as Sayles' Map of Type Sites (Figure 37), along with Brand's typology descriptions (Brand 1935: 291-297) continue to be a touchstone for current research (Rakita, et al., 2003: 159,169-174; Hendrickson 2003: 84). Additionally, a concise handwritten field guide for polychrome typology was provided to me by Michael Whalen when we worked together in Chihuahua in 1998 (a typewritten version appears as Figure 38).

Polychrome Classifications									
Textured	Type of Texture	Slip?	Slip Color	Surfaces Slipped	Unslipped Surface Color	Design	Type		
No		Yes	White only	Exteriors of jars and bowls. The slip is soft and is often worn away in places.	Tan Gray Brown	Bold B&R over the white slip. Lots of opposing B&R lines, loose designs, lots of open space.	Villa Ahumada		
				Bowl interiors, jar exteriors (harder slip, less worn than above)	Orange Gray-Red	Bold Black Designs. (sometimes B&R) over the unslipped white surface.	Huerigos – jars: white exterior, unslipped interior		
			Red only	Bowl exteriors	White to Light Gray	Bold Black geometrics (sometimes B&R) over the unslipped white surface.	Escondida R&W slip: Gila		
		No					White to Light Gray	Fine B&R geometrics. Red solids w/fine black outlines. Pendant dots on outlines, tight precise designs. Some zoomorphs, effigies.	Ramos
							Tan, Light red, Gray Brown, Brown	Bold, balanced geometrics in B&R swirls, bull's eyes, circles often used. Lacks the precision of Ramos.	Babicora
							Orange, Gray/Orange	Bold, linear B&R lines, much opposition of B&R lines. Triangles often seen. Black paint is a subglaze.	Carretas
		Yes	Textured neck bands, mostly corrug. or corrug. Incised; paint below bands.	No			Light Gray/Tan	Thin, alternating lines of B&R. Much use of parallel lines. Some parts have only black lines.	Mata (Viejo type) rare
Fine corrug. May be with incising, painted over corrugs.	No				Light Gray	Thin-to-medium geometrics in sloppy B&R. Simple designs (e.g. Chevrons) painted over the fine corrugations.	Dublan – rare		
Fine, incised lines around painted lines, punching also.	No				Red-Brown Light Brown	Thick opposing B&R lines. Frequent bands of B&R geometrics. Thin, incised lines separate the B&R parts. Punched areas can also separate.	Corralitos - rare		

Figure 38: Polychrome Typology (Michael Whalen Personal Communication 1998)

Before embarking on these typology descriptions and the vessels that have been categorized accordingly, a word of warning seems appropriate. Typology in Casas Grandes wares is somewhat subjective. Whereas, in some instances a vessel is characterized as a Ramos Polychrome by one researcher, that same vessel may be considered as a Babicora Polychrome by another.

As pointed out by Fenner (1974):

“Despite the fact that each painted type had traits which set it off as a distinct entity... In fact, there were numerous times when a sherd, and sometimes a whole vessel, was difficult to type because in one or more ways it fell at the extreme of the ranges for two types or variants which overlapped” (Di Peso, et al. 1974:99).

Aside from the Medio Period designation of a 250 year time frame, very little temporal difference among the Casas Grandes polychromes was determined until recent work by Whalen and Minnis (2012) in which they describe a difference between early Medio Period and late Medio Period polychrome vessels (Whalen and Minnis 2012: 410). Illustrations of these design horizons as seen in the Lumholtz Collection are provided in Chapter 7. As observed by Michael Whalen and Paul Minnis “It has long been recognized that stratified midden deposits are rare all over the Casas Grandes area (Brand 1933: 91, Lister 1946: 433) and recent surveys there (Whalen and Minnis 2001a) found that middens seldom were seen on 300 recorded Medio period sites” (Whalen and Minnis 2012: 405). Sayles presumed that “the basic elements of designs in the Chihuahua pottery series are all to be found in the later horizons of the Mogollon Culture”; he included the Medanos Red-on-brown and Dublan polychrome vessels in this category while he proposed a Mimbres influence on the subsequent horizon. Finally, Sayles indicates that the “later increments” demonstrate a Salado influence (Sayles: 1936: 60).

Often distinctions between Babicora and Ramos Polychromes can be blurred and/or founded upon subjective decisions based upon paste color or whether or not solid red elements

have black outlines. Mitch Hendrickson provides a unique insight into this conundrum in his 1999 paper wherein 15 survey respondents (out of a field of 200) participated in an analysis of sixteen polychrome jars based upon thirty-two photographs. As Hendrickson concludes:

“Results from the survey indicate that most researchers are in line with one another in classifying Medio period polychrome types. However, the manner in which the results are realized is dependent on the selection of attributes, the research goals of each person, and on individual experience with the classification system (Hendrickson 1999: 128).”

## **PLAINWARES**

**Casas Grandes Plainware:** The Casas Grandes plainwares in the Lumholtz Collection range from thick-walled ollas with plain tan or dark colored paste and coarse temper, to a finer variant of plainware which some have defined as Ramos Plainware. The Ramos Plainware has the light paste commonly recognizable in the Ramos Polychromes as well as a finer temper. Casas Grandes plainwares exhibit a range of exterior surface treatments, including scored, smoothed, polished, incised, punched, corrugated, smooth-corrugated and/or tool punched.

According to my assigned typology, there are a total of fifty-one (51) Plainware vessels (thirty-one (31) Jars, thirteen (13) bowls, and seven (7) rim pieces, tools, saucers and/or eccentrics). Additionally, the collection includes three (3) Rubbed Scored Plainware vessels (two (2) jars and one (1) rim piece, tool, saucer and/or eccentric), two (2) Patterned Incised Plainware Jars along with two (2) Rubbed Incised Plainware Jars, two (2) Rubbed Corrugated Plainware Jars, and three (3) Tool Punched Plainware Jars for a total of sixty-three (63) Plainware vessels equaling 15.14% of the collection examined.

**Playas Redware:** Similarly, Playas Redware exhibits a variety of shapes and finishes. In most instances the paste varies from a good quality to a rather fair, coarse material. The redware surface is self-slipped and may be plain, incised, scored, gouged,

punched or bichrome such as the Playas Red on Brown which has wide bands of red paint on brown vessels. The decoration zone on ollas is usually from the neck to the shoulder of the vessel except in the case of the Playas Red on Brown vessels where it can continue to the lower portion of the vessel. Sixty-two (62) examples of Playas Redware ranging from incised ollas to polished bowls to a fish effigy (See Appendix I: AMNH 30 / 4324) are contained in the Lumholtz Collection at The American Museum of Natural History. Many of the ollas have opposing pairs of suspension holes at the rim or an opposed pair of horizontally perforated rim lugs.

Among the Playas Red vessels in my sample set there are twenty-seven (27) Playas Red Jars, nineteen (19) bowls and one (1) rim piece, tool, saucer or eccentric; there are three (3) Playas Red Effigies, three (3) Playas Red Incised Jars, one (1) Playas Red Incised Bowl, one (1) Playas Red Scored Jar and three (3) Playas Red Tool Punched Jars and three (3) Playas Red on Brown Jars and one (1) Playas Red-on-Brown bowl equaling 14.9% of the collection examined.

**Ramos Blackware:** Ramos Black is a smudged pottery type created by surface carbonization due to a smothered fire technique. Blackware vessels can range from a dull, matte, rough finish to the finer blackware which is recognizable due to its lustrous polished black surface. The plain blackware is usually made of a dark brown paste while the polished wares usually display a black paste. As seen in the Lumholtz Collection, ollas with slightly flaring lips and bowls with incurved rims dominate the blackware morphology. There are one hundred and thirty-one (131) examples of Ramos Blackware in the Lumholtz Collection (See Appendix I: AMNH 30 / 4188). By far, the largest number of vessels in my sample set is the Ramos Blackware with sixty-seven (67) jars,

fifty-six (56) bowls and seven (7) rim pieces, tools, saucers or eccentrics totaling one hundred and thirty-one (131) vessels or 31.49% of the collection examined.

## **BICHROMES**

**Madera Black/Red:** The paste of the Madera Black-on-red vessels ranges from brown to tan to dark red or orange. Often the vessel is self-slipped with a darker red slip. Generally, they are decorated with thick black lines on the red exterior. The shapes of the Madera Black-on-red vessels may be bowls, ollas/jars, or effigies. Design elements include scrolls, triangles, and lines. There are five (5) Madera Black-on-red ollas in the Lumholtz Collection; three of them have opposing pairs of horizontally perforated rim lugs. This represents 1.2% of the Collection.

**Medanos Red-on-brown:** There are two (2) Medanos Red-on-Brown Jars in my sample set representing 0.48% of the Collection. According to Sayles the Medanos Red-on-Brown can be recognized by the color which is “Surface cream to light tan” as well as “The zone of decoration covers a thin, chalky-grey surface on which the design is pointed in dull shades of red, orange, tan or maroon” (Sayles 1936: 1).

**Ramos Black-on-red:** Ramos Black-on-red is only tentatively described by Di Peso, et al., insofar as “Ramos B/R has been set up as a tentative type only, due to the small sample on which the description is based – fragments of one medium-sized cajete-like bowl” (Di Peso, et al. 1974: 182). However, there are five excellent examples of Ramos Black-on-red present in the Lumholtz Collection (Appendix I: AMNH 30 / 4509, AMNH 30 / 4511, AMNH 30 / 4516, AMNH 30 / 4517, and AMNH 30 / 4527) represented by four (4) Ramos Black-on-Red Jars and one (1) Ramos Black-on-Red macaw effigy or 1.2% of the Collection.

**Ramos Black on White:** The black-on-white term applied to this Ramos variant could be misleading insofar as these vessels have a red painted base, and the body and shoulders of the jar has black line work. An excellent example of this type is in the Lumholtz Collection (Appendix I: AMNH 30 / 4112). There are two (2) Ramos Black-on-White Jars and one (1) Ramos Black-on-White eccentric which account for 0.72% of my sample set.

**Villa Ahumada Black-on-White:** There are three (3) Villa Ahumada Black-on-White Jars in the Lumholtz Collection. These are the equivalent of 0.72% of my sample set.

## **POLYCHROMES**

**Babicora Polychrome:** Babicora Polychrome generally has a dark beige or light brown surface and is decorated in red and black motifs which appear somewhat dull. It has crude, thick line work in red and black. Di Peso and his colleagues (1974) consider the Babicora Polychrome vessels to be among the least well-done of the Casas Grandes polychromes. The vessel shapes may be bowls with slightly incurved rims, ollas that mirror the Villa Ahumada ollas in shape but are somewhat smaller, or effigies. However, no Babicora Polychrome effigies appear in the Lumholtz Collection. In the Lumholtz Collection there are thirteen (13) Babicora Jars and four (4) Babicora Bowls comprising 3.85% of my sample set. Some of the ollas have direct rims with opposing pairs of suspension holes. Generally, the brush work is crude and is made up of bands of opposing red and black elements.

**Carretas Polychrome:** Carretas Polychrome (standard) is similar to Babicora Polychrome except that Carretas Polychrome has red and black painted lines and lacks

polishing over the design elements. Carretas Polychrome Black-on-Orange variant does not have red lines. The “hikuli” design element exhibited on Appendix I: AMNH 30/4469 is unique to Carretas and Huerigos Polychromes. Design elements are polished on the Carretas Black-on-Orange. Effigies, bowls, and ollas have been found in this type. However, the five (5) Carretas Polychromes in the Lumholtz Collection are all ollas with the exception of the one (1) Carretas Polychrome chalice vessel. This is 1.2% of the sample set. Carretas Polychromes fell within the mid-range of quality types as defined by Di Peso, et al. (1974).

**Corralitos Polychrome:** Corralitos Textured Polychrome has alternating thick red and black lines that are outlined by incised or punched linear designs. Often Corralitos is incised or punched and has a slipped surface. Di Peso et al. (1974) placed the Corralitos Polychrome punched and non-punched works as among those least well done while the textured variant was deemed among those with the best control and aptness. There are three (3) Corralitos Polychrome double jars in the Lumholtz Collection (Appendix I: AMNH 30 / 4413, AMNH 30 / 4414, and AMNH 30 / 4415) representative of 0.72% of my sample set.

**Escondida Polychrome:** There are three (3) Escondida Polychrome bowls and four (4) Escondida Polychrome jars in the Lumholtz Collection. These have the same light colored paste associated with Ramos Polychromes. In design, Escondida closely resembles Gila and Tonto Polychromes in that the "red elements are interactive". The Escondida Polychromes in the Lumholtz collection account for 1.68% of my sample set. They feature broad meandering ribbonlike motifs, which are then further subdivided and filled with smaller motifs as described by Crown (1994: 86). Di Peso, et al. (1974)

deemed the Escondida Polychromes as among the vessels with the best control and aptness.

**Huerigos Polychrome:** There is one (1) Huerigos vessel in the Lumholtz Collection which accounts for 0.24% of the sample set. In many respects, the line work on the Huerigos vessels is similar to that of the Carretas Polychromes.

**Ramos Polychrome:** Ramos Polychrome vessels are characterized by their precise brushwork as well as an extensive array of design elements. The Ramos Polychrome vessels have a light paste color (i.e., white/cream to light coffee) and some may have been self-slipped. When visible a very fine-grained temper can be observed. The Ramos Polychrome jar, sometimes called an olla, with its high shape and gently sloping upper body is probably the best known and most widely recognized type of Casas Grandes pottery. Often the diameter of the jar is as great as or greater than its height (Appendix I: AMNH 30 / 4467). However, bowls, jars, effigies, and eccentric forms can be found in abundance. The red and black line work on Ramos Polychromes is well executed. Typically the red elements are outlined by black lines except in the case of the Capulin Variant. The decoration area occupies most of the exterior of the vessel, beginning below the rim and extending well beneath the shoulder. Among the thirty-eight (38) Ramos Polychrome Jars, fifteen (15) Ramos Polychrome Bowls, and nine (9) Ramos Polychrome Effigies are fine examples of the zigzag band layout described by Kidder (Appendix I: AMNH 30 / 4080) as well as several displaying the classic multi-band layouts. Design elements in the Ramos Polychrome collection include the macaw motif, birds, snakes including the horned serpent, negative circles, narrow elaborated bands, triangles, curvilinear scrolls, a large “P triangle”, hatching and barbed and

stepped figures which were usually interlocking and often in pairs of opposed contrasting colors. 15.38% of my sample set from the Lumholtz Collection is made up of Ramos Polychromes.

**Villa Ahumada Polychrome:** Villa Ahumada vessels generally have a dark paste and a white slip; as a rule the paste is not as fine as that of the Ramos Polychromes. Most notably, as observed in the Lumholtz Collection, the slip can flake or rub off easily. The result of this is that the design elements are missing or distorted and the dark paste is revealed. According to Brand, “The black and red on white slip polychrome has been termed Villa Ahumada ware because of the great bulk of this ware at the Loma de Montezuma and other sites in that vicinity” (Brand 1933: 80). Some have likened the design elements on the Villa Ahumada polychromes to those on the Babicora polychrome. The exception thereto is the Villa Ahumada – Ramos Variant as defined by Di Peso, et al. (1974) which resembles the finer line work of the Ramos Polychromes replicated on the white slip. Brand hypothesized that “The distribution of this ware is nearly coextensive with that of Casas Grandes Polychrome” (Brand 1933: 80).

Villa Ahumada Polychromes account for twelve (12) Jars, one (1) Bowl, and three (3) Effigies (3.85%) while the Villa Ahumada Ramos Variant was represented by five (5) Villa Ahumada Ramos Variant Jars and nine (9) Villa Ahumada Ramos Variant Effigies or a total of 8.19% of my sample set.

**Unknown or Non-Local Polychromes:** Rounding out the vessel type count reported herein are six (6) Polychrome Jars, three (3) Polychrome Bowls, and six (6) rim pieces, tools, saucers or eccentrics. These comprise 3.61% of my sample set. With the exception of a very few unique or rim pieces, only whole vessels from the Lumholtz

Collection are included in my sample set (n=416) a percentage of which had been partially or wholly restored. Of all the vessels, 59.4% were jars, 27.9% bowls, 6.5% effigies, and 6.3% were large rim pieces, tools, saucers or eccentrics.

Table 2: Lumholtz Vessel Type Statistics

Ceramic Type	Jars		Bowls		Effigy		Rim Pieces, Tools, Saucers, Sherds, or Eccentric		Total	%
Plainware	31	61%	13	25%	0	0%	7	14%	51	12.26%
Patterned Scored	0	0%	0		0		0		0	0.00%
Plain Scored	0	0%	0		0		0		0	0.00%
Rubbed Scored	2	67%	0	0%	0		1	33%	3	0.72%
Plain Incised	0	0%	0		0		0		0	0.00%
Patterned Incised	2	100%	0		0		0		2	0.48%
Rubbed Incised	2	100%	0		0		0		2	0.48%
Plain Corrugated	0	0%	0		0		0		0	0.00%
Rubbed Corrugated	2	100%	0		0		0		2	0.48%
Indented Corrugated	0	0%	0		0		0		0	0.00%
Broad Coil	0	0%	0		0		0		0	0.00%
Tool Punched	3	100%	0		0		0		3	0.72%
Playas Red (plain)	27	57%	19	40%	0		1	2%	47	11.30%
Playas Red Effigy	0		0		3	100%			3	0.72%
Playas Red Incised	3	75%	1	25%	0		0		4	0.96%
Playas Red Scored	1	100%	0		0		0		1	0.24%
Playas Red Tool Punched	3	100%	0		0		0		3	0.72%
Playas Red on Brown	3	75%	1	25%	0		0		4	0.96%
Ramos Black	67	53%	56	44%	1	1%	7	5%	131	31.49%
Ramos Black-on-Red	4	80%	0		1	20%	0		5	1.20%
Ramos Black-on-White	2	67%	0		0		1	33%	3	0.72%
Madera Black-on-Red	5	100%	0		0		0		5	1.20%
Medanos Red on Brown	2	100%	0		0		0		2	0.48%
Babicora Polychrome	12	75%	4	25%	0		0		16	3.85%
Carretas Polychrome	4	80%	0		0		1	20%	5	1.20%
Corralitos Polychrome	3	100%	0		0		0		3	0.72%
Dublan Polychrome	0	0%	0		0		0		0	0.00%
Escondida Polychrome	4	57%	3	43%	0		0		7	1.68%
Ramos Polychrome	38	59%	15	23%	9	14%	2	3%	64	15.38%
Villa Ahumada Polychrome	12	75%	1	6%	3	19%	0		16	3.85%
Villa Ahumada Black on White	3	100%	0				0		3	0.72%
Villa Ahumada Ramos Variant	5	33%	0		10	67%	0		15	3.61%
Huerigos Polychrome	1	0%	0		0		0		1	0.24%
Unknown or Non-local Polychromes	6	40%	3	20%			6	40%	15	3.61%
TOTAL	247	59.4%	116	27.9%	27	6.5%	26	6.3%	416	100.00%

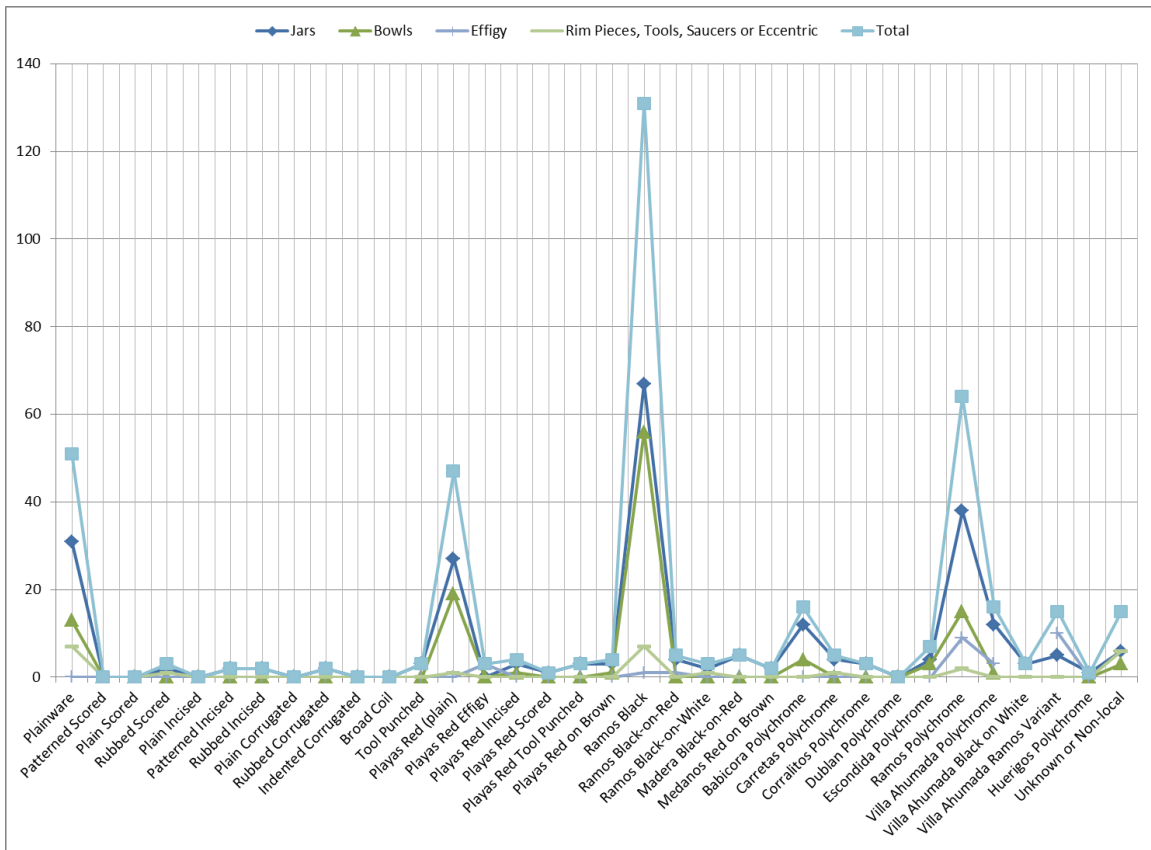


Figure 39: Lumholtz Collection Breakdown by Type & Morphology

## VESSEL MORPHOLOGY

Brand described the Casas Grandes ollas or jars as having “high, gently sloping upper body, rounded shoulder and full round bottom” (Brand 1933: 77). Sayles repeats that shape description (1936:56). “The rim is slightly outcurved and ends in a plain rounded lip. The average height is around eight inches although individuals exceeding eighteen inches have been found” (Brand 1933: 77). An extremely large vessel such as the one described by Brand is present in the Lumholtz Collection (see Appendix I: AMNH 30 / 4446). Due to its size and fragility, I photographed this vessel in the cabinet.

Sayles credits the initial Casas Grandes jar shape as a development “from a globular prototype in the late Mogollon series... to a distinctive type highly specialized in the later Chihuahuan horizons.” He elaborates on this point by specifying that the Mimbres influence is

reflected in Chihuahuan types through the use of corrugating, lugs, and the seed jar.

Furthermore, Sayles points to a Salado influence as illustrated by the eccentric jar shapes.

However, he concludes that these influences have not altered the uniqueness of the Chihuahuan jar shape as characterized by “its gently sloping upper body, rounded shoulder, and full round bottom; the point of greatest diameter is set very low” (Sayles 1936).

“The vessel shapes of the Chihuahua series may be classed as:

- (1) Handled, and paired, jars,
- (2) Jar, with bowl shaped bottom,
- (3) “Egg cup” vessel,
- (4) Straight-sided vessel,
- (5) Vase, with long neck and small orifice,
- (6) Seed Jar,
- (7) Jar” (Sayles, 1936, p. 56).

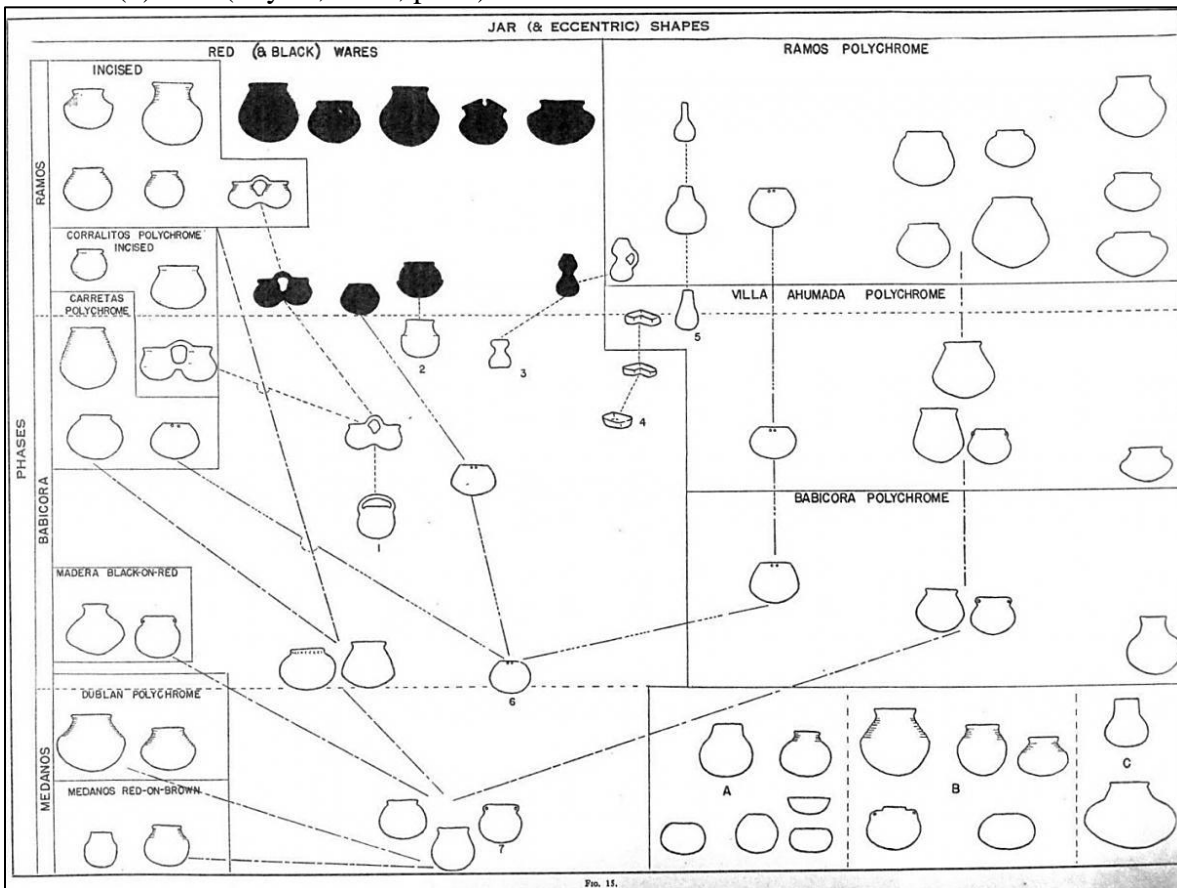


Figure 40: Jar and Eccentric Shapes (Sayles, 1936: Fig. 15)

As illustrated in the Lumholtz Collection (see Figure 39), the jar form is consistently the dominant form.

In the several decades since Sayles' work, the vocabulary associated with Casas Grandes ceramic morphology has expanded to include greater specificity as set forth in the section below entitled *Morphology Definitions for Casas Grandes Jars*. Although the jar form with a slightly outcurved rim is considered the most common shape associated with Casas Grandes vessels, seed jars and some of the blackware do not display this rim feature. Generally, the point of greatest diameter is set low (Kidder 1916:256). Further, as noted by Brand, the olla appears to be the dominant vessel shape in the Casas Grandes culture zone distinguishing it from many of the vessel shapes to the north where the bowl shaped vessel appears to have dominated (Brand 1935: 291).

Bowls in this collection represent a cross section of those described in earlier treatises. While many are small and deep, "differing from the large shallow food bowl so common to the north" (Brand 1933: 77), there are some small shallow bowls in the Lumholtz Collection. Rim shapes vary and may be incurved, flared, or straight.

Emphasis is placed on jars in Casas Grandes area research due to their predominance in Museum collections. According to Carey this fact, plus the jar form's presence "in the lowest levels of excavated Medio period sites" created the centrality of this form in establishing a classificatory system (Carey 1931: 345).

### **Morphology Definitions for Casas Grandes Jars**

**Ellipsoid:** This descriptive is used for vessels where the rounded base resembles a somewhat flattened sphere.

**Ovoid:** The ovoid description is used for vessels that essentially resemble an egg or an oval.

**Spheroid:** This term described vessels that are more rounded than oval but not as “flattened” as the ellipsoid vessels.

**Low Center of Gravity a.k.a. Low Center Point:** This term is applied to vessels where the greatest diameter of the vessel appears near the base of the vessel.




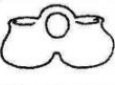











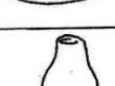







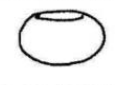

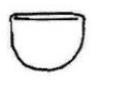


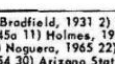
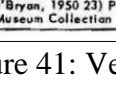
**High Center of Gravity a.k.a. High Center Point:** A vessel with a high center point can be described as having its greatest diameter at the shoulder of the vessel.

**Medium Center of Gravity a.k.a. Mid Center Point:** Vessels with a medium center of gravity have the greatest girth around the mid-section of the vessel.

**Round Bottom:** With very few exceptions all vessels in the Lumholtz Collection were round bottomed.

**Flat Bottom:** Only a very few vessels in the Lumholtz collection exhibited a flat bottom.

Di Peso and his colleagues (1974) presented an in-depth comparison of vessel shapes across a wide range of cultures from the North, South, and East of the Casas Grandes culture zone in Volume 6 of *Casas Grandes: A Fallen Trading Center*. See Figure 41.

	CASAS GRANDES	WEST MEXICO	SOUTHWEST UNITED STATES	EAST TEXAS	LOWER MISSISSIPPI VALLEY
	Seated human effigy Ramos Poly	Ixtlán del Río Poly	5 Pueblo Bonito Chaco B/W	23:29 Mid-Quachita F. Fulton Aspect Effigy	29:23b Walnut Site Bell Plain
	Face on vessel body Ramos Poly, B/W Var.	Chupicuaro Brown ware	25:A3		29:32g Bradley Place Modena R/W
	Reclining Ramos Poly				2:7e Arkansas Bell Plain
	Double Jar Corralitos Poly				26:106jm Modena Bell Plain
	Square rim bowl Modera B/R				
	Wavy rim bowl C.G. Plainware				
	Carinate Bowl Ramos Black	Guasave Guasave Redware	6:5d	Pecos Glaza Point III-V	15:100 Belcher Focus Hodges Engraved
	Fluted Jar Ramos Poly	Chamelta Modeled Ware	12:14c		
	Four-Cornered Jar Villa Ahumada Poly	Chamelta Gray Slip	12:12c	Hanalovi (No. 1) Bidahachi B/W	
	Lobed Jar C.G. Plainware				
	Mammary Fams Playas Red	Nayarit Also legs	5	Carter Ranch Snowflake B/W	
	Four-legged Animal Ramos Poly	Colima Hollow Figurines	21:98	Swartz Ruin Mimbres Classic B/W	3:87f Belcher Focus Hodges Engraved
	Head & tail animal C.G. Plainware				29:22e Pecan Point Bell Plain
	Head, tail & wings Corralitos Poly	Chupicuaro Plain & Painted	24:12	San Cosmas Tularosa B/W	18:87:7 Titus Focus Bowl rim effigy
	Macaw Effigy Ramos Poly	Chamelta Modeled Ware	12:11d	Casas Grandes Tanta Poly	
	Fish Effigy Babilcoara Poly	Tuxcacuesco Modeled Ware	14:60j	Snaketown Sacaton R/Bu	8:134d Belcher Mound Engraved
	Snake Effigy Ramos Poly				
	Composite Bottle Ramos Poly	Guasave Guasave Redware	6:12a	Tanta Ruin Tanta Poly	28:6E Titus Focus Glossell Engraved
	Rectangular Bowl Ramos Poly				
	Mother & child effigy Villa Ahumada Poly	Tuxcacuesco Figurines	17:79j	Snaketown Santa Cruz R/Bu	8:156d Holey Focus Crockett Incised
	Noded vessels C.G. Armadillo	Tuxcacuesco Plain ware	14:21c	Cameron Creek Knobbed bowls	1:93:270 Belcher Focus Noded bowls
	Half-gourd dipper C.G. Plainware	Zapatitlán Zap. red-rimmed	14:38e	Table Rock Pueblo Tanta Poly	17:93
	Two-story jar Ramos Black	Chamelta Modeled Ware	12:14g	Site 34: Mesa Verde McElmo B/W	22:46c Belcher Focus Hodges Engraved
	Jar-Bowl C.G. Plainware				
	Comales C.G. Plainware	Cajumatlán Chapala Brown Utility	16:20	Apache Creek Reserve Corrugated	19:53
	Simple Restricted Bowl Ramos Poly	All Sites	13:28 tap	Pueblo III-IV Polychrome types	18:102:5 Holey Focus Crockett Incised
	Restricted Bowl Everted Rim Escandida Poly	Tuxcacuesco Tux. incised red ware	14:57f	Kinishba Gila & Tanta Poly	4:8
	Unrestricted Bowl Everted Rim Escandida Poly				
	Squat Jar, everted rim Escandida Poly				
	Carinate Jar Ramos Black	Tuxcacuesco Red ware	14:67b	Pecos Reddish brown ware	15:243j Titus Focus Ripley Engraved Bottle
					29:59f St. Francis River Neely's Ferry Bottle

1) Bradfield, 1931 2) Chapman, 1931 3) Cosgrove & Cosgrove, 1932 4) Cummings, 1940 5) Di Peso Notes 6) Ekholm, 1942 7) Gladwin, 1957 8) Gladwin et al., 1937 9) Griffin, 1952a 10) Harty, 1945a 11) Holmes, 1903 12) Kelly, 1938 13) 1945a 14) 1949 15) Kidder & Shepard, 1936 16) Lister, 1949 17) Kelly, 1949 18) Martin & Willis, 1940 19) Martin et al., 1957 20) Martin et al., 1964 21) Naguero, 1965 22) O'Bryan, 1950 23) Pepper in Loufer, 1906 24) Peterson, 1955 25) 1956 26) Phillips et al., 1951 27) Rinaldo & Blumh, 1956 28) Steen in Caywood, 1962 29) Suhm et al., 1954 30) Arizona State Museum Collection 31) Vessels illustrated are of Casas Grandes types named.

Figure 41: Vessel Shape Comparative Distribution (Di Peso et al., 1974: 6: 87)

## **BURIAL CONTEXT OF LUMHOLTZ COLLECTION**

The Lumholtz First Expedition ceramic assemblage is the focus of this dissertation. However, it was neither the initial nor the primary impetus for that expedition. In fact, skeletal remains were an important focus of his research as was the ethnology of the region. As stated in an article in Scribner's magazine "I was also anxious to visit the village Indians of the Southwest of the United States, that I might be able to compare their culture with the tribes which it was my purpose to study in Mexico" (Lumholtz 1891: 531). One focus of the Lumholtz Expedition was the study of cranial remains.

Although burials in northern Mexico are not subject to the constraints imposed by acts such as the Native American Graves Repatriation Act in the United States, archaeologists in the region are committed to treating these remains with sensitivity. Today, opportunities for mortuary studies in the Casas Grandes region have been severely reduced in large part to a century's worth of heavy looting. As pointed out by Gordon Rakita (2012), "local looters have learned how to quickly locate burials and remove the desired whole pottery vessels for sale... most researchers working in the region have come to expect that (at least Medio period) sites will be the focus of sustained looting" (Rakita 2012).

Donald Brand's 1933 Ph.D. dissertation includes a Culture Area map in which he illustrates the sites he encountered including the two areas excavated by the Lumholtz Expedition which he designates as Site 60 (Cave Valley) and Site 64 (the plains of San Diego).

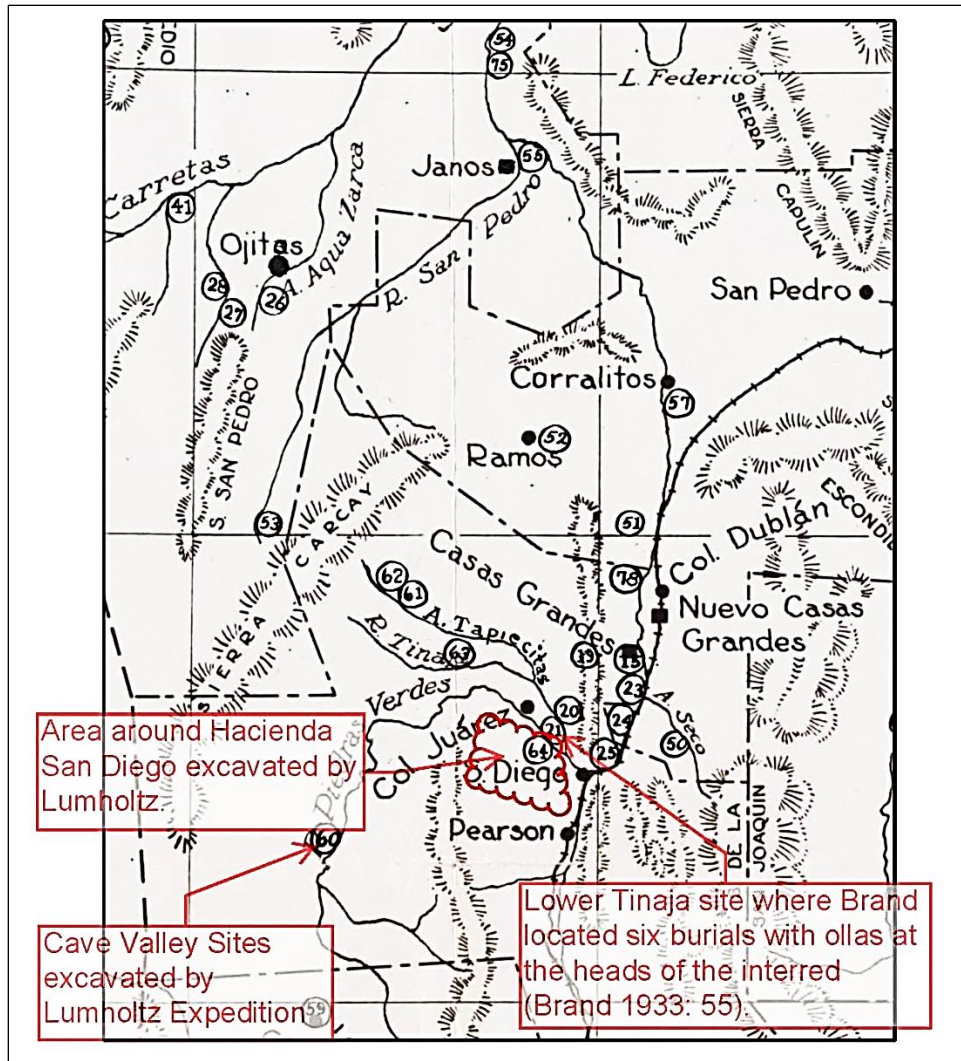


Figure 42: Portion of Brand Culture Area Map with burial site locations

The Lumholtz expedition spent approximately six weeks from early January to mid-February, 1891, exploring the cave dwellings after which time they turned their attentions to the mounds of Cave Valley and the mounds on the San Diego plains. According to Lumholtz, some of the caves located on the eastern side of the canyon were designated for burials as opposed to residential spaces. He provides a detailed drawing of one of the caves containing house groups as seen in Figure 43 (Lumholtz 1902: 62). Brand also describes a burial at Site 21 (Lower Tinaja) wherein each of the six interred individuals had a Chihuahuan olla at his or her head. Additionally, Brand supports Lumholtz's assertion that most of the caves on the eastern side of

the canyon were used as burial caves. “There is an indubitable connection between the use of west facing caves as cemeteries, and the customary burying of corpses facing towards the west” (Brand 1933, Appendix III: 56).

In addition to the published material, the unpublished field notes available at the American Museum of Natural History’s Division of Anthropology Archives provide a detailed look at some of the cave architecture and details of the houses therein. Those notes contain precise room measurements for the caves as illustrated in Figure 43.

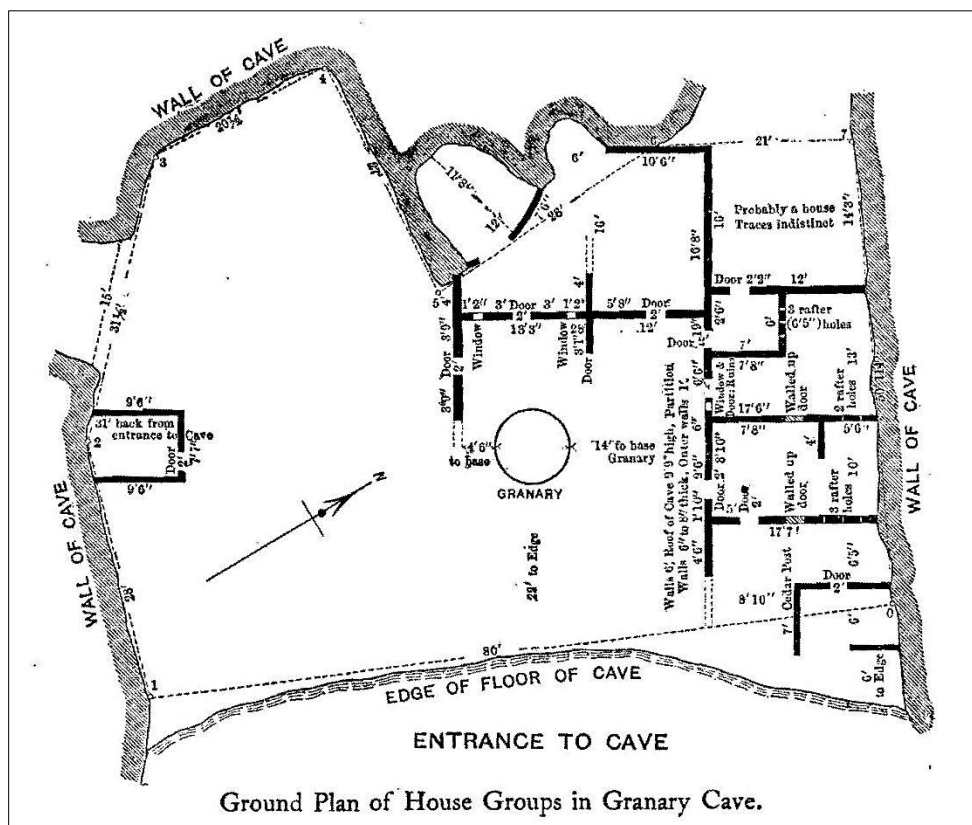


Figure 43: Ground Plan of House Groups in Cave (Lumholtz 1902: 62)

Although correlation of Museum catalog numbers for specific vessels with the illustrations in *Unknown Mexico* provides some potential identification, the possible locale as to where vessels were found is dependent upon the handwritten accession records. However, the unpublished typewritten notes of members of the expedition offer a glimpse of what was found

with just a few of the burials. While the focus of this account appears to be on the skeletal remains as well as the ground plans of the caves, a few specifics are available. The narrative regarding the excavations in those caves begins on February 2, 1891.

“Feb. 2. About 500 yds. south from Camp A there is a series of three mounds lying on a conglomerate ridge east and west ... Excavation in this Cave group of mounds disclosed very interesting composite structures. ... in this cave group, in one room about 10 by 12 ft., and at a depth of less than 5 ft., the floor was found, of trodden concrete; and breaking through it, we found a huddle of six or seven skeletons. They were not entire, and it seems as if they had been brought from some other place of sepulture and deposited here; but they were careless about the transfer, and lost several legs and arms” (Archival Notes: 1891: 31-34 Courtesy of the Division of Anthropology, American Museum of Natural History).

While work appears to have continued in the area, the next entry of interest regarding ceramic artifacts doesn't appear until almost two weeks later.

“Saturday, Feb. 14 ... went over to Strawberry Valley to explore the caves there. This valley is about 10 miles by road, nearly due east from Cave Valley, and, like it, is a cañon valley, through which passes the road from Pacheco to San Diego. About 8 miles from Pacheco a short bight occurs in the steep east side of Strawberry Cañon, which at this point lies nearly north and south. Perhaps 300 yds. from the road in Strawberry Cañon is the head of the bight, and at its head a group of houses has been built in a shallow cavern which has been formed in the curving head of the bight, not more than 20' deep at most. ... in one of these excavated rooms, apparently the one in the southwest corner of a group, in digging below the concrete floor into the decomposed clay stratum, we found the skeleton remains of five adults, one child of perhaps ten, and the remains of an infant. Most of the bones were very decomposed, but two of the skeletons were fairly preserved (Archival Notes: 1891: 36, Courtesy of the Division of Anthropology, American Museum of Natural History).

The narrative continues without dates until February 20<sup>th</sup>.

“Friday, Feb. 20. Excavations have been continued upon the camp group, and three interesting small vessels of pottery were found close beside the spots where the skeleton remains were found, -- two of these effigy models; one of oval form with contracted circular mouth, on one end the neck and head of a duck, at the other end a rude tail, a mere flange and two smaller flanges indicating wings on the sides. This was decorated in red and black (AMNH 30 / 4475). The other is of faintly polished red ware, also oval (7” long, 6” wide, 4” deep, paste 3/16” thick); on one end the projecting mouth and tale of a fish, with flanges on one side, and the other end to indicate fins and tail; no decoration, but two small holes are pierced just below the brim at each end for suspension (AMNH 30 / 4324). A rude flask of red ware was constricted in the middle, and with tapering bottle neck, suggesting the gourd forms so common among the Hopi” (author's note: this

may be AMNH 30 / 4127) (Archival Notes: 1891: 36, Courtesy of the Division of Anthropology, American Museum of Natural History).

Another vessel described in great detail is included in the above description. However, I have not yet been able to identify that piece specifically and it may be that it was broken in transport.

Over a week later, the chronicle provides specific identification for the locale of the excavation in what we now know as the Cave of the Olla.

“Feb 28. About a quarter mile below the Cupola Cave group but upon the opposite side of the canon, a bluff rises precipitously ... [the account relates the number of cliffs encountered]. Digging at random through the artificial floor, we obtained the almost perfect remains of two men, a woman, and a child, in a desiccated condition ... It is not apparent that the cave occupants arranged the bodies in any prescribed posture after death, or laid them in any specific position or direction at interment; and instead of carrying them to some place specially reserved for burials, there seems to have prevailed a unique and startling custom of burying the dead under the floors of their dwellings” (Archival Notes 1891: 37, Courtesy of the Division of Anthropology, American Museum of Natural History).

As chronicled by Lumholtz, burials in Cave Valley were predominantly on the eastern side of the canyon (Lumholtz 1902: 70). He elaborates that after digging under the concrete-like floors to a depth of approximately three feet, “we fortunately struck a skull, and then came upon the body of a man. After this we disinterred that of a mother holding a child in her arms, and two other bodies, all lying on their left sides, their knees half drawn up, and their faces turned toward the setting sun”. Lumholtz credits the mummy-like appearance of the remains to the amount of “saltpetre (sic) in the dust” (Lumholtz 1902: 70-71).

Subsequent to the Cave Valley expedition, the primary group moved on to the San Diego area. Lumholtz discloses that “One could easily count, in the vicinity of San Diego, over fifty mounds” .... His narrative continues with a description of cave dwellings “some twenty miles further south”; it provides some site specifics regarding the excavations at the San Miguel River

stating that they worked “about eight miles above the point at which the river enters the plains” (Lumholtz 1902: 62-87).

When Lumholtz was required to return to the United States for a short period of time, his expeditionary group continued excavating the mounds in the area around San Diego, specifically along the southern bank of the Piedras Verdes River, near its junction with San Miguel River.

“Here, as on the upper part of the river, the treasures we secured were taken from underneath the floors of the houses, where they had been buried with the dead. Here, as there, they consisted of beautifully decorated earthenware jars and bowls, some of these in bizarre representations of animal and human forms, besides stone implements, shell beads, pieces of pyrites and turquoise, all being generally unearthed intact. The things were found alongside of skeletons, which were huddled together in groups of from two to five in one of the corners. The jars, bowls, etc., had generally been deposited close to the body, as a rule near the head” (Lumholtz 1902: 94-97). (See Appendix II: for non-ceramic artifacts recovered from Cave Valley as well as the San Diego mounds).

Lumholtz likens the pottery excavated as transitional “from the culture of the Pueblos of Arizona and New Mexico to that of the Valley of Mexico, a thousand miles farther south” (Lumholtz 1902: 94).

#### **VESSEL SIZES AS AN INDICATION OF AGGREGATION**

One goal of creating a data set of the vessel measurements in the Lumholtz Collection is to ascertain if these artifactual remains support the proposition of a Casas Grandes “feasting” complex postulated by Whalen and Minnis (2001:133). It is clear from these data that there may have been occurrences of large scale feasting as demonstrated by vessel sizes that range from 9 inches in height to 14 inches in height. Sooting of some of the Ramos Polychrome vessels furthers this hypothesis.

As pointed out by Jones “In mid-level societies, feasts are often important settings for social integration, building political unity, and contributing to status competition” (Jones 2002: 103). In her study the recovery of a large cooking pot remains from Site 242 (a smaller

administrative center discussed in Chapter 4) suggests that this site “functioned as a ritual center or control node of authority where aspiring elite held grandiose feasts” (Jones 2002: 103). Since similar artifacts such as those at Site 242 were found among the Lumholtz Collection, it is my opinion that there were more central sites than currently recorded due to the looting and agricultural activities in the area. The implications of “feasts” as markers for complexity are discussed in detail in Chapter 4. Sprehn points out that:

“Specialized production of large jars from all three major types suggests the need for increased storage and greater serving capabilities for larger gatherings of people. Increasing numbers of participants in particular events may have resulted from aggregation, immigration, and/or increasing family sizes during this time period. Given the importance of feasting in the rise of an elite class that uses large-scale ceremonial activities to amass surplus, future research should address the intra- and inter-site distribution of vessel sizes, particularly in association with monumental structures” (Sprehn 2003: 241-242).

The following tables and charts of the ceramic artifacts in the Carl Lumholtz Casas Grandes collection provide an overview of the size range of the whole jars and bowls. While some artifacts analyzed in this dissertation are less than one hundred percent (100%) whole (since they have either a) been restored and/or b) portions are missing); for purposes of this size analysis only those vessels that represent the entire entity (or where the measurements of the vessel are included in the original Lumholtz log) have been used. Partial vessels or those that have been significantly reconstructed have not been included except in very few instances where the size was so significant that its omission could distort results.

Of particular note are the large jar rim sizes of vessel sherds from Cave Valley, i.e., AMNH 30 / 7491, AMNH 30 / 7493, and AMNH 30 / 7494. Also noteworthy is AMNH 30 / 6331. Images of these vessels can be found in Appendix I. However, it cannot be stated categorically that these vessels were markers for aggregation but, rather, may have been for storage since only one of these vessels exhibits heavy sooting. This is particularly possible since

they are from Cave Valley where the Cave of the Olla is located (see the illustration of the Ground Plan at Figure 43). The large Olla at the mouth of the cave is often described as a “grainery.”

### **JAR SIZE ANALYSIS**

For the most part, the size of all of the Plainware jars, ranging in height from 3.0 inches to 6.375 inches precludes the conclusion that large scale gatherings utilized this vessel type. Among the Playas Red jars the largest was 8.5 inches in height and among the whole Babicora Polychrome jars the heights ranged from 4.875 inches high to 10 inches high.

Among the sixty-five (65) whole Ramos Blackware jars the heights range from 2.25 inches to 8.0 inches. Among the forty-seven (47) Ramos Polychrome and Bi-Chrome whole jars measured, four ranged in height from nine inches to fourteen inches, six (6) range from 8.25 to 8.75 inches in height (including one (1) effigy vessel), thirteen (13) range from 7.0 to 7.875 inches in height (these included two (2) effigy vessels), while twenty-two (22) range from the 5.0 to 6.75 inches in height. Among the thirty (30) whole Villa Ahumada Polychrome, Villa Ahumada – Ramos Variant and Villa Ahumada Bichrome whole jars measured, twenty-three (23) of these ranged in size from 4.0 inches to 6.875 inches high, while five (5) ranged from 7.0 inches to 9.0 inches high.

**PLAINWARE:** Among the twenty-two (22) whole Plainware jars the heights range from 3.0 inches to 8.5 inches; the three (3) whole Plainware Tool Punched jars range from 4.375 to 6.0 inches in height while the two (2) whole Plainware Rubbed corrugated range from 5.0 to 5.125. The two (2) whole Plainware Rubbed Scored jars are 5.675 and 4.675 inches in height while the two (2) whole Plainware Pattern Incised vessels are 6.375 and 5.0 inches in height. The two (2) whole Plainware rubbed incised jars are 5.25 inches and 3.5 inches in height and the

only whole Plainware Applied jar is 3.5 inches high. The totality of the whole Plainware jars represents 15.0% of the whole jars in this analysis.

Table 3: Plainware Jar Size Analysis

Catalog Number	DESCRIPTION	Type	Height in Inches
AMNH 30 / 4243	Large Ovoid Jar with slightly flared rim, orange tone paste	Plainware	8.500
AMNH 30 / 4377	Large ovoid jar with slightly flared rim, a portion of rim is missing	Plainware	7.250
AMNH 30 / 4395	Spheroid jar with flared rim, large portion of rim is broken	Plainware	7.250
AMNH 30 / 4226	Ovoid Jar with slightly flared rim - diagonal incised design on upper half of body, heavy	Plainware Pattern incised	6.375
AMNH 30 / 4136	Ovoid Jar	Plainware	6.250
AMNH 30 / 4376	Large ovoid jar with slightly flared rim, a portion of rim is missing	Plainware	6.250
AMNH 30 / 4392	Ovoid Jar with medium center of gravity and slightly everted rim	Plainware	6.250
AMNH 30 / 4242	Elipsoid Jar with slightly flared rim and 3 perforated holes on either side	Plainware	6.000
AMNH 30 / 4368	Ovoid Jar with flared rim - portion of rim missing, vessel punched and heavily abraded	Plainware tool punched	6.000
AMNH 30 / 4378	Spheroid jar with flared, lightly pinched rim and scored lines	Plainware Rubbed Scored	5.675
AMNH 30 / 4382	Ovoid jar, medium center of gravity, upper third of the body is tool punched	Plainware Tool Punched	5.500
AMNH 30 / 4176	Jar medium center of gravity	Plainware Rubbed Incised	5.250
AMNH 30 / 4182	Spheroid jar - everted rim	Plainware	5.250
AMNH 30 / 4381	Spheroid jar with flared rim and hole in the side, rim is slightly chipped	Plainware	5.250

Catalog Number	DESCRIPTION	Type	Height in Inches
AMNH 30 / 4371	Elipsoid jar with flared rim - large portion of vessel is missing	Plainware	5.125
AMNH 30 / 4380	Large ovoid jar with 2 perforated ears and slightly flared rim, a portion of rim is missing	Plainware	5.125
AMNH 30 / 4384	Ovoid jar, medium center of gravity, upper third of the body is smoothed corrugated	Plainware rubbed corrugated	5.125
AMNH 30 / 4387	Spheroid Jar with 2 perforated ears, a portion of the rim is missing, surface is heavily charred	Plainware	5.125
AMNH 30 / 4116	Jar medium center of gravity with neck	Plainware rubbed corrugated	5.000
AMNH 30 / 4134	Jar with 2 ears	Plainware	5.000
AMNH 30 / 4187	Incised cooking jar with flared pinched rim	Plainware Pattern Incised	5.000
AMNH 30 / 4379	Large ovoid jar with slightly flared, pinched rim, a portion of rim is missing	Plainware	5.000
AMNH 30 / 4369	Ovoid jar with flared rim, flat bottom - portion of rim missing, vessel is abraded	Plainware Rubbed Scored	4.675
AMNH 30 / 4375	Spheroid jar with 2 perforated ears and slightly restricted opening with flared rim; most of the rim is missing	Plainware	4.500
AMNH 30 / 4303	Tool punched Jar with slightly flared and punched rim; body has 2 perforated holes on one side; opposite side has been repaired	Plainware Tool Punched	4.375
AMNH 30 / 4220	Ovoid Jar or cooking pot - slightly flared rim	Plainware	4.250
AMNH 30 / 4372	Elipsoid jar with everted rim - rim appears to have been added later on, portion of rim missing	Plainware	4.250

Catalog Number	DESCRIPTION	Type	Height in Inches
AMNH 30 / 4221	Portion of spheriod jar with flared rim	Plainware	3.875
AMNH 30 / 4388	Spheroid Jar with 2 perforated holes on either side and slightly flared rim	Plainware	3.875
AMNH 30 / 4365	Ovoid jar with flared rim - portion of rim missing, vessel heavily abraded	Plainware	3.750
AMNH 30 / 4135	Partial Cooking Jar	Plainware Rubbed Incised	3.500
AMNH 30 / 4317	Ovoid jar with slightly flared rim, body is appliqued all over with points, 2 perforated holes on either side	Plainware Appliqued	3.500
AMNH 30 / 4363	Spheroid jar with very slightly flared rim -- rough piece	Plainware	3.500
AMNH 30 / 4364	Ovoid jar with very slightly flared rim -- rough piece	Plainware	3.250
AMNH 30 / 4353	Small Ovoid jar with very slightly everted rim and 2 perforated ears, rough piece; may be a child's piece.	Plainware	3.000

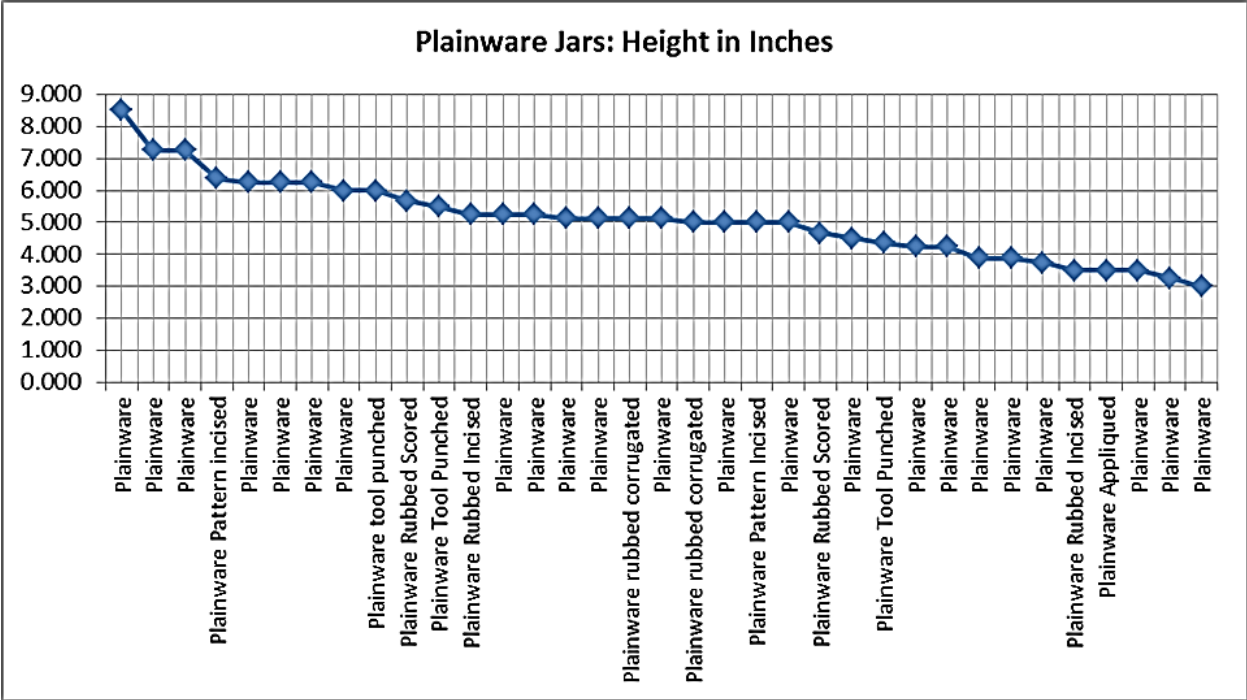


Figure 44: Plainware Jars: Height in Inches

**PLAYAS RED:** Among the fourteen (14) whole Playas Red jars the heights range from 2.5 inches to 8.5 inches; the three (3) whole Playas Red-on-Brown jars range in height from 3.375 inches to 5.675 inches in height. The three (3) whole Playas Red Tool Punched jars are 4.5 inches and 4.25 (2) inches in height while the three (3) whole Playas Red Incised jars are 4.75 inches (2) and 6.875 inches high and the whole Playas Red Scored jar is 2.25 inches high. The Playas Red squash effigy jar is 5.5 inches high. The totality of the whole Playas Red jars represents 11.1% of the whole jars in this analysis.

Table 4: Playas Red Jar and Effigy Size Analysis

Catalog Number	DESCRIPTION	Type	Height in Inches
AMNH 30 / 4318	Ovoid Jar with slightly flared pinch decorated rim, finely incised in a circular pattern over the upper two-thirds of the body.	Playas Red	8.500
AMNH 30 / 4321	Spheroid jar with slightly flared rim, upper two thirds portion is decorated with incised design	Playas Red	8.250
AMNH 30 / 4393	Ovoid Jar with low center of gravity, flared pinched rim, portion of rim missing	Playas Red	7.750
AMNH 30 / 4394	Ovoid Jar with medium center of gravity, slightly everted rim which appears pinched, badly cracked	Playas Red	7.500
AMNH 30 / 4322	Ovoid Jar with slightly flared decorated rim, incised diagonal line pattern over the upper two-thirds of the body.	Playas Red Incised	6.875
AMNH 30 / 4440	Ovoid Jar with flared rim and medium center of gravity, vessel is slightly abraded	Playas Red	6.875
AMNH 30 / 4319	Spheroid jar with slightly flared rim, upper portion is decorated with incised triangular design enclosed in a single incised circle on the top and bottom of design	Playas Red	6.750
AMNH 30 / 4313	Spheroid jar with high flared neck and incised diagonal lines in a circular pattern	Playas Red	5.875
AMNH 30 / 4373	Portion of spheroid jar	Playas Red	5.675
AMNH 30 / 4385	Ovoid jar, medium center of gravity, 2 perforated ears, large portion of the rim is missing and jar appears restored	Playas Red on Brown	5.675
AMNH 30 / 4370	Ovoid jar with flared rim which appeared to have been added - portion of rim missing, vessel is abraded	Playas Red	5.500

Catalog Number	DESCRIPTION	Type	Height in Inches
AMNH 30 / 4386	2 large pieces of spheroid jar with slightly everted rim and heavy charring	Playas Red	5.500
AMNH 30 / 4389	Spheroid Jar possibly lightly scored with 2 perforated holes on either side and slightly flared rim	Playas Red	5.500
AMNH 30 / 4390	Spheroid Jar with slightly flared rim, medium center of gravity, portion of rim is missing	Playas Red	5.125
AMNH 30 / 4183	Spheroid jar - everted rim with 2 perforated ears	Playas Red	5.000
AMNH 30 / 4307	Spheroid jar with flared rim incised with diagonal design	Playas Red	5.000
AMNH 30 / 4316	Spheroid jar punched all over in a circular pattern with somewhat everted rim and 2 perforated ears, a portion of the rim is missing.	Playas Red	4.875
AMNH 30 / 4315	Spheroid jar with flared rim, the upper third portion is decorated with incised circles, a large portion of the rim is missing	Playas Red Incised	4.750
AMNH 30 / 4374	Ovoid jar with incised pattern on upper two-thirds of body and pinched slightly flared rim	Playas Red Incised	4.750
AMNH 30 / 4309	Spheroid jar with flared rim, tool punched, with 2 perforated holes on either side, portion of rim is chipped	Playas Red Tool Punched	4.500
AMNH 30 / 4312	Spheroid jar with flared rim, the upper third portion is decorated with incised triangles followed by incised circles	Playas Red	4.500
AMNH 30 / 4352	Ovoid jar with very slightly everted rim and 2 perforated ears, rough piece.	Playas Red	4.500
AMNH 30 / 4306	Ovoid Jar with incised triangular design, slightly flared rim and 2 perforated holes on either side, portion of the rim is missing	Playas Red	4.375

Catalog Number	DESCRIPTION	Type	Height in Inches
AMNH 30 / 4305	Ovoid Jar with incised circular design, slightly flared rim and 2 perforated holes on either side	Playas Red on Brown	4.250
AMNH 30 / 4308	Ovoid Jar with slightly flared rim with punched design; vessel is incised with circular design, 2 perforated holes on either side, portion of vessel is missing	Playas Red	4.250
AMNH 30 / 4314	Spheroid jar with restricted opening; large portions of the rim are missing, vessel is somewhat abraded	Playas Red	4.250
AMNH 30 / 4360	Spheroid jar with constricted opening, portion of rim is missing and there are 2 perforated holes on one side, vessel is abraded and charred	Playas Red	4.250
AMNH 30 / 4383	Spheroid jar with 2 perforated ears, a large portion of the rim is missing, surface is tool punched	Playas Red Tool Punched	4.250
AMNH 30 / 4362	Ovoid jar with slightly constricted opening, portions of rim are missing and vessel is heavily abraded.	Playas Red	3.500
AMNH 30 / 4310	Ovoid Jar with slightly flared pinched rim with curving horizontal incised design bisected with some vertical incised lines; 2 perforated holes on either side	Playas Red	3.375
AMNH 30 / 4311	Spheroid jar with thick flared rim a portion of which is missing. Upper half of the body is incised in a circular pattern; vessel is heavily abraded.	Playas Red on Brown	3.375
AMNH 30 / 4115	Small Jar	Playas Red	3.000
AMNH 30 / 4304	Spheroid jar with slightly flared rim; large portion of rim is missing	Playas Red	2.500
AMNH 30 / 4367	Ovoid Jar, dark red heavily charred vessel with slight flared straight rim	Playas Red scored	2.250

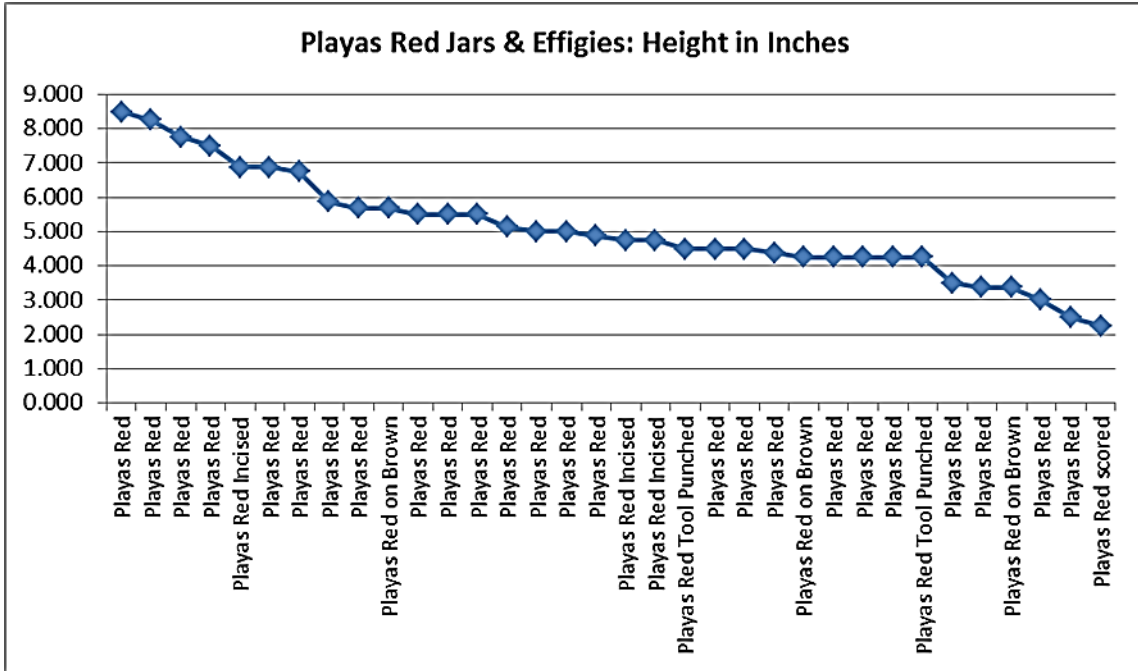


Figure 45: Playas Red Jars & Effigies: Heights in Inches

**RAMOS BLACKWARE:** Among the sixty-five (65) whole Ramos Blackware jars the heights range from 2.25 inches to 8.0 inches. The preponderance of the Ramos Blackware jars fell in the 4.0 inch to 7.0 inch heights or approximately seventy-eight percent (78%). The totality of the whole Ramos Blackware jars represents 28.8% of the whole jars in this analysis.

Table 5: Ramos Blackware Jar Size Analysis

Catalog Number	DESCRIPTION	Type	Height in Inches
AMNH 30 / 4297	Double lobed elongated jar with some abrading and restricted opening	Ramos Blackware	7.000
AMNH 30 / 4188	Spheroid jar with flared rim and low center of gravity - large	Ramos Blackware	6.750
AMNH 30 / 4193	Spheroid jar - everted rim	Ramos Blackware	6.625
AMNH 30 / 4235	Spheroid Jar with slightly flared rim	Ramos Blackware	6.500
AMNH 30 / 4240	Spheroid Jar with slightly flared rim - a large portion of the rim is missing with 2 perforated ears	Ramos Blackware	6.375
AMNH 30 / 4189	Spheroid jar - everted rim	Ramos Blackware	6.250
AMNH 30 / 4194	Spheroid jar - everted rim	Ramos Blackware	6.250
AMNH 30 / 4197	Ovoid Jar - everted rim with 2 perforated ears	Ramos Blackware	6.250
AMNH 30 / 4302	Jar with slightly flared opening, rim of clay about one-third from the bottom. This may have been a bowl that was reworked	Ramos Blackware	6.125
AMNH 30 / 4101	Jar with low center of gravity and flared rim	Ramos Blackware	6.000
AMNH 30 / 4185	Ovoid Jar with slightly everted rim and 2 pierced holes	Ramos Blackware	6.000
AMNH 30 / 4186	Ovoid Jar with slightly everted rim and 2 pierced holes	Ramos Blackware	6.000
AMNH 30 / 4192	Spheroid jar - everted rim	Ramos Blackware	6.000

Catalog Number	DESCRIPTION	Type	Height in Inches
AMNH 30 / 4241	Spheroid Jar with slightly flared rim, small portions of the rim are missing	Ramos Blackware	6.000
AMNH 30 / 4296	Double lobed elongated jar and restricted opening	Ramos Blackware	6.000
AMNH 30 / 4229	Spheroid Jar with flared rim and incised triangular design	Ramos Blackware	5.875
AMNH 30 / 4199	Spheroid jar - very slightly everted rim with 2 perforated ears	Ramos Blackware	5.825
AMNH 30 / 4206	Ovoid Jar - slightly flared rim	Ramos Blackware	5.625
AMNH 30 / 4215	Ovoid Jar - slightly flared rim with 2 perforated ears on either side	Ramos Blackware	5.625
AMNH 30 / 4101	Jar with low center of gravity and flared rim, heavily abraded, portion of rim missing	Ramos Blackware	5.500
AMNH 30 / 4177	Jar medium center of gravity with lugs	Ramos Blackware	5.500
AMNH 30 / 4180	Jar with lugs, low center of gravity	Ramos Blackware	5.500
AMNH 30 / 4196	Spheroid jar - slightly flared rim	Ramos Blackware	5.500
AMNH 30 / 4230	Spheroid Jar with flared rim	Ramos Blackware	5.500
AMNH 30 / 4231	Ovoid Jar with slightly flared rim - 2 perforated holes on either side	Ramos Blackware	5.500
AMNH 30 / 4198	Spheroid jar - everted rim	Ramos Blackware	5.250
AMNH 30 / 4225	Spheroid Jar - slightly flared rim with 2 perforated holes on either side	Ramos Blackware	5.250

Catalog Number	DESCRIPTION	Type	Height in Inches
AMNH 30 / 4203	Ovoid Jar - slightly flared rim with 2 perforated holes on either side	Ramos Blackware	5.125
AMNH 30 / 4178	Jar medium center of gravity with lugs	Ramos Blackware	5.000
AMNH 30 / 4195	Spheroid jar - elongated everted rim	Ramos Blackware	5.000
AMNH 30 / 4223	Spheroid jar - slightly restricted rim with 2 perforated holes on either side	Ramos Blackware	5.000
AMNH 30 / 4224	Spheroid jar - everted rim with 2 perforated ears	Ramos Blackware	5.000
AMNH 30 / 4298	Double lobed spheroid jar with some abrading and restricted opening	Ramos Blackware	5.000
AMNH 30 / 4190	Spheroid jar - everted rim with 2 perforated ears	Ramos Blackware	4.750
AMNH 30 / 4201	Spheroid jar - flared rim with 2 perforated ears	Ramos Blackware	4.750
AMNH 30 / 4205	Ovoid Jar - everted rim with 2 perforated holes on either side	Ramos Blackware	4.750
AMNH 30 / 4222	Spheroid jar - slightly restricted rim (appears to have been added at a later date) with 2 perforated holes on either side	Ramos Blackware	4.750
AMNH 30 / 4233	Ovoid Jar with slightly flared rim	Ramos Blackware	4.750
AMNH 30 / 4191	Spheroid jar - everted rim with 2 perforated ears	Ramos Blackware	4.625
AMNH 30 / 4200	Spheroid jar - slightly everted rim with 2 perforated ears	Ramos Blackware	4.625
AMNH 30 / 4101	Jar with low center of gravity and flared rim, heavily abraded, portion of rim missing	Ramos Blackware	4.500

Catalog Number	DESCRIPTION	Type	Height in Inches
AMNH 30 / 4202	Ovoid Jar - everted rim with 2 perforated holes on either side	Ramos Blackware	4.500
AMNH 30 / 4204	Ovoid Jar - everted rim with 2 perforated holes on either side	Ramos Blackware	4.500
AMNH 30 / 4211	Spheroid jar - very slightly everted rim with 2 perforated ears	Ramos Blackware	4.500
AMNH 30 / 4232	Spheroid Jar with slightly restricted opening and 2 perforated ears on either side	Ramos Blackware	4.500
AMNH 30 / 4209	Spheroid jar - very slightly everted rim with 2 perforated ears, rim broken	Ramos Blackware	4.250
AMNH 30 / 4210	Ovoid jar - very slightly everted rim with 2 perforated ears	Ramos Blackware	4.250
AMNH 30 / 4218	Ovoid Jar - slightly flared rim with large portion of rim missing	Ramos Blackware	4.250
AMNH 30 / 4207	Ovoid Jar - everted rim with 2 perforated ears	Ramos Blackware	4.000
AMNH 30 / 4214	Spheroid jar - everted rim with 2 perforated ears, rim broken	Ramos Blackware	4.000
AMNH 30 / 4228	Spheroid Jar with slightly restricted opening	Ramos Blackware	4.000

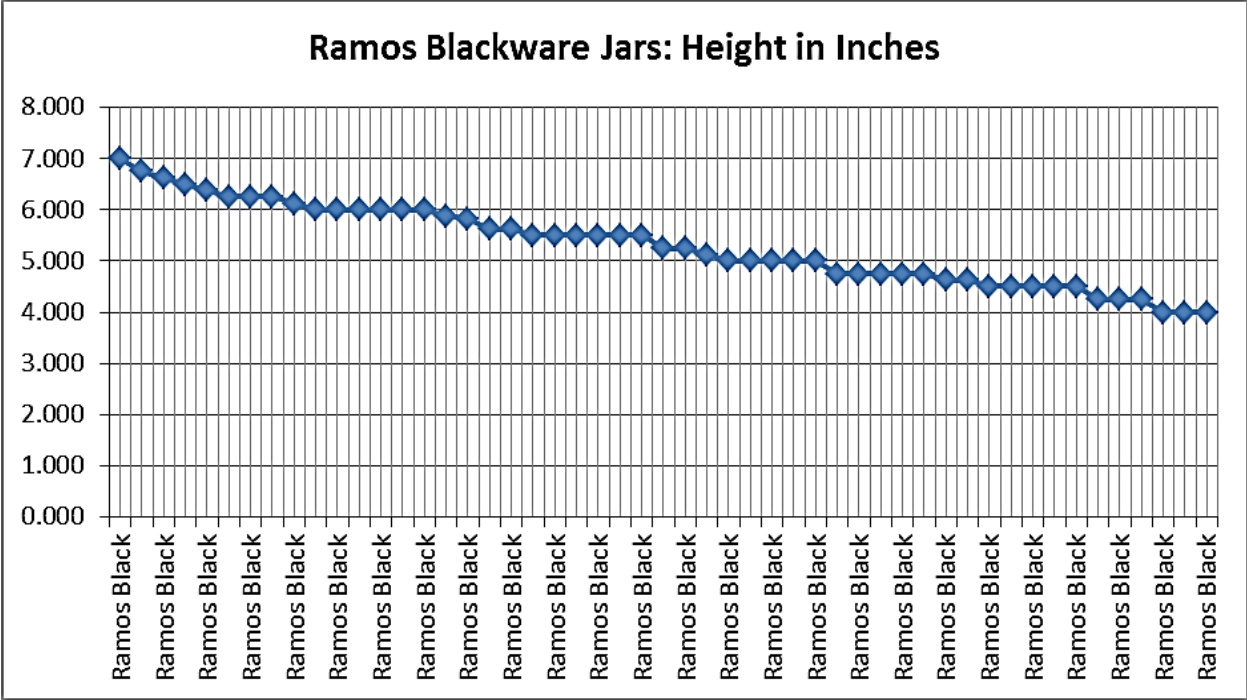


Figure 46: Ramos Blackware Jars: Height in Inches

**BABICORA POLYCHROME:** Among the thirteen (13) whole Babicora Polychrome jars the heights ranged from 4.875 inches high to 10 inches high. The majority of these vessels fell between 5.0 inches high and 6.0 inches high or 66.6%. The totality of the whole Babicora Polychrome jars represents 5.3% of the whole jars in this analysis.

Table 6: Babicora Polychrome Jar Size Analysis

Catalog Number	DESCRIPTION	Type	Height in Inches
AMNH AMNH 30 / 4109	Jar Low Center of Gravity	Babicora Polychrome	10.000
AMNH 30 / 4442	Large jar with medium center of gravity	Babicora Polychrome	8.750
AMNH 30 / 4411	Jar with tall neck and spheroid base, portion of neck is missing and vessel has been repaired.	Babicora Polychrome	7.675
AMNH 30 / 4103	Jar medium center of gravity	Babicora Polychrome	6.000
AMNH 30 / 4107	Jar medium center of gravity	Babicora Polychrome	6.000
AMNH 30 / 4108	Jar medium center of gravity	Babicora Polychrome	5.500
AMNH 30 / 4168	Spheroid jar - everted rim, medium center of gravity	Babicora Polychrome	5.250
AMNH 30 / 4533	Ovoid jar with medium center of gravity and high neck with flared rim, large portion of rim is missing	Babicora Polychrome	5.250
AMNH 30 / 4110	Jar medium center of gravity	Babicora Polychrome	5.000
AMNH 30 / 4450	Spheroid jar medium center of gravity with 2 perforated ears, vessel is heavily abraded and portions of the flared rim are missing	Babicora Polychrome	5.000
AMNH 30 / 4500	Jar medium center of gravity with flared rim, portion of rim is missing	Babicora Polychrome	5.000
AMNH 30 / 4443	Spheroid jar with flared rim and worn step design, vessel is heavily abraded and rim may have been added	Babicora Polychrome	4.875

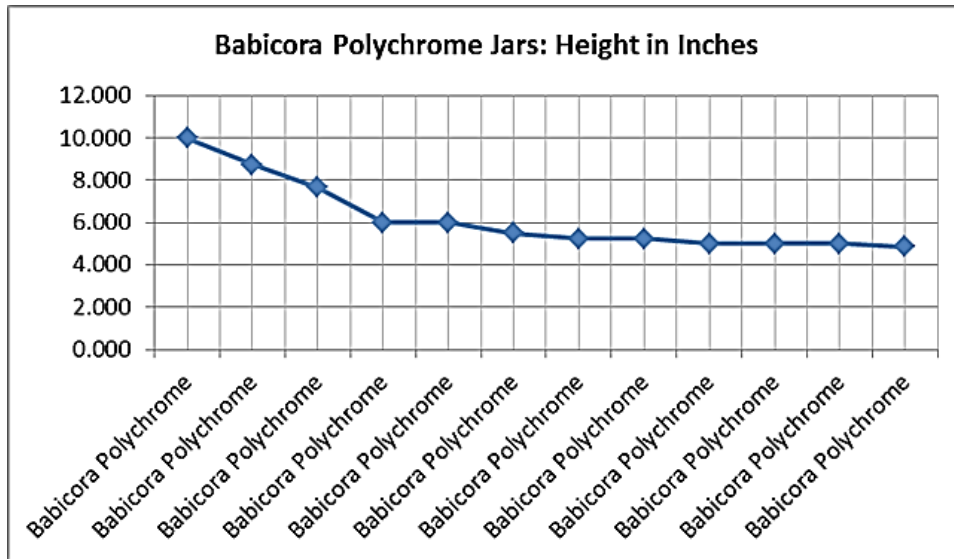


Figure 47: Babicora Polychrome Jars: Height in Inches

**RAMOS POLYCHROME and BICHROME:** Among the forty-seven (47) Ramos Polychrome and Bichrome whole jars measured, four ranged in height from nine inches to fourteen inches, six (6) range from 8.25 to 8.75 inches in height including one (1) effigy vessel, thirteen (13) range from 7.0 to .7.875 inches in height, these included two (2) effigy vessels, while twenty-two (22) range from the 5.0 to 6.75 inches in height. One (1) measured 3.5 inches and another measured 3.125 inches. The totality of the whole Ramos Polychrome and Ramos Bichrome jars represents 20.8% of the whole jars in this analysis.

Table 7: Ramos Polychrome and Ramos Bichrome Jar Size Analysis

Catalog Number	DESCRIPTION	Type	Height in Inches
AMNH 30 / 4446	Very large jar with restricted opening, medium center of gravity and slightly everted rim (note: unable to photograph other than in cabinet)	Ramos Polychrome	14.000
AMNH 30 / 4516	Large Ovoid Jar with somewhat restricted opening, slightly everted rim and low center of gravity	Ramos Black-on-Red	10.000
AMNH 30 / 4492	Jar medium center of gravity with very slightly everted rim, portion of rim is missing	Ramos Polychrome	9.675

Catalog Number	DESCRIPTION	Type	Height in Inches
AMNH 30 / 4104	Jar Low Center of Gravity	Ramos Polychrome	9.000
AMNH 30 / 4429	Ovoid Jar with low center of gravity and slightly everted chipped rim, the design is worn in some places	Ramos Polychrome	8.750
AMNH 30 / 4466	Jar low center of gravity	Ramos Polychrome	8.750
AMNH 30 / 4457	Spheroid Jar with low center of gravity and tall neck	Ramos Polychrome	8.500
AMNH 30 / 4522	Ovoid jar with low center of gravity	Ramos Polychrome	8.500
AMNH 30 / 4517	Large Ovoid Jar with somewhat restricted opening, slightly everted rim and low center of gravity	Ramos Black-on-Red	8.250
AMNH 30 / 4467	Jar low center of gravity	Ramos Polychrome	7.875
AMNH 30 / 4520	Jar low center of gravity, outward flared rim, light paste - looks artificially polished	Ramos Polychrome	7.675
AMNH 30 / 4524	Jar low center of gravity	Ramos Polychrome	7.500
AMNH 30 / 4468	Jar medium center of gravity	Ramos Polychrome	7.375
AMNH 30 / 4525	Jar low center of gravity	Ramos Polychrome	7.375
AMNH 30 / 4499	Ovoid Jar with low center of gravity and very slightly everted rim	Ramos Polychrome	7.250
AMNH 30 / 4521	Spheroid jar medium center of gravity with straight neck and rim, interior of rim is red. Neck, shoulder, and bottom of jar are bands of bull's eyes, center decoration is fine lined interlocking spirals	Ramos Black-on-White	7.250
AMNH 30 / 4523	Spheroid jar with medium center of gravity, macaw design in dark red paint	Ramos Polychrome	7.250
AMNH 30 / 4428	Large spheroid jar, medium center of gravity with slightly everted rim, portions of the design are worn and vessel is slightly abraded	Ramos Polychrome	7.000
AMNH 30 / 4458	Tall jar with rounded lower half and globular shape	Ramos Polychrome Eccentric	7.000
AMNH 30 / 4501	Ovoid Jar with low center of gravity, very slightly everted rim, portion of rim is missing	Ramos Polychrome	7.000

Catalog Number	DESCRIPTION	Type	Height in Inches
AMNH 30 / 4112	Jar medium center of gravity, red paste interior, well made	Ramos Polychrome - Variant	6.750
AMNH 30 / 4431	Large ovoid jar low center of gravity with slightly everted rim, the intricate design displays the horned or plumed serpent with a checkerboard neck band, vessel is partially restored. The reverse side has a bird image - possible peacock or quail	Ramos Polychrome	6.500
AMNH 30 / 4463	Jar low center of gravity	Ramos Polychrome	6.500
AMNH 30 / 4509	Jar medium center of gravity with neck and flared rim; part of the black paint has turned brown	Ramos Black-on-Red	6.375
AMNH 30 / 4464	Jar low center of gravity	Ramos Polychrome	6.250
AMNH 30 / 4465	Jar low center of gravity	Ramos Polychrome	6.250
AMNH 30 / 4427	Large ovoid jar, low center of gravity with very slightly everted rim, portions of design are worn off.	Ramos Polychrome	6.125
AMNH 30 / 4494	Jar medium center of gravity with straight rim neck	Ramos Polychrome	6.125
AMNH 30 / 4461	Jar medium center of gravity with lugs	Ramos Polychrome	6.125
AMNH 30 / 4496	Ovoid jar low center of gravity. Vessel has light paste and unusually dark red color paint; it may have been polished when lent out for display.	Ramos Polychrome	6.125
AMNH 30 / 4507	Jar medium center of gravity heavily charred	Ramos Polychrome	6.125
AMNH 30 / 4106	Jar Low Center of Gravity	Ramos Polychrome	6.000
AMNH 30 / 4459	Jar with medium center of gravity and 2 pierced holes on either side, polished orange-brown paste	Ramos Polychrome	6.000
AMNH 30 / 4498	Jar low center of gravity with 2 perforations on opposite sides	Ramos Polychrome	6.000
AMNH 30 / 4511	Ovoid jar with medium center of gravity and slightly everted rim, badly cracked and appears to have been restored	Ramos Black-on-Red	5.875
AMNH 30 / 4497	Jar low center of gravity	Ramos Polychrome	5.750

Catalog Number	DESCRIPTION	Type	Height in Inches
AMNH 30 / 4430	Ovoid Jar with low center of gravity and slightly everted chipped rim, the vessel appears to have been restored and a small portion is missing	Ramos Polychrome	5.125
AMNH 30 / 4454	Jar with medium center of gravity and low opening, opening may be macaw pen representation	Ramos Polychrome	3.125

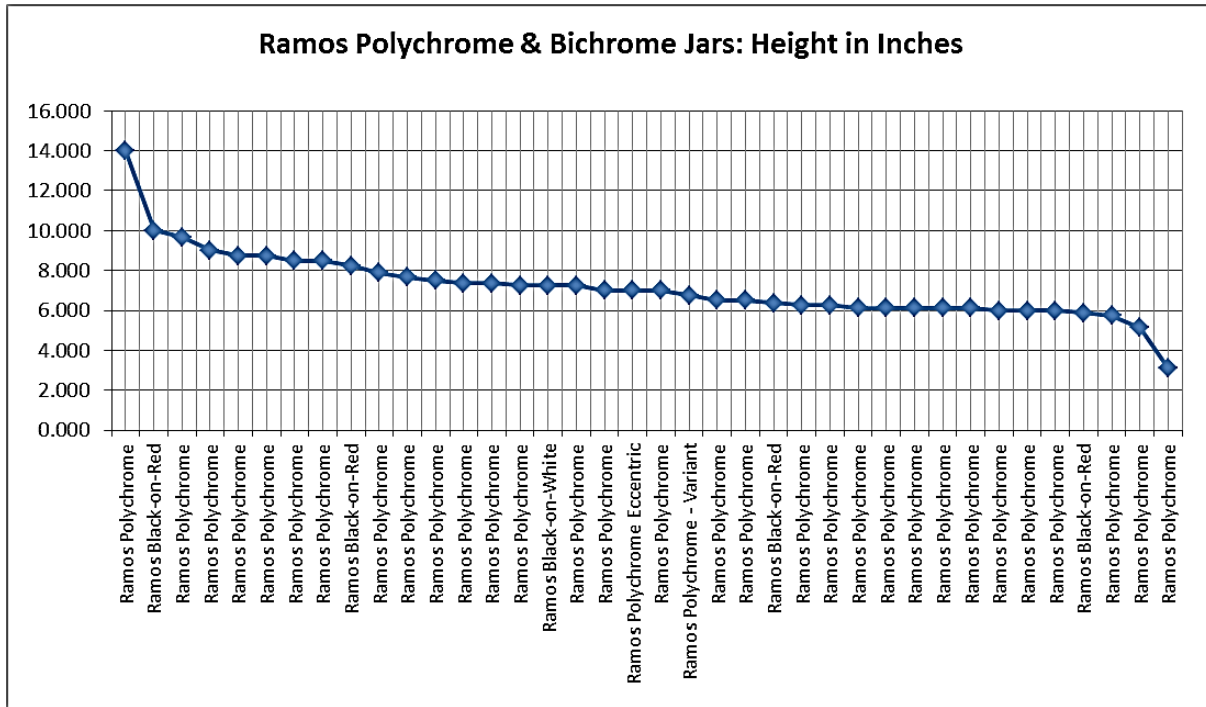


Figure 48: Ramos Polychrome & Bichrome Jars

**VILLA AHUMADA POLYCHROME:** Among the total thirty (30) whole Villa Ahumada Polychrome, Villa Ahumada – Ramos Variant and Villa Ahumada Bichrome whole jars measured twenty-three (23) of these ranged in size from 4.0 inches to 6.875 inches high while five (5) ranged from 7.0 inches to 9.0 inches high and one, a macaw head effigy, measured 3.675 inches high. The totality of the whole Villa Ahumada Polychrome and Villa Ahumada Bichrome jars represents 10.2% of the whole jars in this analysis.

Table 8: Villa Ahumada Polychrome and Bichrome Jar and Effigy Size Analysis

Catalog Number	DESCRIPTION	Type	Height in Inches
AMNH 30 / 4530	Animal Effigy Jar - possibly a badger	Villa Ahumada - Ramos Variant animal effigy	9.000
AMNH 30 / 4488	Ovoid jar with protruding checkerboard snake motif circling the vessel, form of snake is evident from inside vessel, head of snake broken off, vessel is very heavily charred	Villa Ahumada - heavily sooted snake effigy	8.250
AMNH 30 / 4453	Jar low center of gravity, dark red paste, white slip under design	Villa Ahumada Polychrome	8.000
AMNH 30 / 4441	Large ellipsoid jar with restricted opening and everted rim, black & red design, some charring and abrasion, 36 inch circumference and sooted bottom may indicate feasting	Villa Ahumada - Ramos Variant	7.750
AMNH 30 / 4490	Double lobed jar with checkerboard motif on upper section and triangular design on lower half, designed portion of vessel is slipped	Villa Ahumada Polychrome	6.875
AMNH 30 / 4531	Animal Effigy Jar - possibly in the form of an owl	Villa Ahumada - Ramos Variant bird effigy	6.750
AMNH 30 / 4462	Jar low center of gravity, brown paste, top portion slipped, badly damaged	Villa Ahumada - Ramos Variant	6.500
AMNH 30 / 4482	Jar low center of gravity, white slip, brown paste	Villa Ahumada Polychrome	6.375
AMNH 30 / 4447	Spheroid jar with flared rim and worn step design, vessel is heavily abraded and portions of rim are missing -- appears to have been restored	Villa Ahumada Polychrome	6.125

Catalog Number	DESCRIPTION	Type	Height in Inches
AMNH 30 / 4486	Jar medium center of gravity with handles, large portion of flared rim is missing, vessel heavily abraded	Villa Ahumada Polychrome	6.125
AMNH 30 / 4471	Jar low center of gravity with macaw head effigies, form of heads pushed out from interior of vessel, brown paste	Villa Ahumada - Ramos Variant macaw head effigy	6.000
AMNH 30 / 4505	Jar medium center of gravity with lugs; vessel is split in two	Villa Ahumada Polychrome	6.000
AMNH 30 / 4472	Jar medium center of gravity with human face in relief, face worn off on one side, white slip is badly worn off and vessel is sooted	Villa Ahumada Polychrome human effigy	5.875
AMNH 30 / 4455	Ovoid jar with medium center of gravity, light brown paste, slip under design and 2 perforated ears	Villa Ahumada Black on White	5.675
AMNH 30 / 4105	Jar medium center of gravity	Villa Ahumada Polychrome	5.500
AMNH 30 / 4493	Jar medium center of gravity with snake & 4 heads in relief	Villa Ahumada - Ramos Variant macaw head effigies	5.500
AMNH 30 / 4534	Ovoid jar with medium center of gravity and high neck with flared rim, large portion of rim is missing, vessel is heavily abraded	Villa Ahumada Polychrome	5.250
AMNH 30 / 4477	Four sided jar with low center of gravity, protruding lobes and neck with flared rim, very heavily abraded, appears to have white slip	Villa Ahumada Polychrome	5.000
AMNH 30 / 4483	Jar low center of gravity handles broken off, white slip, brown paste	Villa Ahumada Polychrome	5.000

Catalog Number	DESCRIPTION	Type	Height in Inches
AMNH 30 / 4449	Spheroid jar medium center of gravity with 2 perforated ears, slightly restricted opening, vessel is heavily abraded slipped, dark brown interior, and appears to have been restored	Villa Ahumada - Ramos Variant	4.875
AMNH 30 / 4475	Animal Effigy Jar - fish? Each side of vessel appears as if something was broken off, i.e., wings or gills; brown paste, white slip	Villa Ahumada Polychrome fish effigy	4.750
AMNH 30 / 4508	Jar medium center of gravity heavily abraded with white slip	Villa Ahumada - Black on White	4.675
AMNH 30 / 4473	Jar medium center of gravity with bird head and tail, brown paste, light slip, reddish paint, pinched rim, very badly worn	Villa Ahumada Bird Effigy	4.500
AMNH 30 / 4476	Animal Effigy Jar - possibly macaw, light brown paste, white slip	Villa Ahumada - Ramos Variant bird effigy	4.500
AMNH 30 / 4484	Jar with very constricted opening (possible seed jar), 2 perforated holes on either side, moderately abraded	Villa Ahumada - Ramos Variant	4.500
AMNH 30 / 4124	Jar medium center of gravity with restricted straight rim, upper portion of vessel is slipped.	Villa Ahumada - Ramos Variant	4.000
AMNH 30 / 4452	Jar medium center of gravity with pierced holes, restricted opening, slipped with dark paste	Villa Ahumada Polychrome	4.000
AMNH 30 / 4474	Jar medium center of gravity with macaw head effigies, white slip	Villa Ahumada - Ramos Variant macaw head effigies	3.675

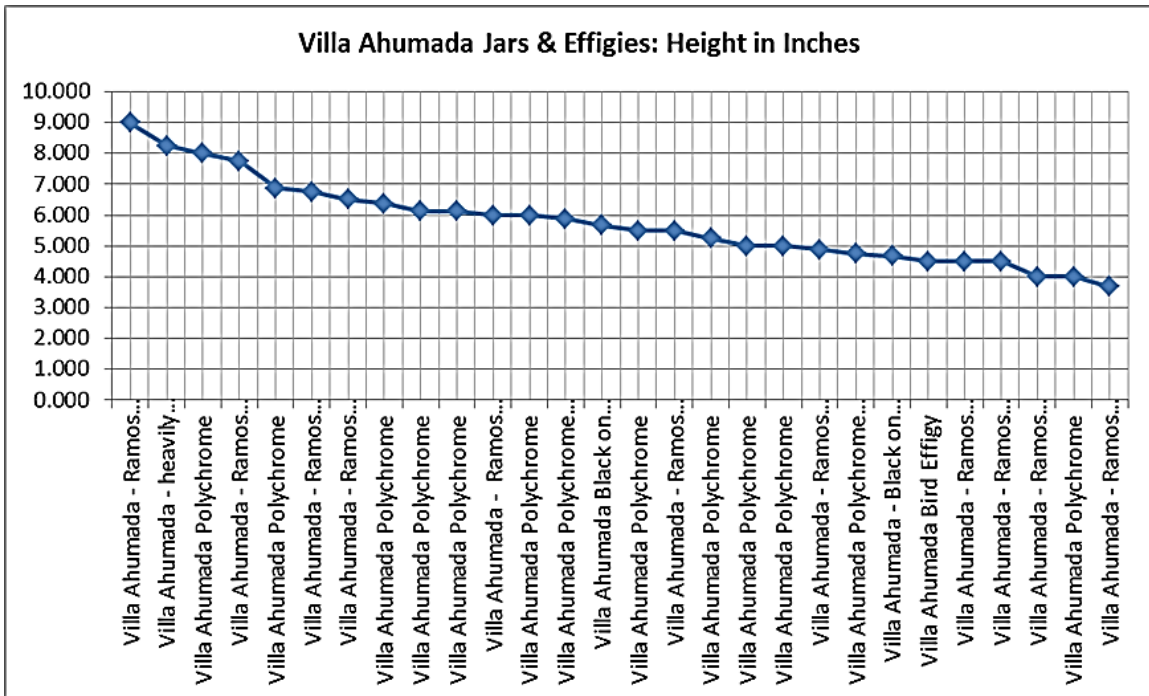


Figure 49: Villa Ahumada Jars & Effigies: Height in Inches

**MISCELLANEOUS:** Among the whole jars represented on the chart entitled “Miscellaneous Whole Jars: Height in Inches” are five (5) Madera Black-on-red that measure from 5.375 inches to 8.0 inches high, four (4) Carretas jars that measure from 5.375 inches to 7.75 inches high, four (4) Escondida jars that measure from 6.0 inches to 7.125 inches high, one (1) Huerigos that measures 7.375 inches high, and two (2) Medanos Red-on-brown that measure 5.0 inches and 4.25 inches high. Finally, the four (4) non-local jars range from 4.5 inches to 7.375 inches high. The totality of the whole “Miscellaneous” jars represents 8.8% of the whole jars in this analysis.

Table 9: Miscellaneous Jar Size Analysis

Catalog Number	DESCRIPTION	Type	Height in Inches
AMNH 30 / 4448	Jar low center of gravity, light brown paste, very badly broken	Carretas	9.500
AMNH 30 / 4515	Large Ovoid Jar with slightly flared/everted rim, small parts of rim missing	Madera Black-on-red	8.000
AMNH 30 / 4460	Jar medium center of gravity, reddish orange paste	Carretas	7.750
AMNH 30 / 4456	Black on white jar medium center of gravity, black paint may be glazed	Huerigos	7.375
AMNH 30 / 4391	Spheroid Jar with flared rim with a swirl design around the neck and shoulder, heavily charred vessel	non-local	7.375
AMNH 30 / 4444	Jar with medium center of gravity and high flared rim with horned serpent motif	Escondida Polychrome	7.125
AMNH 30 / 4451	Jar low center of gravity	Carretas	7.125
AMNH 30 / 4470	Jar medium center of gravity	Escondida Polychrome	6.500
AMNH 30 / 4481	Jar, low center of gravity with flared rim, light paste, self-slip within the design	Escondida Polychrome	6.250
AMNH 30 / 4518	Spheroid Jar with somewhat restricted opening, slightly everted rim and low center of gravity	Madera Black-on-red	6.000
AMNH 30 / 4434	Ovoid Jar with slightly chipped and decorated flared rim	Escondida Polychrome	6.000
AMNH 30 / 4514	Spheroid Jar with slightly everted rim, 2 perforated ears, black on reddish brown design, portions of rim are missing	Madera Black-on-red	5.750
AMNH 30 / 4469	Jar medium center of gravity, orange paste, bottom sooted	Carretas	5.675

Catalog Number	DESCRIPTION	Type	Height in Inches
AMNH 30 / 4513	Spheroid Jar with slightly everted rim, 2 perforated ears, black on brown design with dull finish.	Madera Black-on-red	5.500
AMNH 30 / 4445	Ovoid Jar with flared rim and medium center of gravity, vessel is slightly abraded	Carretas	5.375
AMNH 30 / 4512	Spheroid Jar with slightly everted rim, 2 perforated ears, red paste which may be self-slipped and black bands	Madera Black-on-red	5.375
AMNH 30 / 4510	Ellipsoid jar with reverse checkerboard design top and bottom, orange brown paste and perforated lug handles.	non-local	5.250
AMNH 30 / 4478	Jar with low center of gravity, slightly flared rim with pinched design, reddish brown paint on cream paste, no slip.	Medanos Red-on-brown	5.000
AMNH 30 / 4485	Jar with somewhat constricted rim and 2 perforated holes, unusual pattern, polished, not slipped, red paint and dark black or green lines.	non-local	4.875
AMNH 30 / 4487	Jar with medium center of gravity in the shape of a gourd or squash, each of 10 projecting section displays a swirl design in white paint, red clay appears self-slipped and formed from the inside; 2 perforations on either side	non-local	4.500
AMNH 30 / 4532	Ovoid jar with medium center of gravity and high neck with flared rim, bottom half decorated with triangular design, upper half corrugated	Medanos Red-on-brown	4.250

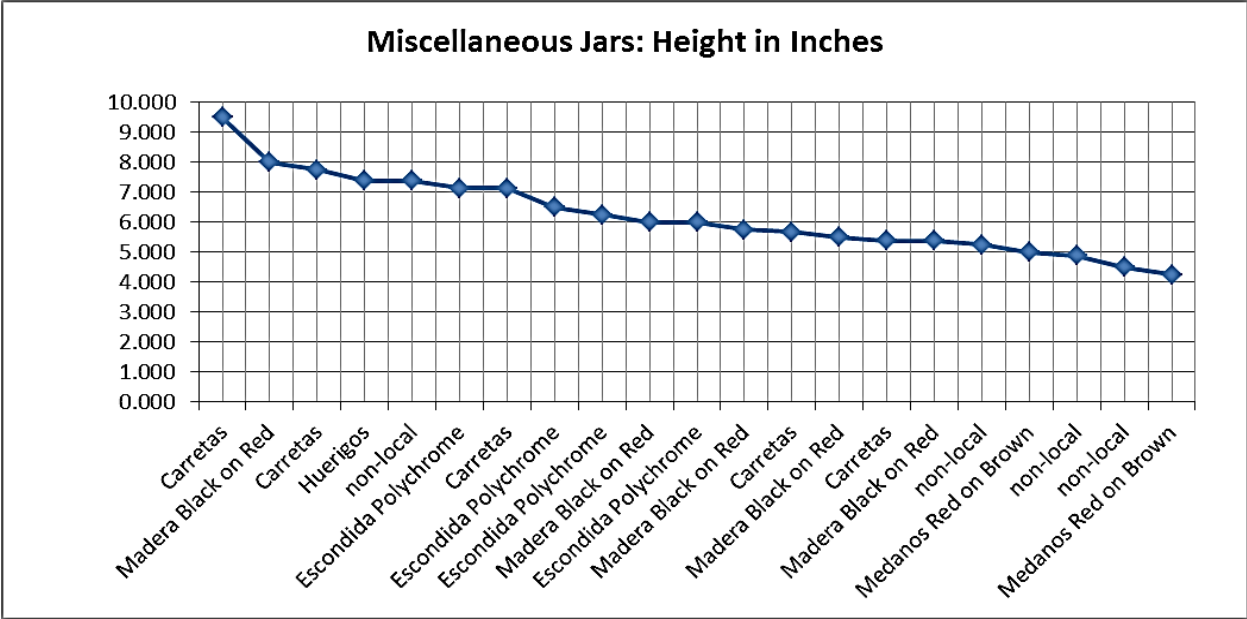


Figure 50: Miscellaneous Whole Jars: Height in Inches

Table 10 Total Whole Jar Height Analysis

TYPE	Larger than 9" high	7 to 9" high	5 to 7" high	Less than 5" high	Totals
Plainware		3	10	9	22
Plainware Tool Punched			2	1	3
Plainware Rubbed Corrugated			2		2
Plainware Rubbed Scored			1	1	2
Plainware Pattern Incised			2		2
Plainware Appliqued				1	1
Plainware Rubbed Incised			1	1	2
Playas Red		4	10		14
Playas Red Squash Effigy			1		1
Playas Red on Brown			1	2	3
Playas Red Incised			1	2	3
Playas Red Tool Punched			2	1	3
Playas Red Scored				1	1
Ramos Blackware		9	32	24	65
Babicora Polychrome	2	2	8	1	13
Ramos Polychrome	3	13	22	1	39
Ramos Black-on-Red	1	1	2	1	5
Ramos Black-on-White		2			2
Villa Ahumada Polychrome		3	7	3	13
Villa Ahumada Ramos Variant			5	3	8
Villa Ahumada Black-on-White					0
Madera Black on Red		1	4		5

TYPE	Larger than 9" high	7 to 9" high	5 to 7" high	Less than 5" high	Totals
Carretas		2	2		4
Huerigos		1			
non-local		1	1	2	4
Escondida		1	3		4
Medanos Red on Brown			1	1	2
<b>TOTALS</b>	6	43	120	55	223
<b>PERCENTAGES</b>	3%	20%	52%	25%	

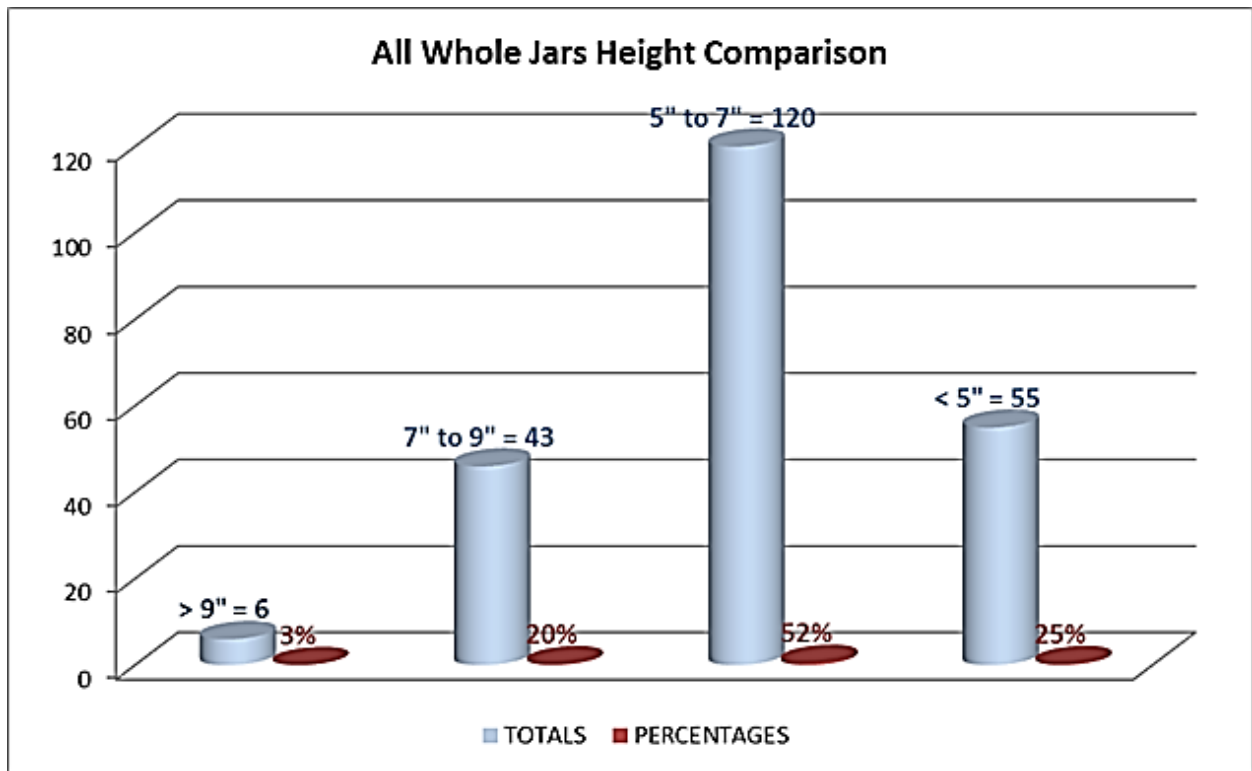


Figure 51: All Whole Jar Height Comparison

Of the 247 Jars in the Collection, the height of twenty-four (24) jars could not be measured because of breaks and or partial repairs. This represented 9% of the jars analyzed. They breakdown as follows:

- Plainware: eight (9) jars,
- Plainware Rubbed Incised one (1) jar,
- Playas Red: two (2) jars,
- Ramos Blackware: seven (7) jars,
- Ramos Polychrome: three (3) jars,
- Unknown or Non-Local: one (1) jar, and
- Villa Ahumada Black-on-White: one (1) jar.

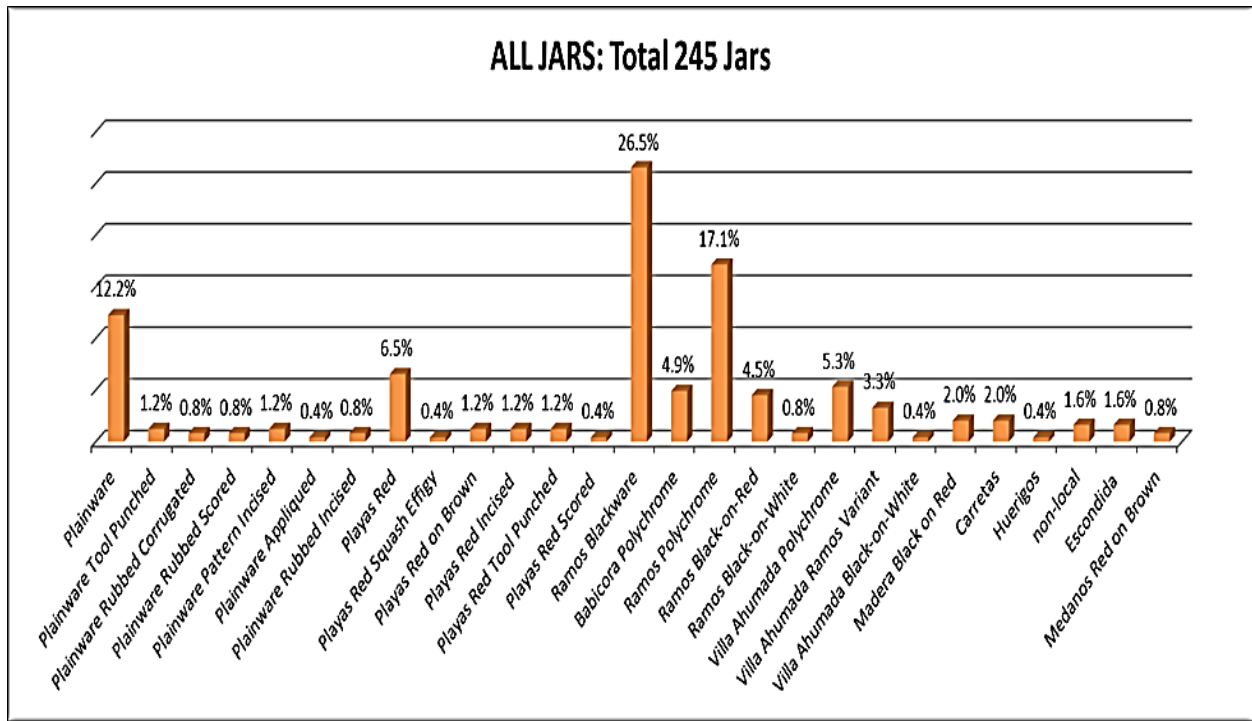








Figure 52: All Jars: Total 247 Jars

Examples of jar shapes include: AMNH 30 / 4188, AMNH 30 / 4191, AMNH 30 / 4318, AMNH 30 / 4181, AMNH 30 / 4298, and AMNH 30 / 4484.

Shape	Example	Shape	Example
Ellipsoid	AMNH 30 / 4188 	Spheroid	AMNH 30 / 4191 
Ovoid	AMNH 30 / 4318 	Jar with Restricted Rim	AMNH 30 / 4181 
Bi-Lobed	AMNH 30 / 4298 	Seed Jar	AMNH 30 / 4484 
Figure 53: Examples of Jars from the Lumholtz Collection			

### **BOWL SIZE ANALYSIS**

Among the thirteen (13) whole Plainware bowls the diameter of apertures range from 1.5 inches to 6.875 inches; two (2) measure in the 5inch to 7 inch range while six (6) measure from 3.375 inches to 4.875 inches in diameter of aperture. Among the seventeen (17) whole Playas Red bowls the diameter of apertures ranges from 3.125 inches (7.9 cm) to 7.25 inches (18.4 cm). Among the fifty-one (51) whole Ramos Blackware bowls the diameter of apertures range from 1.5 inches to 7.675 inches. Ten of the whole Ramos Blackware bowls range from 6.125 inches to 7.675 inches. Among the four (4) whole Babicora Polychrome bowls the diameter/apertures ranged from 2.0 inches to 4.0 inches. Among the thirteen (13) Ramos Polychrome whole bowls measured one is 8.0 inches in diameter of aperture; four (4) measure in the 5.25 inches to 6.375

inches in diameter of aperture, three measure from 4.0 inches to 4.75 inches in diameter of aperture and five (5) measure from 2.75 inches to 3.75 inches in diameter of aperture.

**PLAINWARE:** Among the thirteen (13) whole Plainware bowls the diameter of apertures range from 1.5 inches to 6.875 inches; two (2) measure in the 5inch to 7 inch range while six (6) measure from 3.375 inches to 4.875 inches in diameter of aperture. Five of the Plainware whole bowls measure from 1.5 inches to 2.5 inches in diameter of aperture. The whole Plainware Rubbed Scored bowl measures 5.5 inches in diameter of aperture while the whole Plainware Rubbed Incised bowl measures 5.75 inches in diameter of aperture. The totality of the whole Plainware bowls represents 13.5% of the whole bowls in this analysis.

Table 11: Plainware Bowl Size Analysis

Catalog Number	DESCRIPTION	Type	Diameter /Aperture of Bowl
AMNH 30 / 4323	Round flared top bowl	Plainware	6.875
AMNH 30 / 4125	Bowl outcurved	Plainware	6.750
AMNH 30 / 4326	Round flared top bowl with everted rim	Plainware rubbed incised	5.750
AMNH 30 / 4342	Round Bowl with slightly everted rim	Plainware Rubbed Scored	5.500
AMNH 30 / 4325	Round Bowl with slightly inverted straight rim	Plainware	4.875
AMNH 30 / 4331	Slightly squared bowl with straight rim, rim is broken at several points	Plainware	4.000
AMNH 30 / 4337	Square bowl with slightly incurved rim, heavily abraded.	Plainware	3.750
AMNH 30 / 4339	Elipsoid bowl with slightly restricted rim and flat bottom, vessel is abraded and rim is chipped	Plainware	3.750
AMNH 30 / 4366	Spheroid bowl with restricted opening	Plainware	3.500
AMNH 30 / 4329	Round flared top bowl	Plainware	3.375
AMNH 30 / 4351	Small round bowl with straight rim, vessel has a long crack from top to bottom; very rough piece - may be a child's attempt.	Plainware	2.500
AMNH 30 / 4335	Small round bowl with straight rim, rim is irregular; very rough piece - may be a child's attempt.	Plainware	2.250
AMNH 30 / 4332	Portion of what appears to be the bowl of a ladle	Plainware	2.000
AMNH 30 / 4333	Small Ovoid bowl with straight rim, rim is broken at several points; very rough piece - may be a child's attempt.	Plainware	1.500

AMNH 30 / 4334	Small Ovoid bowl with straight rim	Plainware	1.500
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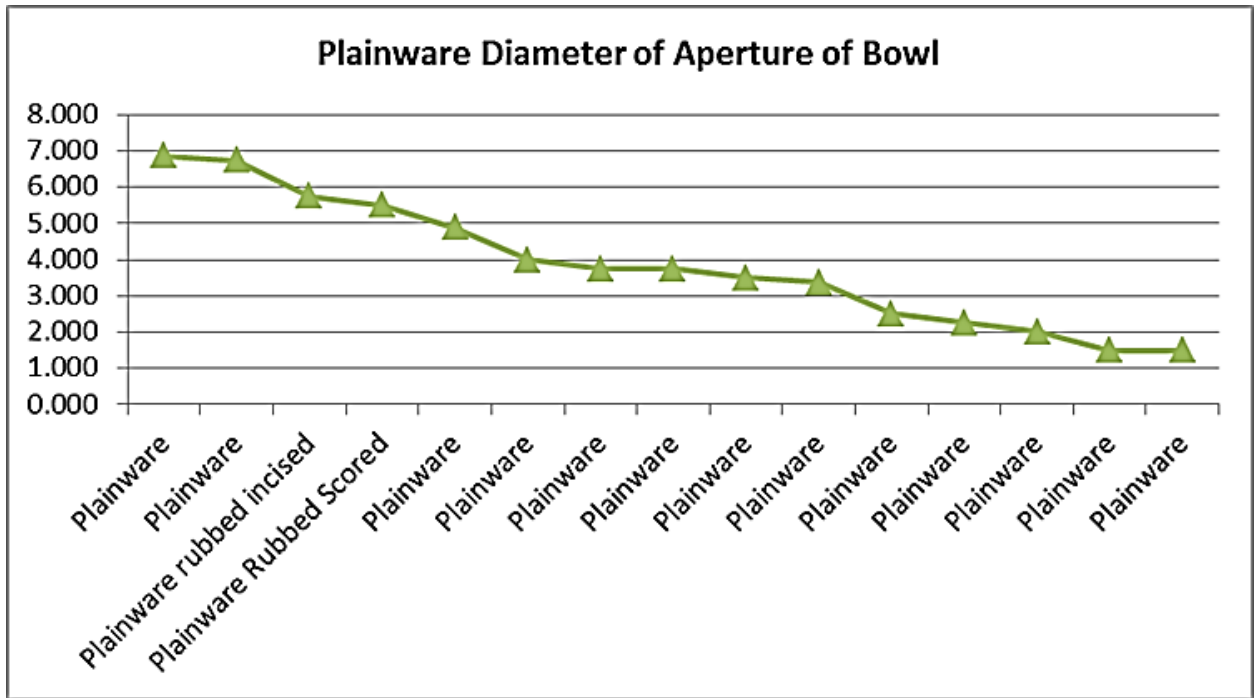


Figure 54: Diameter of Aperture of Plainware Bowls

**PLAYAS RED:** Among the seventeen (17) whole Playas Red bowls the diameter of apertures ranges from 3.125 inches to 7.25 inches. Three (3) whole Playas Red bowls measure from 6.0 to 7.0 inches in diameter of aperture; seven (7) bowls range from 4.0 to 5.875 inches in diameter of aperture and three (3) bowls measure from 3.5 inches to 3.75 inches in diameter of aperture. The whole Playas Red Incised bowl measures 5.25 inches in diameter of aperture. The Playas Red fish effigy bowl is 3.75 inches in diameter of aperture. The totality of the whole Playas Red bowls represents 16.5% of the whole bowls in this analysis.

Table 12: Playas Red Bowl Size Analysis

Catalog Number	DESCRIPTION	Type	Diameter /Aperture of Bowl
AMNH 30 / 4347	Round bowl with slightly incurved rim, rim is chipped in three or four places	Playas Red	7.250
AMNH 30 / 4348	Round bowl with very slightly incurved rim, rim is chipped in three or four places	Playas Red	7.250
AMNH 30 / 4101	Bowl with incurved rim	Playas Red	7.000
AMNH 30 / 4344	Round bowl with slightly incurved rim	Playas Red	7.000
AMNH 30 / 4320	Bowl with slightly flared rim, small portion of rim is missing	Playas Red	6.750
AMNH 30 / 4343	Round, straight rim bowl, rim is chipped and vessel is abraded	Playas Red	6.000
AMNH 30 / 4121	Bowl outcurved	Playas Red	5.875
AMNH 30 / 4102	Bowl	Playas Red incised	5.250
AMNH 30 / 4345	Round bowl with very slightly incurved rim	Playas Red	4.875
AMNH 30 / 4327	Round bowl with straight rim	Playas Red	4.750
AMNH 30 / 4102	Bowl incurved	Playas Red	4.500
AMNH 30 / 4349	Round bowl with slightly incurved rim, rim is chipped and vessel is heavily abraded	Playas Red	4.250
AMNH 30 / 4346	Round bowl with slightly incurved rim, rim is chipped and vessel has been repaired	Playas Red	4.000
AMNH 30 / 4324	Fish effigy bowl with restricted slightly everted rim	Playas Red Fish Effigy	3.750
AMNH 30 / 4340	Round bowl with slightly incurved rim	Playas Red	3.675
AMNH 30 / 4330	Rounded square, irregular shaped bowl with pinched rim	Playas Red	3.500

Catalog Number	DESCRIPTION	Type	Diameter /Aperture of Bowl
AMNH 30 / 4350	Round bowl with very slightly incurved rim, vessel is abraded	Playas Red	3.125

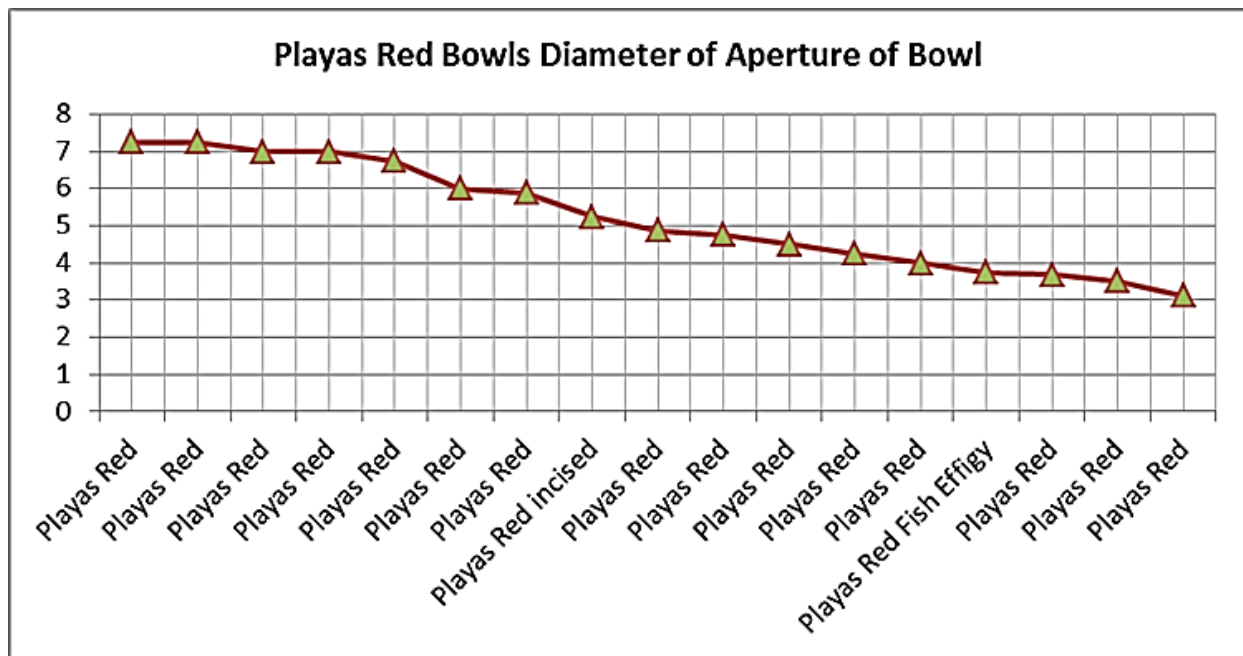


Figure 55: Diameter of Aperture of Playas Red Bowls

**RAMOS BLACKWARE:** Among the fifty-one (51) whole Ramos Blackware bowls the diameter of apertures range from 1.5 inches to 7.675 inches. Ten of the whole Ramos Blackware bowls range from 6.125 inches to 7.675 inches in diameter of aperture while twenty-two (22) of the whole Ramos Blackware bowls measure in the 4.0 inches to 5.675 inches in diameter of aperture. The remaining nineteen (19) whole Blackware bowls measure in the 1.5 inches to 3.875 inches in diameter of aperture. The totality of the whole Ramos Blackware bowls represents 49.5% of the whole bowls in this analysis.

Table 13: Ramos Blackware Bowl Size Analysis

Catalog Number	DESCRIPTION	Type	Diameter /Aperture of Bowl
AMNH 30 / 4347	Round bowl with slightly incurved rim, rim is chipped in three or four places	Playas Red	7.250
AMNH 30 / 4348	Round bowl with very slightly incurved rim, rim is chipped in three or four places	Playas Red	7.250
AMNH 30 / 4101	Bowl with incurved rim	Playas Red	7.000
AMNH 30 / 4344	Round bowl with slightly incurved rim	Playas Red	7.000
AMNH 30 / 4320	Bowl with slightly flared rim, small portion of rim is missing	Playas Red	6.750
AMNH 30 / 4343	Round, straight rim bowl, rim is chipped and vessel is abraded	Playas Red	6.000
AMNH 30 / 4121	Bowl outcurved	Playas Red	5.875
AMNH 30 / 4102	Bowl	Playas Red incised	5.250
AMNH 30 / 4345	Round bowl with very slightly incurved rim	Playas Red	4.875
AMNH 30 / 4327	Round bowl with straight rim	Playas Red	4.750
AMNH 30 / 4102	Bowl incurved	Playas Red	4.500
AMNH 30 / 4349	Round bowl with slightly incurved rim, rim is chipped and vessel is heavily abraded	Playas Red	4.250
AMNH 30 / 4346	Round bowl with slightly incurved rim, rim is chipped and vessel has been repaired	Playas Red	4.000
AMNH 30 / 4324	Fish effigy bowl with restricted slightly everted rim	Playas Red Fish Effigy	3.750
AMNH 30 / 4340	Round bowl with slightly incurved rim	Playas Red	3.675
AMNH 30 / 4330	Rounded square, irregular shaped bowl with pinched rim	Playas Red	3.500

Catalog Number	DESCRIPTION	Type	Diameter /Aperture of Bowl
AMNH 30 / 4350	Round bowl with very slightly incurved rim, vessel is abraded	Playas Red	3.125

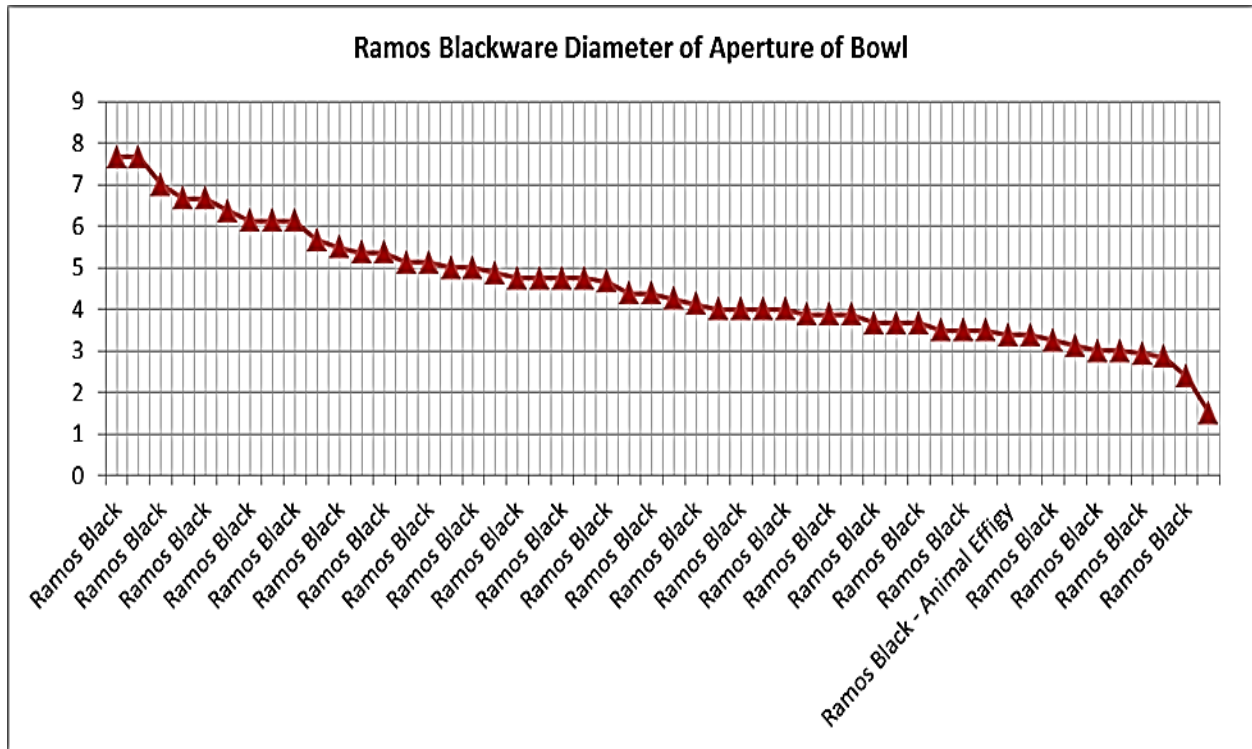


Figure 56: Diameter of Aperture of Ramos Blackware Bowls

**BABICORA POLYCHROME:** Among the four (4) whole Babicora Polychrome bowls the diameter/apertures ranged from 2.0 inches to 4.0 inches. The totality of the whole Babicora Polychrome bowls represents 3.9% of the whole bowls in this analysis.

Table 14: Babicora Bowl Size Analysis

Catalog Number	DESCRIPTION	Type	Diameter or Rim Size
30 / 4120	Small bowl with straight rim and opposing barb design	Babicora Polychrome	4.000
30 / 4419	Bowl with slightly incurved rim, large portion of the rim is missing and vessel is heavily abraded	Babicora Polychrome	3.675
30 / 4479	Round bowl with restricted opening, 2 perforated holes and moderate charring	Babicora Polychrome	4.000
30 / 5753	Toy Bowl (1 Piece)	Babicora Polychrome	2.000

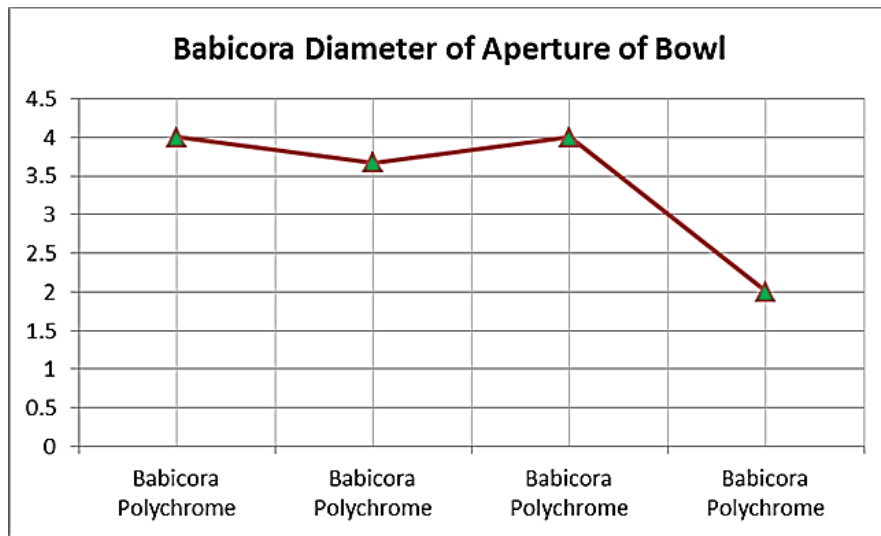


Figure 57: Diameter of Aperture of Babicora Polychrome Bowls

**RAMOS POLYCHROME and BICHROME:** Among the thirteen (11) Ramos Polychrome whole bowls measured one is 8.0 inches in diameter of aperture; four (4) measure in the 5.25 inches to 6.375 inches in diameter of aperture, three measure from 4.0 inches to 4.75 inches in diameter of aperture and five (5) measure from 2.75 inches to 3.75 inches in diameter of aperture. The totality of the whole Ramos Polychrome and Ramos Bichrome bowls represents 12.6% of the whole bowls in this analysis.

Table 15: Ramos Polychrome Bowl Size Analysis

Catalog Number	DESCRIPTION	Type	Diameter /Aperture of Bowl
30 / 4439	Round bowl with slightly incurved rim and triangle design, portion of rim is missing and vessel is heavily abraded.	Ramos Polychrome	8.000
4437	Round bowl with slightly incurved rim and step design, exterior and interior of vessel is heavily charred and it is broken in some places (pieces are present)	Ramos Polychrome	6.375
4432	Round bowl with slightly incurved rim	Ramos Polychrome	5.250
4435	Round bowl with slightly incurved rim and step design	Ramos Polychrome	4.750
30 / 4422	Bowl with large bull's eye design	Ramos Polychrome	4.500
4436	Round bowl with slightly incurved rim and triangle design, portion of rim is missing.	Ramos Polychrome	4.000
4433	Round bowl with slightly incurved rim and step design	Ramos Polychrome	3.750
30 / 4421	Bird effigy bowl, incurved rim -- possibly quail	Ramos Polychrome animal effigy	3.675
30 / 4406	Small bowl, badly abraded	Ramos Polychrome	2.750
30 / 4424	Small bowl with black & red stepped design	Ramos Polychrome	2.750
30 / 4425	Small bowl with slightly incurved rim with black & red stepped design	Ramos Polychrome	2.750

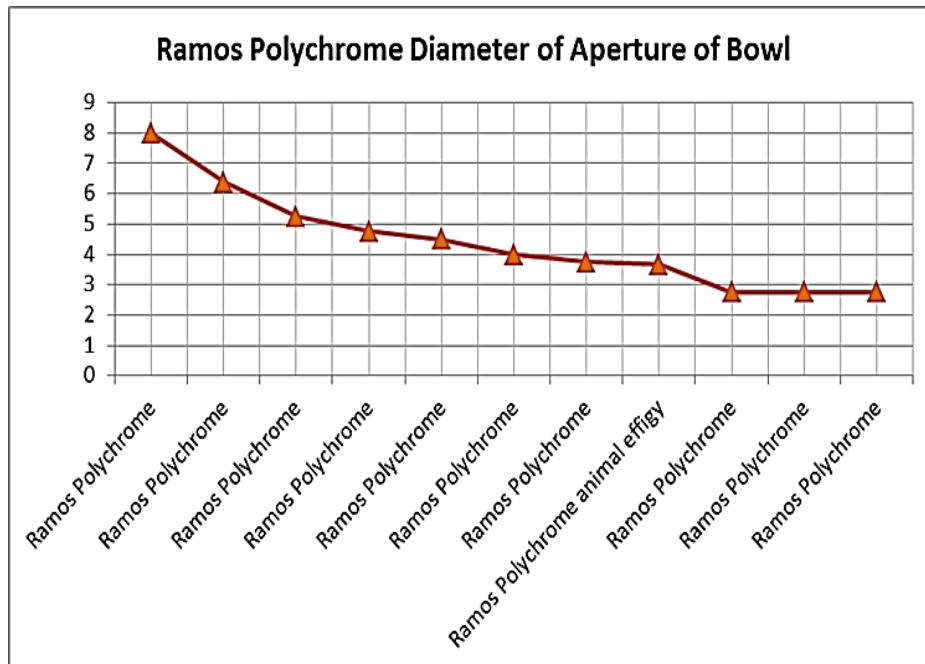


Figure 58: Diameter of Aperture of Ramos Polychrome Bowls

**VILLA AHUMADA POLYCHROME:** Only one (1) whole Villa Ahumada bowl is represented; that bowl measures 5.75 inch in diameter/aperture.

**MISCELLANEOUS:** Among the whole bowls represented on the chart entitled “Miscellaneous Whole Bowls: Diameter of Aperture in Inches” is one Carretas chalice measuring 5.125 in diameter of aperture and one non-local black-on-white bowl measuring 4.875 inches in diameter of aperture. There are three (3) Escondida Polychrome bowls, of these one measures 5.125 inches in diameter of aperture, the second measures 4.875 inches in diameter of aperture and the third measures 4.125 inches in diameter of aperture. Two non-local bowls are represented, one may be Salado. The totality of the whole “Miscellaneous” bowls represents 4.9% of the whole bowls in this analysis.

Table 16: Miscellaneous Bowl Size Analysis

Catalog Number	DESCRIPTION	Type	Diameter or Rim Size
30 / 4423	Bowl with white exterior and elaborate black and red design on the interior interior, very light paste, flared rim, portions of the interior appear worn from a stirring action, vessel is not sooted.	Non-Local	5.750
30 / 4417	Outcurved bowl with exterior and interior design, light paste, no slip, polished, some red underlies black on interior	Non-Local possibly Salado	5.375
30 / 4412	Bowl with pedestal base black on white exterior and polychrome red & black on white interior; white slip over brown paste.	Carretas Chalice Vessel	5.125
30 / 4416	Bowl with slightly everted rim, exterior is red with black on white interior design	Escondida Polychrome	5.125
30 / 4408	Black on white bowl, heavily charred	Non-Local Black on White	4.875
30 / 4420	Bowl with slightly everted rim, red exterior with black & white bull's eye design, interior is black on white design	Escondida Polychrome	4.875
30 / 4418	Bowl, slightly incurved with red exterior and interior black & red design	Escondida Polychrome	4.125

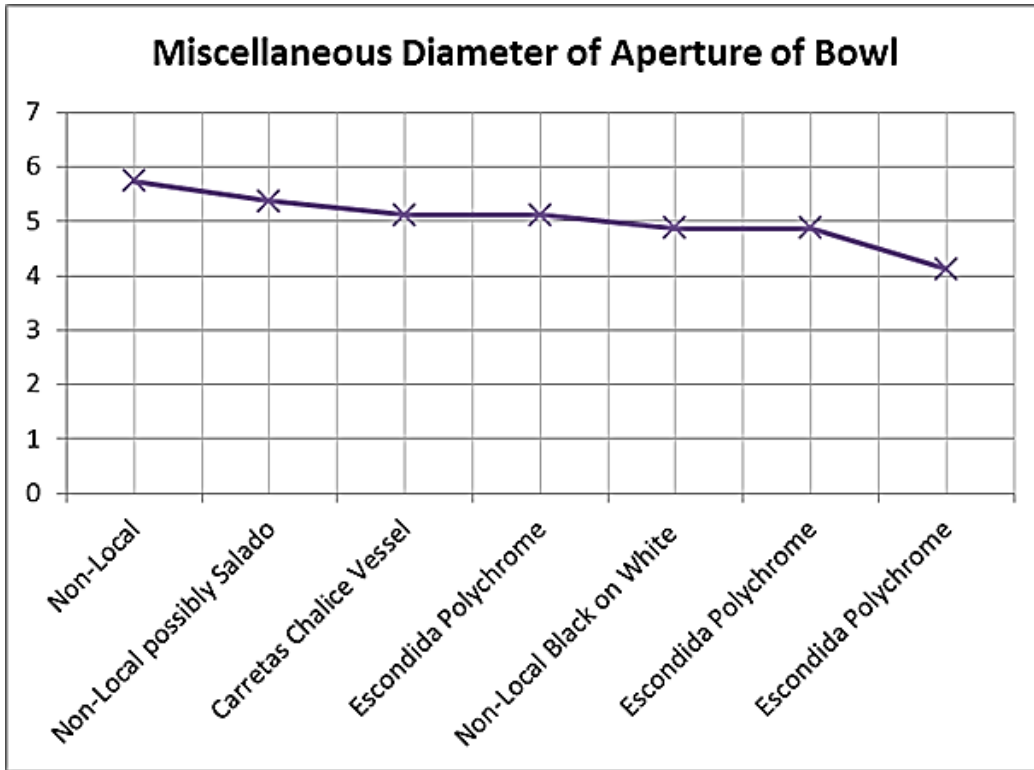


Figure 59: Diameter of Aperture of Miscellaneous Bowls

Table 17 Total Whole Bowl Size Analysis

TYPE	Diameter of Aperture > 7"	Diameter of Aperture 5" to 7"	Diameter of Aperture 3" to 5"	Diameter of Aperture < 3"	Totals
Plainware	0	2	5	5	12
Plainware Rubbed Corrugated		1			1
Plainware Rubbed Incised		1			1
Playas Red	2	3	8		13
Playas Red Fish Effigy			1		1
Playas Red Incised		1			1
Ramos Blackware	3	15	29	4	51
Babicora Polychrome			3	1	4
Ramos Polychrome	1	2	5	3	11
Villa Ahumada Polychrome			1		1
Carretas			1		1
non-local		2		1	3
Escondida			1	2	3
Medanos Red on Brown					0
TOTALS	6	27	54	16	103
PERCENTAGES	6%	26%	52%	16%	

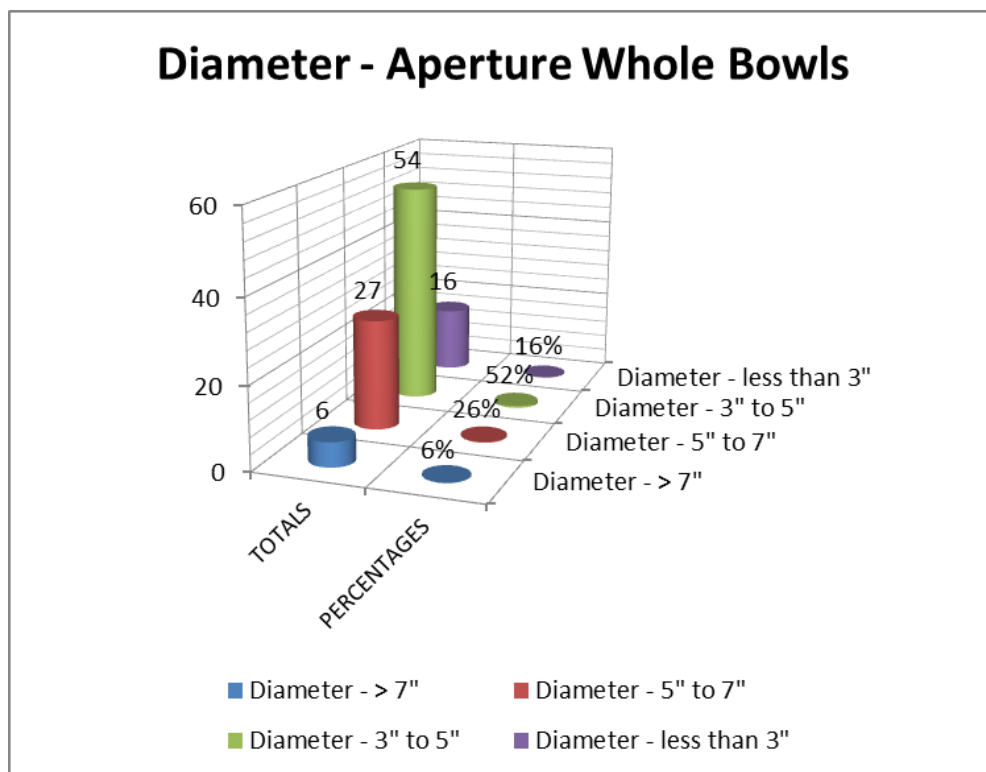


Figure 60: Diameter of Aperture of All Whole Bowls

Of the 159 Bowls in the Collection, the aperture of fifty-six (56) bowls could not be measured because of broken rims. However, many of these bowls were sufficiently complete to be considered as part of the overall ceramic analysis. These represented 35% of the analyzed bowls. Their itemization follows:

- Babicora Polychrome: two (2) bowls,
- Plainware: three (3) bowls,
- Plainware Rubbed Incised one (1) bowl,
- Playas Red: seven (7) bowls,
- Playas Red-on-Brown one (1) bowl,
- Ramos Blackware: thirty-seven (37) bowls,
- Ramos Polychrome: three (3) bowls,
- Villa Ahumada Polychrome: one (1) bowl and
- Non-Local or Unknown: three (3) bowls.

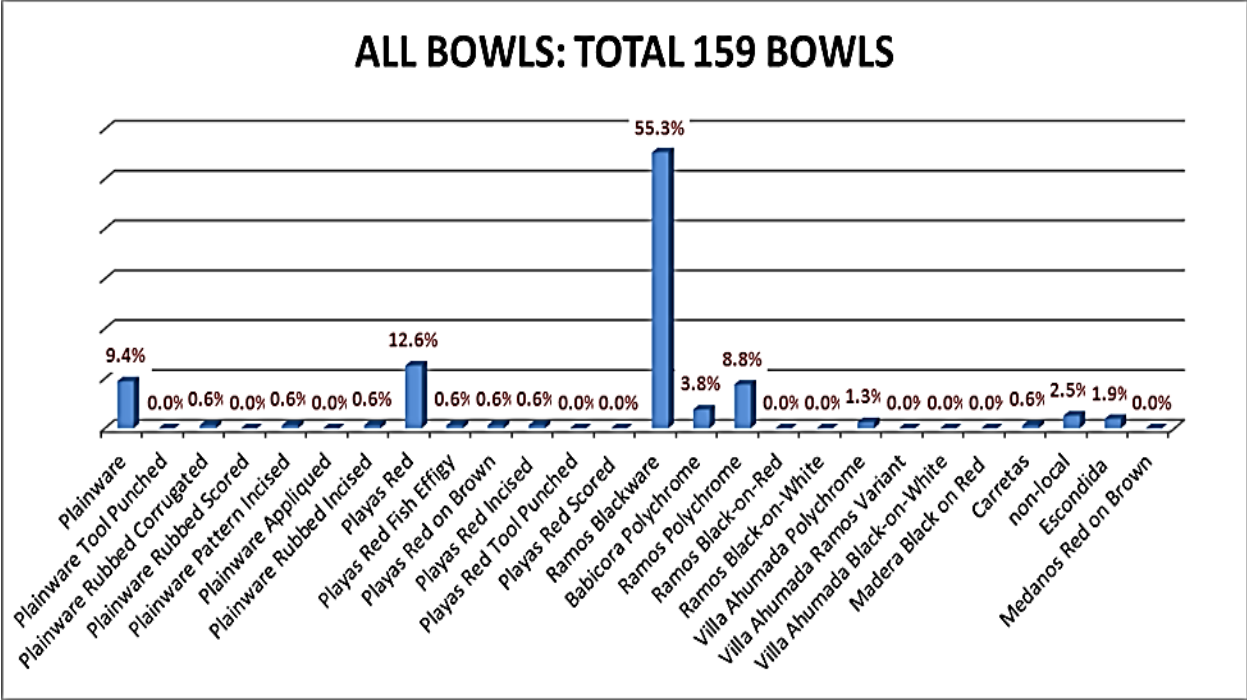


Figure 61: All Bowls: Total 159 Bowls

Shown below are examples of the various bowl shapes in the Lumholtz Collection (AMNH 30 / 4345, AMNH 30 / 4338, AMNH 30 / 4419, and AMNH 30 / 4278).





TERM	EXAMPLE	TERM	EXAMPLE
Bowl with Unrestricted Rim	AMNH 30 / 4345 	Square Bowl	AMNH 30 / 4338 
Round Bottom	AMNH 30 / 4419 	Miniature Bowl	AMNH 30 / 4278 

Figure 62: Examples of Bowls from the Lumholtz Collection

## EFFIGY SIZE ANALYSIS

Effigies represent a significant component of Casas Grandes ceramic wares. Donald Brand pointed out “While this form is not unique within the U.S. Southwest, it is its conspicuous abundance throughout Chihuahua and the form’s potential ties to southern and eastern cultures that has attracted so much attention” (Brand 1935: 293). According to Brand “No other portion of the Southwestern archaeologic region has such a wealth of modeled forms” (Brand 1933: 77).

Additionally, the Casas Grandes effigies exhibit many of the same design elements and motifs as the basic jar form. Kidder (1916: 256) defined three effigy classes based on the position of their appendages, to wit, ‘side-appended’ (features modeled to the side of the vessel), ‘hooded’ (features attached to the rim of neck), and ‘true’ (hooded effigy in seated position with arms and legs appended to the side of the vessel). According to Brand, there are no corresponding vessels in central Mexico. He concluded that this could only mean that these effigy vessels were the result of local development (Brand 1935: 288).

Table 18: Effigy Bowls: Diameter of Aperture

Playas Red Fish	3.75 inches
Ramos Black Animal	3.375 inches
Ramos Polychrome Bird	3.675 inches

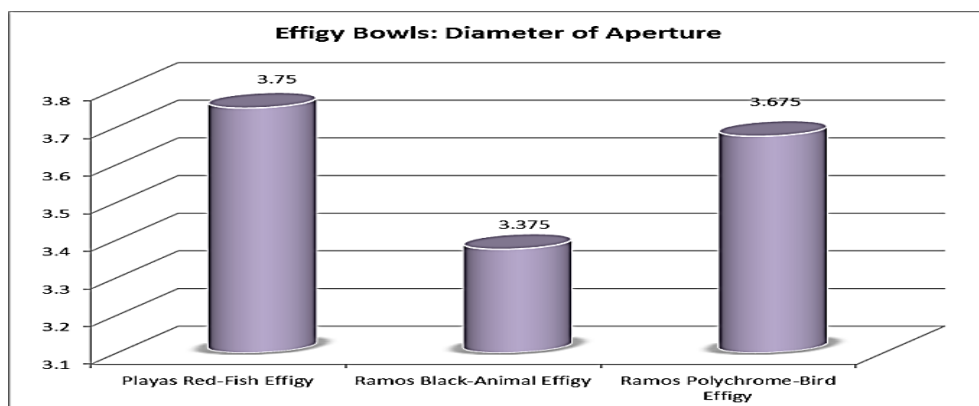


Figure 63: Effigy Bowls: Diameter of Aperture

Table 19: Effigy Jars Height in Inches

Vessel Type	Height in Inches
Villa Ahumada - Ramos Variant animal effigy	9.000
Ramos Polychrome human effigy	8.500
Villa Ahumada - heavily sooted snake effigy	8.250
Ramos Polychrome human effigy	7.000
Ramos Polychrome human effigy	7.000
Villa Ahumada - Ramos Variant human effigy	7.000
Ramos Polychrome human effigy	6.750
Villa Ahumada - Ramos Variant bird effigy	6.750
Ramos Polychrome animal effigy	6.500
Ramos Polychrome animal effigy	6.000
Villa Ahumada Polychrome human effigy	5.875
Playas Red Squash Effigy	5.500
Ramos Polychrome human effigy	5.500
Villa Ahumada - Ramos Variant human effigy	5.500
Villa Ahumada - Ramos Variant macaw head effigy	5.500
Ramos Polychrome animal effigy	5.000
Villa Ahumada Polychrome fish effigy	4.750
Villa Ahumada - Ramos Variant bird effigy	4.500
Villa Ahumada Bird Effigy	4.500
Ramos Black-on-Red Macaw Effigy	3.500
Playas Red human head effigy	Incomplete
Ramos Polychrome human effigy	Incomplete

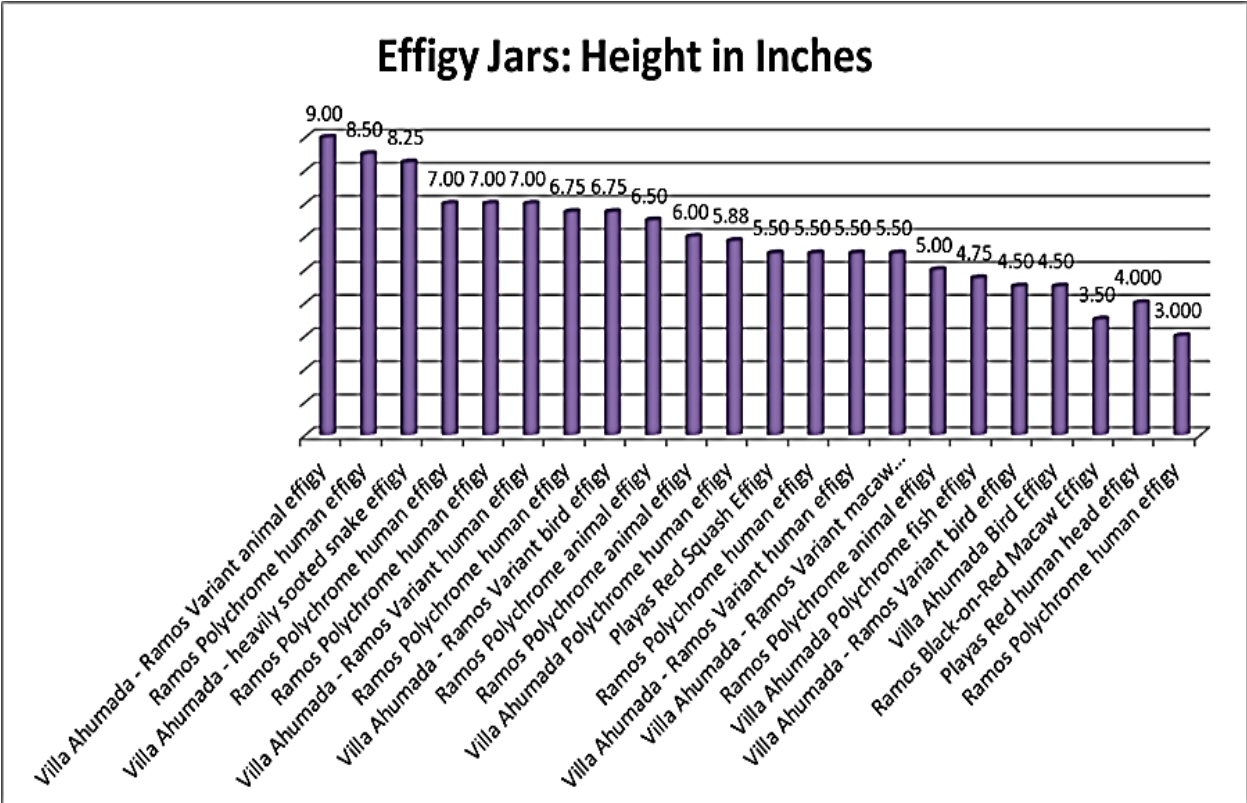








Figure 64: Effigy Jars Height in Inches

Examples of effigies from the Lumholtz Collection include AMNH 30 / 4502, AMNH 30 / 4493, AMNH 30 / 4324, AMNH 30 / 4530, AMNH 30 / 4474, and AMNH 30 / 4491.

Hooded Human Effigy	AMNH 30 / 4502 	Animal Effigy	AMNH 30 / 4493 
Fish Effigy	AMNH 30 / 4324 	Animal Effigy	AMNH 30 / 4530 
Bird Effigy	AMNH 30 / 4474 	Squash effigy	AMNH 30 / 4491 
Figure 65: Examples of Effigies from the Lumholtz Collection			

George Vaillant (1932) cites Kidder in his analysis of the connection between Mexico and the Southwest as transmitted in the Casas Grandes ceramic vessels:

“Another connection between Mexico and the Southwest is the mixture of elements to be seen in Casas Grandes pottery, where upon north central Mexican vessel forms are applied patterns perhaps Pueblo in origin although they have a strongly indigenous quality. Even if the five hundred kilometer gap makes it at present impossible to specify with what ceramic group in Mexico it is affiliated, the Casas Grandes culture does connect the Southwest with Mexico, but it cannot be said to have transmitted many Mexican traits to the Pueblo or to have relayed much to the South. Moreover, its chronological position is too late to have affected very fundamentally the trends of either Mexican or Pueblo Ceramics (Kidder 1924 p 117)” (Vaillant 1932: 7-8).

Vaillant observed an alternative scenario regarding the genesis of Casas Grandes effigy forms. According to Vaillant “Human effigy vessels which cover the whole Middle and Western Mississippi region, find their closest resemblances in Casas Grandes pottery” However, Vaillant

continues that “In the Middle Mississippi region there is a development of pots made in the form of a human head that is paralleled only in Costa Rica and Peru” (Vaillant 1932: 16-17)



Figure 66: AMNH 30 / 4506 Human Head Effigy Vessel with Human Head Effigy (Arkansas) (Holmes 1903 Pl XXXII)

Included in Figure 66 is the Holmes image (1903) utilized by Vaillant as an illustration of an effigy head from Arkansas. It is juxtaposed with AMNH 30 / 4506 from the Lumholtz Collection. Features of AMNH 30 / 4506 are remarkably similar to many of the Mississippian “Head Pots.” Moreover, the crying eyes on this vessel are reminiscent of those displayed on some Mississippian effigies (Fagan 1991: 405).

Vaillant envisioned one or two waves of emigrants making their way up the coast from Central America “through the swamps of Louisiana into the West Mississippi region” (Vaillant 1932: 19-20). Kehoe supports the image of a connection between the Southeast and Southwest. “Maya traders, Chichimec tale-tellers, and Mexican and Cahokian travelers probably al intermittently reinforced the tendencies to common ideas between Mexico and the Southeast ...no Toltec invasion should be read in the generalized Mexican-Mississippian similarities” (Kehoe 1992: 177).

## **CHAPTER 7: MATERIAL COMPOSITION, VESSEL DESIGN, AND THE IMPACT OF LOOTING**

### **MATERIAL COMPOSITION**

A recent study prepared by Professor Daniella Triadan and her colleagues for Instituto de Antropología E Historia (INAH) (2006) provides a glimpse of what could be expected if an analysis of the physical composition of vessels in the Lumholtz Collection is conducted. The focus of the study was on three polychrome types: Ramos, Babicora, and Villa Ahumada.

Triadan, et al. endeavor to ascertain if Paquimé was the major production center for the polychromes, or if they had been produced at a variety of sites. If the vessels were produced at a variety of sites, the question of what type of sites followed (Triadan, et al. 2006: 1-18).

Triadan's information was also presented at the 2005 Society for American Archaeology Annual Meeting.

Utilizing Instrumental Neutron Activation Analysis (INAA) "at the Smithsonian Center for Materials Research and Education in collaboration with the nuclear reactor of the National Institute of Standards and Technology" the team analyzed 669 samples of Casas Grandes polychromes from 31 sites. The samples were from the Paquimé collection excavated by Di Peso, as well as four sites from the Regional Paquimé Project, and the Sayles collection from the Gila Pueblo (now at Arizona State Museum) (Haury 1988: 64-66). Triadan's team included materials from two modern potters of Mata Ortiz for their sampling process. They also sought to establish who the producers were as well as who were the end users.

"Part of the objective was to compile a regional compositional data base for these ceramics. In total we analyzed 66 primary and secondary clays by INAA." Additionally, Triadan's team "analyzed 45 of the ceramics and 22 clays petrographically" in order "to ascertain the mineralogy of the ceramics" (Triadan et al. 2005). "At Paquimé, the only

extensively excavated site to date, polychrome ceramics are not associated with specific archaeological contexts. They occur in burials, on room floors and in room fill, as well as in extramural areas, and in general seem to have been part of the household assemblage” (Triadan et al. 2005).

Interestingly, even though the team was able to provide some geographic breakdown in the sample set, it appears that all three types of the polychromes within a particular geographic sphere utilized the same raw materials (Triadan, et al. 2006: 1-18). In my personal correspondence with Dr. Triadan she indicated that there was no conclusive evidence that the raw materials from each of the three polychrome types were significantly different other than the vessels attributed to the Babicora region where there appeared to be localized production (Triadan personal e-mail: February 2012).

“To conclude, the three polychrome pottery types seem to have been made using the same clays, which indicates that the makers of Ramos Polychrome were not using special clay sources to make this pottery. This suggests that access to raw material sources was not restricted, and that everybody had access to the three sources represented by the three compositional core groups. These results strongly support that the manufacture of Ramos Polychrome was not a specialized activity beyond household production” (Triadan et al. 2005).

The above statement contradicts previous studies, i.e. Sprehn (2003) that concluded that the Ramos Polychromes were produced by specialists. Triadan and her team conclude:

“It seems to be clear that in this environment finding specific, characteristic local chemical signatures is exceedingly difficult. It also does not help that the prehistoric potters added rhyolitic ash to their pastes. Thus, an approach that uses raw materials to establish provenance beyond the macro-regional level may not be possible” (Triadan et al. 2005).

I believe that a similar analysis of the Lumholtz Collection would be an invaluable asset in furthering this research due to its provenience both from the pueblo mounds around San Diego as well as from Cave Valley.

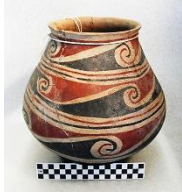
## DESIGN HORIZONS

The employment of the design horizon concept is one means of determining the reasons for the variations in the Chihuahuan polychromes. As pointed out by Hendrickson, “a design horizon is identified through the co-occurrence of two or more decorative characteristics across multiple types in a ceramic assemblage” (Hendrickson 2003: 84). Thus, Babicora Polychromes AMNH 30 / 4448 and AMNH 30 / 4500 as well as Villa Ahumada Polychromes AMNH 30 / 4453 and AMNH 30 / 4490 can be attributed to Design Horizon A insofar as they share two or more decorative characteristics, i.e., continuous layouts and simple motifs.

Villa Ahumada Polychrome – Ramos Variant vessels AMNH 30 / 4449 and AMNH 30 / 4441 along with Ramos Polychrome (geometric) vessels AMNH 30 / 4465 and AMNH 30 / 4468 in addition to Ramos Polychrome (anthropomorphic) vessels AMNH 30 / 4525 and AMNH 30 / 4524 can be attributed to Design Horizon B. These share the characteristics enumerated by Hendrickson for Horizon B vessels, i.e. “Jars that are decorated with segmented layouts, show an increased reliance on complex motifs, an affinity for Black on Red, and three to four different motifs per vessel, are therefore classified as Design Horizon B” (Hendrickson 2003: 84).

Whalen and Minnis (2012) indicate that these design horizons “proposed some specific evolutionary changes in Medio period polychrome pottery” (Whalen and Minnis 2012: 410). They note that the lack of stratigraphic data stymied the efforts to test “the proposed evolutionary sequence” (Whalen and Minnis 2012: 410). Recent excavation by the team at Site 204 provided an opportunity to test with a “hand-operated” soil corer. The results of the excavated test pits yielded ceramics and dateable charcoal. Thus, they were able to say with confidence that the upper levels of the midden deposits “contained Ramos Polychrome” with the date range “between A.D. 1280 to at least 1390” (Whalen and Minnis 2012: 410).

Design Horizon A



AMNH 30 / 4448  
Babicora Polychrome

Design Horizon A



AMNH 30 / 4500  
Babicora Polychrome

Design Horizon A



AMNH 30 / 4453  
Villa Ahumada Polychrome

Design Horizon A



AMNH 30 / 4490  
Villa Ahumada Polychrome

Design Horizon B



AMNH 30 / 4449  
Villa Ahumada Polychrome – Ramos  
Variant

Design Horizon B



AMNH 30 / 4441  
Villa Ahumada Polychrome – Ramos  
Variant

Design Horizon A





AMNH 30 / 4465  
Ramos Polychrome (geometric)

Design Horizon A



AMNH 30 / 4468  
Ramos Polychrome (geometric)

<p>Design Horizon B</p>  <p>AMNH 30 / 4525</p> <p>Ramos Polychrome (anthropomorphic)</p>	<p>Design Horizon B</p>  <p>AMNH 30 / 4524</p> <p>Ramos Polychrome (anthropomorphic)</p>
<p>Figure 67: Illustrations of Design Horizons</p>	

## DESIGN LAYOUTS

Layout A layout is the framework of lines that provides the basic design structure on the surface of a vessel. The layout of many of the polychrome and bichrome vessels in the Lumholtz Collection of Casas Grandes ceramics can be described as bilaterally symmetrical. Thus, the same unit of design is repeated on the opposite side of the vessel. This repetition may either be an exact replica or a mirror image. As a rule, the design patterns consist of a variety of elements and motifs presented as bands. The most commonly used design figures are: parallel lines; scrolls, opposed and interlocking stepped elements, macaws, coiled, plumed, horned, and modified plumed serpents, opposed and interlocking hooked triangles, bull's eye, and dotted squares.

As indicated by Di Peso, et al., the principal layout in the Casas Grandes ceramic tradition is the continuous band composed of an upper and lower border that encircles the exterior of the pot (Di Peso, et al. 1974:94). This layout is characterized by at least two lines that extend continuously and in patterns that repeat at least twice around the exterior of the vessel. Alternatively, the segmented layout is distinguished by the presence of vertical lines (often connected to the upper and/or lower borderlines) that create distinct panels on the surface of a vessel. Motifs are often appended to the central lines and interact with motifs attached to the

upper and lower borderlines within the band. At times, multiple bands can be found on the exterior of ollas. These bands may appear in a diagonal, diamond, or zigzag format (Kidder 1916:261-262; Brand 1933:78, Di Peso, et al., 1974:7-14, Hendrickson 2003: 32-33).

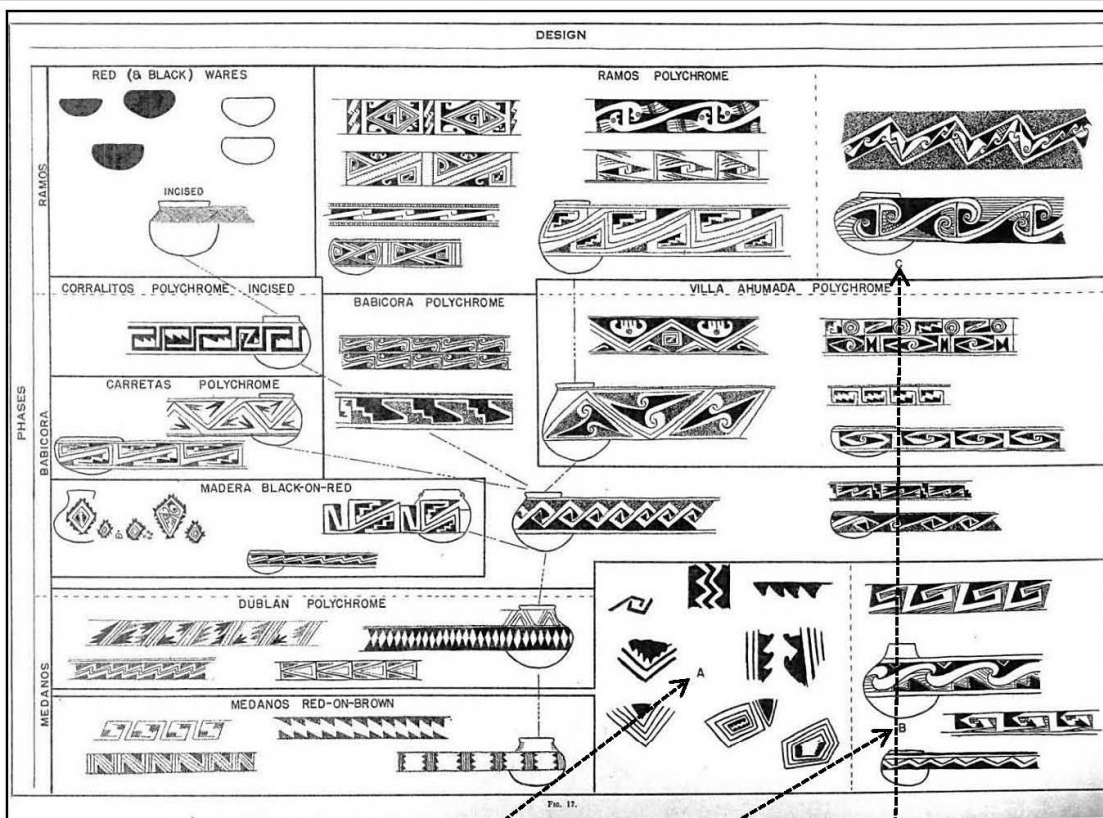
“It is clear that the object of preliminary dividing up of the decorative space is to reduce it to a number of triangular spaces. This done, there follows a secondary laying off, which is merely a carrying on of the same process, and still smaller triangular fields are produced; these contain the actual units of design” (Kidder 1916:262).

Kidder postulated that there were three basic design styles evident in the Chihuahuan polychromes as seen in Figure 68.

	<p style="text-align: center;"><b>STYLES 1 and 2</b></p> <p>In Kidder's Plate IV, Diagrams 1a and 1b and 2a and 2b, Kidder illustrates the basic band layout composed of a top and a bottom horizontal line bisected with a single vertical line (1a) or double vertical lines (2a). The layout is then elaborated with diagonal lines connecting the top and bottom lines (1b) or the more intricate inclusion of a diamond pattern (2b).</p> <p>Kidder concludes that “the object of the preliminary dividing up of the decorative space is to reduce it to a number of triangular spaces” as illustrated in 1c and 2c.</p> <p>Finally, he provides examples of how these triangular spaces become “intensively ornamented bands” (Kidder 1916: 261-262).</p>	
<p style="text-align: center;">FIG. 6.—Type III.</p>	<p style="text-align: center;"><b>STYLE 3</b></p> <p>In his third style, Kidder demonstrates how designs “are laid off by drawing about the vessel a two pointed zigzag, producing four triangular fields” (Kidder 1916: 261).</p>	

Figure 68: Structure of Rectilinear Designs (Kidder 1916: Plates II: #11, IV and Figure 6)

Later, Sayles proposed that “In the Chihuahua series, texturing of the surface by incising, gouging, etc. is highly developed; this process, which is likewise characteristic of the Mimbres wares, was carried to a high degree of perfection. The smoothed corrugations of the Mimbres wares, however, die out in the Chihuahua series, and only the earlier types are marked by corrugating” (Sayles, 1936, p. 60). To illustrate his linking of the Chihuahuan (Casas Grandes) vessels with Southwestern origins he provided an elaborate illustration of design elements found in the Casas Grandes ceramics with those from Mogollon, Mimbres, and Salado wares as shown in Figure 69 below.



“The basic elements of designs in the Chihuahua pottery series are all to be found in the later horizons of the Mogollon Culture (Haury, 1936b). Examples of these are shown in (A) . . . .

“In Chihuahua, a characteristic pottery development, traceable through the various wares, took place. The rudimentary designs of the Mogollon series in red-on-brown are to be found on Medanos Red-on-brown and Dublan Polychrome. In the latter and in the types that followed, Mimbres influence is recognized (B) . . . . Curvilinear elements from the source, as well as interlocking designs, life forms, the maze, the fineness of line execution, and the method of decorating the exterior of bowls and jars in bands of repeated elements, attached to bordering lines, are all definable . . . . Balanced solids and haecture in Mimbres designs are incorporated into the polychrome wares of the Chihuahua series. Later increments to the Chihuahua patterns are from the Salado (C). These represent a further development of the maze, and the use of solids not characteristic of the Chihuahua series (Sayles, 1936, p. 60).

Figure 69: Sayles Designs Fig. 17 (1936: 60)

While others continued the examination and exploration of Chihuahuan ceramics, it was not until Di Peso et al. published Volume 6 of *Casas Grandes: A Fallen Trade Center* that the band layout terminology was dramatically expanded. Their definitions included over 300 layout definitions in two major categories: Primary Bands and Secondary Layouts. For purposes of

clarity I have not utilized the 300+ layout definitions provided in Di Peso, et al.'s exhaustive work, since many of them are based upon the analysis of only a very few sherds. As with most of my colleagues currently researching Casas Grandes Polychromes, my analysis primarily relies upon the definitions set forth by Kidder in his 1916 work.

## **ELEMENTS AND MOTIFS**

A design element consists of a basic geometric figure (such as a scroll) whereas a motif consists of the combination of two or more elements. In some instances the pattern on a vessel may be made up of several motifs presented in an intricate manner, whereas in other cases the repetition of just one motif constitutes the entire pattern. The design elements and motifs are at the heart of the Southwestern versus Mesoamerican controversy. While Di Peso maintained that Paquimé and its *accoutrements* were related to Toltec trader/warriors, arguments for a Southwestern genesis, as exhibited in its ceramic assemblage, is indisputable.

According to Kidder, “the object of preliminary dividing up of the decorative space is to reduce it to a number of triangular spaces” (Kidder 1916: 262). In support of this argument, Kidder offered the following element illustrations as seen in Figure 70. Each of the elements fits effortlessly into a triangle or, in some cases, a series of triangles each “contain the actual units of design” (Ibid.). Kidder divided the elements he discerned in the Casas Grandes polychromes to fit into three categories: (1) Opposed stepped figures (see items 1, 2, 3, 4, and 5 in Figure 70) which he determined to be “typically Southwestern”; (2) Single scrolls (see items 6 and 7 in Figure 70). Kidder indicates that interlocking scrolls (see items 8 and 9 in Figure 70) are found on the pottery of “practically every Puebloan district” (Ibid.); (3) Kidder termed the third element “club-shaped” (see items 1 through 9 in Figure 71). This was later interpreted as

stylized macaw representations and/or leaf element (Carey 1931: 346) or the “P” design element (Hendrickson 2003: 41-43)

With respect to the Opposed Stepped figures, there are two distinct interpretations of this element. In one instance there is a single opposed step figure set on a single continuous line (see item 1 in Figure 70) whereas the interlocking stepped element is affixed to two rectilinear lines (see item 8 in Figure 70).

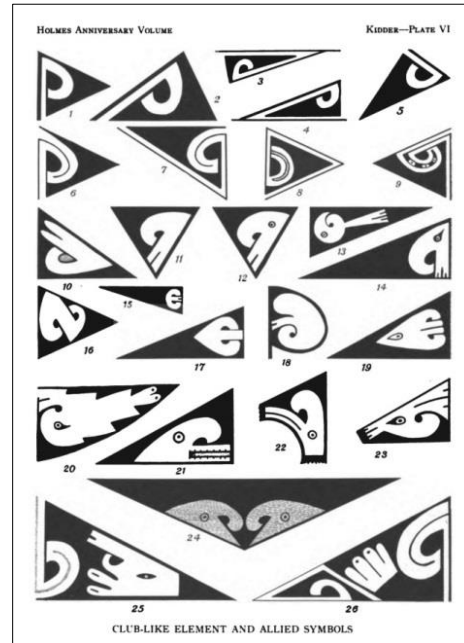
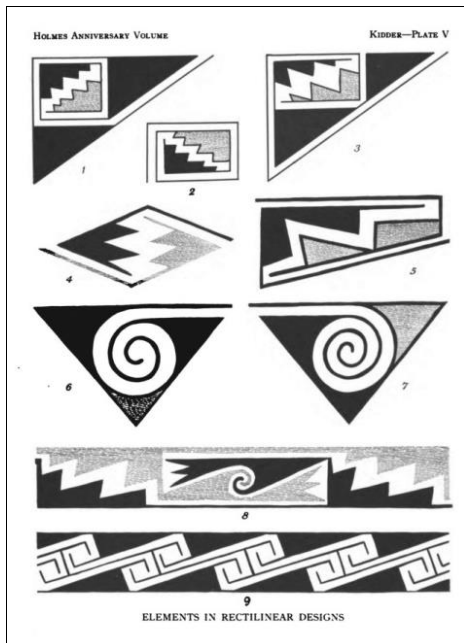


Figure 70: Kidder Plate V (Kidder 1916)      Figure 71: Kidder Plate VI (Kidder 1916)

In his 1931 paper, Carey expanded on Kidder’s description of elements and motifs and concluded that “Although in execution of designs and general technique, Casas Grandes fine polychrome pottery probably surpasses many of the wares of the Southwest, the elements used are very few...” (Carey 1931: 346). Carey concluded that “only nine design elements” dominated the Casas Grandes polychromes as these were featured on approximately 80 percent of the vessels.

Carey presents these nine elements in the illustration shown as Figure 8 in Chapter 2. “Of these, the first four are undoubtedly Southwestern designs.” Carey attributes the key design,

interlocked spiral, step design and the circle in negative painting as originating in the San Juan area of the Southwest while the triangles having one side extended and bent and the dot within a small square are to be found throughout the Southwest. With respect to the leaf design, he asserts that no similar design is found in either Mexico or the Southwest. Carey hypothesizes that this design may have some relationship to Southwestern interlocking spirals that “bear a superficial likeness to it” (Carey 1931: 347-350).

Clearly, the design element first described by Kidder as a “club” and later described by Carey as a “leaf” has evolved into what we now consider a “macaw” and/or “plumed/horned serpent.” According to Brand, the “Macaw head is probably of local origin, as the Macaw is a denizen of the Sierra Madre forests” (Brand 1933: 94-95).

*Key Design:* What Carey defined as a key design is now more commonly referred to as an elongated step design and is presented in an opposing pairs configuration (see Carey’s item (a) in Figure 8; see also Appendix I: AMNH 30 / 4459).

*Interlocking spirals:* This element is often interpreted as a stylized representation of the plumed/horned serpent (see Carey’s item (b) in Figure 8); see also Appendix I: AMNH 30 / 4106 and AMNH 30 / 4526).

*Step designs:* This design is one of the most frequently found on Casas Grandes polychromes. Generally, it is represented in opposing colors of red and black (see Carey’s item (c) in Figure 8; see also Appendix I: AMNH 30 / 4433).

*Triangles having one side extended and bent:* In other instances, it is referred to as interlocking triangles and appears with a mirror image in band layouts (See Carey’s item (d) in Figure 8; see also Appendix I: AMNH 30 / 4504).

*Triangles:* As first determined by Kidder (1916) triangles are an essential component of the design layout on Casas Grandes polychromes. They often appear as the basis for negative design motifs (see Carey's item (e) in Figure 8; see also Appendix I: AMNH 30 / 4430).

*Single Spiral:* This element has come to be known as the *Scroll*. Scrolls are found in discrete pairs with either matching or opposed directions as well as next to each other or one over the other or diagonally opposed. Individually the scroll is considered an element whereas double or interlocking scrolls are considered motifs (see Carey's item (f) in Figure 8; see also Appendix I: AMNH 30 / 4467).

*Leaf Element:* The leaf element has been defined elsewhere as a stylized "P" or a zoomorphic representation of a macaw or a plumed/horned serpent (see Carey's item (g) in Figure 8; see also items 1 through 9 in Figure 71 and Appendix I: AMNH 30 / 4104).

*Bull's Eye* What Carey described as a "circle in negative drawing with dot inside" is now referred to as the Bull's Eye. It can be found on almost every vessel type. Often this appears as the band of a vessel neck, while at other times it is the primary motif element in a band or on a vessel (see Carey's item (g) in Figure 8 and Appendix I: AMNH 30 / 4521 and AMNH 30 / 4465).

*The Dotted Square* is a variant of the bull's eye. It may appear in either a dotted square bands, dotted cross hachures and/or dotted checkerboarding. Often these forms are used as subordinate or complementary additions to complex patterns, such as the serpent and the macaw or a rim trim (see Carey's item (i) in Figure 8). Several examples of dotted squares in these patterns appear in the Lumholtz collection (see Appendix I: AMNH 30 / 4430 and AMNH 30 / 4431).

As illustrated in Figure 73, Di Peso, et al. elaborated on Kidder, Carey and others by adding further elements including the ‘hikuli’ also known as the “rain grub” which may be another way of representing Carey’s Gila Spiral (Di Peso, et al. 1974: 5). Additionally, Di Peso, et al. expanded on the stepped triangle with the addition of the *Barbed Figure* which others have termed bird feathers; a motif strongly reminiscent of the design on a bowl from Four Mile ruin (Annual Report Bureau of American Ethnology 1900-1901: 142) Figure 72.

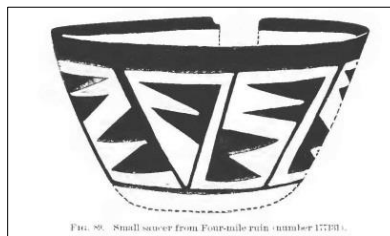


Figure 72: Four Mile Bowl (Annual Report American Bureau of Ethnology, Vol. 22, 1900-1901: 142)

*The Window* (item 11 in Figure 73) appears to be a modification of Carey’s item (d) “triangles having one side extended and bent” (see Figure 8, see also Appendix I: AMNH 30 / 4463). However, for the most part, the bulls-eyes, opposed steps, lines, macaw images, triangles (with hooks and spirals), barbed, and feather elements elucidated by their predecessors remain constant (Di P et al 1974:94-98).

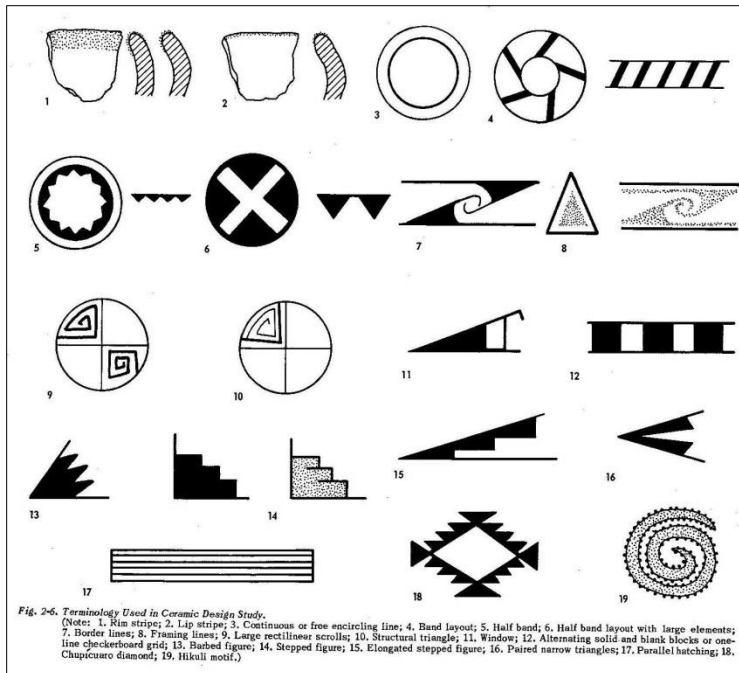


Figure 73: Design Illustrations (Di Peso, et al. 1974: 5)

Further design elements and motifs named by Di Peso, et al. have been added to the lexicon. These include the macaw, the plumed/horned serpent, as well as elements associated with West Mexico such as the Chupicuaro diamond (See Appendix I: AMNH 30 / 4426) and the hikuli (See Appendix I: AMNH 30 / 4469).

*Zoomorphic Motifs* and their interpretations continue to dominate the conversation regarding Chihuahuan ceramic iconography. While early treatises on the painted wares provided basic labels such as clubs, spades, and triangles (Kidder 1916, Carey 1931, Saville 1894, and others), later interpretations have bestowed more iconographic identifiers to these same images associated with various religious-sociopolitical hypotheses (VanPool, et al. 2002, 2007, 2010, Hendrickson 2003, Di Peso, et al. 1974 and others). In many instances, design elements blend with other design elements to create a combination motif. The two dominant creatures in the Chihuahuan ceramic assemblages are the macaw and the serpent. These may appear in realistic

imagery or highly stylized elements. They can be found individually in a variety of shapes and sizes as well as in combination with each other.

Although Fenner identified both the P-motif and the half/whole spade motifs as representative of the macaw in her analysis of Ramos Polychromes from Paquimé (Di Peso et al. 1974:6:99), others such as Crown (1994:165-166) and VanPool and VanPool (2007:114-115) argue that the half and whole spade motifs found on Ramos Polychrome vessels, can be both the macaw and plumed/horned serpent. According to the VanPools “the implied ambiguity of plumed/horned serpents and macaws is such that some motifs of this style are clearly horned serpents, some are clearly macaws, and others were probably intended to be read as both horned/plumed serpents and macaws” (VanPool and VanPool 2007:114-115).



AMNH 30 / 4104  
 Ramos Polychrome Vessel  
 with Opposing Negative Outlined "P" image  
 and Vertical Interlocking Scroll Horned  
 Serpent motif



AMNH 30 / 4493  
 Villa Ahumada Effigy Vessel  
 with modeled macaw heads and  
 snake applique encircling the vessel



AMNH 30 / 4480  
 Ramos Polychrome Effigy Vessel  
 with Serpent depicting forward horn and  
 backward plume in conjunction with bird  
 figure



AMNH 30 / 4524  
 Ramos Polychrome Vessel  
 depicting Red Head of Macaw with  
 Checkerboard Snake Body



AMNH 30 / 4434  
 Escondida Polychrome  
 Negative Painted Serpent Motif with Bird  
 Wing And Tail Feather Elements as well as  
 Dot in Square and Dot in Triangle Bands



AMNH 30 / 4516  
 Ramos Black on Red Vessel  
 with Macaw and Hooked Triangle Motifs

Figure 74: Examples of Combined Zoomorphic Motifs from the Lumholtz Collection

## MACAWS

One of the most diverse images on Casas Grandes polychromes is that of the macaw representation. Di Peso speculated that:

“Sometime early in the Medio Period, a breeding population of scarlet macaws was traded into the Paquimian area, perhaps from its nearest rain forest habitat in northern Veracruz, the Huastecan homeland of Cuextlan, wherein the pre-Iberian bird trading center of Oxitipar was located. With this stock, they established a considerable breeding center which served a large portion of the American Southwest. They sold these birds to the Anasazi, Mogollon, and Sinagua during the Medio Period ...” (Di Peso, et al. 1974:632).

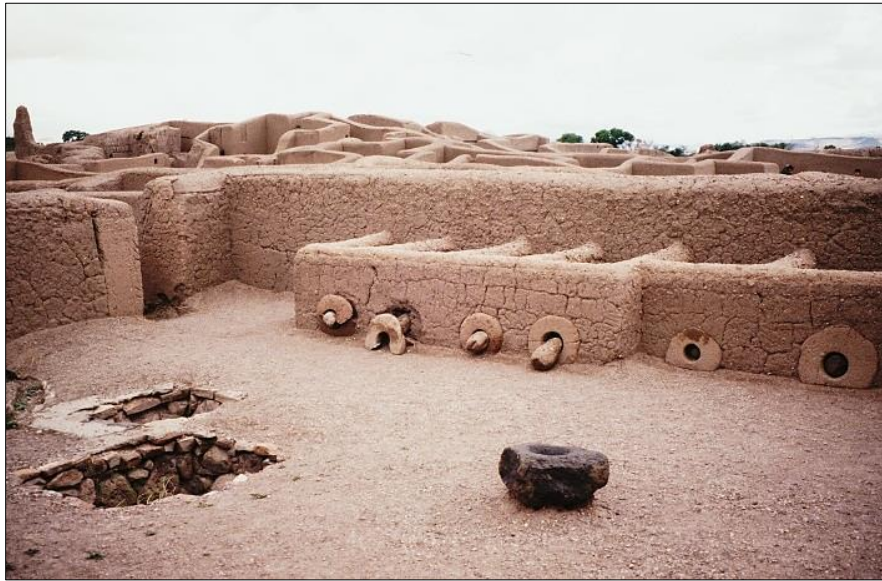



Figure 75: Macaw Pens at Paquimé (author’s photograph)

Whether in its most simplistic format such as the “P” (See Appendix I: AMNH 30 / 4104) or most realistic imagery (See Appendix I: AMNH 30 / 4524), the macaw image proliferates. In some instances the “P” representations has been termed a fish hook turned in on itself. Kidder calls the representation the “Club-like element” (Kidder 1916: 267) (See Appendix I: AMNH 30 / 4498) whereas Carey described it as a “Leaf element” (Carey 1931: 346). While Di Peso links the popularity of the macaw imagery with southern origins, Brand attributed its popularity to be of local origin. “Macaw head is probably of local origin, as the Macaw is a denizen of the Sierra Madre forests” (Brand 1933: 95). Gloria Fenner (1974) indicates the universal manifestation of the macaw imagery on all of the painted Casas Grandes ceramic types “with the exception of Dublan Poly” as reasonable proof that the imagery could be considered a “hallmark” of the Casas Grandes type (Di Peso, et al. 1974:6: 99). An example of the spade motif can be seen in

Appendix I: AMNH 30/ 4498. The “P” and half spade motif are illustrated in Appendix I: AMNH 30 / 4501. These elements were noted to be the most numerous anthropomorphic and/or zoomorphic motifs on the Ramos Polychromes (Di Peso, et al. 1974:283).

In addition to the macaw head imagery, many vessels displayed the double macaw wherein the heads appear in profile back to back with open beaks (see Figure 77, see also AMNH 30 / 4523 in Appendix I).

 <p>AMNH 30 / 4523 Ramos Polychrome Vessel depicting double sided macaws with hooked triangle motifs above and below</p>	 <p>AMNH 30 / 4527 Ramos Black on Red Effigy Vessel with modeled macaw head and tail</p>
 <p>AMNH 30 / 4471 Villa Ahumada Effigy Vessel with modeled macaw heads on four sides</p>	 <p>AMNH 30 / 4501 Ramos Polychrome Vessel with large “P” motif</p>
 <p>AMNH 30 / 4498 Ramos Polychrome Vessel with Spade and Bird Wing Motifs</p>	 <p>AMNH 30 / 4499 Ramos Polychrome Vessel with Macaw Motifs and Interlocking Spiral Triangles</p>
<p>Figure 76: Examples of Macaw Motifs from the Lumholtz Collection</p>	

These trading arrangements set forth in Di Peso's hypothesis are clearly flawed insofar as his chronology for the Medio Period from A.D. 1060 to A.D. 1340 is off by approximately 200 years. As discussed in Chapter 3, Di Peso's chronology relied heavily on the dendrochronology of 53 samples from the timbers at Paquimé. However, when these materials were reevaluated it was discovered that there was a complete lack of cutting dates (Dean and Raveslout, 1993: 91-103). What this means is that the timbers were hewn down to such an extent as to render the dating inaccurate. While Di Peso chose to use these samples as near cutting dates, in fact, there was a discrepancy of close to 200 years. Thus, the assumption that the macaws were traded with the Anasazi, the Mogollon, and/or Sinagua is insupportable.

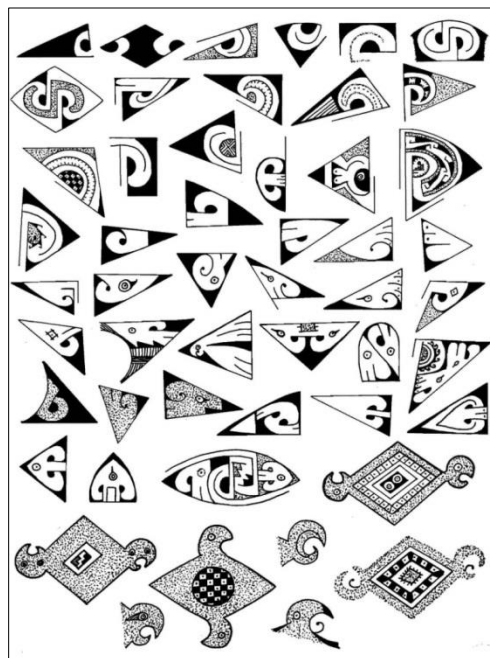


Figure 77: Macaw Representations (Di Peso, et al. 1974: 5)

“Throughout this broad area, only Paquimé exhibited evidence of having actually bred an abundant number of birds: breeding boxes, eggshells, and nestling and juvenile carcasses. Further, the wares of these local breeders were very much represented in the intricate socio-religious macaw iconography of the town ... (Di Peso, et al. 1974:632).”

Somerville, et al. (2010: 125-135) report that a recent carbon and oxygen stable isotope analysis of 30 macaw bones reveals new data supporting the contention that macaws were bred

at Paquimé. Utilizing a collection available at the Museo de las Culturas del Norte in Casas Grandes, the authors chose “a single well-preserved long bone from each macaw” with which to conduct their tests.

“Through stable isotope analysis of carbon and oxygen in macaw bone carbonate, we explore whether the large collection of scarlet macaws at Paquimé (n = 322) was a result of sustained trade relations with Mesoamerican groups to the south or the product of a large-scale breeding program designed to reproduce the valuable birds and their feathers for political, ritual, or economic needs” (Somerville, et al. 2010: 125).

Optimally, it would have been ideal to use a wide range of ages in the selected specimens, however, there were no juvenile or aged birds skeletons available for the sample set. It is noteworthy that the 79.8% of the total birds (immature age range 4-11 months) corresponds with the time when the long, red tail feathers develop. “It is during this age range that most of the macaws from Paquimé died suggesting that they may have been sacrificed at or around the vernal equinox” (Somerville, et al., 2010 p. 129).

Although there is some evidence from the study that “a few macaws were imported” which the authors read as evidence for maintaining a “physical connection with the place of the bird’s origin” this does not substantiate Di Peso’s claim that Paquimé was a Mesoamerican trading outpost. Indeed, the authors conclude that their evidence suggests independence but continued connection with distant sources (Somerville, et al. 2010: 133). A similar study of the remains of the military macaws to ascertain whether their diet was similar to that of the scarlet macaws is not available in the current literature at the time of this writing. According to Somerville, “like the scarlet macaws, most of the military macaws were ‘immature’ at the time of death, which means that they were too young to reproduce” (Somerville personal correspondence, 2012).

“...several lines of evidence suggest that Paquimé itself might have continuously imported the tropical birds. Older female macaws frequently lay unfertilized eggs, negating the few shell fragments as sufficient evidence for breeding. Furthermore, 88.8%

of the scarlet macaws discovered at Paquimé were under the breeding age (<4 years), with 79.8% of the total falling into the immature age range (4-11 months). Thus, for a species that can live up to 60 years, the actual number of birds allowed to live to an age suitable for breeding was quite small” (Somerville, et al. 2010: 126).

The ratio of scarlet macaws to military macaws in the general Paquimé macaw population was 4:1. Of the macaws inventoried, 322 were scarlet macaws and 81 were military macaws. However, in burials the distribution was 2:1. Among the 322 scarlet macaws there were 3 nestlings, 6 juveniles, 2 young immature, 209 immature, 46 immature or older, 15 new fledged, 5 adolescent, 36 adults. While among the 81 military macaws there were 2 juveniles, 50 immature, 12 immature or older, 8 new fledged, 1 adolescent or older, 3 adolescents, and 5 adults (Di Peso, et al. 1974:733). At the site of Paquimé there were “56 adobe cages for the macaws; many contained macaw bones and feces, and one contained a few fragments of eggshells.”

“Paquiménos may have acquired scarlet macaws through trade and bred this initial stock for ritual consumption and for export into the American Southwest” (Di Peso et al. 1974). Conversely, it is not unreasonable to hypothesize that the breeding stock may have come from the north of Paquimé, to wit, southwestern New Mexico, since their presence in that region has been recorded as early as A.D. 1000. As reported by Creel and McKusick “Skeletal remains of 22 macaws and parrots have been recovered from at least seven sites in the Mimbres area ... scarlet macaws (N=9) have been found in at least six of these sites,” ... (Creel and McKusick 1994:511). The natural habitat of the scarlet macaw (*Ara macao*) can range from south eastern Mexico and Central America to northeastern Argentina in South America (Mijal, M. 2001).

Creel and McKusick’s study of macaw and parrot remains in the Mimbres region of southwestern New Mexico explored all the existing macaw and parrot burials found in the area known at the time of their study. Additionally, examination of over 6,000 vessel photographs

yielded the identification of 24 Mimbres vessels with apparent macaw or parrot depictions. Creel and McKusick date these vessels as “ca. A.D. 1000-1150”. The authors conclude that “a large, bare eye patch, white premaxilla, and long pointed tail indicate a scarlet macaw” while an image with “a dark premaxilla more likely depicts military macaws” (Creel and McKusick 1994:513). As a result of their study, Creel and McKusick concluded that the scarlet macaws were important to the Mimbres people due to “the sacrifice of macaws in the spring after their long tail feathers had fully formed, as well as by their formal burial” (Creel and McKusick 1994:521).

Thus, it can be argued that Di Peso’s conclusion that Paquimé was the conduit for the trading of scarlet macaws into the Southwest from Mesoamerican sources is flawed insofar as the existence of macaw remains in areas nearby Casas Grandes (such as the Mimbres region of southwestern New Mexico) indicates that people from other regions in the Southwest were interacting with scarlet macaw sources much earlier. According to Creel and McKusick “Together with the more numerous specimens from Chaco Canyon, all dating to the period A.D. 1000-1150, the macaws in Classic Mimbres sites are part of the first large group of macaws known to have been imported into the American Southwest” (Creel and McKusick 1994:516). Table 20 sets forth the distribution of the scarlet and military macaws at Paquimé while figure 35 provides their position on a layout of Paquimé.

Table 20: Macaw Distribution at Paquimé (Data from (Di Peso, et al. 1974: 733)

Unit No.	Unit Name	Scarlet Macaw	Military Macaw
6	Buena Fe Phase Ranch Style Compound	1	2
8	The House of the Well	38	6
11	The House of the Serpent	91	7
12	The House of the Macaws	174	62
13	The House of the Dead		1
15	House Cluster	1	
16	The House of the Skulls	4	2
18	Unnamed	6	
21	North House Cluster	6	
	Central Plaza	1	1
	TOTALS	322	81

This distribution is illustrated in Figure 78.

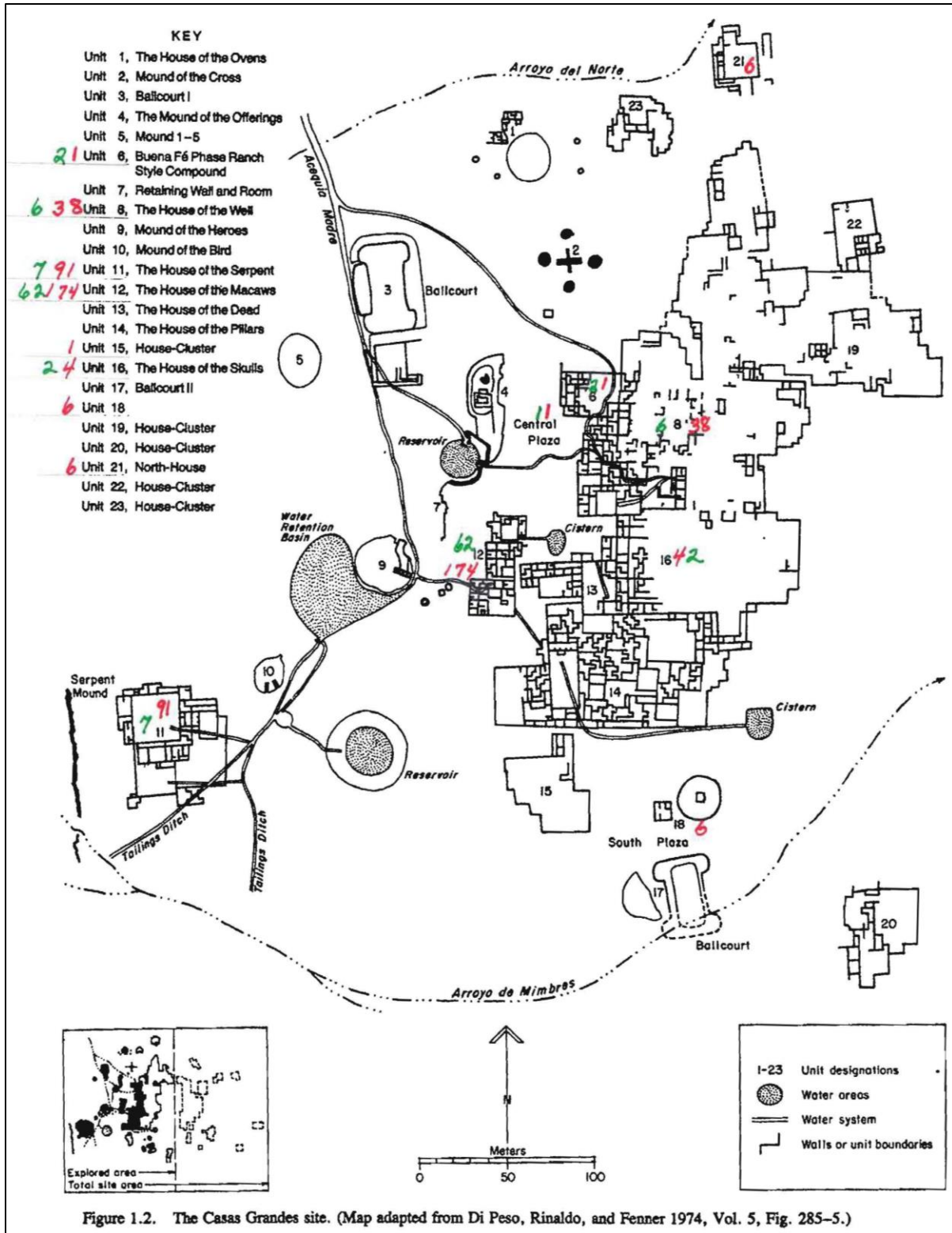


Figure 78: Map of Paquimé (Ravesloot 1988:4) with author's macaw distribution notations

## **SERPENTS, HORNED SERPENTS, AND PLUMED SERPENTS:**

As discussed in Chapter 5, serpents play a significant role in Casas Grandes polychromes' imagery. In the case of simple serpent representations, these are usually very realistic and are often found as appendages on zoomorphic effigy vessels or as relief figures (see Appendix I: AMNH 30 / 4493) or as molded figures (see Appendix I: AMNH 30 / 4488). Depictions of the serpent varied over time and place. As pointed out by VanPool, et al. "In the Casas Grandes region, for example, we have both icons and motifs of horned and plumed serpents. *Icons* ... are defined as images that directly depict what they represent ... A *motif* on the other hand, is an abbreviated representation... Both icons and motifs of horned/plumed serpents differ through time and across the Southwest" (VanPool et al. 2008:48).

The horned/plumed serpent is almost always a painted image encircling a vessel. Often the horned/plumed serpent is accompanied by the image of a bird (see Appendix I: AMNH 30 / 4431 and AMNH 30 / 4480) while at other times it appears on either side of the vessel in an elaborate pattern without its avian accessory (see AMNH 30 / 4525).

"The plumed serpent motif, which seems to be one of the most persistent and most easily recognizable of Quetzalcoatl's iconographic forms was well known to the Paquimians" (Di Peso, et al. 1974:552). Quetzalcoatl was the Mesoamerican deity whose name derived from the Nahuatl language means "feathered serpent". According to Miller and Taube "The earliest known appearance of the quetzal serpent in Central Mexico occurs at the Temple of Quetzalcoatl at Teotihuacan." The feathered serpent imagery appears throughout the Classic and Post Classic Periods (c. 300 A.D. to 1500 A.D.). Similar representations are associated with modern Pueblo peoples such as the Zuni *Ko'loowisi* and the Hopi *Pa'lülüköña*, feathered serpents and their association with abundance and fertility (Miller and Taube 1993: 141).

Fewkes (1914) was among the first to note the representation of horned serpents in Mogollon iconography. In his analysis of five Mimbres bowls dated between A.D. 1000 and 1150 he noted that four of them depicted the heads of serpents while the fifth also displayed a serpent's body. In the first, the head has a forward pointing horn and the snout of a carnivore with many pointed teeth. Another of the five illustrates a creature with a long snouted head from which a tongue protrudes. Two other bowls have the head of a horned serpent with a forward-pointing horn and a toothless snout worn over the head of a human being in what appears to be the act of beheading one another. The fifth bowl has a portrayal of a human figure with horizontal stripes wearing a headdress/mask of a creature with forward pointing horn and toothy mouth (Crotty 1995: 125-134).

In their phylogenetic analysis of the diffusion of the plumed/horned serpent throughout the Greater Southwest, VanPool et al. (2008: 48) support Di Peso's contention that this symbol first appeared on Mimbres pottery (A.D. 1000-1130). However, their support indicates that the Mimbres representation predates Ramos Polychrome production in the Casas Grandes Valley. Additionally, they propose that "although the horned serpent traditions may have been introduced with the introduction of maize agriculture or perhaps even earlier, the horned serpent traditions of the Southwest appear to have developed relatively independently of Mesoamerican influence, at least after A.D. 1000" (VanPool et al. 2008: 58).



AMNH 30 / 4525  
Ramos Polychrome Vessel  
Depicting Double Horned Serpent  
with Teeth and Protruding Tongue



AMNH 30 / 4431  
Ramos Polychrome Vessel  
Classic Two Horned Serpent Icon



AMNH 30 / 4519  
Ramos Polychrome Effigy Vessel  
illustrating Red Painted Hooked Triangles



AMNH 30 / 4503  
Ramos Polychrome Effigy Vessel  
depicting Anthropomorphic Figure  
Wearing A Horned Serpent Headdress



AMNH 30 / 4448  
Babicora Polychrome Vessel  
with Interlocking Hooked Triangles



AMNH 30 / 4488  
Villa Ahumada Polychrome Vessel  
with Molded Serpent Motif



AMNH 30 / 4481  
Escondida Polychrome  
Spiral Hooked Triangle Serpent Motif  
with Dotted Square Embellishment



AMNH 30 / 4467  
Ramos Polychrome Vessel  
Offset Hooked Triangle Horned Serpent Motifs

Figure 79: Examples of Horned Serpent Motifs from the Lumholtz Collection

Interpretations of the stylized motifs range over time from the earlier labeling of the intertwined images (see AMNH 30 / 4448 and AMNH 30 / 4467) as hooked triangles to the later determination that these same images were stylized representations of horned serpents with backward facing horns. Kidder interpreted the “P” element as a stylized representation of the macaw (Kidder 1916:263) while others interpret it as horned serpent imagery. Interestingly, the “P” element combined with the hooked triangle motif (see AMNH 30 / 4104) has been interpreted as symbolic of a system of duality (VanPool and VanPool 2010: 41).

A wide range of ritual significance has been attached to the symbolism of the horned/plumed serpent (e.g. Van Pool 2003, Van Pool and Van Pool 2010, Crotty 1995, Crown 1994, Schaafsma 1998). However, in some instances, little has changed in the basic interpretations which range from the contention that the horned/plumed serpent is a derivative of the great Mesoamerican god, Quetzalcoatl, to the argument that it is roughly analogous to modern Pueblo water serpents (i.e. Crown 1994, Crotty 1995, and Hewett 1938).

The differentiation between the forward facing horn and the backward facing horn on serpent iconography has engendered further speculation as to its origins and its symbolic significance, not to mention the arguments about the double horned serpents (see Appendix I: AMNH 30 / 4525 and AMNH 30 / 4431, as well as AMNH 30 / 4480) or whether or not the plumes are horns.

However, it continues to be a matter of interpretation. As so aptly pointed out by Helen Crotty (1995):

“The Plumed Serpent of Mexico lacks a horn, and the horned serpent of the Southwest lacks feathers; it is difficult to see why they should be confused except for the fascination with Southwest-Mexican parallels that pervades the literature (e.g. Hewett’s Awanyu and an Aztec Plumed Serpent that was supposedly transformed into the Milky Way). In any event, horned serpent imagery is documented in the Southwest well before 1300, and the

Casas Grandes version of the 1300s does not seem to have influenced Anasazi artists” (Crotty 1995: 346).

### **DESIGN LAYOUT, ELEMENTS & MOTIFS IN LUMHOLTZ COLLECTION POLYCHROMES**

As noted earlier, the layout of many of the polychrome and bichrome vessels in the Lumholtz Collection of Casas Grandes ceramics can be described as bilaterally symmetrical. Within this framework, the most commonly used design figures are: parallel lines; scrolls, opposed and interlocking stepped elements, macaws, coiled, plumed, horned, and modified plumed serpents, opposed and interlocking hooked triangles, bull’s eye, and dotted squares.

The principal layout is the continuous band composed of an upper and lower border that encircles the exterior of the pot (Di Peso, et al. 1974:94). This layout is characterized by at least two lines that extend continuously and in patterns that repeat at least twice around the exterior of the vessel. Alternatively, the segmented layout is distinguished by the presence of vertical lines (often connected to the upper and/or lower borderlines) that create distinct panels on the surface of a vessel. Motifs are often appended to the central lines and interact with motifs attached to the upper and lower borderlines within the band. Bands may appear in a diagonal, diamond, or zigzag format (Kidder 1916:261-262; Brand 1933:78, Di Peso, et al., 1974:7-14, Hendrickson 2003: 32-33).

“It is clear that the object of preliminary dividing up of the decorative space is to reduce it to a number of triangular spaces. This done, there follows a secondary laying off, which is merely a carrying on of the same process, and still smaller triangular fields are produced; these contain the actual units of design (Kidder 1916:262)

Kidder postulated that there were three basic design styles evident in the Chihuahuan polychromes as seen in Figure 68. In addition to those, I have added Finite Design Layouts. The layouts utilized in this Chapter are illustrated in Figure 80.

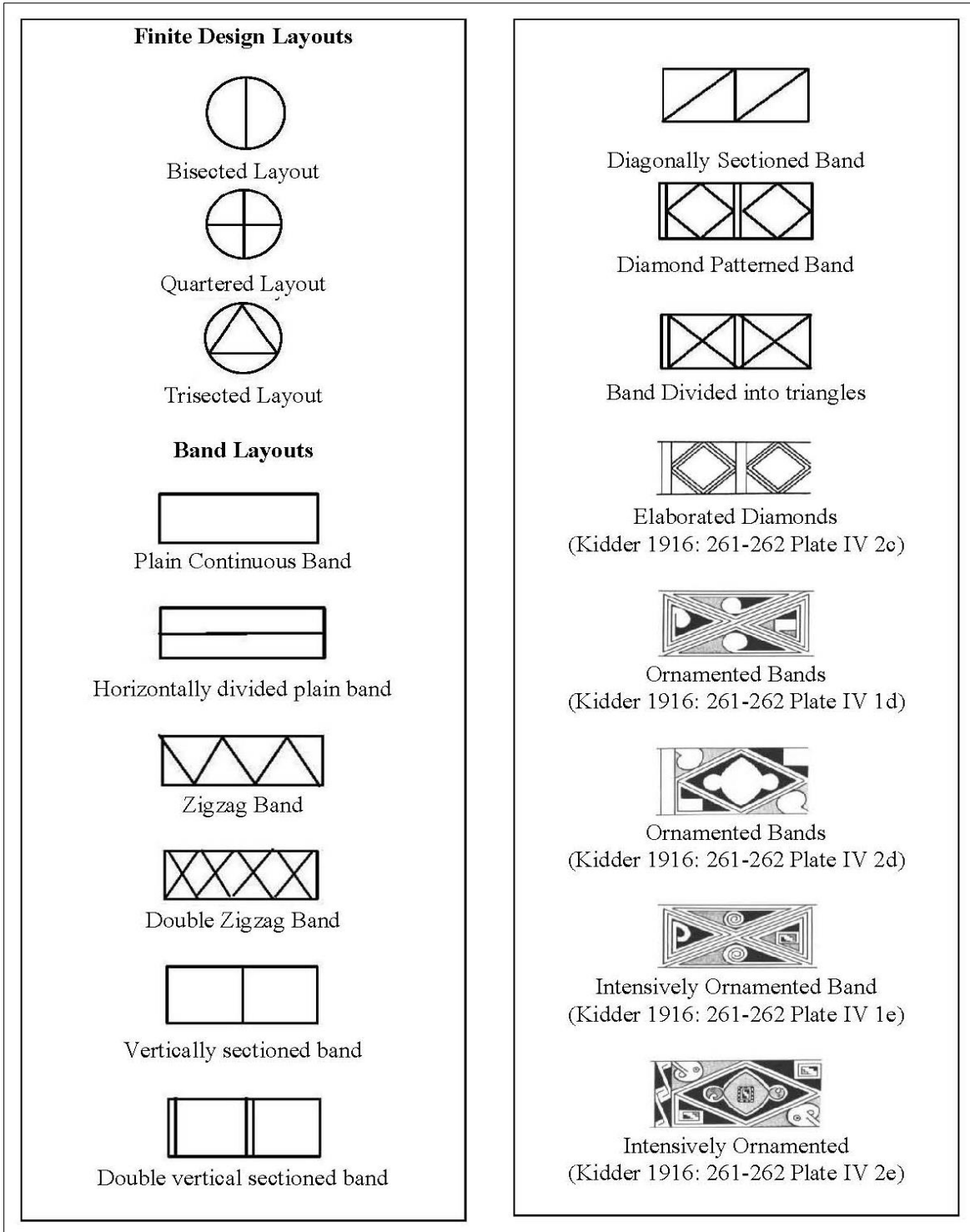


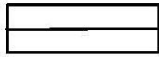
Figure 80: Band Layouts

## **BABICORA POLYCHROME**

Babicora Polychrome vessels generally have crude, thick line work in red and black along with red and black motifs. Di Peso and his colleagues consider the Babicora Polychrome vessels to be among the least well-done of the Casas Grandes polychromes. The vessel shapes may be bowls with slightly incurved rims, ollas that mirror the Villa Ahumada ollas in shape but are somewhat smaller, or effigies. However, no Babicora Polychrome effigies appear in the Lumholtz Collection. In the Lumholtz Collection there are thirteen (13) Babicora Jars and four (4) Babicora Bowls comprising 3.85% of my sample set. Some of the ollas have direct rims with opposing pairs of suspension holes. Since some of the vessels are heavily abraded only eleven (11) jars and three (3) bowls are used for this design and layout analysis.



AMNH 30 / 4448: 9.5 inches high

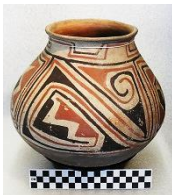


Continuous Horizontal Band Layout

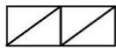
Jar with a low center of gravity and light brown paste, the bottom is very badly broken and the rest of the vessel has been repaired.

Three bands of interlocking spiral scroll motifs encircle the vessel in opposing red and black pattern.

Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of ruined pueblos.



AMNH 30 / 4442: 9.5 inches high



Diagonally Sectioned Band

Large jar with a medium center of gravity. Opposing red and black diagonal step elements and red and black interlocking spiral triangles combine in the motif.

Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of ruined pueblos.



AMNH 30 / 4411: 7.675 inches high



Ornamented Band  
(Kidder 1916: 261-262, Plate IV: 1d)

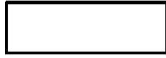
Jar with tall neck and spheroid base, portion of neck is missing and vessel has been repaired.

The primary motif is comprised of opposing red and black scrolled triangles and red and black barbs.

Locale: from Casas Grandes



AMNH 30 / 4103: 6.000  
inches high



Plain Continuous Band

Jar medium center of gravity with 2 punctated holes at the rim; a large portion of this vessel is missing.  
Two bands of opposing rectilinear hooked triangles in black and red provide the primary motifs.

Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of totally ruined pueblos near the Rio San Miguel.



AMNH 30 / 4108: 5.500  
inches high



Double Vertical Sectioned  
Band

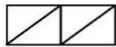
Jar with a medium center of gravity; a large portion of one side of this vessel is missing. Only one of the opposing lugs remains.

Two bands wherein the vertical panels are opposing rectangular triangles while the horizontal bands are opposing elongated steps elements.

Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of totally ruined pueblos near the Rio San Miguel.



AMNH 30 / 4168: 5.250  
inches high

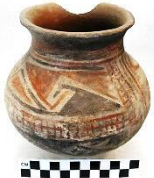
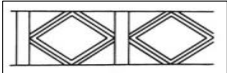

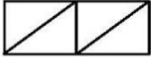





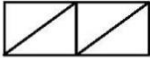

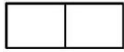

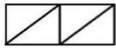
Diagonally Sectioned Band


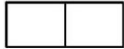

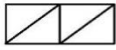
Spheroidal jar with an everted rim and a medium center of gravity.

One of the two diagonal bands includes opposing red and black scrolled triangles while another includes elongated opposing red and black step elements.

Locale: from ruin, 7 miles N.E. of Pinons Altos?

 <p>AMNH 30 / 4533: 5.250 inches high</p>  <p>Elaborated Diamonds Band (Kidder 1916: 261-262, Plate IV: 2c)</p>	<p>Spheroid jar with a medium center of gravity and a high neck with a flared rim; a large portion of the rim is missing.</p> <p>Two bands are bisected horizontally by double ladder element and divided vertically into quarters with double ladders that have center dots. A portion of the upper band contains rectangular scrolls while another portion contains opposing red and black elongated barbs.</p> <p>Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of ruined pueblos.</p>
 <p>AMNH 30 / 4110: 5.000 inches high</p>  <p>Diagonally Sectioned Band</p>	<p>Ovoid jar with a medium center of gravity and opposing lugs, one of which has been broken off.</p> <p>This is a heavily abraded jar with double bands of interlocking red and black rectangular triangles and opposed step motif.</p> <p>Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of totally ruined pueblos near the Rio San Miguel.</p>
 <p>AMNH 30 / 4450: 5.000 inches high</p>  <p>Zigzag Band</p>	<p>Heavily abraded spheroid jar with a medium center of gravity with 2 perforated ears; portions of the flared rim are missing.</p> <p>Two bands of triangular spaces utilize opposing red and black scrolled triangular elements and a modified club design.</p> <p>Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of ruined pueblos.</p>

 <p>AMNH 30 / 4500: 5.000 inches high</p>  <p>Diagonally Sectioned Band</p>	<p>Jar with a medium center of gravity and a flared rim; a portion of the rim is missing.</p> <p>The vessel is decorated with double continuous bands of opposed interlocking scrolled triangles of with birdwing elements appended at the end.</p> <p>Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of ruined pueblos.</p>
 <p>AMNH 30 / 4443: 4.875 inches high</p>  <p>Vertically Sectioned Band</p>	<p>Spheroid jar with flared rim and worn step design; the vessel is heavily abraded and the rim may have been added after the vessel was first made.</p> <p>It is decorated with two simple continuous bands. The upper band contains opposing red and black steps while the lower band appears to be opposing red and black barbs.</p> <p>Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of ruined pueblos.</p>
 <p>AMNH 30 / 4120: 4 inch rim diameter</p>  <p>Diagonally Sectioned Band</p>	<p>Small bowl with a straight rim.</p> <p>A single band of an opposing barb design in red and black is the only motif.</p> <p>Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of totally ruined pueblos near the Rio San Miguel.</p>

 <p>AMNH 30 / 4419: 3.675 inch rim diameter</p>  <p>Vertically Sectioned Band</p>	<p>Bowl with slightly incurved rim; a large portion of the rim is missing and vessel is heavily abraded.</p> <p>Two bands of black spiral/scrolled interlocking triangles intersect with a red club motif.</p> <p>Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua.</p>
 <p>AMNH 30 / 4479: 4 inch rim diameter</p>  <p>Diagonally Sectioned Band</p>	<p>Round bowl with restricted opening, 2 perforated holes and moderate charring.</p> <p>The layout is triangular with opposing red and black barb elements.</p> <p>Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of ruined pueblos.</p>
<p>Figure 81: Babicora Polychrome Jars and Bowls</p>	

### VILLA AHUMADA POLYCHROME

Villa Ahumada vessels generally have a dark paste and a white slip. As observed in the Lumholtz Collection, the slip can flake or rub off easily. The result of this is that the design elements are missing or distorted and the dark paste is revealed. In my sample set the Villa Ahumada Polychromes accounted for twelve (12) Villa Ahumada Polychrome Jars, one (1) Villa Ahumada Polychrome Bowl, and three (3) Villa Ahumada Polychrome Effigies (3.85%) while the Villa Ahumada Ramos Variant was represented by five (5) Villa Ahumada Ramos Variant Jars and ten (10) Villa Ahumada Ramos Variant Effigies or 3.61% of my sample set. Since some of the vessels are heavily abraded only nineteen (19) jars and one (1) bowl are used for this design and layout analysis.



AMNH 30 / 4453

8.000 inches high



Diagonally Sectioned Band

Jar low center of gravity, dark red paste and white slip under design.

Double band of black and red interlocking barbed triangle band motif with opposing barbs of red and black.

Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of ruined pueblos.



AMNH 30 / 4441

7.750 inches high



Diagonally Sectioned Band

Large ellipsoid jar with restricted opening and everted rim, black & red design, some charring and abrasion. The vessels large circumference and sooted bottom may indicate feasting.

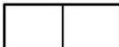
Villa Ahumada Ramos Variant with large diagonal interlocking stepped band motif and one vertical band of opposing red and black elongated steps.

Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of ruined pueblos.

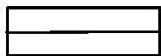


AMNH 30 / 4490

6.875 inches high



Vertically Sectioned Top Band



Horizontally Divided Plain Lower Band

Double lobed jar with checkerboard motif on upper section and triangular design on lower half, designed portion of vessel is slipped

Top band is rectangular checkerboard motif alternating with hatched rectangles while lower band is interlocking spiral/scrolled triangle motif in red and black.

Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of ruined pueblos.



AMNH 30 / 4462  
6.500 inches high



Zigzag Band

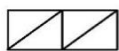
Jar low center of gravity, brown paste, top portion slipped, badly damaged.

Opposing spiral/scrolled triangle band motif of black and red; one lower triangle has opposing stepped design which the other has a negative "P" design.

Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua.



AMNH 30 / 4482  
6.375 inches high



Diagonally Sectioned Band

Jar low center of gravity, white slip, brown paste.

Interlocking spiral/scrolls triangle motif in black and red is set off by interlocking rectilinear bands consisting of opposing red and black elongated steps motifs.

Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of ruined pueblos.



AMNH 30 / 4486  
6.125 inches high



Horizontally Divided Plain Band

Jar medium center of gravity with handles, large portion of flared rim is missing, vessel heavily abraded

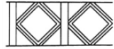
Double continuous bands. The top band consists of opposing red and black barb elements while the bottom band consists of an interlocked hooked triangle motif.

Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of ruined pueblos.



AMNH 30 / 4471

6.000 inches high



Elaborated Diamonds Band  
(Kidder 1916: 261-262, Plate IV  
2c)

Jar with a low center of gravity and brown paste with white slip.

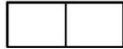
Four bird (macaw) heads are depicted in relief encircled by black dotted bands; each is flanked by different elements including two crude “P” elements. The bottom band consists of an interlocked barbed band motif. The profile of each head is pushed out from the interior of vessel.

Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of ruined pueblos.



AMNH 30 / 4505

6.000 inches high



Vertically Sectioned Band

Jar medium center of gravity with small lug ears.

The vessel is split in two and is badly abraded. The design appears to include opposing red and black band and red and black step elements.

Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of ruined pueblos.



AMNH 30 / 4455

5.675 inches high



Diagonally Sectioned Band

Ovoid jar with medium center of gravity with two small lug ears, light brown paste and white slip.

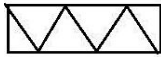
The vessel has black and white interlocked hooked triangle band motifs interspersed diagonally with opposing elongated black step motifs.

Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua.



AMNH 30 / 4105

5.500 inches high



Zigzag Band

Jar medium center of gravity.

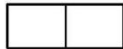
A large black and red interlocking spiral/scrolled triangle band is set off with a band of red outlined in black.

Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of totally ruined pueblos near the Rio San Miguel.



AMNH 30 / 4493

5.500 inches high



Vertically Sectioned Band

Jar medium center of gravity with snake & four bird heads in relief.

Four-headed macaw effigy with red and black hatched elements around the heads. Just under the rim encircling the vessel is a snake effigy with red and black ticking marks.

Locale: Found on Plain between San Diego & Cave Valley.



AMNH 30 / 4483

5.000 inches high



Diagonally Sectioned Band

Jar low center of gravity handles broken off, white slip, brown paste Interlocking spiral/scrolled triangle motif in black and red wherein the red spiral triangle is outlined in black and the black spiral triangle is outlined in red. This band is set off by interlocking stepped triangle band motifs in red and black.

Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of ruined pueblos.



AMNH 30 / 4449

4.875 inches high



Double Vertically Sectioned  
Band

Spheroid jar with a medium center of gravity has two perforated ears, and a slightly restricted opening.

The vessel is heavily abraded and slipped with a dark brown interior; it appears to have been restored.

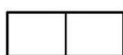
This is a Villa Ahumada Ramos Variant with opposing vertical designs of red line with black ticking and two opposing vertical double ladders. The four center sections consist of opposing negative "P" elements.

Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua.



AMNH 30 / 4475

4.750 inches high



Vertically Sectioned Band

Animal Effigy Jar - fish? Each side of this vessel appears as if something was broken off, i.e., wings or gills. It is comprised of brown paste with a white slip.

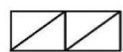
Two headed effigy vessel with a fish head at one end and a bird head at the opposite end. This is embellished with three rows of red bands outlined in black on the body and another at each end.

Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of ruined pueblos.



AMNH 30 / 4476

4.500 inches high



Diagonally Sectioned Band

Animal Effigy Jar - possibly macaw made of light brown paste with a white slip.

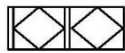
This is a two headed bird effigy with diagonal bands of opposing black and red elongated stepped elements.

Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of ruined pueblos.



AMNH 30 / 4484

4.500 inches high



Diamond Patterned Band

Jar with very constricted opening (possible seed jar), 2 perforated holes on either side; the vessel is moderately abraded.

Villa Ahumada Ramos Variant with red and black interlocked spiral/scrolled interlocked triangle band motif set off by fine lines interspersed with negative “P” elements both upright and inverted.

Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of ruined pueblos.



AMNH 30 / 4124

4.000 inches high



Diagonally Sectioned Band

Jar with a medium center of gravity with a restricted straight rim. The upper portion of the vessel is slipped.

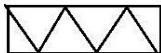
The motif is comprised of diagonal rectilinear bands of alternating red triangle elements with opposing black rectangles.

Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of totally ruined pueblos near the Rio San Miguel.



AMNH 30 / 4452

4.000 inches high



Zigzag Band

Jar with a medium center of gravity with pierced holes and a restricted opening is slipped with dark paste.

Quartered layout with lower interlocking spiral/scrolled triangle motif of black and red framed by black and red lines while top two black spiral/scrolled triangles are separated by inverted double spade in red.

Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua.



AMNH 30 / 4474

3.675 inches high



Diagonally Sectioned Band

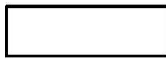
A white slip Effigy jar with four speckled bird heads.  
Two of the heads are set in circles that are set off by crude cross-hatched triangular boxes. In two instances the underside of the bird head is embellished in red.

Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of ruined pueblos.



AMNH 30 / 4410

5.75 inch rim diameter



Plain Continuous Band

Bowl with slightly squared off rim; a portion of the rim missing.  
A single band of opposing red and black large diagonal ticking encircles the vessel.

Locale: Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of ruined pueblos.

Figure 82: Villa Ahumada Polychrome Jars and Bowls

### RAMOS POLYCHROME

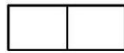
As noted earlier, Ramos Polychrome vessels are characterized by their precise brushwork as well as an extensive array of design elements. The Ramos Polychrome jar, sometimes called an olla, with its high shape and gently sloping upper body is probably the best known and most widely recognized type of Casas Grandes pottery. Among the thirty-eight (38) Ramos Polychrome Jars, fifteen (15) Ramos Polychrome Bowls, and nine (9) Ramos Polychrome Effigies (shown below) are fine examples of the zigzag band layout described by Kidder as well as several displaying the classic multi-band layouts. Design elements in the Ramos Polychrome collection include the macaw motif, birds, snakes including the horned serpent, negative circles,

narrow elaborated bands, triangles, curvilinear scrolls, a large “P triangle”, hatching and barbed and stepped figures which were usually interlocking and often in pairs of opposed contrasting colors. 15.38% of the Lumholtz Collection is made up of Ramos Polychromes while the Ramos Black-on-red vessels represent 1.20% of the collection and the Ramos Black-on-white represent 0.72% of the collection. Since some of the vessels are heavily abraded thirty-six (36) jars and nine (9) bowls are used for this design and layout analysis.



AMNH 30 / 4446

14.00 inches high



Vertically Sectioned Band

Very large jar with restricted opening, medium center of gravity and slightly everted rim (note: unable to photograph other than in cabinet).

A single band of black and red interlocking elongated steps alternating with red and black barbed design encircle the vessel. The red element is not outlined in black this is indicative of a Capulin variant.

Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua. Found under floors of ruined pueblos.



AMNH 30 / 4516

10.00 inches high



Double Vertical Sectioned Band

Large Ovoid Jar with somewhat restricted opening, slightly everted rim and low center of gravity.

Complex triple diagonal bands are bisected vertically by interlocking rectilinear bands of interlocking scrolls in upper and lower sections. The upper diagonal band consists of alternating opposing steps and a stylized negative feather, the center band contains an interlocked triangle band motif while the third, lower band holds an opposing step motif alternating with an elaborate spade motif with a red eye and feathered beak.

Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua, under floors of ruined pueblos.



AMNH 30 / 4492

9.675 inches high



Intensively Ornamented Vertically Sectioned Band (Kidder 1916: 261-262 Plate IV: 2e)

Jar medium center of gravity with very slightly everted rim, a portion of the rim is missing.

Black on white checkerboard vertical sections, one with center dots, set off diagonally sectioned triangles containing black and red opposing stepped motifs on negative and red and black background. The diagonal on one side has hatched steps on a black background and the reverse on the opposite side. Brush work is not as fine as later Ramos Polychromes.

Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua. Found under floors of ruined pueblos.



AMNH 30 / 4104

9.000 inches high



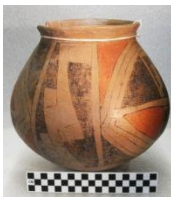
Ornamented Bands

(Kidder 1916: 261-262 Plate IV 1d)

A portion of this jar with a low center of gravity and fine line work is missing.

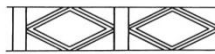
Vertical sections of spiral/scrolled interlocked triangle band motifs in red and black set off elaborated diamond motifs containing negative "P" elements in opposition while the lower and upper triangles contain opposing triangle elements.

Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua. Under floors of totally ruined Pueblo in plain near the Rio San Miguel.



AMNH 30 / 4429

8.750 inches high



Double Vertical Sectioned Elaborated Diamonds Band

(Kidder 1916: 261-262 Plate IV 2c)

Ovoid Jar with low center of gravity and slightly everted chipped rim, the design is worn in some places.

Vertical sections of black stepped interlocked triangles set off diamond pattern where the central place is set off with fine lines and contains mirror images of stepped interlocked triangles; these are divided by a band of negative space.

Locale: Casas Grandes



AMNH 30 / 4466

8.750 inches high



Double Vertical Sectioned Ornamented Band

(Kidder 1916: 261-262 Plate IV 1d)

Jar low center of gravity has fine line work with geometric elements.

Hooked interlocking triangle motif in red and black provides the vertical sections while the right and left sides of the band are embellished with opposing stepped interlocking triangles.

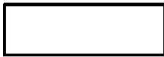
The center upper section is made up of opposing black and red spiral/scrolled interlocking triangles. Below that is a rectangle with opposing red and black stepped motif. One of these has a negative half club element on a red background.

Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua. Under floors of ruined pueblos.

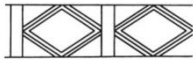


AMNH 30 / 4522

8.500 inches high



Upper Plain Continuous Band



Elaborated Diamonds (Kidder 1916: 261-262 Plate IV 2c)

Ovoid jar with low center of gravity displays fine line work and geometric elements.

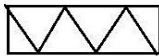
Upper band of negative bull's eyes on black background. The lower design is a double band of elaborated diamonds containing stepped interlocked triangle band motifs of red and black.

Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua. Under floors of ruined pueblos.



AMNH 30 / 4517

8.250 inches high



Zigzag Band

Large Ovoid Jar with somewhat restricted opening, slightly everted rim and low center of gravity

Zigzag band of scroll/spiral interlock bands with black line outline. The lower scrolls are embellished with a feather element inside the triangle.

Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua, under floors of ruined pueblos.



AMNH 30 / 4467

7.875 inches high




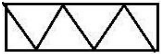

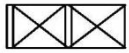


Ornamented Bands (Kidder 1916: 261-262 Plate IV 1d)

Jar low center of gravity has fine line work and fine geometric elements.

Interlocking scroll/spiral triangle motifs in opposing colors of red and black are offset with stepped triangles in opposing red and black motif. The vessel is vertically bisected with hooked interlocked triangles.

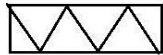
Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua, under floors of ruined pueblos.

 <p>AMNH 30 / 4520 7.675 inches high</p>  <p>Diagonally Sectioned Band</p>	<p>Jar low center of gravity, outward flared rim, light paste; this vessel appears to have been polished or lacquered.</p> <p>A single spiral/scrolling triangle with a hatched end appears on a red field interspersed with hooked triangles ending in opposing elongated step pattern of red and black.</p> <p>Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua, under floors of ruined pueblos.</p>
 <p>AMNH 30 / 4524 7.500 inches high</p>  <p>Elaborated Zigzag Band</p>	<p>Jar low center of gravity exhibits elaborate anthropomorphic motifs.</p> <p>A zigzag pattern of a checkerboard necklaced macaw head at one end and a double feathered motif at the other end encircle the vessel. The body has an alternating checkerboard and elongated step pattern with negative bull's eyes as the termination points. This is a fine example of a duality motif. The lower portion of the vessel can be seen as a quartered layout with two opposing inverted stepped triangles and two negative half club elements. Geometric hatched elements fill in around the macaw headed serpent.</p> <p>Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua, under floors of ruined pueblos.</p>
 <p>AMNH 30 / 4468 7.375 inches high</p>  <p>Band Divided into Triangles</p>	<p>Jar medium center of gravity displays fine line work and geometric elements.</p> <p>Vessel is bisected with opposite sides of black background triangles holding stepped triangles in negative rectangles while the other two sides have the same pattern on a red and black background. Fine black lines on white background set off all designs.</p> <p>Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua, under floors of ruined pueblos.</p>



AMNH 30 / 4525

7.375 inches high



Elaborated Zigzag Band

Jar low center of gravity decorated with elaborate anthropomorphic motifs.

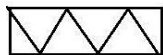
Bisected vessel displays two horned serpent images; one has two black and white checkerboard horns which the opposite has one checkerboard horn and one solid red horn. Both serpents have red faces with open mouths exhibiting teeth and each has two eyes. The neck band of one is alternating checkerboard which the other has opposing elongated step elements as its neck band. The lower portion of the vessel is encircled by a stepped interlocked triangle band motif in opposing colors of black and white. Negative bull's eyes also embellish the body of the serpent.

Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua, under floors of ruined pueblos



AMNH 30 / 4499

7.250 inches high



Elaborate Zigzag Band

Ovoid Jar with low center of gravity and very slightly everted rim shows fine line work.

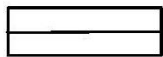
Vertical spiral/scrolled red and black interlocked triangles alternate with red and black stepped interlocked triangles while the upper portion contains its opposition. This is intersected by a triangulated motif with two negative bull's eyes separated by a club motif on one side of this section is the "P" motif while the other side holds An inverted "P" element.

Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua, under floors of ruined pueblos.



AMNH 30 / 4521

7.250 inches high



Two horizontally divided continuous bands

Spheroid jar medium center of gravity with straight neck, the interior of rim is red.

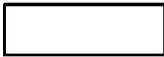
Neck, shoulder, and bottom of jar are three continuous bands of negative bull's eyes. The fourth band is fine lined spiral/scrolled interlocked triangles. The triangles are fine lines on negative ground.

Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua, under floors of ruined pueblos.



AMNH 30 / 4523

7.250 inches high



Plain Continuous Band



Elaborated Diamonds

(Kidder 1916: 261-262 Plate IV 2d)

Spheroid jar with medium center of gravity displays fine line work and anthropomorphic motif.

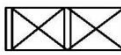
Single continuous band at the neck comprised of alternating colored checkerboard motif with center dot. The elaborated diamonds consist of opposing pairs of macaw motifs with centered stepped negative motifs. Each pair is set off with a band of interlocking hooked triangles at top and bottom.

Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua, under floors of ruined pueblos.



AMNH 30 / 4428

7.000 inches high



Band Divided into Triangles

Large spheroid jar, medium center of gravity with slightly everted rim; vessel is slightly abraded.

Bisected vessel with large centered triangles opposing fine line "P" motifs on red and black backgrounds in opposition to one another; the alternate triangles contain interlocking spiral/scrolls triangles of opposing black and red. Portions of the design are worn.

Locale: Casas Grandes



AMNH 30 / 4501

7.000 inches high



Band Divided into Triangles

Ovoid Jar with low center of gravity, very slightly everted rim, a portion of rim and mid-body are missing and the vessel has been restored.

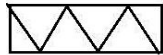
Bisected vessel with large centered triangles on opposite sides. The triangle on the right of each is an inverted "P" on a black background while the triangle on the left is set off with opposing red and black step design on red and black background. The upper and lower triangles intersecting these units are fine line spirals; the upper is set on a cross hatched background while the lower spiral is flanked by feather elements on either side.

Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua, under floors of ruined pueblos.



AMNH 30 / 4431

6.500 inches high



Zigzag Band

Large ovoid jar with a low center of gravity and slightly everted rim; a portion of the vessel above the serpent's head has been restored.

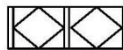
Vessel is encircled by a horned/plumed serpent with a body of checkerboard elements interspersed with solid red rectangles; the tail appears to be inverted feathers. Above the body of the serpent on each side of the vessel is a negative bird motif possibly a pea hen or quail. One bird is embellished with a red step element appearing as a wing while each has backward facing feet. Under the head of the serpent is a triangle comprised of a stepped interlocked triangle flanked by a negative half club element on a black background and a red half club with an eye also on a black background. Opposite this motif, under the body of the serpent the triangle is halves with one half containing an opposing stepped element on black background and the other half with a red half club with a negative eye on a black background.

Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua, under floor of wholly destroyed pueblos, on Plain near Rio San Miguel.



AMNH 30 / 4463

6.500 inches high



Diamond Pattern Band

Jar low center of gravity with slightly everted rim appears to be somewhat abraded.

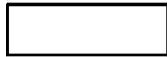
Bisected vessel with opposing large diamonds with fine outlines containing open triangles of red and black. The vertical panels contain black elongated step elements while the space above and below the diamonds are black with negative bull's eyes.

Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua.



AMNH 30 / 4509

6.375 inches high



Plain Continuous Band on Neck



Double Vertically Sectioned Band

Jar medium center of gravity with tall neck and flared rim; part of the black paint has turned brown perhaps due to charring.

The neck portion of vessel consists of a continuous band of the hooked interlocked triangle motif while the body of the vessel is a double vertical sectioned band exhibiting hooked interlocked triangles interspersed with elongated triangle step elements.

Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua. Found under floors of ruined pueblos.



AMNH 30 / 4464

6.250 inches high



Diagonally Sectioned Band

Jar with a low center of gravity and slightly everted rim appears to be a Capulin Variant of the Ramos Polychromes.

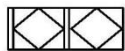
Diagonal bands containing rectangles of elongated step motifs in opposing red and black with fine line framing elements.

Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua.



AMNH 30 / 4465

6.250 inches high



Diamond Pattern Band

Jar with a low center of gravity and slightly everted rim has moderate quality line work and geometric elements.

Vessel is bisected by diamond motifs each subdivided into triangles with each side containing opposing stepped elements in red and black on opposing backgrounds of black and red. The areas above and below the diamonds are filled in black with negative bull's eyes in the center.

Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua, under floors of ruined pueblos.



AMNH 30 / 4427

6.125 inches high



Band Divided into Triangles

Large ovoid jar with a low center of gravity and very slightly everted rim is badly work in places.

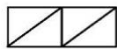
The vertical sections of this band are elaborated with opposing hooked hatched triangles. Flanking the vertical sections are "P" motifs. The upright "P" has a red center with a negative outline set on a black background while the inverted "P" has the opposite coloration. Separating the "P" motifs are triangles containing opposing stepped motifs, again in opposing colors; all are framed by fine lines.

Locale: Casas Grandes



AMNH 30 / 4494

6.125 inches high



Diagonally Sectioned Band

Jar medium center of gravity with straight rim neck appears to be the Capulin Variant of Ramos Polychromes.

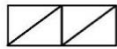
Opposing geometrics of red and black on a cream background are set off with fine lines of red and black. The neck band consists of alternating rectangles of red and horizontal hatches.

Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua, under floors of ruined pueblos.



AMNH 30 / 4461

6.125 inches high



Diagonally Sectioned Band

Jar with a medium center of gravity and a slightly everted rim that is flanked by small lugs.

The upper diagonal sections are set off with scrolled triangle motifs in red with a black background while the lower diagonal sections are divided into two sections each of opposing stepped motifs in red and black on a negative background. The right side of the bisecting vertical line is edged by a large negative triangle combined with fine black and thick red and black lines.

Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua.



AMNH 30 / 4496

6.125 inches high



Elaborated Diamonds Band

Ovoid jar with a low center of gravity and slightly everted rim has light paste and unusually dark red color paint; it may have been polished when lent out for display.

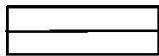
The vessel is bisected with elaborated diamond motifs on either side elaborated with spiral/scrolled interlocked triangles of red and black above red and black stepped triangles. The colors alternate. Interspersed with the triangle motif is a stepped element on a red background on the top flanked by heavy black hatching with red and black spiral/scrolled triangle motifs on the bottom. Fine and heavy lines of black set off the fields.

Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua. Found under floors of ruined pueblos.



AMNH 30 / 4106

6.000 inches high



Horizontally Divided Plain Band

Jar with a low center of gravity and slightly everted rim appears to be the Capulin Variant.

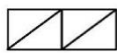
The vessel is encircled by two horizontal bands of red and black spiral/scrolled interlocked triangle band motifs. A fairly thick band of red appears above each band motif. The vessel appears to be fire clouded on one side.

Locale: Rancho of San Diego 10 mi. So. of Casas Grandes Chihuahua. Under floors of totally ruined Pueblo, in plain near the Rio San Miguel.



AMNH 30 / 4459

6.000 inches high



Diagonally Sectioned Band

Jar with medium center of gravity and 2 pierced holes on either side, polished orange-brown paste indicative of a variant.

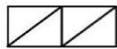
The upper diagonal sections contain a red triangle outlined in a heavy black line and is mirrored on the bottom by the same element. Next to the red triangle is an opposing stepped motif rectangle also outlined in a heavy black line. One side of the step is black while the other is hatched. There is a single checkerboard line separating the upper from the lower portion of this section and below that is a single hatched triangle; this pattern is repeated on the reverse side.

Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua.



AMNH 30 / 4498

6.000 inches high



Diagonally Sectioned Band

Jar low center of gravity with 2 perforations on opposite sides displays moderate quality line work and geometric motifs.

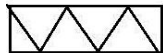
Large stepped triangle motifs of black on one side and black cross hatching on a negative background are flanked on one side by triangular red elements and the other side by a full red club element set on a black triangular background. The upper and lower club motifs mirror one another. These are sectioned by bands of heavy and fine black lines.

Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua, under floors of ruined pueblos.



AMNH 30 / 4511

5.875 inches high



Zigzag Band

Ovoid jar with medium center of gravity and slightly everted rim is badly cracked and appears to have been restored.

Fine black parallel lines set off various motifs including the "P" motif accompanied by a feathered club motif and double swirl/scroll barbed triangles.

Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua. Found under floors of ruined pueblos.



AMNH 30 / 4497

5.750 inches high



Band Divided into Triangles

Jar with a low center of gravity and slightly everted rim has moderate quality line work and geometric motifs.

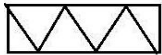
This vessel is bisected by vertical elements of incomplete hooked hatched lines that delineate triangles on the right and left. The upper and lower triangles are comprised of negative bull's eyes on a black background while the left and right triangles contain opposing black stepped motifs on a negative background flanked by red triangles. Fine black lines outline the triangles. One side of the vessel exhibits sooting.

Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua, under floors of ruined pueblos.



AMNH 30 / 4430

5.125 inches high



Zigzag Band

Ovoid Jar with low center of gravity and slightly everted chipped rim, the vessel appears to have been restored and a small portion is missing.

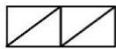
The two upper zigzag portions hold rectangles of an opposing red and black motif framed by empty squares with dots flanked by black or red triangles below these motifs there is a scrolled triangle on one side and a “P” motif triangle on the other side. The two lower zigzags are elaborated by two triangles bisected with a vertical black and hatched elongated step motif. The triangles contain opposing steps flanked by triangles of red or black negative hatching.

Locale: San Diego



AMNH 30 / 4454

3.125 inches high



Diagonally Sectioned Band

Jar with medium center of gravity and low opening, the opening may be macaw pen representation.

Vessel is predominated decorated with negative black linear motifs with the exception of one end that has a small circular opening about one-quarter of the way from the bottom of the vessel. The opening is circled in red.

Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua.



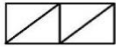








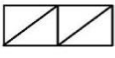
AMNH 30/ 4080 Part 1

Rim is approximately 15 cm in diameter

Due to the fragmentary nature of this vessel, the specific layout is not evident. However, the vessel is elaborately decorated with a variety of elements and motifs including a negative half club with eye, opposing black steps on a negative background, hatched lines and opposing stippled straight and zigzag patterns. The somewhat elongated neck is decorated with an elongated step motif of solid black and negative hatching.

Locale: San Diego, Chihuahua

 <p>AMNH 30 / 4080 Part 2 Rim is approximately 12 cm in diameter</p>	<p>This vessel is heavily sooted and has been restored. It is bisected vessel and appears to have an elaborate diamond layout. Included in the design motifs is a large “P” flanked with what appear to be negative tail feather elements on a black background. The upper portion of the vessel has red and black opposing steps on a negative background with black and red triangles on either side.</p> <p>Locale: San Diego, Chihuahua</p>
 <p>AMNH 30 / 4432</p>  <p>Diagonally Sectioned Band 5.25 inch rim diameter</p>	<p>Round bowl with slightly incurved rim has fine line work and opposing elongated step design of red and black. Insofar as the red elements are not outlined in black this vessel may be a Ramos Capulin Variant.</p> <p>This vessel is very similar to AMNH 30 / 4433.</p> <p>Locale: Rancho San Diego</p>
 <p>AMNH 30 / 4435</p>  <p>Diagonally Sectioned Band 4.75 inch rim diameter</p>	<p>Round bowl with slightly incurved rim and black and red opposing step motif on a negative background flanked by elongated triangle elements.</p> <p>Locale: Rancho San Diego</p>

 <p>AMNH 30 / 4422</p>  <p>Plain Continuous Band 4.5 inch rim diameter</p>	<p>Bowl with large negative bull's eye design.          Locale: Rancho San Diego 10 mi. So. of Casas Grandes          Chihuahua.</p>
 <p>AMNH 30 / 4436</p>  <p>Plain Continuous Band 4 inch rim diameter</p>	<p>Round bowl with slightly incurved rim and stepped interlocking triangle band motif of black and red on a negative background. A portion of the rim is missing.          Locale: Rancho San Diego</p>
 <p>AMNH 30 / 4433</p>  <p>Diagonally Sectioned Band 3.75 inch rim diameter</p>	<p>Round bowl with slightly incurved rim has fine line work and opposing step motifs of red and black on a negative background. The two step motifs are reversed. Insofar as the red elements are not outlined in black this vessel may be a Ramos Capulin Variant.          This vessel is very similar to AMNH 30 / 4432.          Locale: Rancho San Diego</p>



AMNH 30 / 4421



Diamond Pattern Band  
3.675 inch rim diameter

Bird effigy bowl with incurved rim -- possibly quail is decorated with opposing elongated black step motif. The upper and lower sections of the band are solid red flanked by black hatched lines on a negative background. The head of the bird has a checkerboard design while the tail has black hatch marks.

Locale: Rancho San Diego 10 mi. So. of Casas Grandes  
Chihuahua.



AMNH 30 / 4406



Plain Continuous Band  
2.75 inch rim diameter

This small bowl is badly abraded; it has black and red interlocking triangle band motif with "P" elements as the interlocking elements.

Locale: Rancho San Diego 10 mi. So. of Casas Grandes,  
Chihuahua under floors of ruined pueblos.





AMNH 30 / 4424



Diagonally Sectioned Band  
2.75 inch rim diameter

Small bowl with black & red stepped motif design on negative background flanked by red and black triangles.

Locale: Rancho San Diego 10 mi. So. of Casas Grandes  
Chihuahua.

 <p>AMNH 30 / 4425</p>  <p>Diagonally Sectioned Band 2.75 inch rim diameter</p>	<p>Small bowl with slightly incurved rim with black &amp; red elongated stepped motif flanked by black elongated triangles.</p> <p>Locale: Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua.</p>
<p>Figure 83: Ramos Polychrome &amp; Bichrome Vessels</p>	

### THE POSSIBLE IMPACT OF LOOTING

From 1996 to 1998, just a little over a century after the Lumholtz Expedition in that region, Dr. Michael Whalen and Dr. Paul Minnis conducted excavations at Site 231, Site 317, and Site 242<sup>10</sup> in the Casas Grandes “Inner Zone;” all of these are in close proximity to the sites in the San Diego plains excavated by the Lumholtz Expedition of 1891-1893. Thus, I have created an analysis of the ceramic type distribution of those sites in conjunction with the ceramic type distribution recovered by Lumholtz. It is critical to note that while Whalen and Minnis relied on a sherd count at each site, the Lumholtz data relates to whole vessels.

<sup>10</sup> In 1998 I worked with Drs. Whalen and Minnis as the Lab Director at Site 242. See additional discussion of those sites in Chapters 4, and 5.

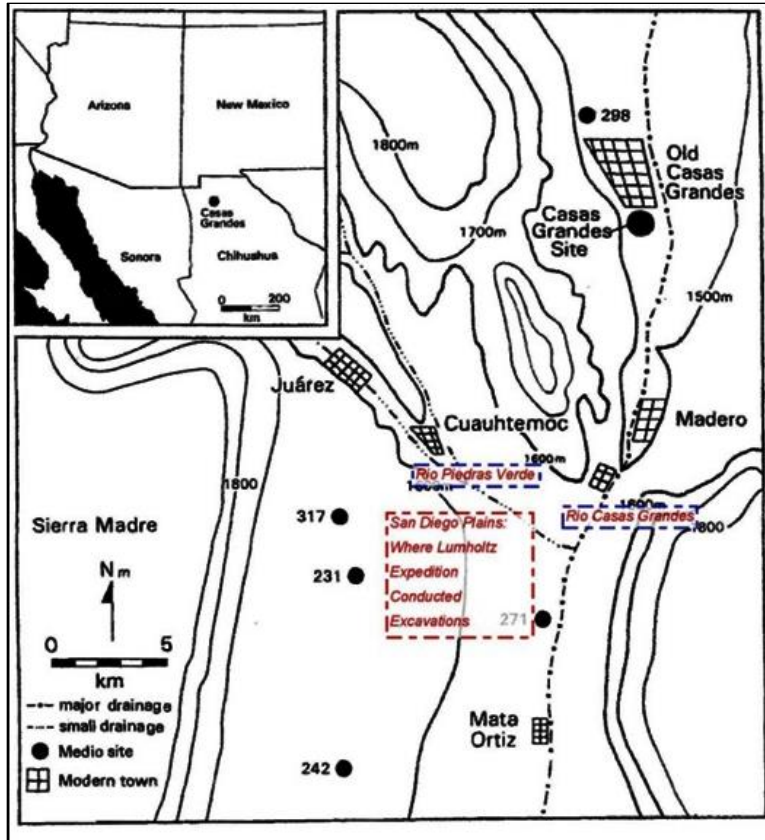


Figure 84: Map showing Sites 317, 231, and 242 and Paquimé (Whalen and Minnis 2003: 653) with author's notations in red.

Whalen and Minnis describe Site 231 and Site 317 as small residential sites while Site 242 conforms to the architectural and artifactual details symptomatic of an administrative center with its elaborate architecture, ballcourt and ritual paraphernalia. There are also differences in ceramic assemblage composition, as shown in the following Tables and Figures. The first is a Polychrome comparison as shown on Figure 85. With respect to Ramos Polychromes, Site 231 (24.56%) has approximately one-half of those reported at Site 242 (48.94%). Site 317 has only about one-third (17.76%) of those reported at Site 242. By comparison, close to 42% of the Lumholtz Collection assemblage can be categorized as Ramos Polychrome and 67.23% of the vessels excavated at Paquimé are Ramos Polychrome.

The scales are tipped when it comes to the Non-Polychrome category (Figure 86). All three of these sites reported by Whalen and Minnis display over 80 percent Plainware and very little Playas Red (Site 231 = 7.81%, Site 317 = 7.81% and Site 241 = 2.73%). By comparison, the Lumholtz assemblage of Playas Red whole vessels comes in at a little over 20 percent of the Non-Polychrome ceramic vessels while Paquimé's total comes to 11.62%. Blackware is rare at the three small sites excavated by Whalen and Minnis (2009) (Site 231 = 0.6%, Site 317 = 0.6% and Site 241 = 2.95%), while in the Lumholtz Collection Blackware accounts for over 50 percent of the Non-Polychrome ceramic vessels and 5.68% is reported for Paquimé.

Table 21: Polychrome Type Distribution Among Sites 231, 317, 242, Paquimé, and Lumholtz First Expedition

Type	Paquimé	Site 231	Site 317	Site 242	Lumholtz First Expedition – whole vessels percentages
<b>POLYCHROMES</b>					
Babicora Polychrome	10.59	40.65	41.35	22.95	10.60
White-Paste Babicora	0	7.79	2.58	3.70	0
Dublan Polychrome	.37	3.57	1.56	0	0
Villa Ahumada Polychrome	8.11	14.11	36.19	9.85	22.52
Babicora, Ramos Variant	0	0	0	0	0
Carretas Polychrome	3.03	5.27	0	2.80	3.97
Corralitos Polychrome	3.59	0	0.56	5.86	4.20
Escondida Polychrome	5.99	0	0	5.90	4.64
Huerigos Polychrome	1.09	4.05	0	0	1.62
Ramos Polychrome	67.23	24.56	17.76	48.94	41.86
Non-Local & Other					10.59

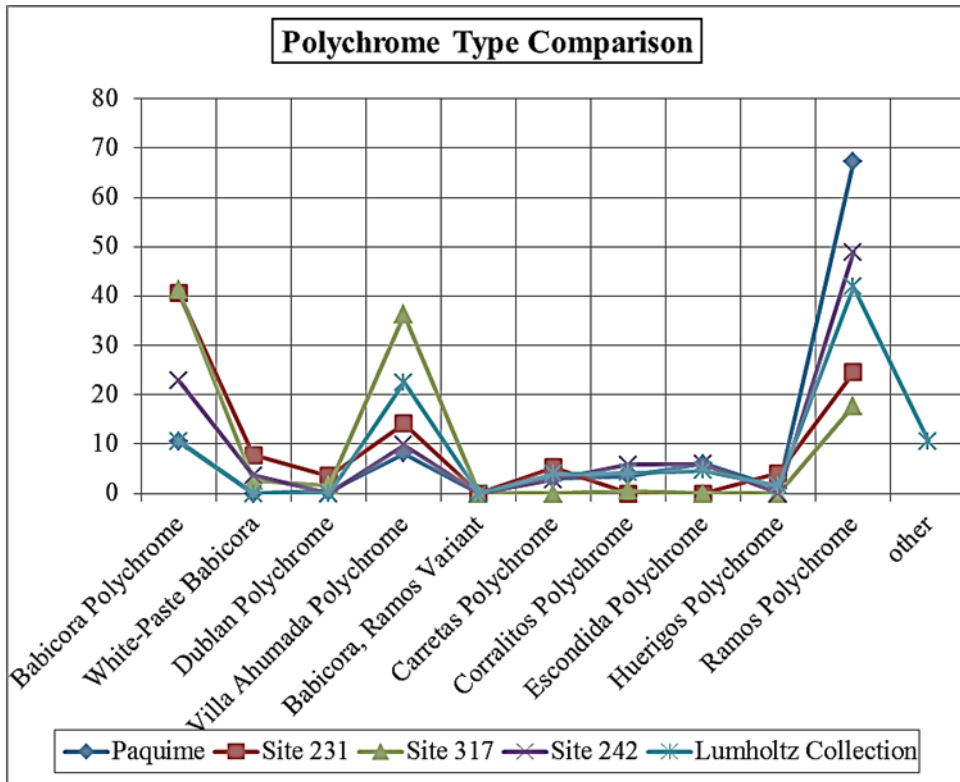


Figure 85: Illustration of Polychrome Type Distribution among Sites 231, 317, 242, Paquimé (Whalen and Minnis 2009: 128-133) and the Lumholtz Collection

Table 22: Non-Polychrome Type Distribution Among Sites 231, 317, 242, Paquimé, and Lumholtz Collection

Type	Paquimé	Site 231	Site 317	Site 242	Lumholtz First Expedition – whole vessels percentages
<b>NON-POLYCHROMES</b>					
Plain	72.51	80.6	80.6	87.21	19.32
Scored types	4.66	3.97	3.97	2.9	2.27
Incised types	1.83	2.79	2.79	0.72	2.28
Corrugated types	1.07	3.84	3.84	0.64	0.76
Broad coil	0.37	0	0	1.94	0
Tool Punched	0.93	0.24	0.24	0.11	1.14
Playas Red types	11.62	7.81	7.81	2.73	20.11
Black	5.68	0.6	0.6	2.95	50.81
Black-on-Red	1.33	0.15	0.15	0.80	3.31

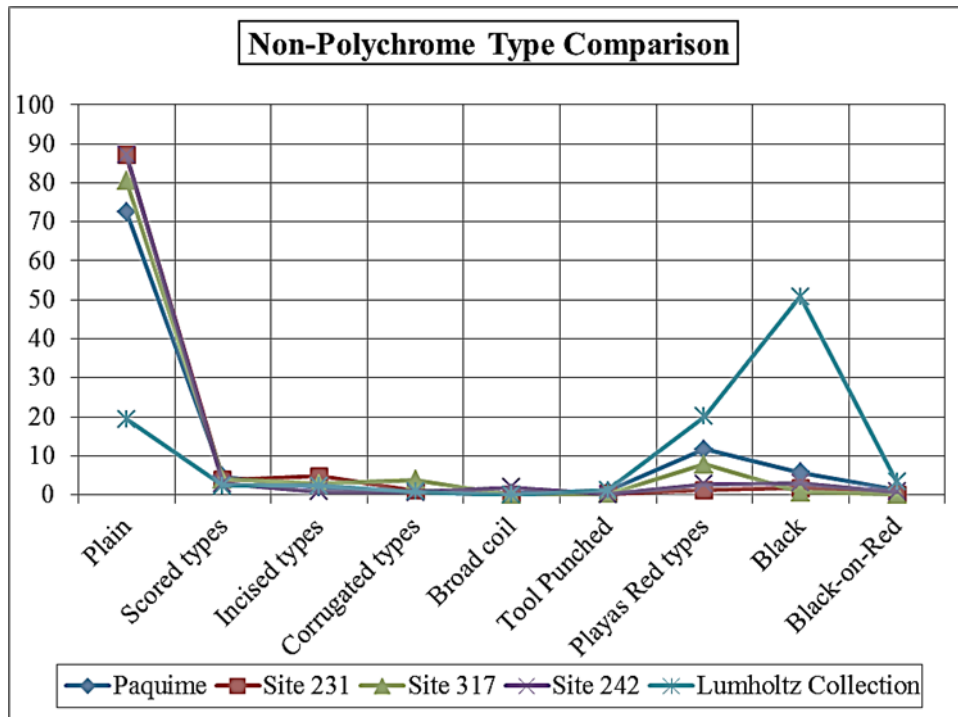


Figure 86: Illustration of Non-Polychrome Type Distribution among Sites 231, 317, 242, Paquimé (Whalen and Minnis 2009: 128-133) and the Lumholtz Collection

As can be seen on Table 21 and Figure 85 as well as Table 22 and Figure 86, the Lumholtz Expedition which excavated in the same locality as Sites 231, 317, and 242 exhibits a much different array of polychromes and non-polychromes. For the most part, the Lumholtz Expedition collection is comprised of whole vessels found in connection with burials under the floors of ruined pueblos (Lumholtz 1902). Decades of looting, agricultural developments, as well as residential expansion, have all created a different prism through which to view Casas Grandes' ceramic assemblages since no burials are mentioned in connection with Site 231, Site 242, or Site 317 (Whalen and Minnis 2009: 128-133). Due to these facts, much of the material currently available to researchers is in the form of sherds or severely broken vessels, whereas the Lumholtz Collection offers a wide variety of whole or nearly whole vessels.

Another possible example of the almost immeasurable damage to the archaeological record caused by such extensive looting, as well as the impact of agricultural development, is evident in a 2002 Master's Thesis by Jenna Fay Jones at Tulsa University. In her work, entitled *Ceramics and Feasting in the Casas Grandes Area, Chihuahua, Mexico*, Jones provides an analysis of sherd assemblages from three sites excavated from 1996 to 1998 and located in the same "Inner Zone" as those excavated a century earlier by the Lumholtz Expedition on the plains around San Diego. Figure 87, illustrates the site pattern of the "Core Zone" (Minnis 1984: 187). The small circles are *trincheras* (trenches in the case of the Casas Grandes culture zone were often narrow agricultural sites), the large dots represent larger sites while the small dots represent *atalaya* (defensive towers).

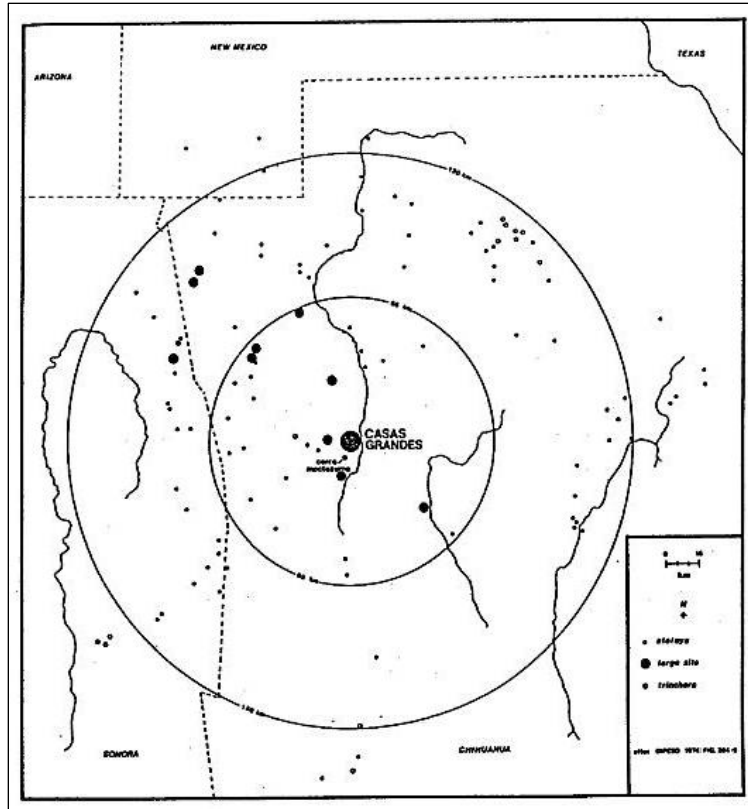


Figure 87: Map indicating Inner Casas Grandes Zone (Minnis 1984: 187)

Although most sites in this region, including those reported by Jones, have been heavily looted as well as compromised by agricultural endeavors, her work provides an interesting opportunity to compare the Lumholtz assemblage with assemblages from sites of similar size and locale.

At Site 231, Jones reports that a total of less than 4000 sherds were collected from a 1670 square meter single room block site of 80 rooms, three of which were excavated. However, at Site 317, a site of 1115 square meters and three room blocks accounting for 60 rooms, six of 20 rooms excavated yielded 9500 sherds. Finally, she reports that at Site 242, considered to be a ceremonial and/or political center, five of the 20-25 room were excavated wherein the yield was 7500 sherds (Jones 2002: 15-72).

Figure 88 provides a comparison of type distribution from Jones (p.72) along with a comparison of the type percentages from the Lumholtz Collection. As further testimony to the loss of data over the past century, the radical difference in percentages reported for polychromes at 231, 317, and 242 versus those collected by Lumholtz demonstrates that it is fair to assume that the sherd count from these sites as well as other current excavations in the area, has been severely compromised by a century's worth of collecting and looting.

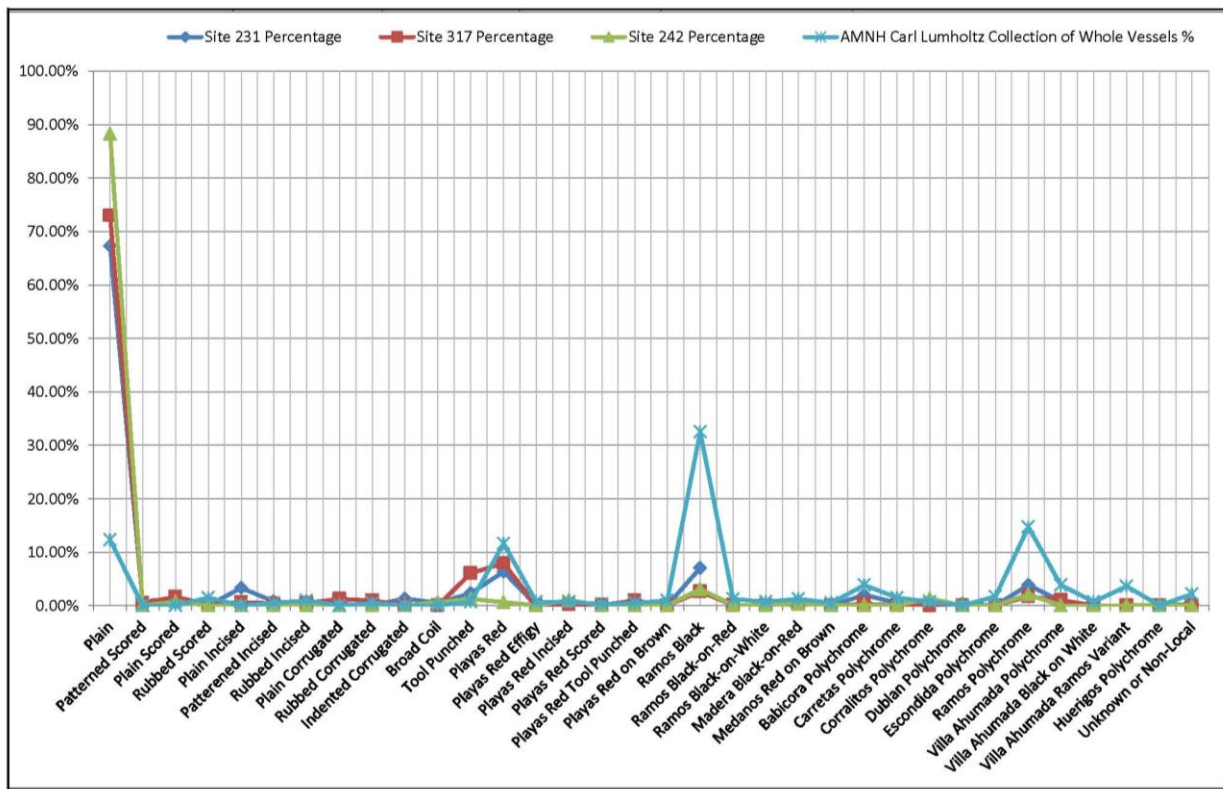


Figure 88: Comparison of Lumholtz Type Distribution vs. Sites 231, 317, and 242

Here again, it is critical to note Kelley's elucidation regarding the severe impact of looting and agricultural development on archaeological sites in the area. I believe that the same holds true for many museum collections in the United States and Canada:

“Looting has warped our understanding of the ancient Chihuahua Culture in two ways. The first and obvious way is the destruction of archaeological deposits that could have provided us with fuller inventories and contextual information. Because of the looting to date, there are certain things that we will never know about ancient life in Chihuahua's northwest quadrant. Although there will always be things we don't know about any

archaeological area ... present efforts to understand Chihuahuan archaeology begin at a far different resource condition than was the case in the adjacent Southwest” (Kelley, et al. 2011: 214).

Thus, it is realistic to conclude that The American Museum of Natural History’s Carl Lumholtz Collection of Casas Grandes ceramics is an invaluable archaeological resource insofar as it provides a unique opportunity to study a systematically collected, clearly authentic array of Casas Grandes vessels that has remained substantially in its original unabridged condition for over 100 years.

## CHAPTER 8: SUMMARY AND CONCLUSIONS

### SUMMARY

The American Museum of Natural History's Lumholtz Collection of Casas Grandes ceramics is the missing rung on the Casas Grandes ceramic research ladder. While research about Casas Grandes ceramic artifacts at other United States and Canadian museums has been undertaken during the past century, the Casas Grandes collection at the American Museum of Natural History is the most comprehensive and varied collection with complete and exact provenience. None of the other collections afford the data specificity of the Lumholtz Collection. Additionally, the Lumholtz Collection was assembled without the burden of theoretical constraints or financial worth; it is over one hundred years old and remains virtually intact.

In my research, I was able to use the original handwritten accession records created when the artifacts were shipped to the American Museum of Natural History (as quoted in Appendix D) as well as original field notes and Carl Lumholtz's personal notebooks. Equally important, the Lumholtz Collection predates much of the looting and agricultural development of the early twentieth century. Since then many sites have been destroyed. "In years past many of the mounds of the Casas Grandes have been opened by Mexicans in search for antiquities which could be sold ... Quantities of this archaeological material have been introduced into our American museums through Mexican speculators in pottery" (Carey 1931: 327).

The Lumholtz Expedition of 1890-1891 to northern Chihuahua was the first of four that Carl Lumholtz would embark upon under the auspices of the American Museum of Natural History. Aided by the sponsorship of the American Museum of Natural History and the American Geographical Society, Lumholtz received a letter of introduction from the U.S. Secretary of State to the President of Mexico. In turn, he was granted the full cooperation of the

Mexican government, even though the removal of artifacts had been legally banned by the Mexican government in the mid-nineteenth century. Lumholtz and his colleagues excavated cave dwellings in Cave Valley as well as many of the mounds on the plains in the vicinity of Hacienda San Diego, 10 miles south of Paquimé. The ceramics documented in this dissertation are from those excavations.

While many of the collections of looted artifacts in museums have greatly enhanced our knowledge of the past, it is a “two-edged sword” (Kelley, et al. 2011: 215). These collections may present a distorted picture of Casas Grandes ceramics since they consist of vessels chosen for their “aesthetic appeal to collectors” (Kelley, et al. 2011: 214). Forgeries pose another threat to the efficacy of museum research since many of these can find their way into the hands of well-meaning collectors.

Scholarly works such as those of the Van Pools regarding shamanism (2007), Maria Sprehn’s work on craft specialization (2003), and Mitch Hendrickson’s design analysis (2003), all rely on museum collections as the foundations of their interpretations. As pointed out by Hendrickson “a serious caveat with using museum collections as the primary database is the question of vessel authenticity ...” (Hendrickson 2003: 93). Authenticity is not an issue with the Carl Lumholtz Collection at the American Museum of Natural History since it is fully documented.

Carl Lumholtz was one of the early explorers in northern Mexico that included Adolph Bandelier, Henry Carey, Donald Brand, and Gordon Ekholm. Each of these men in one way or another looked at northern Mexico for links to the American Southwest. The focus of the First Lumholtz Expedition was to ascertain if descendants of the cliff-dwelling peoples described by

the early Spanish conquistadors were still residing in the cliffs dwellings of the Sierra Madre Occidental.

After a hiatus of several decades, the next major research effort in the area was undertaken by the Joint Casas Grandes Expedition from 1958 to 1961 under the leadership of Charles Di Peso when they commenced the massive task of excavating approximately 40 acres of the site of Paquimé (Casas Grandes' central site) (Di Peso, et al 1974). Fundamental to Di Peso's concept of the area was his proposition that the cultures of northern Mexico and the American Southwest were of Mesoamerican origin. Di Peso postulated that at various times the cultures of Teotihuacan, Toltec, and Aztec fanned out from the Mesa Central of Mexico, leaving their imprint on the impressionable *Chichimecs*.<sup>11</sup> He hypothesized that Casas Grandes was a Mesoamerican trading outpost created by *pochteca*-like Toltec trader-warriors.

Since the case for Casas Grandes as a Mesoamerican trading outpost rests largely on the supposed appearance of Mesoamerican features in its architecture and the reflection of Mesoamerican symbolism in its material goods, it is important to take into account the fluidity of these features and their earlier appearance in culture areas far to the north of Casas Grandes. Elements which Di Peso credited to the *pochteca* of Casas Grandes clearly appeared at earlier times in the cultures of their northern neighbors (Di Peso et al. 1974). This does not deny the Mesoamerican roots of these cultural components, but rather a case can be made that these elements moved southward from the International Four Corners region into northern Mexico and, specifically, into Casas Grandes, rather than northward via *pochteca* traders from Mesoamerica as Di Peso theorized.

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<sup>11</sup> A term employed by Di Peso to support his theory that cultural developments throughout the International Four Corners region and the Greater Southwest were rooted in Mesoamerica. *Chichimeca* has been translated by some to mean "the land of the barbarians".

In my opinion, the Casas Grandes ceramic assemblage in the Carl Lumholtz Collection offers to shed new light on these arguments for a Mesoamerican versus Southwestern genesis. The revised dating of Paquimé makes a strong case that whatever Mesoamerican features can be discerned from the ruins and artifacts could be the result of “borrowings”. The presence of a headpot adorned with classic Casas Grandes design elements in the Lumholtz Collection adds yet another dimension to the whole issue of Casas Grandes regional interaction (see AMNH 30 / 4506). Significantly, many of the effigies present in the Casas Grandes ceramic assemblage could be interpreted as exhibiting Mississippian overtones. Finally, today’s distinction between Mexico and the American Southwest must be blurred by recognition of the fact that the border between them is a modern political one. It is neither environmental nor ethnographic.

While the argument for a Mesoamerican versus Southwestern impetus for Casas Grandes’ Medio Period and its complexity continues, there is little doubt in my mind based on the interpretation of the evidence that Casas was complex. Complexity during the Casas Grandes Medio Period (1200-1450 A.D.) is clearly reflected in its site hierarchy (the central site of Paquimé, smaller administrative sites, and individual pueblo sites), monumental architecture (non-residential, public, and ritual), distinctive pottery, and evidence of aggregation, as well as indications for the existence of an “elite” population. Further support is provided by the elaborately decorated polychrome ollas and effigy vessels.

However, I agree with Warren DeBoer’s stance regarding the inquiry into Southwestern Complexity: “debates concerning the extent and nature of cultural complexity in the prehistoric Southwest expose a more interesting question: Why is this an issue? Perhaps the issue is not ‘how complex is it?’ but ‘how is it complex?’” (DeBoer 2001: 23-27). Casas Grandes may be a prime example of what Warren DeBoer calls “on again, off again” complexity.

Taking the Casas Grandes culture as a whole rather than just the central site of Paquimé, one has a more complete picture. Casas Grandes did not just spring up and then disappear. There were multitudes of smaller sites dating back to the pre-ceramic era including some of the *trincheras* and *atalayas* that did not suddenly appear and then suddenly vanish with the demise of Paquimé. Here, I support Whalen and Minnis' opinion that the concept of mid-level complex societies is particularly applicable since the markers for sociopolitical complexity and regional interaction of those late prehistoric societies did not achieve the scale of their Mesoamerican neighbors to the South (Whalen and Minnis 1996: 282).

In my analysis of the Casas Grandes ceramic artifacts in the Lumholtz Collection I have assigned a type to each vessel, analyzed the morphology of the vessels, and created data sets of the jar and bowl sizes as possible indicators of aggregation (see Chapter 6). Chapter 7 continues an analysis of the collection with tables and charts that elaborate on the designs, layouts, elements, and motifs of the polychromes. Also included in that chapter are data sets comparing the ceramic assemblage of the Lumholtz Collection as it was amassed from 1890 to 1891 versus ceramic collections from nearby sites that were recently excavated by the Regional Paquimé Project (1996-2004).

## CONCLUSIONS

In many respects, my work has just begun. The diversity of the design elements present in the Lumholtz Collection ceramics raises questions surrounding the Casas Grandes culture sphere. Who were these people? What were their contacts? Were they, as Charles Di Peso postulated, part of an intricate trade network set up by Toltec *pochteca* agents to enhance Mesoamerican trade? Or, as others have asked, were they descendants of the Anasazi, i.e. Steve Lekson's *The Chaco Meridian* (1999b)? Or, perhaps, their origins rest with the Mimbres (Brody

1977: 109)? Could they have been descendants of the Mogollon as expressed by Robert Lister's *Archaeological Excavations in the Northern Sierra Madre Occidental* (1958)? These perplexing questions continue to haunt the ancient ruins. These questions lead to more questions. What, if any, was the association with the Mississippian culture? The similarities in the Casas Grandes effigy vessels are too intriguing to be ignored.

Additionally, an analysis of the physical composition of vessels in the Lumholtz Collection has not yet been conducted. I believe that this collection is worthy of a study comparable to one conducted by Professor Daniella Triadan and her colleagues for Instituto de Antropologia E Historia (INAH) in 2006 on the three polychrome types Ramos, Babicora, and Villa Ahumada. That study provides a glimpse of what might be expected from similar research on the Lumholtz Collection. In their report, Triadan, et al. endeavored to ascertain if Paquimé was the major production center for the polychromes or if the polychromes had been produced at a variety of sites. If the vessels were produced at a variety of sites, the question of what type of sites followed. See Chapter 7 for more information on this analysis.

In my personal correspondence with Dr. Triadan she indicated that there was no conclusive evidence that the raw materials from each of the three polychrome types were significantly different other than the vessels attributed to the Babicora region where there appeared to be localized production (Triadan personal e-mail: February 2012). Would a similar analysis of the Lumholtz Collection provide similar results?

As a post-doctoral endeavor, it is my goal to pursue further research on the Lumholtz Collection both from a chemical analysis point of view in order to determine if the findings on the Lumholtz ceramics are consistent with those examined by Triadan, et al. and to investigate any possible links with the Mississippian mound builders.

**ANALYSIS OF THE CARL LUMHOLTZ COLLECTION OF CASAS GRANDES  
CERAMIC ARTIFACTS AT THE AMERICAN MUSEUM OF NATURAL HISTORY**

by

**M. Patricia Lee**

**VOLUME II**

A dissertation submitted to the Graduate Faculty in Anthropology in partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York

2013

**APPENDIX I: LUMHOLTZ FIRST EXPEDITION CERAMIC ARTIFACTS**



#1

#2

#3

#4

AMNH 30 / 4080

Counterclockwise Rotation (#1 to #4)

Ramos Polychrome

Tall Ovoid Jar - Low Center of Gravity

“2 jars ‘restored’ Potsherds glued together, and bottom  
made entirely of plaster San Diego, Chihuahua”

(Lumholtz Collection Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)

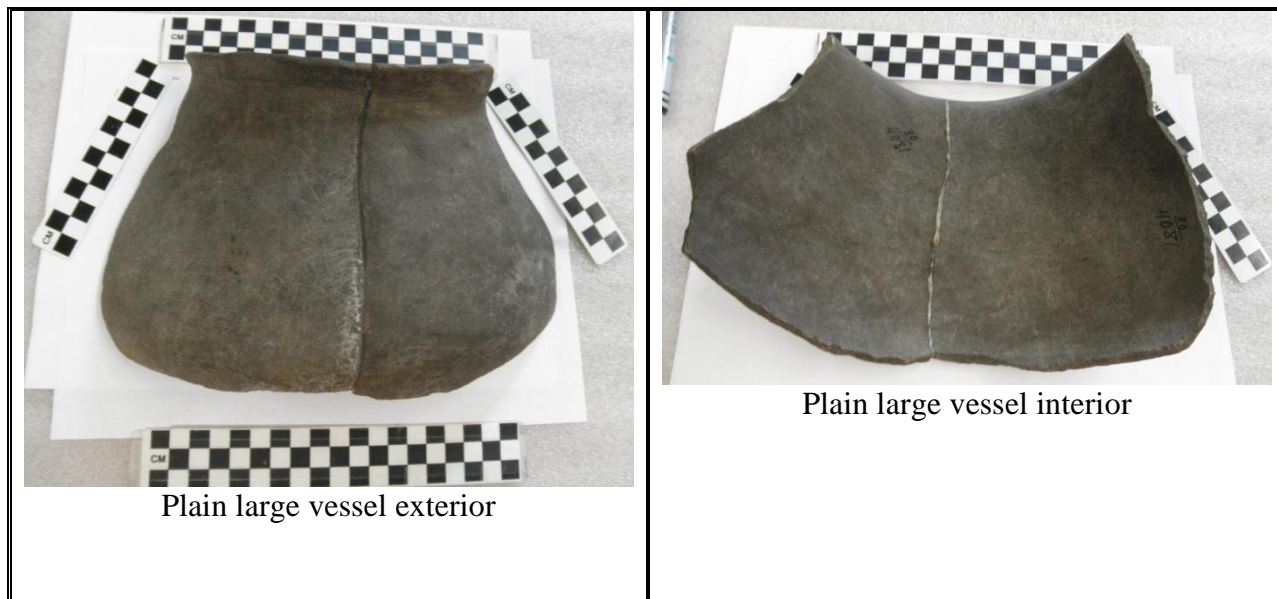


AMNH 30 / 4081

Portions of Ramos Polychrome Jar

“Potsherds 20+ - no indication of locale”

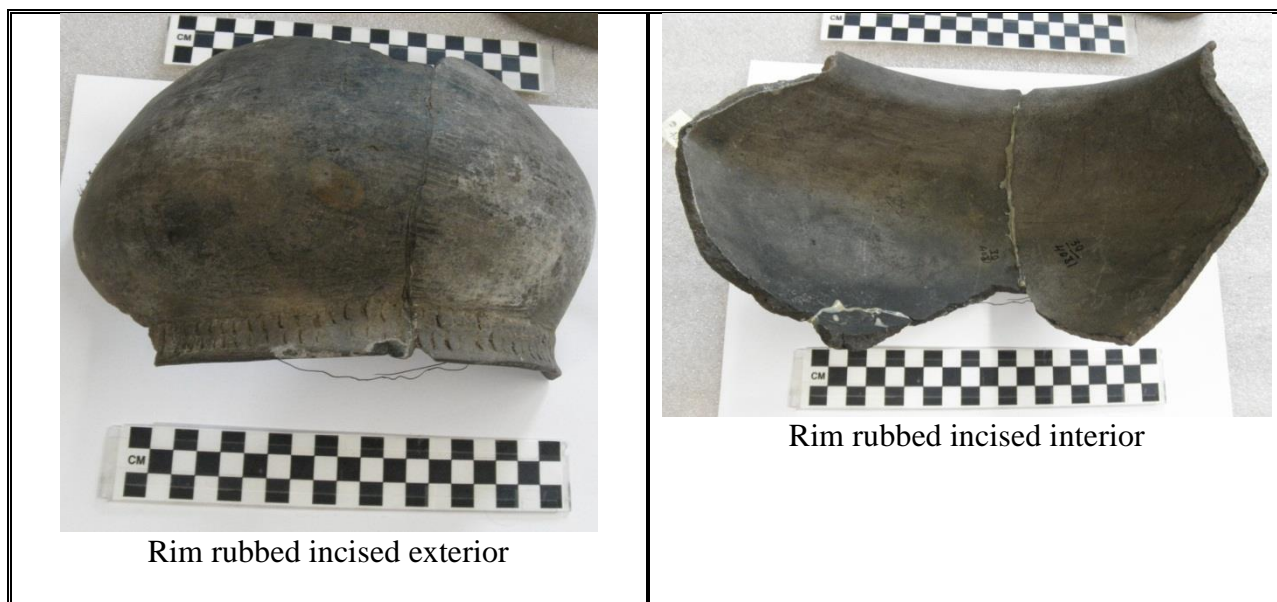
(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



Plain large vessel exterior

Plain large vessel interior

AMNH 30 / 4081  
 Portions of Plainware AMNH  
 Rim approximately 20 cm in diameter



Rim rubbed incised exterior

Rim rubbed incised interior

AMNH 30 / 4081  
 Rim rubbed incised exterior  
 Rubbed Incised Rim approximately 20 cm diameter

“Potsherds 20+ - no indication of locale”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4099a  
Counter Clockwise Rotation

“Potsherds (50+)  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua”

(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4099f  
Counterclockwise Rotation

“Potsherds (50+)  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua”

(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3

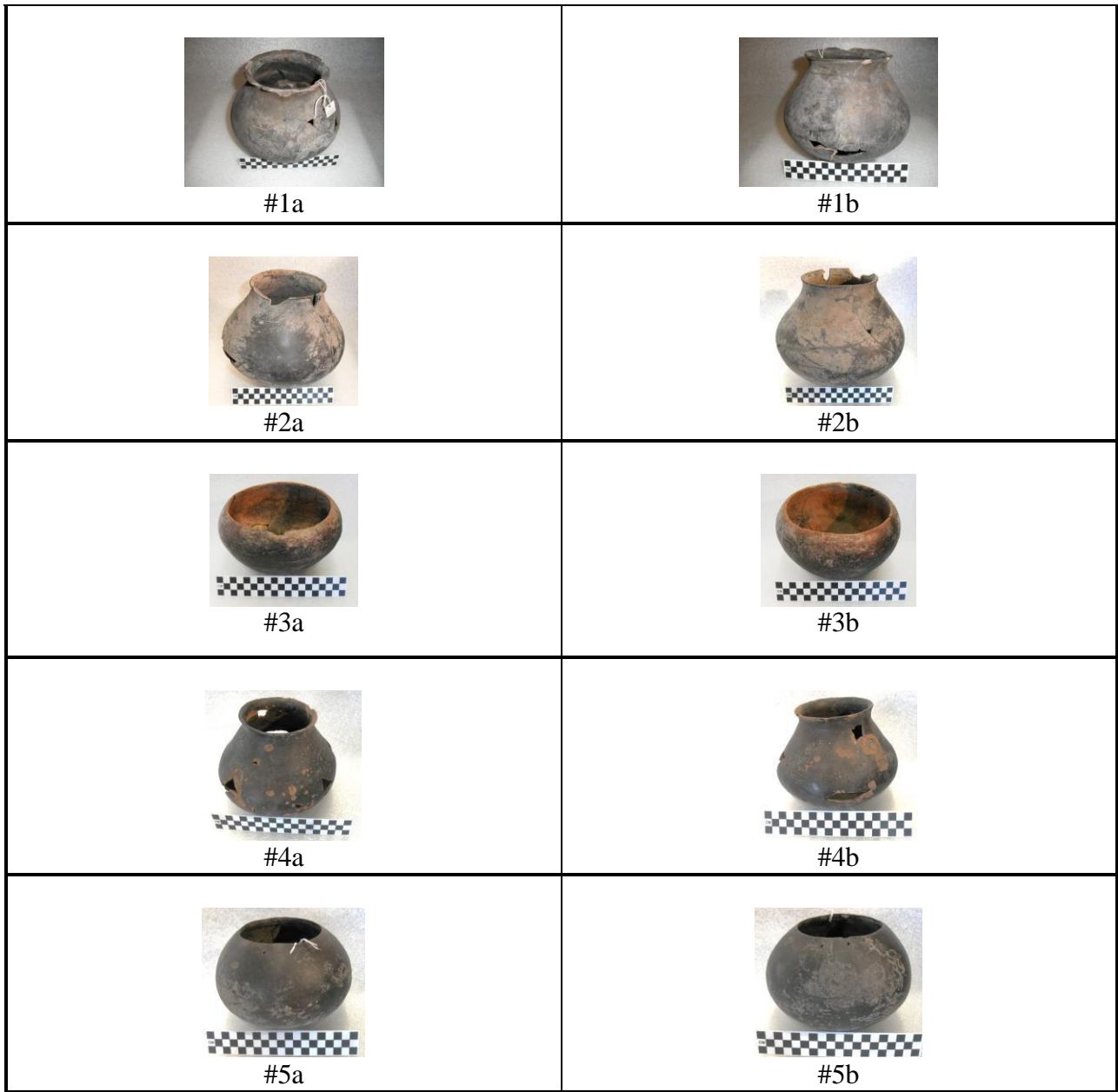


#4

AMNH 30 / 4099b, g and h

“Potsherds (50+)  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua”

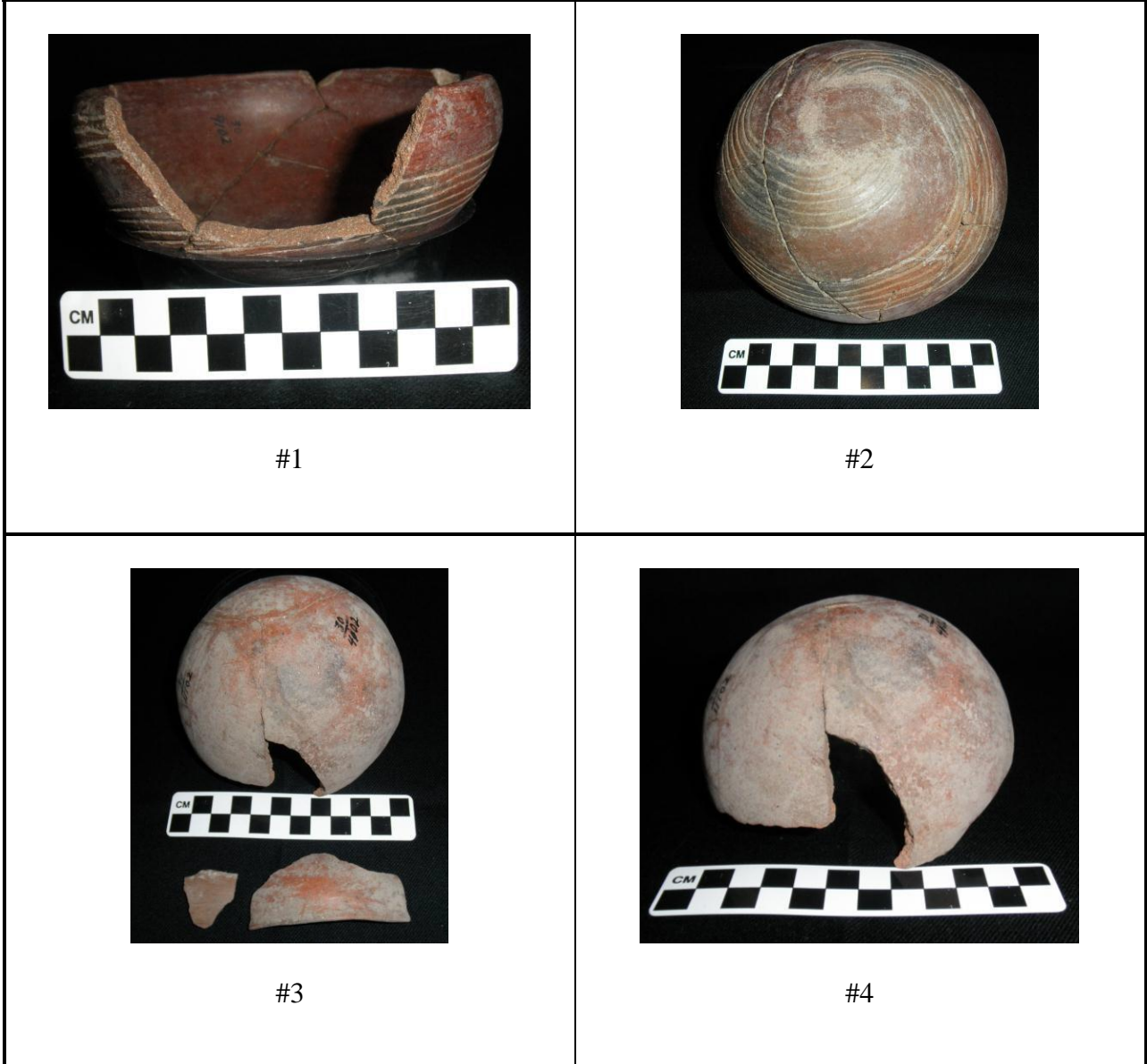
(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4101 – 5 Vessels

“Potsherds (85) of Reddish Clay painted black Sonora”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4102  
2 Mended vessels

“Potsherds (8) not painted – some have incised lines Sonora”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4103  
Counterclockwise Rotation  
Babicora Polychrome  
Ovoid Jar - Medium Center of Gravity

“Portion of jar – light color: decorated in red and black”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4104  
 Clockwise Rotation  
 Ramos Polychrome

“Portion of Tall Ovoid Jar - Low Center of Gravity”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4105  
 Clockwise Rotation  
 Villa Ahumada Polychrome  
 Spheroid Jar - Low Center of Gravity

“Portion of Jar – light colored, decorated in red and black  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos on plain near the Rio San Miguel”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3

AMNH 30 / 4106  
Clockwise Rotation  
Ramos Polychrome  
Ovoid Jar - Low Center of Gravity

“Portion of Jar – light colored, decorated in red and black  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
under floors of ruined pueblos on plain near the Rio San Miguel”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3

AMNH 30 / 4107  
Clockwise Rotation  
Babicora Polychrome  
Spheroid Jar - Low Center of Gravity

“Portion of Jar – light colored, decorated in red and black  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
under floors of ruined pueblos on plain near the Rio San Miguel”

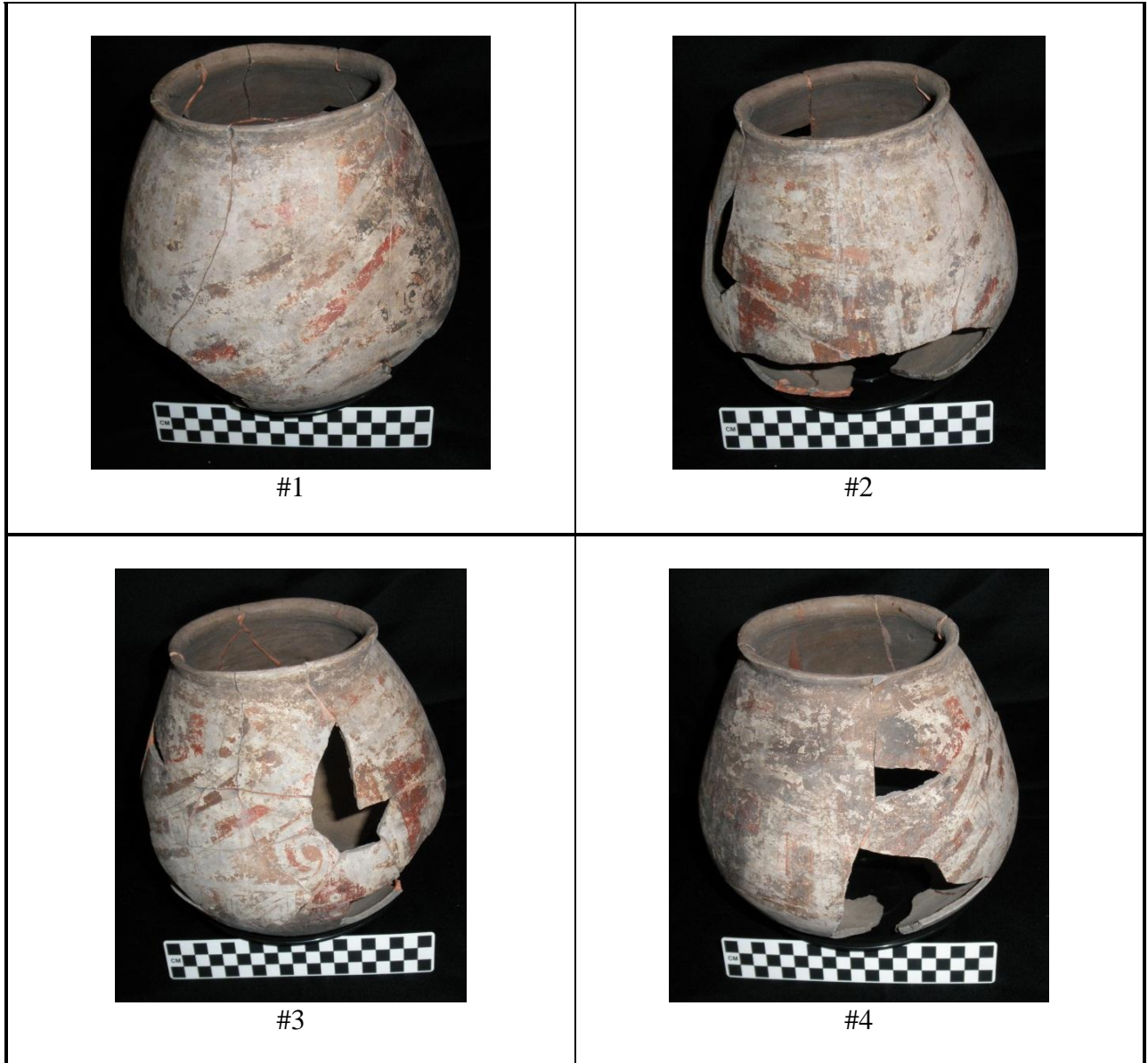
(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4108  
 Counterclockwise Rotation  
 Babicora Polychrome  
 Ovoid Jar - Medium Center of Gravity

“Portion of Jar – light colored, decorated in red and black  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos on plain near the Rio San Miguel”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4109  
 Counterclockwise Rotation  
 Babicora Polychrome  
 Ovoid Jar - Low Center of Gravity

“Portion of Jar – light colored, decorated in red and black  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos on plain near the Rio San Miguel”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4110  
 Counterclockwise Rotation  
 Babicora Polychrome  
 Ovoid Jar - Medium Center of Gravity

“Portion of Jar (5 in. high) Redware – decoration, white, black & red  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos on plain near the Rio San Miguel”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

#2

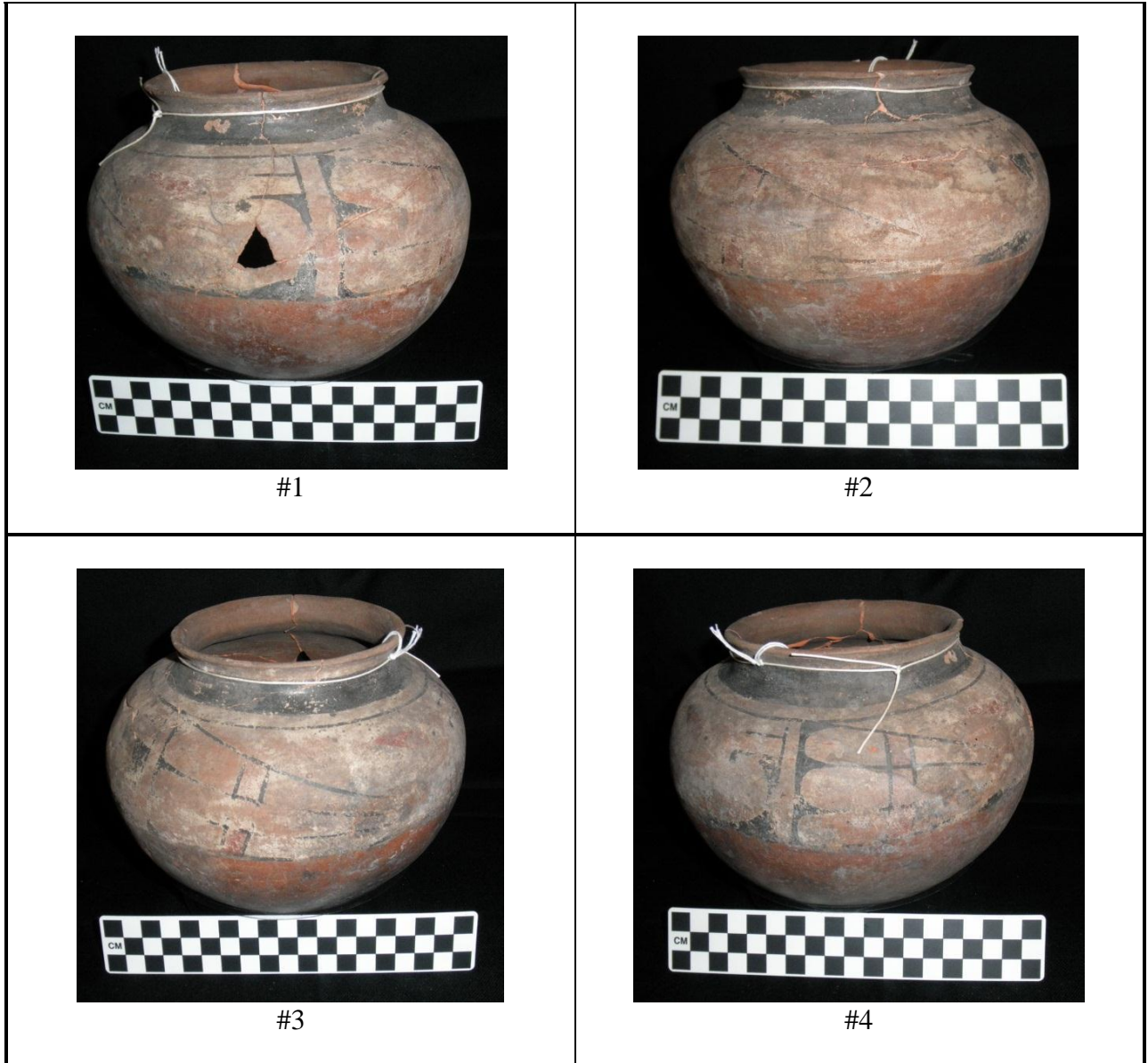
#3

#4

AMNH 30 / 4111  
 Counterclockwise Rotation  
 Ramos Blackware

“Bowl of Blackware – badly broken  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of totally ruined pueblos on plain near Rio San Miguel”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4112  
 Clockwise Rotation  
 Ramos Black on White  
 Spheroid Jar - Medium Center of Gravity

“Jar of red ware (6 ¾ in. high) Upper half decorated in black & white,  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of totally ruined pueblos on plain near the Rio San Miguel”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4113

Counterclockwise Rotation

Villa Ahumada Black on White

Spheroid Jar - Medium Center of Gravity with neck and flared rim

“Jar light gray ware – upper half decorated in black  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos on plain near the Rio San Miguel”

(Lumholtz Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

#2

#3

#4

AMNH 30 / 4114

Counterclockwise Rotation

Non-Local

Spheroid Jar - Medium Center of Gravity

“Red Jar decorated in black and white (badly broken)  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos on plain near the Rio San Miguel”

(Lumholtz Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4115  
Playas Redware

“Small, plain, red jar (3 in. high) rim broken.  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
under floors of totally ruined pueblos, near the Rio San Diego”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4116  
Plainware  
Counterclockwise Rotation

“Unpainted jar – broken – decorated with small ‘pits’  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
under floors of totally ruined pueblos near the Rio San Miguel”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



4118



4119



4125



4125

AMNH 30 / 4118, 4119, and 4125

180 degree Rotation

Plainware

AMNH 30 / 4118 “Piece of pottery (4 ½ x 4 1/8 in), edges have been ‘worked’

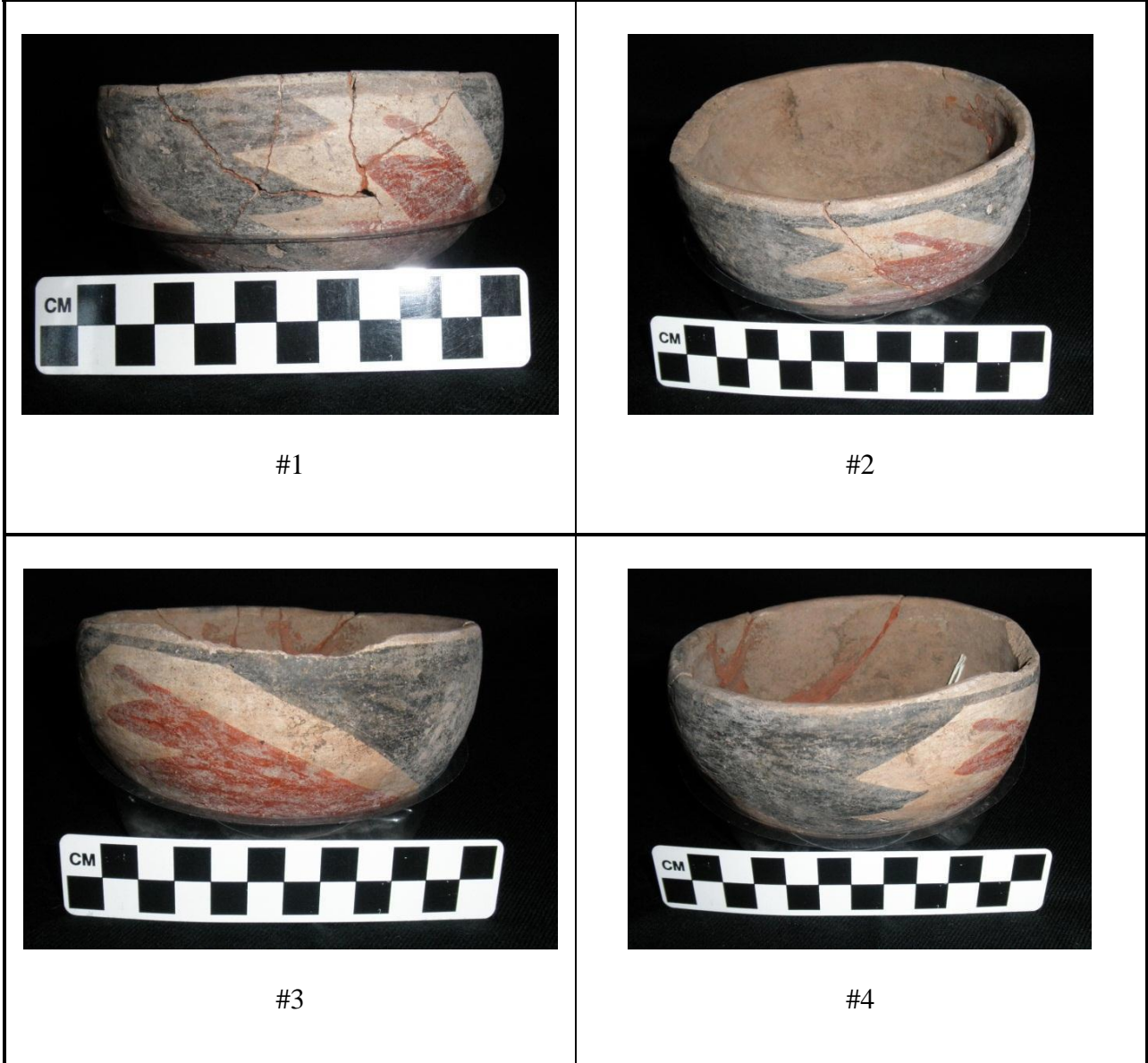
AMNH 30 / 4119 – 5 potsherds – small

AMNH 30 / 4125 “Pottery Vessel – plain, coarse ware – diam. at top 6 ¾ x 6 in.

Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
under floors of totally ruined pueblos near the Rio San Miguel”

(Lumholtz Handwritten Archive Notes:

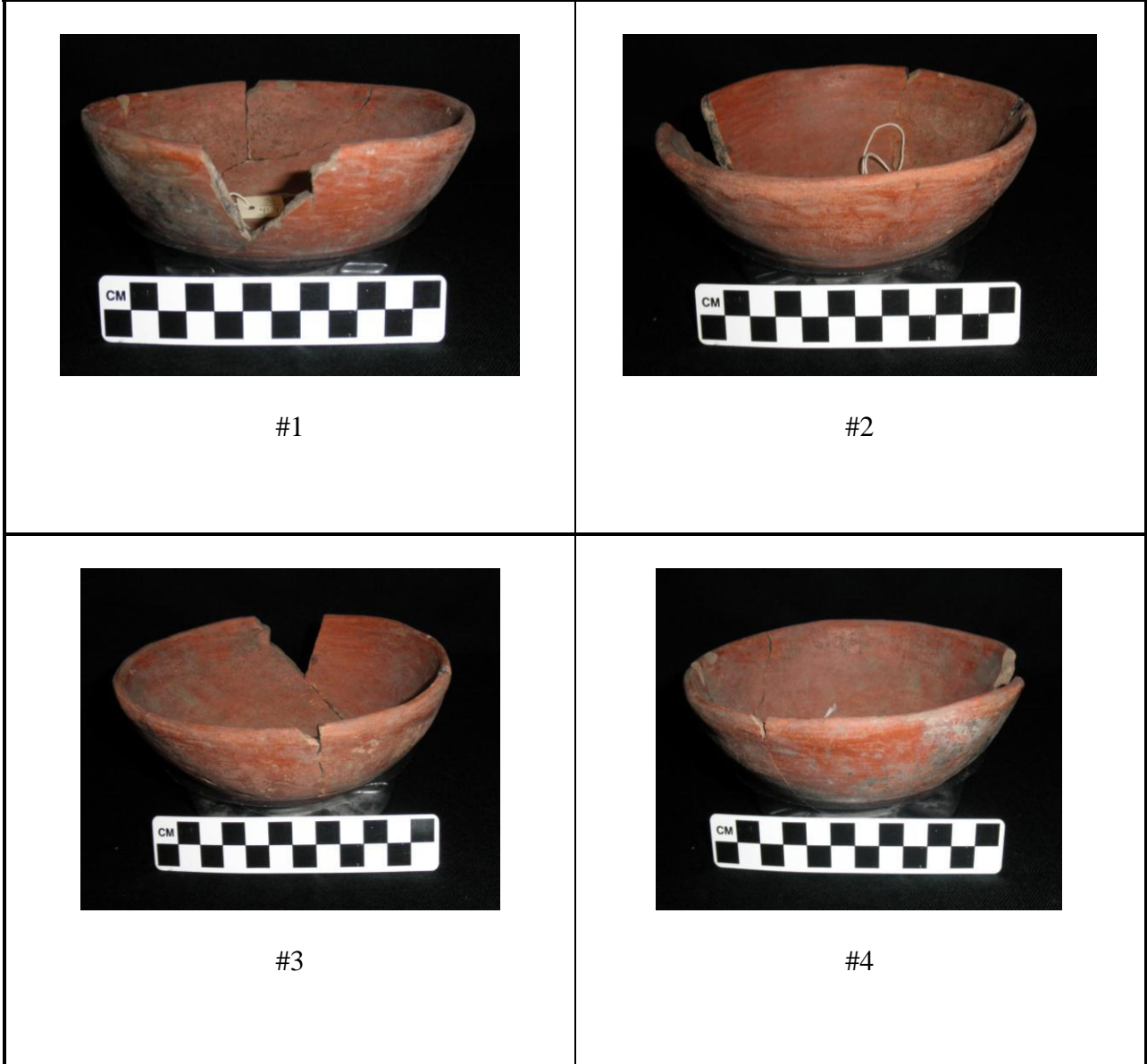
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4120  
 Counterclockwise Rotation  
 Babicora Polychrome  
 Small Bowl with Straight Rim

“Small bowl – light ware, decorated in red & black  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of totally ruined pueblos on plain near the Rio San Miguel”

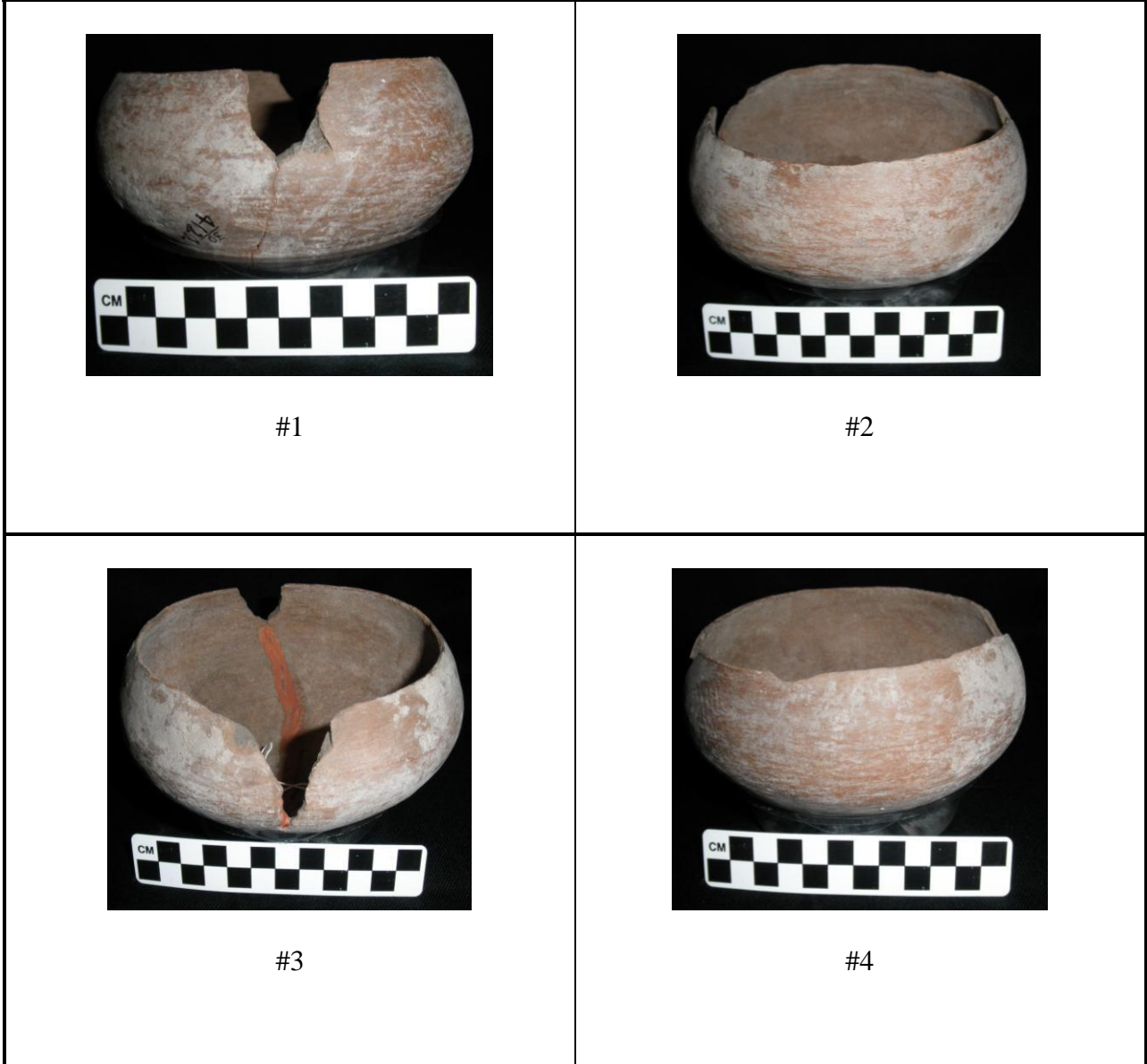
(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4121  
 Clockwise Rotation  
 Playas Red Bowl

“Small bowl, plain, red ware (broken)  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of totally ruined pueblos near the Rio San Miguel”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

#2

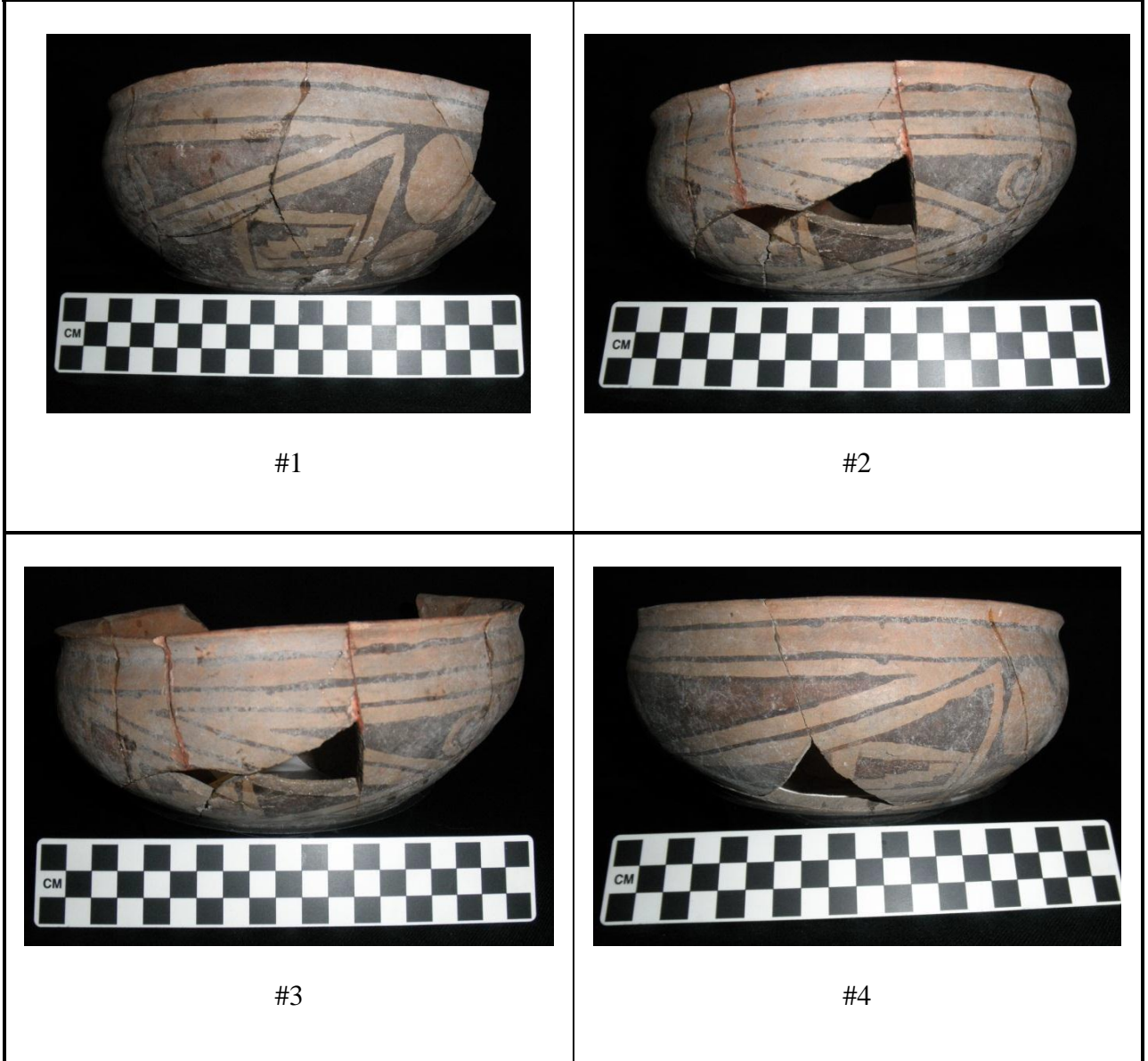
#3

#4

AMNH 30 / 4122  
 Plainware  
 Counterclockwise Rotation

“Small bowl reddish ware  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of totally ruined pueblos, near the Rio San Miguel”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

#2

#3

#4

AMNH 30 / 4123  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Bowl with straight rim

“Portion of bowl – light ware. Decoration black & red  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos near the Rio San Miguel”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4124  
 Counterclockwise Rotation  
 Villa Ahumada Polychrome (Ramos Variant)  
 Ovoid Jar - Low Center of Gravity

“Small Jar – upper half decorated in Black, White & red (broken)  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of totally ruined pueblos on plain near the Rio San Miguel”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4126  
 Counterclockwise Rotation  
 Casas Grandes Plain  
 Portion of Spheroid Jar - Medium Center of Gravity

“Portion of Jar  
 Cave Valley Mounds Chihuahua  
 Found under floors of ruined pueblo”

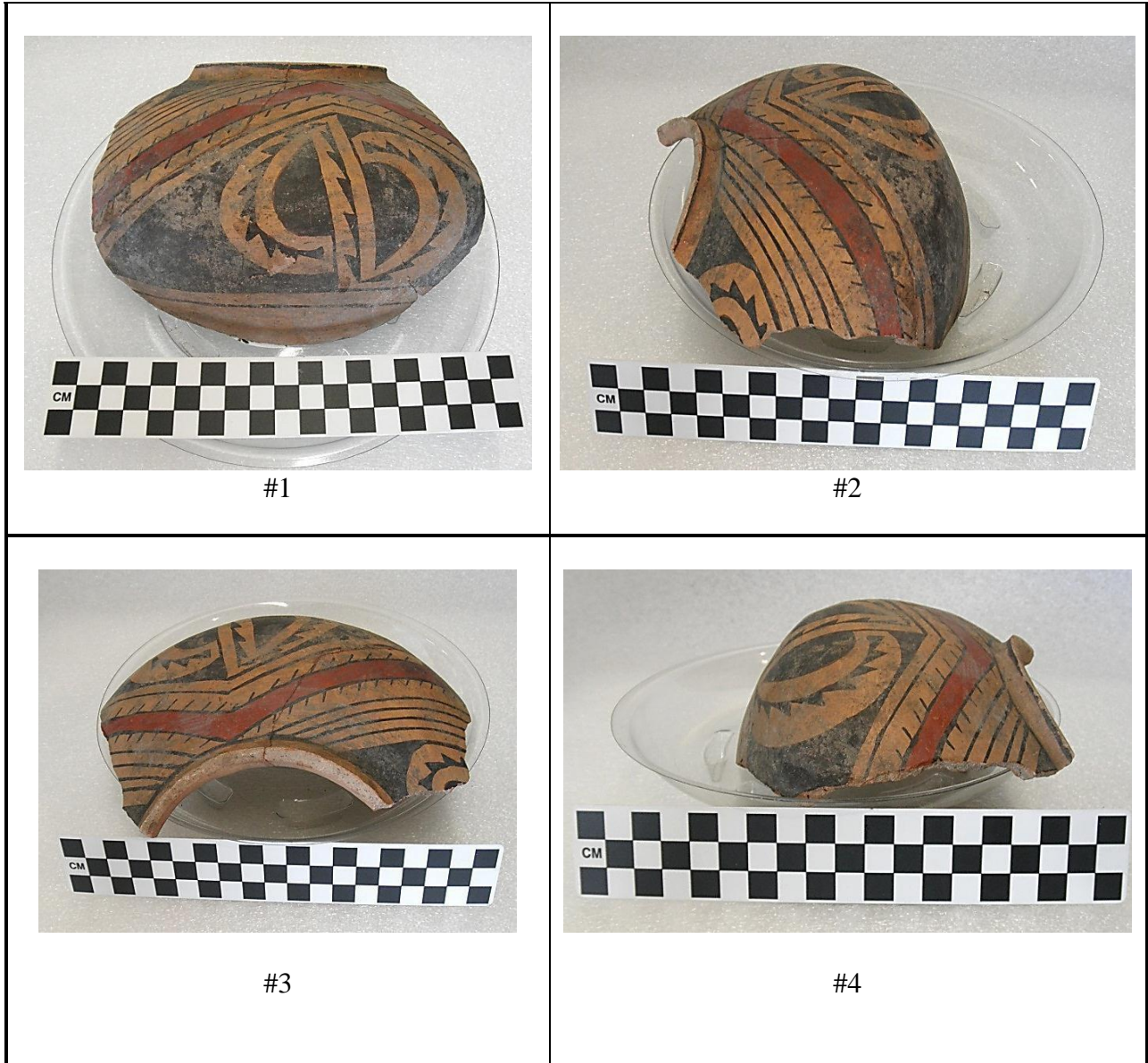
(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4127  
 Plainware  
 Portion of Spheroid Jar with Elongated Neck

“Neck & portion of Jar  
 Cave Valley Mounds Chihuahua  
 Found under floors of ruined pueblo”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4128  
 Clockwise Rotation  
 Ramos Polychrome  
 Portion of Spheroid Jar - Medium Center of Gravity

“Large potsherds (2) parts of jar, Lightware, decorated in Black & red  
 Cave Valley Mounds Chihuahua,  
 Found under floors of ruined pueblo”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4129  
Polychrome Sherds

“Potsherds – decorated ware  
Cave Valley Mounds, Chihuahua,  
Found under floors of ruined pueblo”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4130  
Ramos Polychrome  
Portion of 2 headed Effigy Vessel

“Potsherds (2) with human faces (portions of jar)  
Cave Valley Mounds Chihuahua  
Found under floors of ruined pueblo”

(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4131  
Sherds

“Potsherds (4) plain ware  
Cave Valley Mounds Chihuahua,  
found under floors of ruined pueblo”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



30 / 4132



30 / 4132

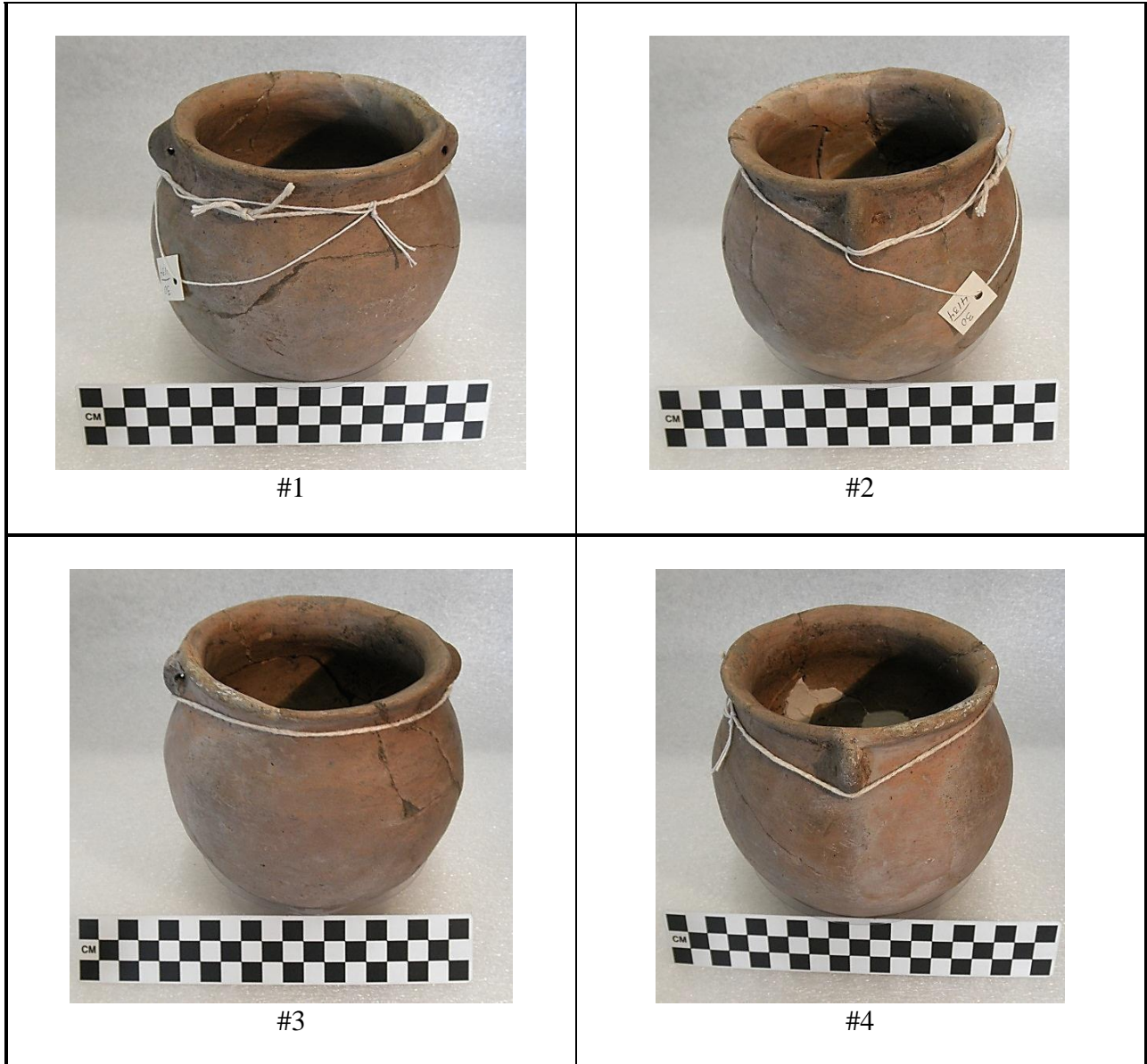


30 / 4133

AMNH 30 / 4132 – AMNH 30 / 4133  
Casas Grandes Polychromes  
Selected Potsherds of Polychrome wares

AMNH 30 / 4132 “Potsherds (7) decorated ware  
AMNH 30 / “Potsherds (50+) plain & decorated (many very small)  
Cave Valley Mounds Chihuahua  
Found under floors of ruined pueblo”

(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4134

Counterclockwise Rotation

Casas Grandes Plainware with 2 perforated ears Spheroid Jar - Medium Center of Gravity

“Plain jar – badly broken (5 in. high)  
 Cave Valley Mounds Chihuahua  
 Found under floors of ruined pueblo”

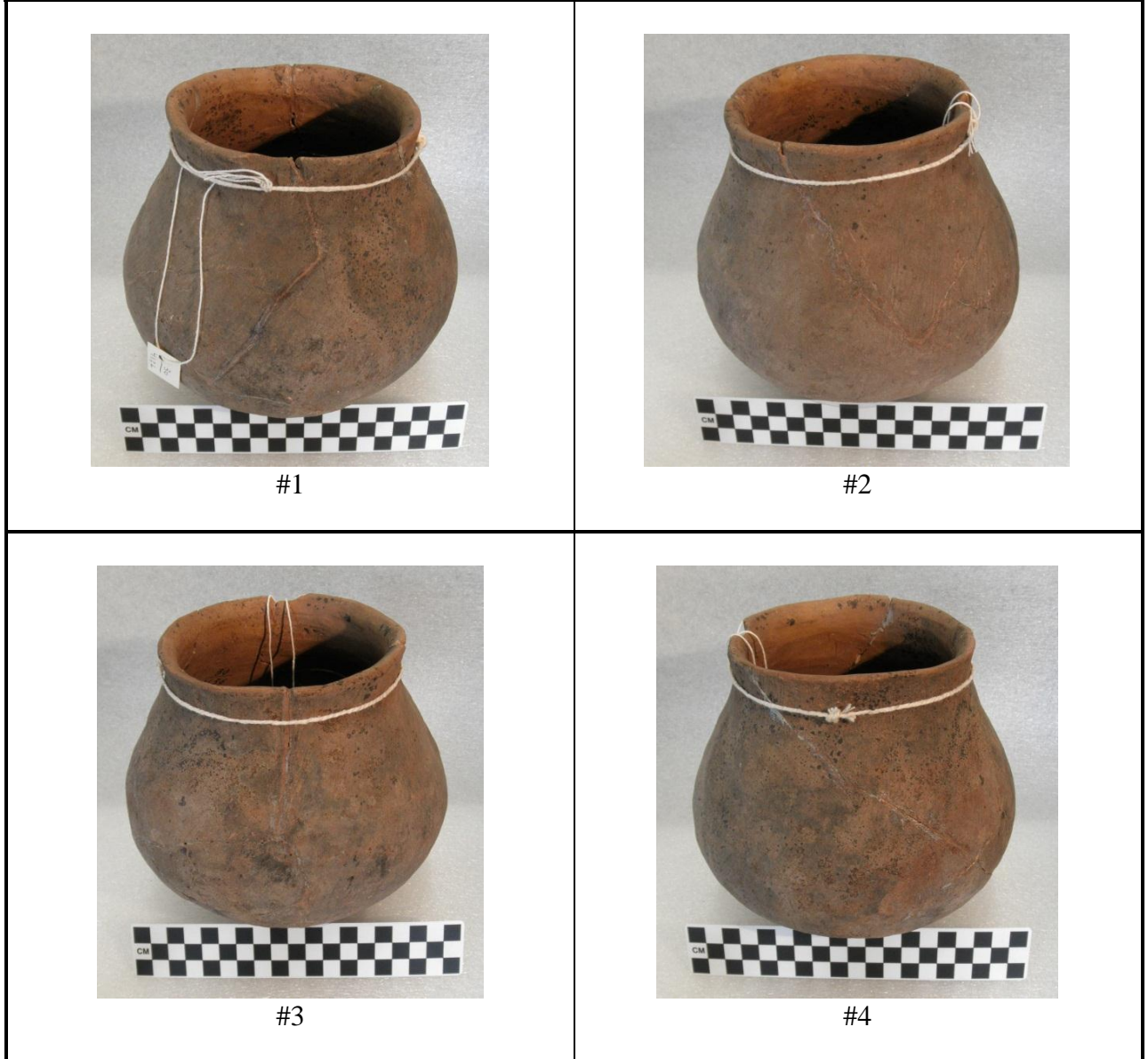
(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4135  
 Clockwise Rotation  
 Casas Grandes Plainware  
 Portion of Ovoid Jar - Low Center of Gravity

“Plain jar (portions of) 3 ½ in. high  
 Cave Valley Mounds Chihuahua  
 Found under floors of ruined pueblo”

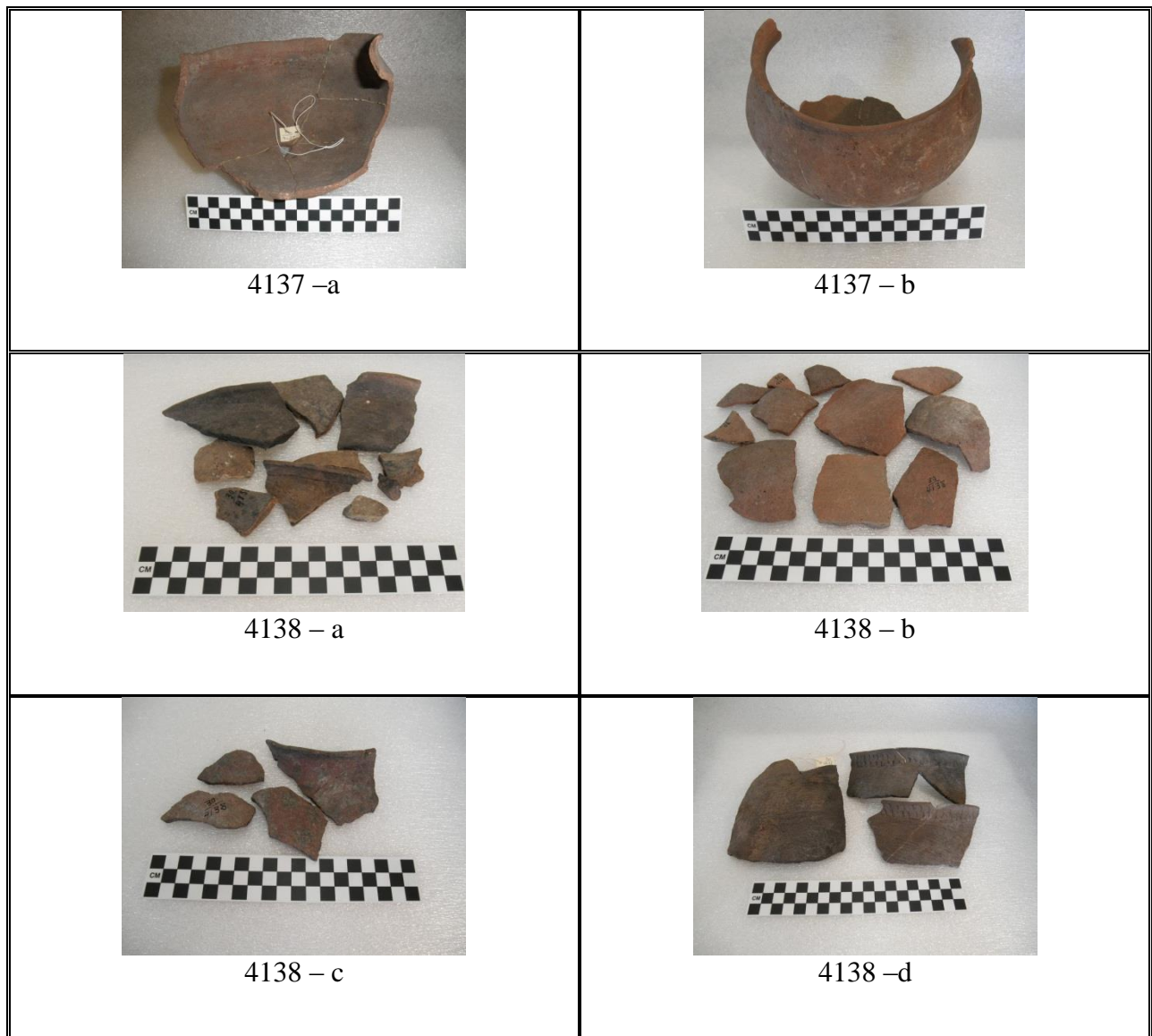
(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4136  
 Counterclockwise Rotation  
 Casas Grandes Plainware  
 Ovoid Jar - Medium Center of Gravity

“Plain jar (in pieces) 6 ¼ in. high  
 Cave Valley Mounds Chihuahua  
 Found under floors of ruined pueblo”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4137 and 4138  
Potsherds and Plainware

AMNH 30 / 4137 "Portion of (about one half) of plain jar  
AMNH 30 / 4138 "Potsherds - plainware  
Cave Valley Mounds, Chihuahua,  
Found under floors of ruined pueblo"

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4168  
 Clockwise Rotation  
 Babicora Polychrome  
 Spheroid Jar with a Medium Center of Gravity

“Jar – Light ware decorated in red & black 5 ¼ in. high .  
 From ruin, 7 miles N.E. of Pinons altos?”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History



AMNH 30 / 4170 Potsherds

“AMNH 30 / 4170 Potsherds (15+) unpainted ware  
Mexico”

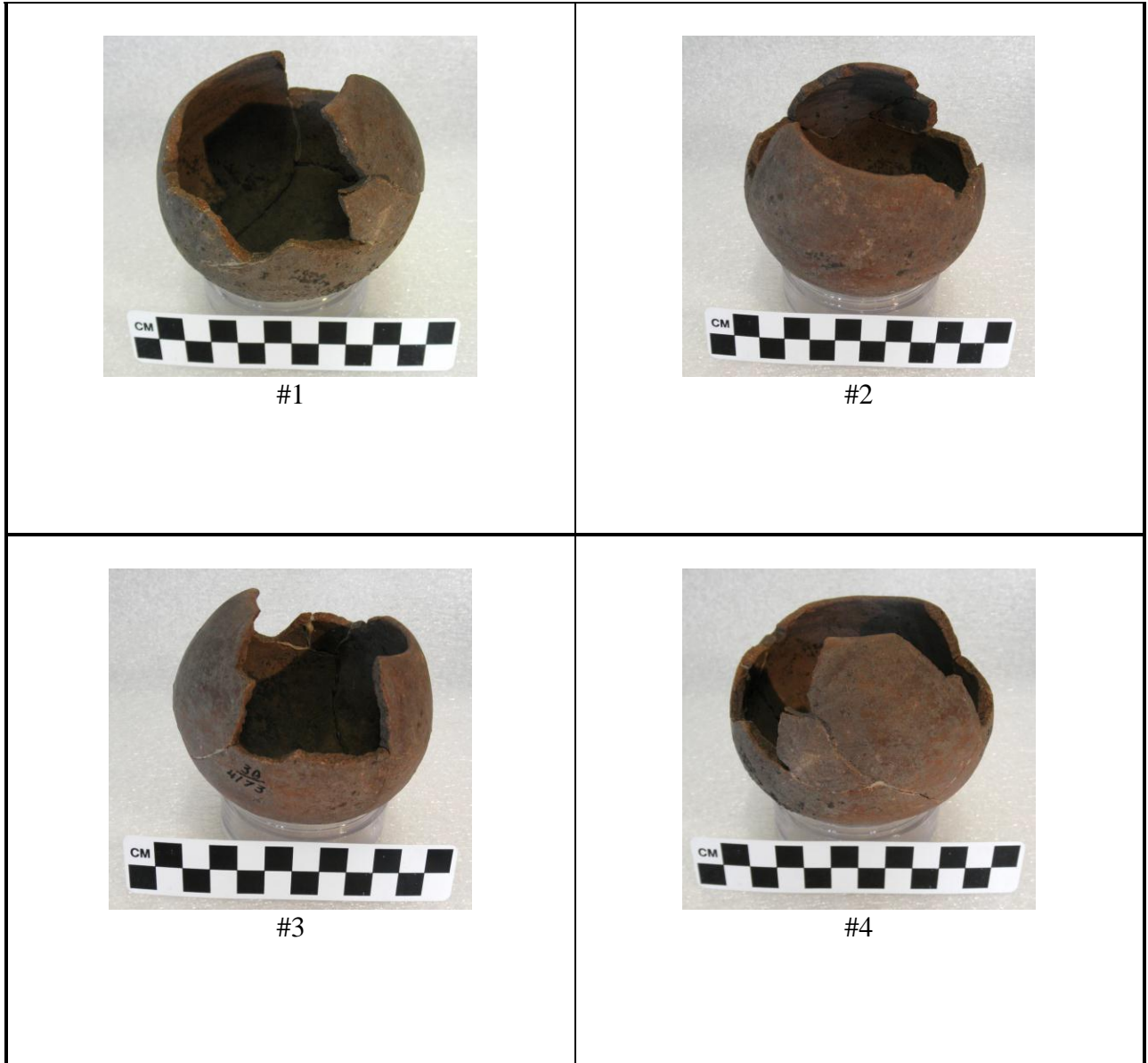
(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4172 Blackware Potsherds

“Upper portion of black bowl (2pieces)  
Mexico”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4173  
 Counterclockwise Rotation  
 Redware

“Portion of small red bowl  
 Mexico”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



30 / 4174



30 / 4174



30 / 4175

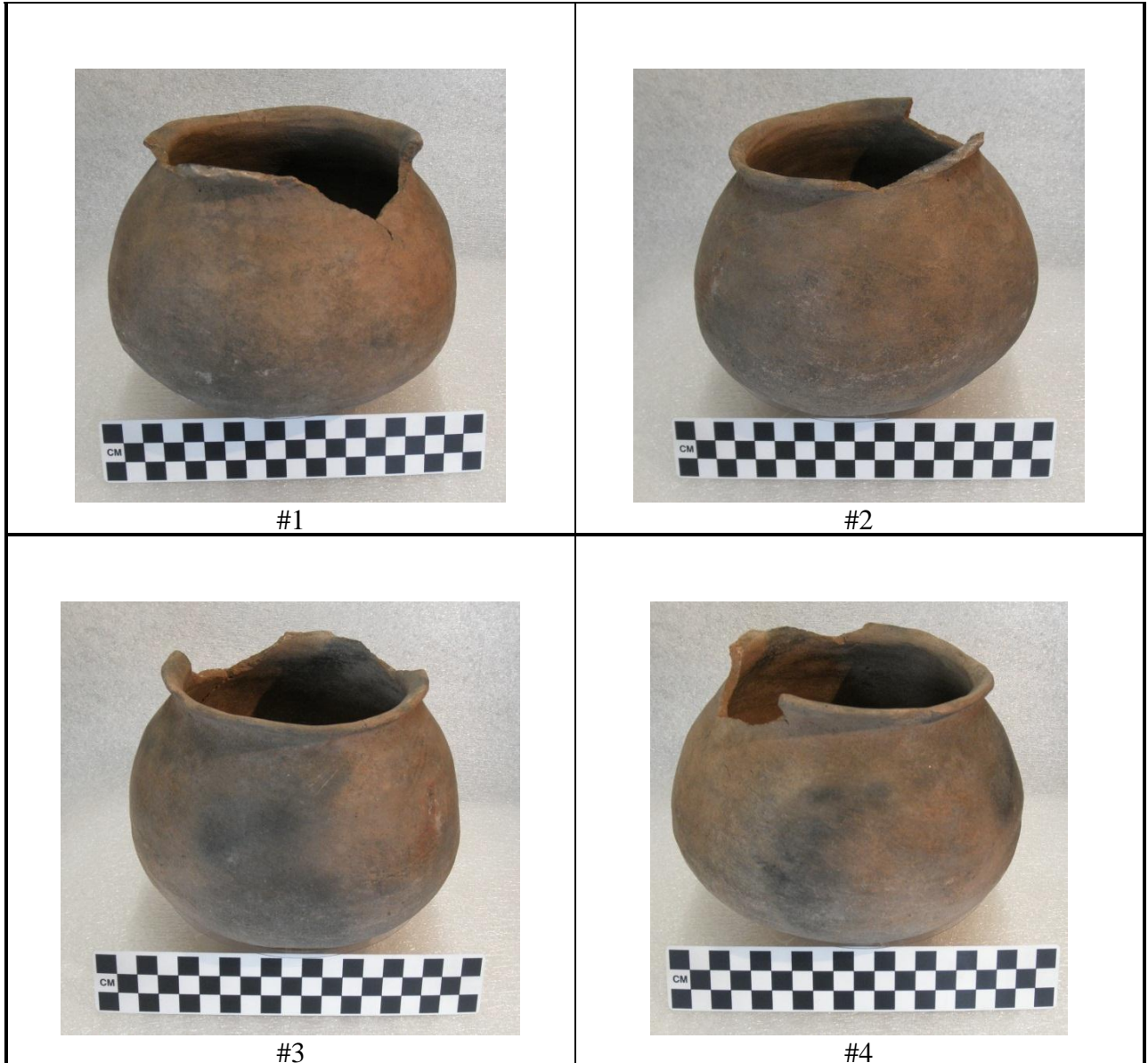


30 / 4175

AMNH 30 / 4174 Playas Red  
AMNH 30 / 4175 Playas Red Incised

AMNH 30 / 4174 “Portion of bowl – redware  
AMNH 30 / 4175 “Portion of large bowl – plain ware (2 pieces)  
Mexico”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4176

Counterclockwise Rotation Casas Grandes Plainware  
Spheroid Jar - Low Center of Gravity

“Plain jar – rim broken  
Rancho San Diego, near Casas Grandes Chihuahua”

(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4177  
Counterclockwise Rotation  
Blackware

“Plain jar – 2 small, perforated ears  
Rancho San Diego, near Casas Grandes, Chihuahua”

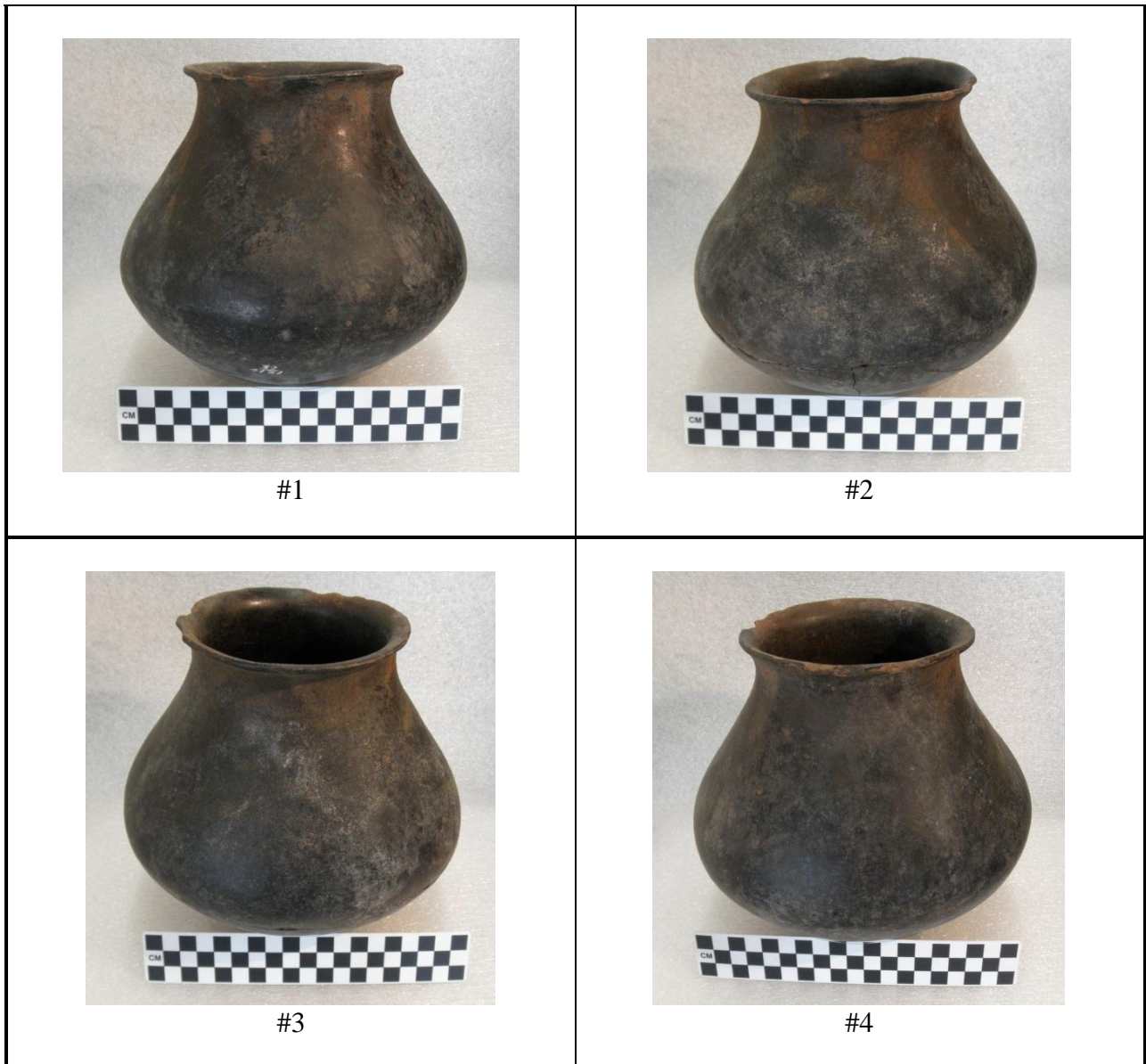
(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4180  
 Counterclockwise Rotation  
 Ramos Blackware  
 Spheroid Jar – Low Center of Gravity

“Plain Jar – 3 ears, 2 perforations on either side:  
 Under floor of ruined Pueblos, Rancho San Diego, Chihuahua,  
 10 miles So. of Casas Grandes”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4181  
 Counterclockwise Rotation  
 Ramos Blackware  
 Ovoid Jar - Low Center of Gravity

“Plain Jar (in 2 pieces) 7 ½ in. high.  
 Taken from ruined pueblos, Rancho San Diego,  
 10 miles So. Of Casas Grandes Chihuahua”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



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AMNH 30 / 4182  
 Counterclockwise Rotation  
 Casas Grandes Plainware  
 Spheroid Jar - High Center of Gravity

“Plain jar 2 perforations on either side (5 ¼ in. high)  
 Under floors of ruined pueblos, Rancho San Diego, Chihuahua  
 10 miles So. Of Casas Grandes”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4182

Counterclockwise Rotation Casas Grandes Plainware  
Spheroid Jar - High Center of Gravity

“Plain jar 2 perforations on either side (5 ¼ in. high)  
Under floors of ruined pueblos, Rancho San Diego, Chihuahua  
10 miles So. Of Casas Grandes”

(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4183

Counterclockwise Rotation

Playas Red – heavily sooted with 2 perforated ears Spheroid Jar - Medium Center of Gravity

“Plain jar reddish color – 2 perforated ears/ 5 in. high  
 Under floors of ruined pueblos, Rancho San Diego, Chihuahua  
 10 miles So. Of Casas Grandes”

(Lumholtz Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4184

Counterclockwise Rotation Ramos Black  
Spheroid Jar - Low Center of Gravity

“Plain jar – dark color (7 ¾ in. high)  
Under floors of ruined pueblos,  
Rancho San Diego, Chihuahua 10 miles So. of Casas Grandes”

(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4185  
Counterclockwise Rotation  
Ramos Blackware

“Plain jar dark color (6 in. high) 2 perforations in either side  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4186  
 Counterclockwise Rotation  
 Ramos Blackware

“Plain jar dark color rim broken at perforations on one side 5 ½ in. high.  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4187  
 Counterclockwise Rotation  
 Incised Ware  
 Pot - Medium Center of Gravity

“Cooking pot – decorated with design in incised lines (5 in. high)  
 Under floors of ruined pueblos, Rancho San Diego, Chihuahua  
 10 miles So. Of Casas Grandes”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4188

Counterclockwise Rotation Ramos Black  
Ellipsoid Jar - Low Center of Gravity

“Jar of blackware – rim broken (6 6/8 in High)  
Under floors of ruined pueblos,  
Rancho San Diego, Chihuahua, 10 miles So. Of Casas Grandes”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4189  
 Counterclockwise Rotation Ramos Black  
 Spheroid Jar - Low Center of Gravity

“Jar of blackware – 6 ¼ in high  
 Under floors of ruined pueblos,  
 Rancho San Diego, Chihuahua 10 miles So. Of Casas Grandes”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4190

Counterclockwise Rotation Ramos Black with 2 perforated ears Spheroid Jar - Low Center of Gravity

“Jar of blackware 4 ¾ in. high  
 Under floors of ruined pueblos,  
 Rancho San Diego, Chihuahua 10 miles So. Of Casas Grandes”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4191

Clockwise Rotation

Ramos Black with a small lug on opposing sides Spheroid Jar - Low Center of Gravity

“Jar of blackware small – 2 perforated ears 4 5/8  
 Under floors of ruined pueblos, Rancho San Diego, Chihuahua  
 10 miles So. Of Casas Grandes”

(Lumholtz Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4192  
Clockwise Rotation  
Ramos Blackware

“Black jar – rim broken (6 in. high)  
Rancho San Diego Chihuahua  
under floors of ruined pueblos 10 miles so. Casas Grandes”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



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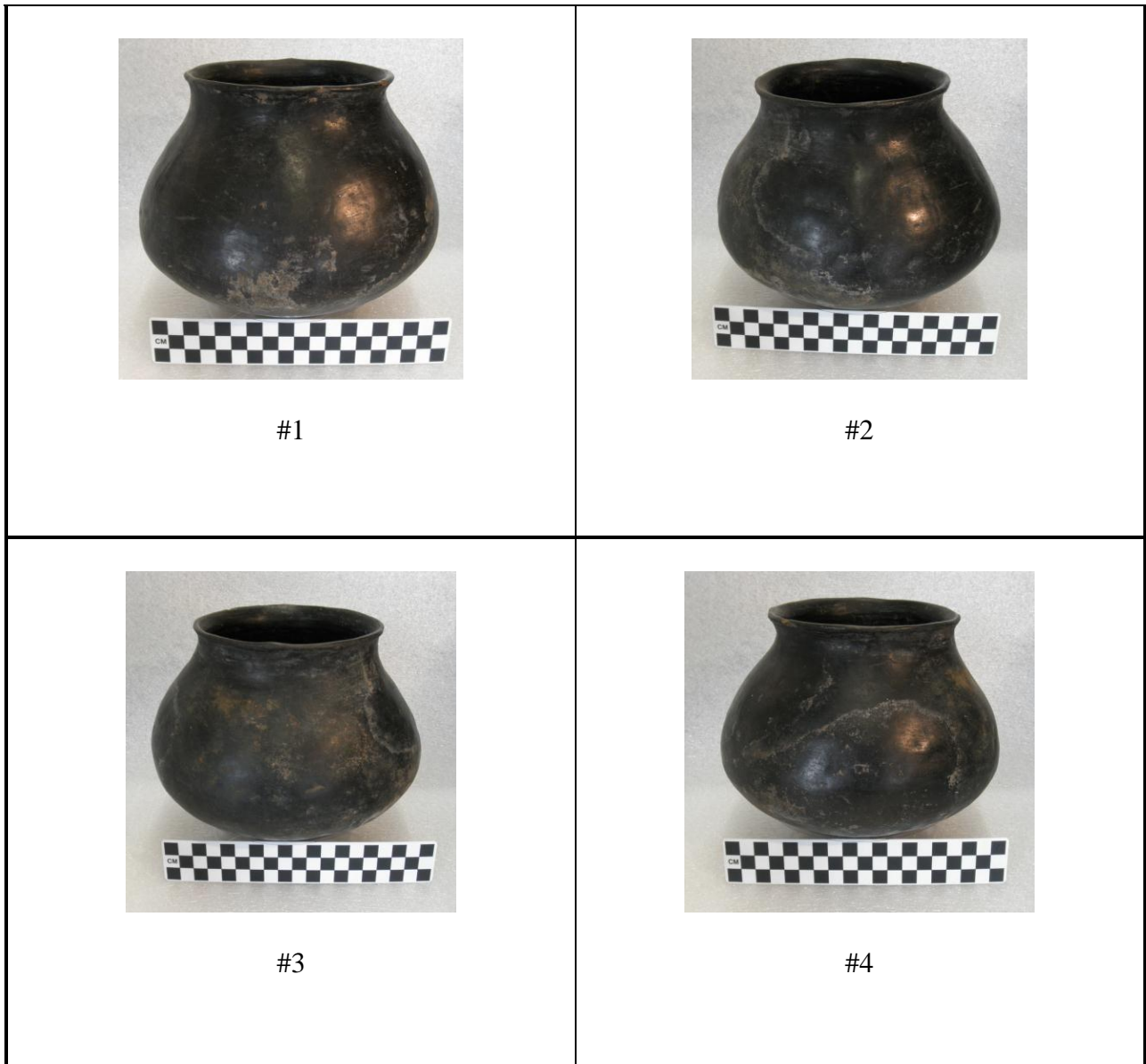


#4

AMNH 30 / 4193  
Counterclockwise Rotation  
Ramos Blackware

“Black jar – rim broken (6 5/8 in. high)  
Rancho San Diego Chihuahua  
under floors of ruined pueblos 10 miles so. Casas Grandes”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4194  
 Counterclockwise Rotation  
 Ramos Blackware

“Black jar Small hole near bottom (6 ¼ in high)  
 Rancho San Diego Chihuahua  
 under floors of ruined pueblos 10 miles so. Casas Grandes”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



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#4

AMNH 30 / 4195  
Counterclockwise Rotation  
Ramos Blackware

“Black jar small hole in side 2 ears missing  
Rancho San Diego Chihuahua  
under floors of ruined pueblos 10 miles so. Casas Grandes”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4196  
Counterclockwise Rotation  
Ramos Blackware

“Black jar small hole in side near top – rim broken 5 ¼ in high, 2 perforations in either side.  
Rancho San Diego Chihuahua  
under floors of ruined pueblos 10 miles so. Casas Grandes”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



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#4

AMNH 30 / 4197  
Counterclockwise Rotation  
Ramos Blackware

“Jar with 2 small perforated ears (6 1/8 in. high)  
Rancho San Diego Chihuahua  
under floors of ruined pueblos 10 miles so. Casas Grandes”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



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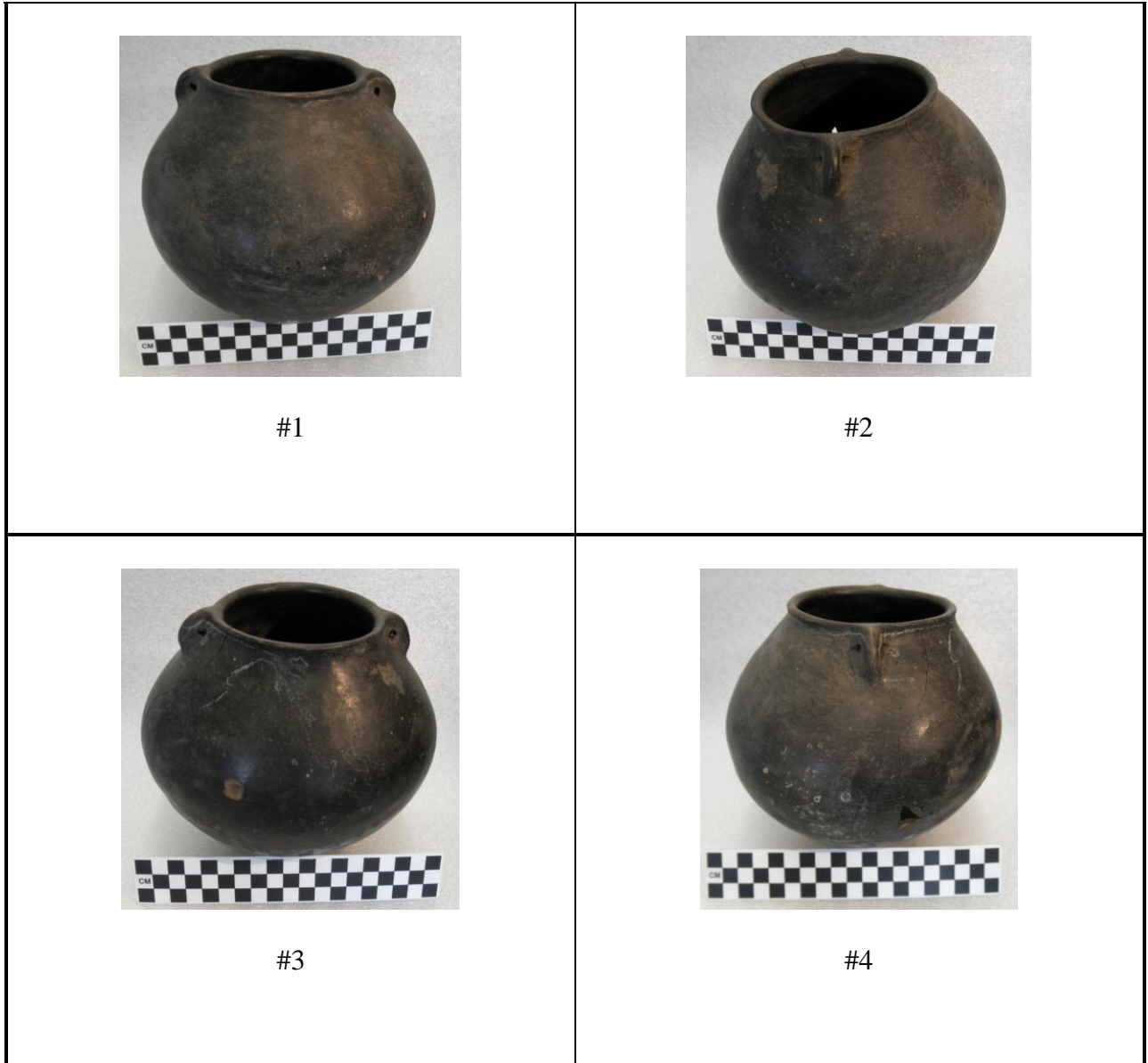


#4

AMNH 30 / 4198  
Counterclockwise Rotation  
Ramos Plainware

“Plain jar (5 ¼ in. high)  
Rancho San Diego Chihuahua  
under floors of ruined pueblos 10 miles so. Casas Grandes”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4199

Counterclockwise Rotation

Ramos Blackware

“Jar of dark ware – 2 perforated ears. Hole in side. (5 7.8 in. high)  
 Rancho San Diego Chihuahua  
 under floors of ruined pueblos 10 miles so. Casas Grandes”

(Lumholtz Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



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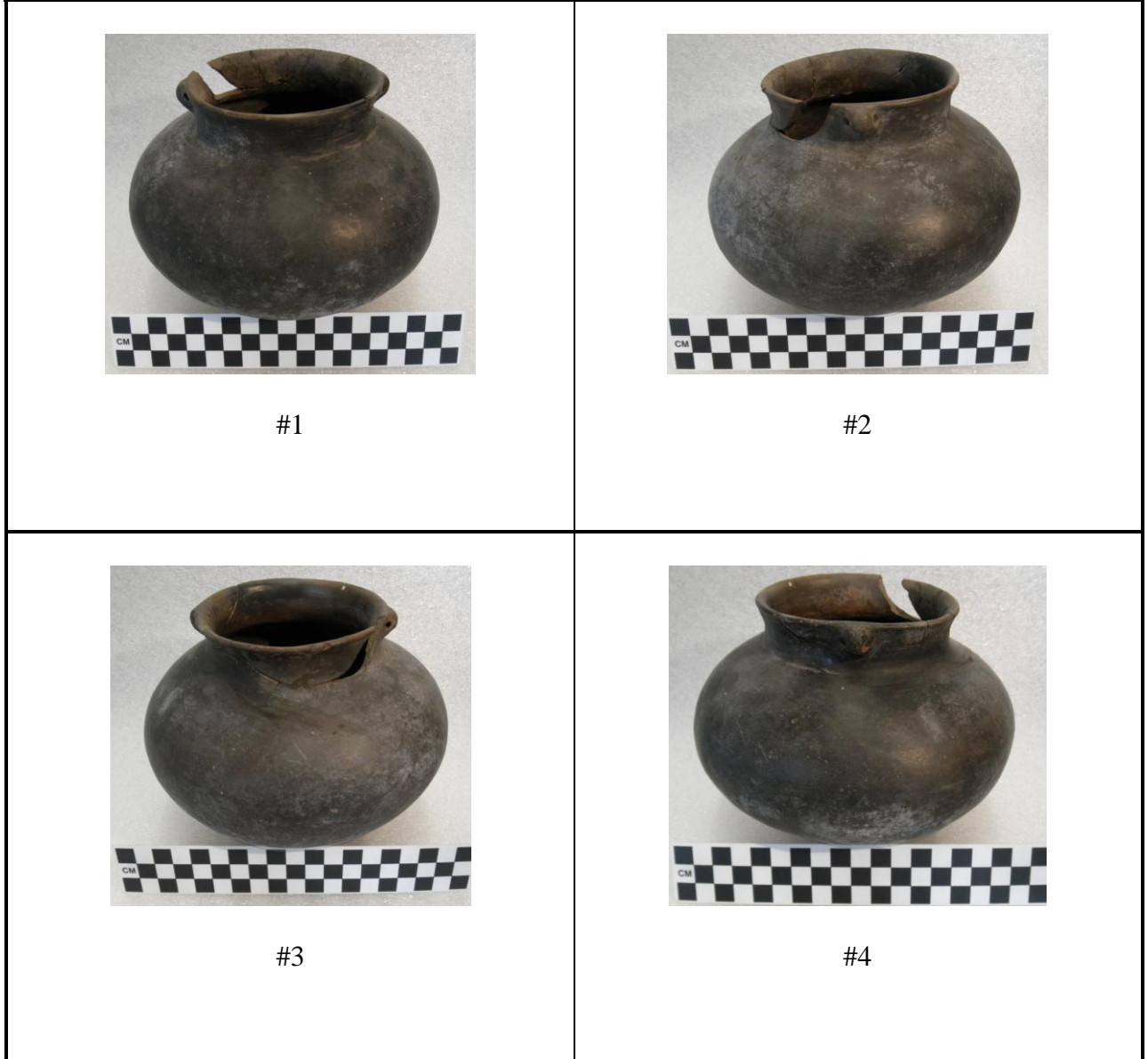


#4

AMNH 30 / 4200  
Counterclockwise Rotation  
Ramos Blackware

“Jar of dark ware – 2 perforated ears. Hole in side (4 5/8 in. high)  
Rancho San Diego Chihuahua  
under floors of ruined pueblos 10 miles so. Casas Grandes”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

#2

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#4

AMNH 30 / 4201  
 Counterclockwise Rotation  
 Ramos Blackware

“Jar of dark ware – 2 perforated ears. Rim broken (4 ¾ in. high)  
 Rancho San Diego Chihuahua  
 under floors of ruined pueblos 10 miles so. Casas Grandes”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4202  
Counterclockwise Rotation  
Ramos Blackware

“Jar of dark ware 2 perforations in rim on either side (4 ½ in. high)  
Rancho San Diego Chihuahua  
under floors of ruined pueblos 10 miles so. Casas Grandes”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4203  
Counterclockwise Rotation  
Ramos Blackware

“Jar of dark ware 2 perforations in rim on either side (5 ¼ in. high)  
Rancho San Diego Chihuahua  
under floors of ruined pueblos, 10 miles so. Casas Grandes”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4204  
Counterclockwise Rotation  
Ramos Blackware

“Jar of dark ware 2 perforations in rim on either side (4 ½ in. high)  
Rancho San Diego Chihuahua  
under floors of ruined pueblos, 10 miles so. Casas Grandes”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



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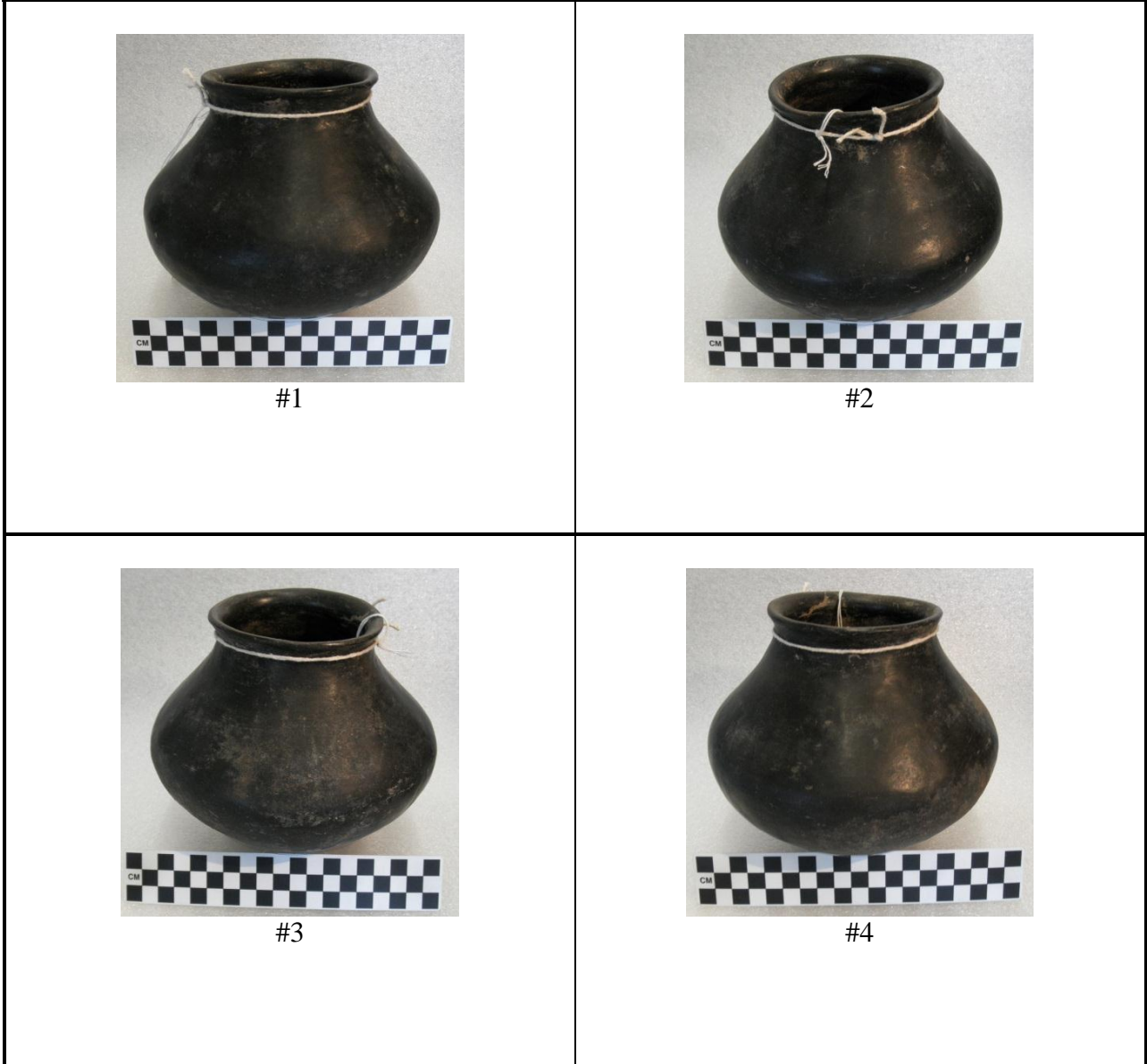


#4

AMNH 30 / 4205  
Counterclockwise Rotation  
Ramos Blackware

“Jar of dark ware 2 perforations in rim on either side (4 ¼ in. high)  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

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#4

AMNH 30 / 4206  
Counterclockwise Rotation  
Ramos Blackware

“Jar of dark ware 2 perforations in rim on either side (5 5/8 in. high)  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4207  
Counterclockwise Rotation  
Ramos Blackware

“Jar of dark ware 2 perforated ears (4 in. high)  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4208  
Counterclockwise Rotation  
Ramos Blackware

“Jar of dark ware 2 perforations in rim on either side (3  $\frac{3}{4}$  in. high)  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4209  
Counterclockwise Rotation  
Ramos Blackware

“Jar of dark ware 2 perforated ears Rim broken (4 ¼ in. high)  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



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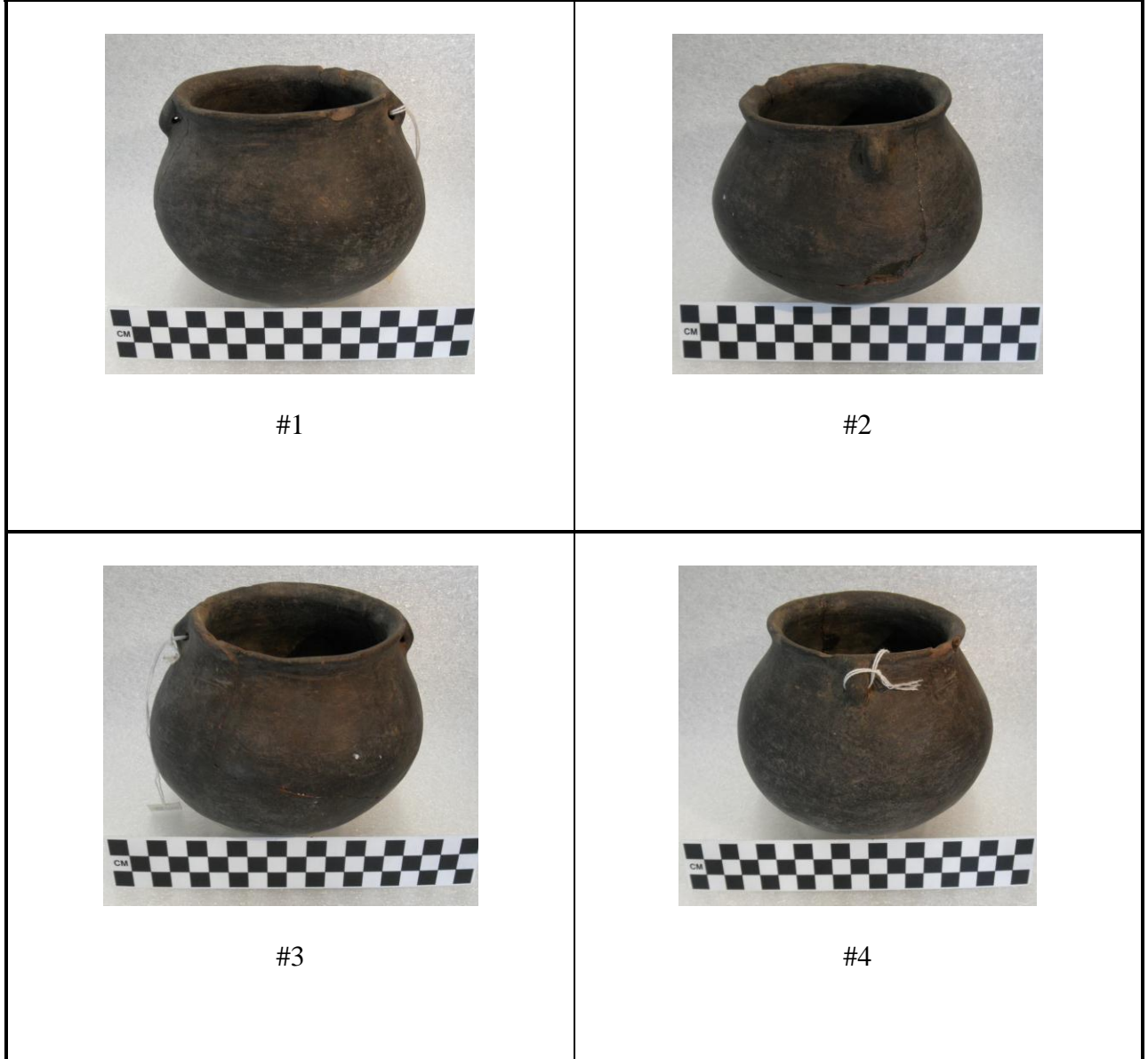


#4

AMNH 30 / 4210  
Counterclockwise Rotation  
Ramos Blackware

“Jar of dark ware 2 perforated ears (4 ¼ in. high)  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

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#4

AMNH 30 / 4211  
 Counterclockwise Rotation  
 Ramos Blackware

“Jar of dark ware 2 perforated ears (4 ½ in. high)  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua  
 under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4212  
Counterclockwise Rotation  
Ramos Blackware

“Jar dark ware 2 perforated ears (3 ½ in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4214  
Counterclockwise Rotation  
Ramos Blackware

“Jar dark ware 2 perforated ears (4 in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4215  
Counterclockwise Rotation  
Ramos Blackware

“Jar dark ware 2 perforated ears (5 5/8 in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4216  
Counterclockwise Rotation  
Ramos Blackware

“Jar dark ware 2 perforations on either side (2 ¼ in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

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#4

AMNH 30 / 4217  
 Counterclockwise Rotation  
 Ramos Blackware

“Jar dark ware 2 perforations on either side (2 ¾ in. high)  
 Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
 under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4218  
Counterclockwise Rotation  
Ramos Blackware

“Jar dark ware 2 perforated ears (Rim broken) 4 ½ in. high  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4219  
Counterclockwise Rotation  
Ramos Blackware

“Jar dark ware 2 perforations on either side (3 ½ in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4220  
Counterclockwise Rotation  
Plainware

“Jar unpainted, rim chipped (4 ¼ in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4221  
Counterclockwise Rotation  
Plainware

“Jar unpainted, broken into many pieces (3 7/8 in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



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#3

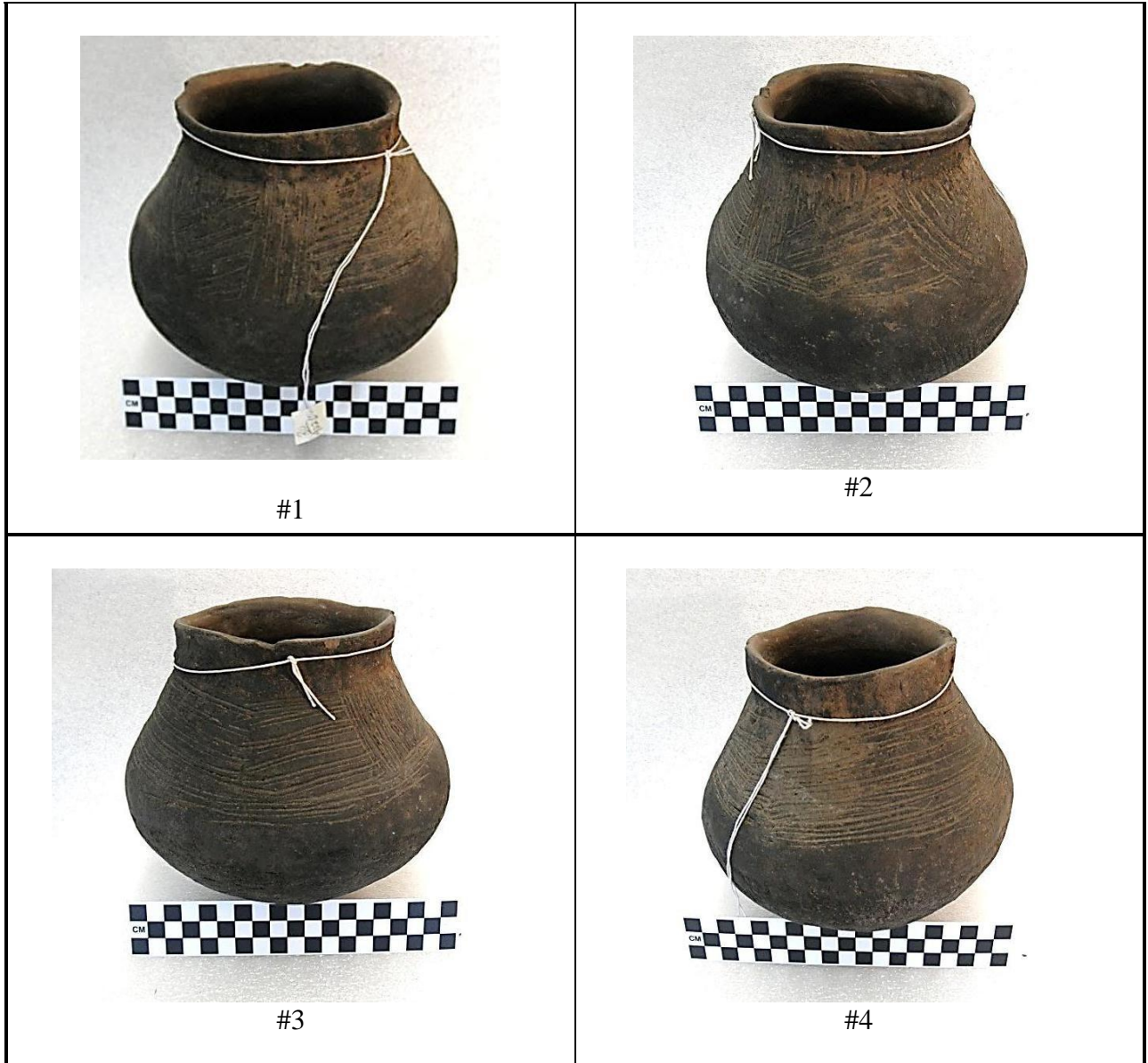


#4

AMNH 30 / 4222  
Counterclockwise Rotation  
Ramos Blackware

“Jar or bowl dark ware 2 perforations on either side (4 ¾ in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4226

Clockwise Rotation

Casas Grandes Incised Plainware Ovoid Jar - Medium Center of Gravity

“Jar – Neck & upper part decorated with incised lines 6 3/8 in.,  
Rancho San Diego, 10 miles So. Of Casas Grandes Chihuahua,  
under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4227

Counterclockwise Rotation Ramos Black  
Bi-lobed Jar - Low Center of Gravity

“Jar with peculiar neck. 7  $\frac{3}{4}$  in. high  
Rancho San Diego, 10 miles so. Of Casas Grandes Chihuahua  
Under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4229  
Counterclockwise Rotation  
Plainware Incised

“Broken Jar Upper part decorated with design in incised lines (5 7/8 in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4230  
Counterclockwise Rotation  
Ramos Blackware

“Jar – 2 holes in side – rim broken (5 ½ in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4231  
Counterclockwise Rotation  
Ramos Blackware

“Jar Dark Ware 2 perforations on either side (5 ½ in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3

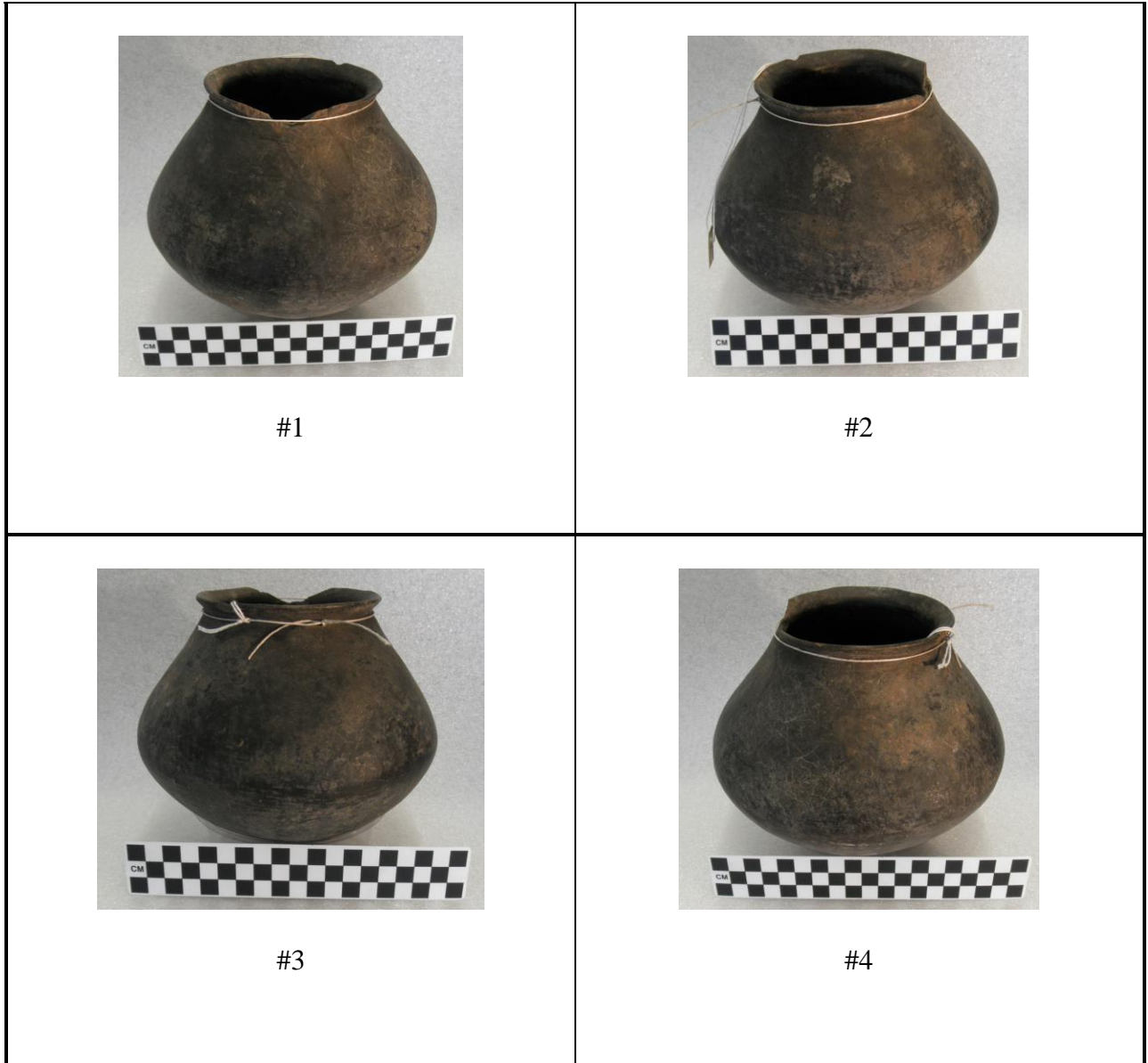


#4

AMNH 30 / 4232  
Counterclockwise Rotation  
Ramos Blackware

“Jar Dark Ware 2 perforated ears (4 ½ in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

#2

#3

#4

AMNH 30 / 4233  
 Counterclockwise Rotation  
 Ramos Blackware

“Jar Dark Ware rim chipped (4 ¾ in. high)  
 Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
 under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4235  
Counterclockwise Rotation  
Ramos Blackware

“Jar Dark Ware Rim chipped (7 3/8 in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

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#4

AMNH 30 / 4236  
Counterclockwise Rotation  
Ramos Blackware

“Jar Dark Ware Rim broken (7 in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4237  
Counterclockwise Rotation  
Ramos Blackware

“Jar Dark Ware Rim Broken (7 1/8 in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4238  
Counterclockwise Rotation  
Ramos Blackware

“Jar Dark Ware 2 perforated ears (7 ¾ in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4239  
Counterclockwise Rotation  
Ramos Blackware

“Jar Dark Ware Rim broken (7 7/8 in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3

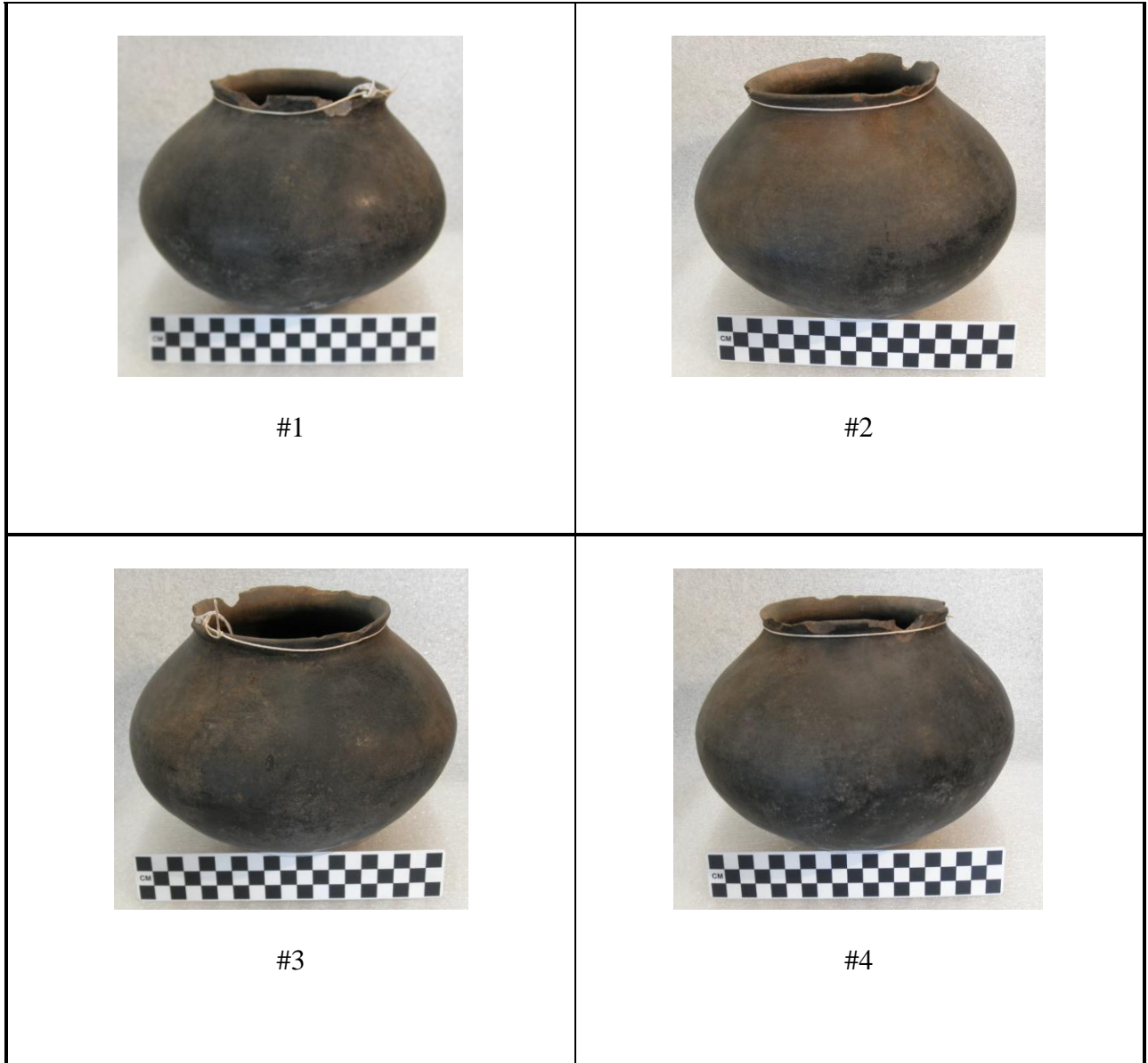


#4

AMNH 30 / 4240  
Counterclockwise Rotation  
Ramos Blackware

“Jar Dark Ware rim broken 2 perforated ears (6 3/8 in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

#2

#3

#4

AMNH 30 / 4241  
 Counterclockwise Rotation  
 Ramos Blackware

“Jar Dark Ware rim broken (6 in. high)  
 Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
 under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4242  
Counterclockwise Rotation  
Plainware

“Jar Dark Ware 3 perforations on either side (6 in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4243  
 Counterclockwise Rotation Casas Grandes Plainware  
 Spheroid Jar - Medium Center of Gravity

“Plain, unpainted jar 8 ½ in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4244

Counterclockwise Rotation

Undecipherable Ware

Note: partial design in red – heavy sooting

“Jar unpainted, hole in bottom (5 ¾ in. high)  
 Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
 under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4245  
Counterclockwise Rotation  
Ramos Blackware

“Bowl Dark Ware (4 7/8 in Diameter of Aperture.)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4246  
Counterclockwise Rotation  
Ramos Blackware

“Bowl Dark Ware (4 3/8 in Diameter of Aperture.)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4247  
Counterclockwise Rotation  
Ramos Blackware

“Bowl Dark Ware (4 3/8 in Diameter of Aperture.)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4248  
Counterclockwise Rotation  
Ramos Blackware

“Bowl Dark Ware (3 7/8 in Diameter of Aperture.)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4249  
 Counterclockwise Rotation  
 Ramos Blackware  
 Bowl with Incurved Rim

“Bowl darkware Diameter of aperture 3 1/8 in.  
 Rancho San Diego 100 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

#2

#3

#4

AMNH 30 / 4250  
 Counterclockwise Rotation  
 Ramos Blackware  
 Bowl with incurved rim

“Bowl darkware Diameter aperture 3 ¼ in.  
 Rancho San Diego 100 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4251  
Counterclockwise Rotation  
Ramos Blackware

“Bowl Dark Ware (5 in Diameter of Aperture.)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4252  
Counterclockwise Rotation  
Ramos Blackware

“Bowl Dark Ware hole in bottom (4 ¾ in Diameter of Aperture.)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4253  
Counterclockwise Rotation  
Ramos Blackware

“Bowl Dark Ware large piece broken from side (3 7/8 in Diameter of Aperture.)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4254  
Counterclockwise Rotation  
Ramos Blackware

“Bowl Dark Ware (3 ½ in Diameter of Aperture.)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4259  
 Counterclockwise Rotation  
 Ramos Blackware  
 Incurved bowl with six embossed protrusions

“Bowl darkware 6 projecting points in bosses (*sic*) 3 3/8 in. Diameter at aperture,  
 Rancho San Diego 100 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4269



AMNH 30 / 4271



AMNH 30 / 4272



AMNH 30 / 4273

AMNH 30 / 4269, AMNH 30 / 4271, AMNH 30 / 4272, AMNH 30 / 4273  
Ramos Blackware

AMNH 30 / 4269 "Bowl Dark Ware (3 7/8 in Diameter of Aperture.) AMNH 30 / 4271 Bowl  
Dark Ware (4 1/4 in Diameter of Aperture.)

AMNH 30 / 4272 "Bowl Dark Ware paint peeling off inside (5 1/2 in Diameter of Aperture.)

AMNH 30 / 4273 "Bowl Dark Ware worn & pitted on outside (4 3/4 in Diameter of Aperture.)

Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos"

(Lumholtz Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4274



AMNH 30 / 4275



AMNH 30 / 4276

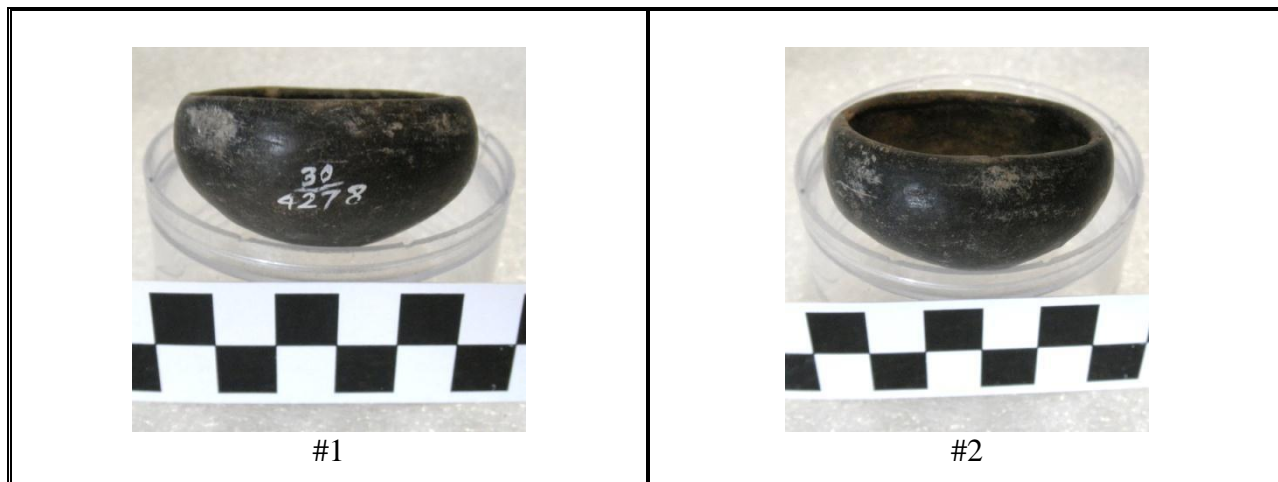


AMNH 30 / 4277

AMNH 30 / 4274, AMNH 30 / 4275, AMNH 30 / 4276, AMNH 30 / 4277  
Ramos Blackware

AMNH 30 / 4274 "Bowl Dark Ware paint worn off outside (5 3/8 in Diameter of Aperture.)  
AMNH 30 / 4275 "Bowl Dark Ware outside broken & chipped (5 1/8 in Diameter of Aperture.)  
AMNH 30 / 4276 "Bowl Dark Ware (4 5/8 in Diameter of Aperture.)  
AMNH 30 / 4277 "Bowl Dark Ware large piece missing (3 7/8 in Diameter of Aperture.)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua under floors of ruined pueblos"

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4278  
 180 degree Rotation  
 Ramos Black  
 Miniature bowl with slightly incurved rim



AMNH 30 / 4279  
 180 degree Rotation  
 Ramos Black  
 Miniature Bowl or saucer with outcurved rim

AMNH 30 / 4278 "Bowl darkware, Toy bowl, Diameter of aperture 1 ½ in.

AMNH 30 / 4279 "Saucer shaped AMNH or shallow bowl, Diameter of aperture 2 ¾ in.

Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of ruined pueblos"

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4280



AMNH 30 / 4281



AMNH 30 / 4282



AMNH 30 / 4283

AMNH 30 / 4280, AMNH 30 / 4281, AMNH 30 / 4282, AMNH 30 / 4283  
Ramos Blackware

AMNH 30 / 4280 "Bowl Black Ware (6 1/8 in Diameter of Aperture.)  
AMNH 30 / 4281 "Bowl Black Ware badly broken (6 3/8 in Diameter of Aperture.)  
AMNH 30 / 4282 "Bowl Black Ware cracked (4 3/4 in Diameter of Aperture.)  
AMNH 30 / 4283 "Bowl Black Ware broken (6 1/4 in Diameter of Aperture.)

Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos"

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4284



AMNH 30 / 4285



AMNH 30 / 4286



AMNH 30 / 4287

AMNH 30 / 4284, AMNH 30 / 4285, AMNH 30 / 4286, AMNH 30 / 4287  
Ramos Blackware

AMNH 30 / 4284 "Bowl Black Ware rim broken & mended (5 5/8 in Diameter of Aperture.)

AMNH 30 / 4285 "Bowl Black Ware (5 in Diameter of Aperture.)

AMNH 30 / 4286 "Bowl Black Ware broken & mended (5 3/8 in Diameter of Aperture.)

AMNH 30 / 4287 "Bowl Black Ware small (3 in Diameter of Aperture.)

Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos"

(Lumholtz Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4288



AMNH 30 / 4289



AMNH 30 / 4290



AMNH 30 / 4291

AMNH 30 / 4288, AMNH 30 / 4289, AMNH 30 / 4290, AMNH 30 / 4291  
Ramos Blackware

AMNH 30 / 4288 "Bowl Black Ware (2 11/16 in Diameter of Aperture.)

AMNH 30 / 4289 "Bowl Black Ware (2 3/8 in Diameter of Aperture.)

AMNH 30 / 4290 "Bowl Black Ware (7 5/8 in Diameter of Aperture.)

AMNH 30 / 4291 "Bowl Black Ware large piece of rim missing (7 5/8 in Diameter of Aperture.)

Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos"

(Lumholtz Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4292



AMNH 30 / 4293



AMNH 30 / 4294



AMNH 30 / 4295

AMNH 30 / 4292, AMNH 30 / 4293, AMNH 30 / 4294, AMNH 30 / 4295  
Ramos Blackware

AMNH 30 / 4292 "Bowl Black Ware broken at rim (6 3/4 in Diameter of Aperture.)

AMNH 30 / 4293 "Bowl Black Ware (6 5/8 in Diameter of Aperture.)

AMNH 30 / 4294 "Bowl Black Ware (7 5/8 in Diameter of Aperture.)

AMNH 30 / 4295 "Bowl Black Ware (6 1/8 in Diameter of Aperture.)

Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos"

(Lumholtz Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4296



AMNH 30 / 4300



AMNH 30 / 4301



AMNH 30 / 4302

AMNH 30 / 4296, AMNH 30 / 4300, AMNH 30 / 4301, AMNH 30 / 4302  
Ramos Blackware

AMNH 30 / 4296 'Pottery – form of double gourd – water bottle

AMNH 30 / 4300 'Pottery – form of double gourd with handle

AMNH 30 / 4301 'Pottery -- handle broken off

AMNH 30 / 4302 Pottery Jar – projecting rim around middle 6 1/8 in. high

Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4297

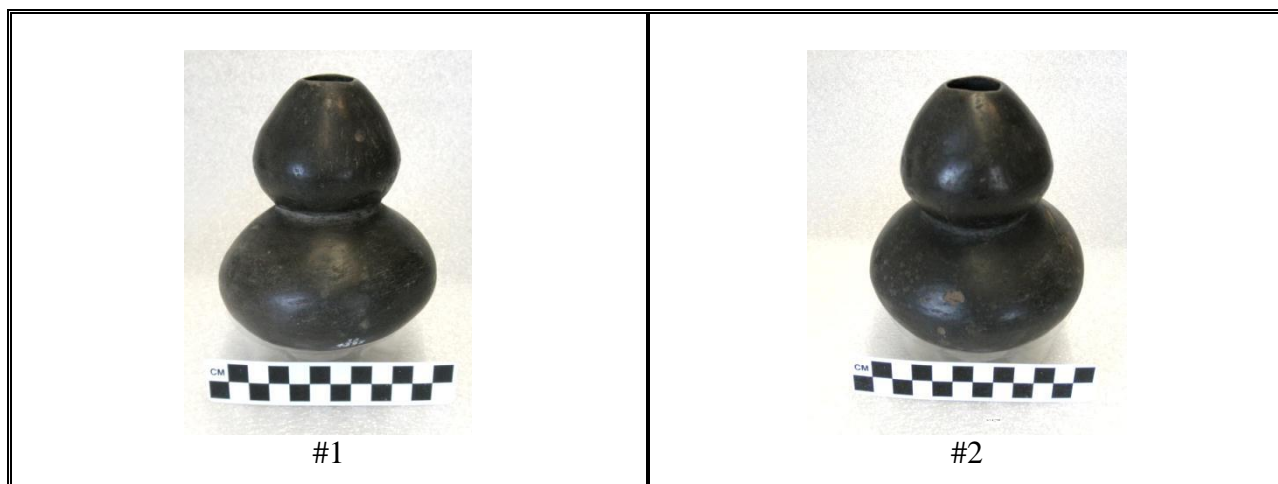
180 degree Rotation Ramos black

Bi-lobed vessel

(Note: handwritten label signed B.M. Abbott)

“Pottery – form of double gourd – Water Bottle  
Rancho San Diego 100 miles so. Casas Grandes, Chihuahua,  
under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



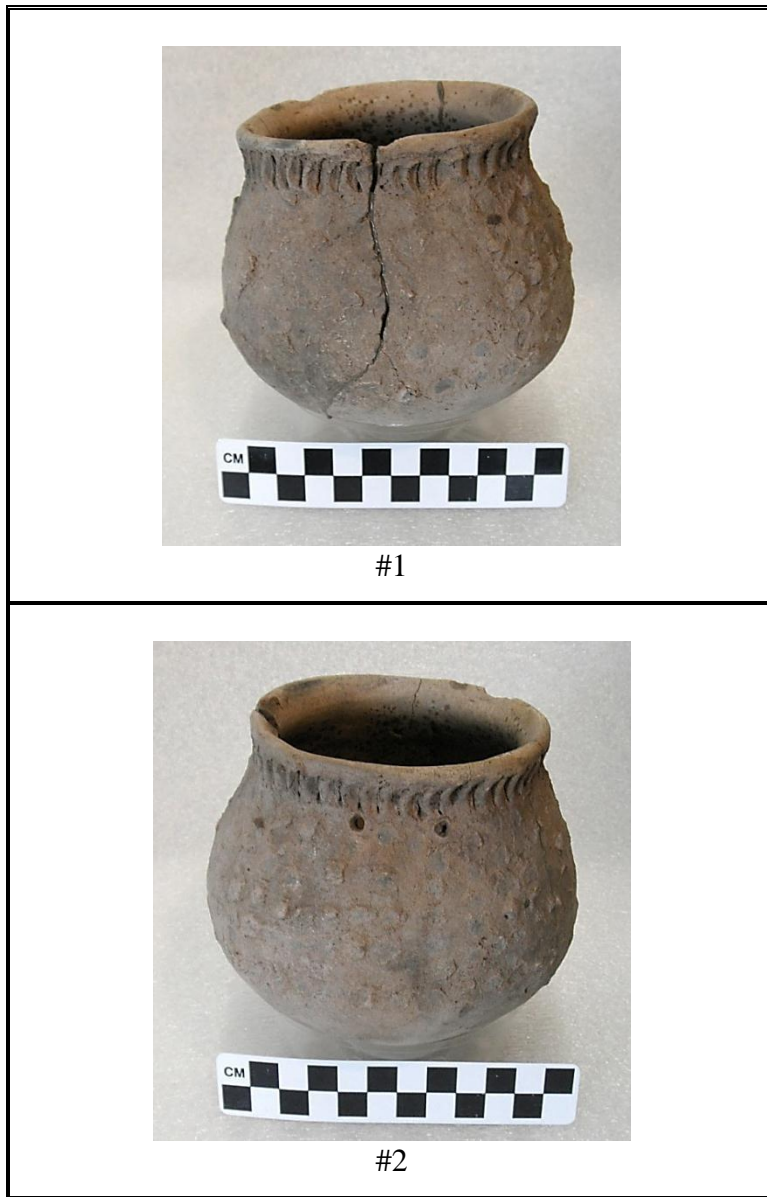
AMNH 30 / 4298  
 180 degree Rotation  
 Ramos Black  
 Bi-lobed vessel



AMNH 30 / 4299  
 180 degree Rotation  
 Ramos Black  
 Bi-lobed vessel

AMNH 30 / 4298 “Pottery – form of double gourd – water bottle  
 AMNH 30 / 4299 “Pottery – form of double gourd – water bottle  
 Rancho San Diego 100 miles so. Casas Grandes, Chihuahua, under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4303

180 degree Rotation

Casas Grandes Plainware embossed with indented rim

Ovoid Jar - Medium Center of Gravity

“Jar – light ware: decoration, many small “bosses” 2 perforations on either side (4 3/8 in. high)  
Rancho San Diego, 10 miles So. Of Casas Grandes Chihuahua. Under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4304-a



AMNH 30 / 4304-b



AMNH 30 / 4304-c



AMNH 30 / 4306

AMNH 30 / 4304 and AMNH 30 / 4306  
Playas Redware

AMNH 30 / 4304 “Bowl – red ware broken (2 ½ in. high)  
AMNH 30 / 4306 “Jar red ware with design in incised lines 4 5/8 in. high

Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4305

Counterclockwise Rotation

Playas Red on Brown Incised (textured area unslipped)

Ovoid Jar - Low Center of Gravity

“Jar – red ware , decorated with circles in incised lines, 2 perforations on either side , 4 ¼ in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4306  
 Counterclockwise Rotation  
 Playas Red – Incised  
 Ovoid Jar - Medium Center of Gravity

“Jar – redware with design in incised lines, 4 5/8 in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4307  
 120 degree Rotation  
 Playas Red – Incised on the Diagonal  
 Spheroid Jar - Medium Center of Gravity

“Jar – red ware with diagonal, incised lines, small hole in side, 5 in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4308

Counterclockwise Rotation

Playas Red Corrugated with punched design rim

Ovoid Jar - Medium Center of Gravity

“Jar – redware, circles of incised lines – broken, 2 perforations on either side (4 ¼ in. high)  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

#2

#3

#4

AMNH 30 / 4309  
 Counterclockwise Rotation  
 Playas Red - Tool-Punched  
 Spheroid Jar - High Center of Gravity

“Jar – redware. Decorated with concentric ring of circles (made with a reed) (4 ½ in. high)  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4310  
 Counterclockwise Rotation  
 Playas Red - Incised  
 Ovoid Jar - Low Center of Gravity

“Jar – red ware With diagonal incised lined (4 7/8 in. high) 2 perforations on either side  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

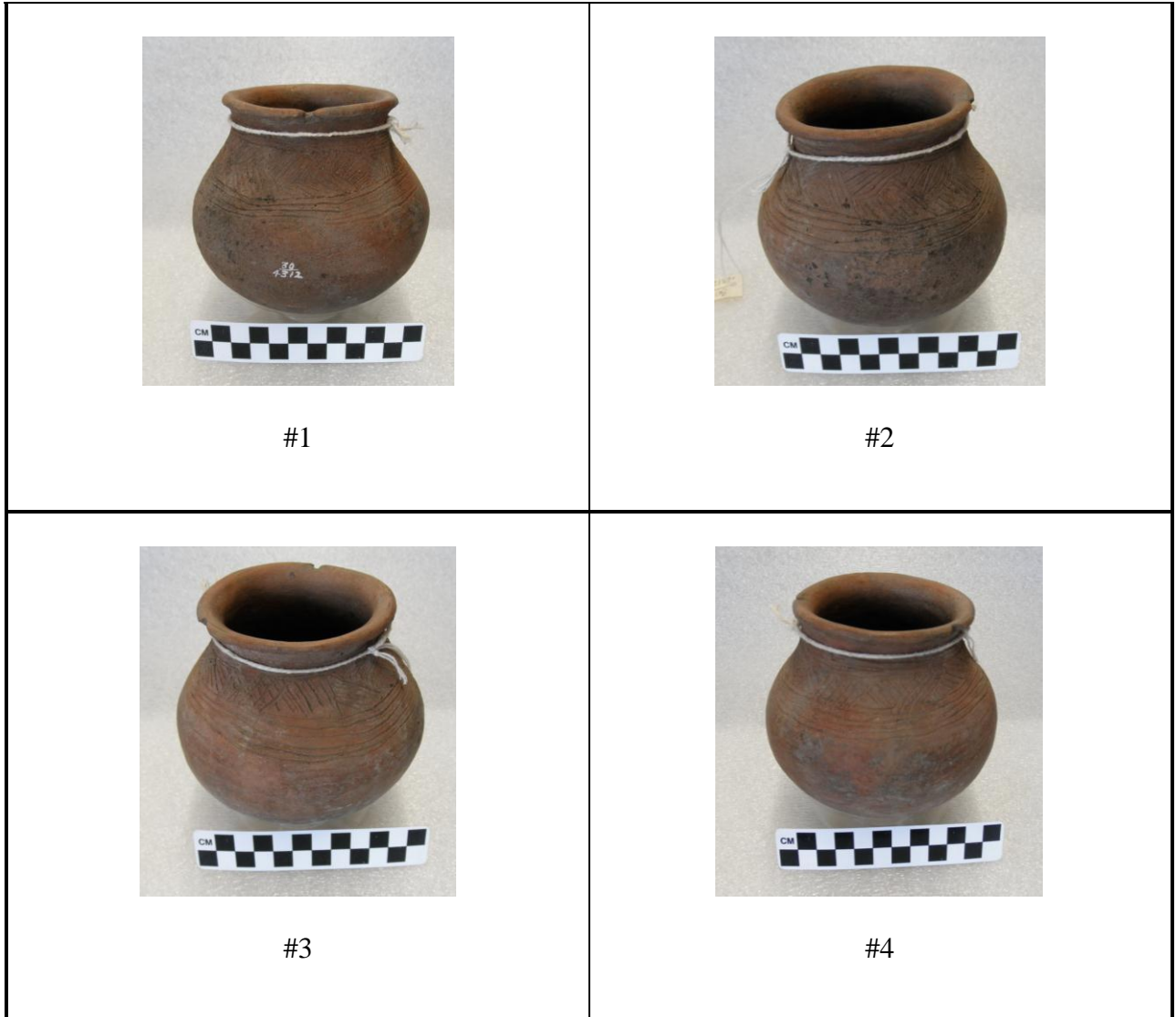
(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4311  
 Counterclockwise Rotation  
 Medanos Red on Buff Incised  
 Ovoid Jar - Low Center of Gravity

“Small jar decorated with circles of incised lines & painted lines below them (3 3/8 in. high)  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

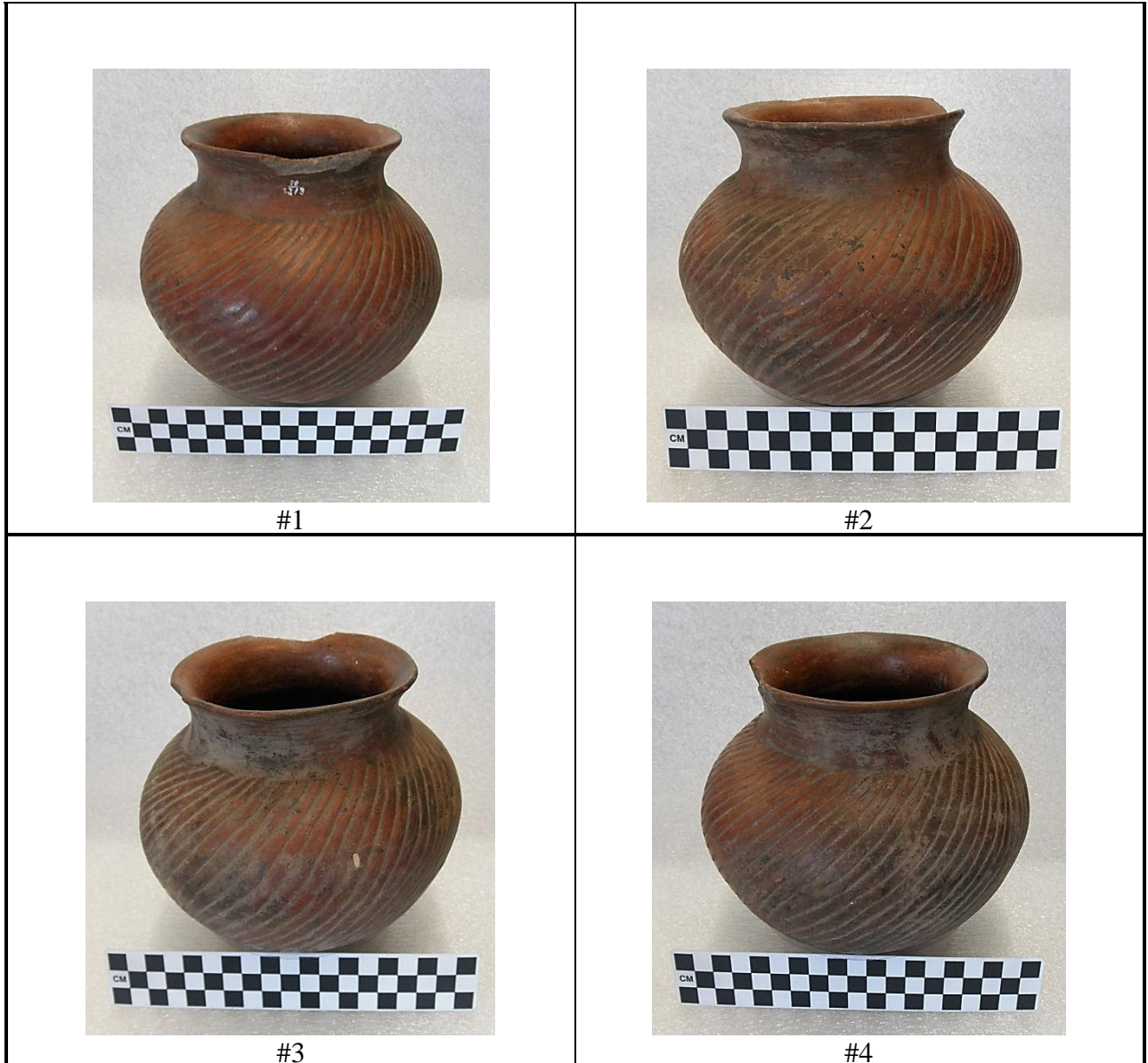
(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4312  
 Counterclockwise Rotation  
 Playas Redware

“Small jar – decorated with circles & designs in incised lines (4 ½ in. high) Rancho San Diego 10 miles so. Casas Grandes Chihuahua under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4313

Counterclockwise Rotation Playas Red – Incised on the Diagonal  
Spheroid Jar - Medium Center of Gravity

“Jar of red ware with diagonal incised lines, Rim broken (5 7/8 in. high) Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4314  
Counterclockwise Rotation  
Playas Red

“Jar of redware 2/3 of rim missing. Had double perforations (4 ¼ in. high) Rancho San Diego 10 miles so. Casas Grandes Chihuahua under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3

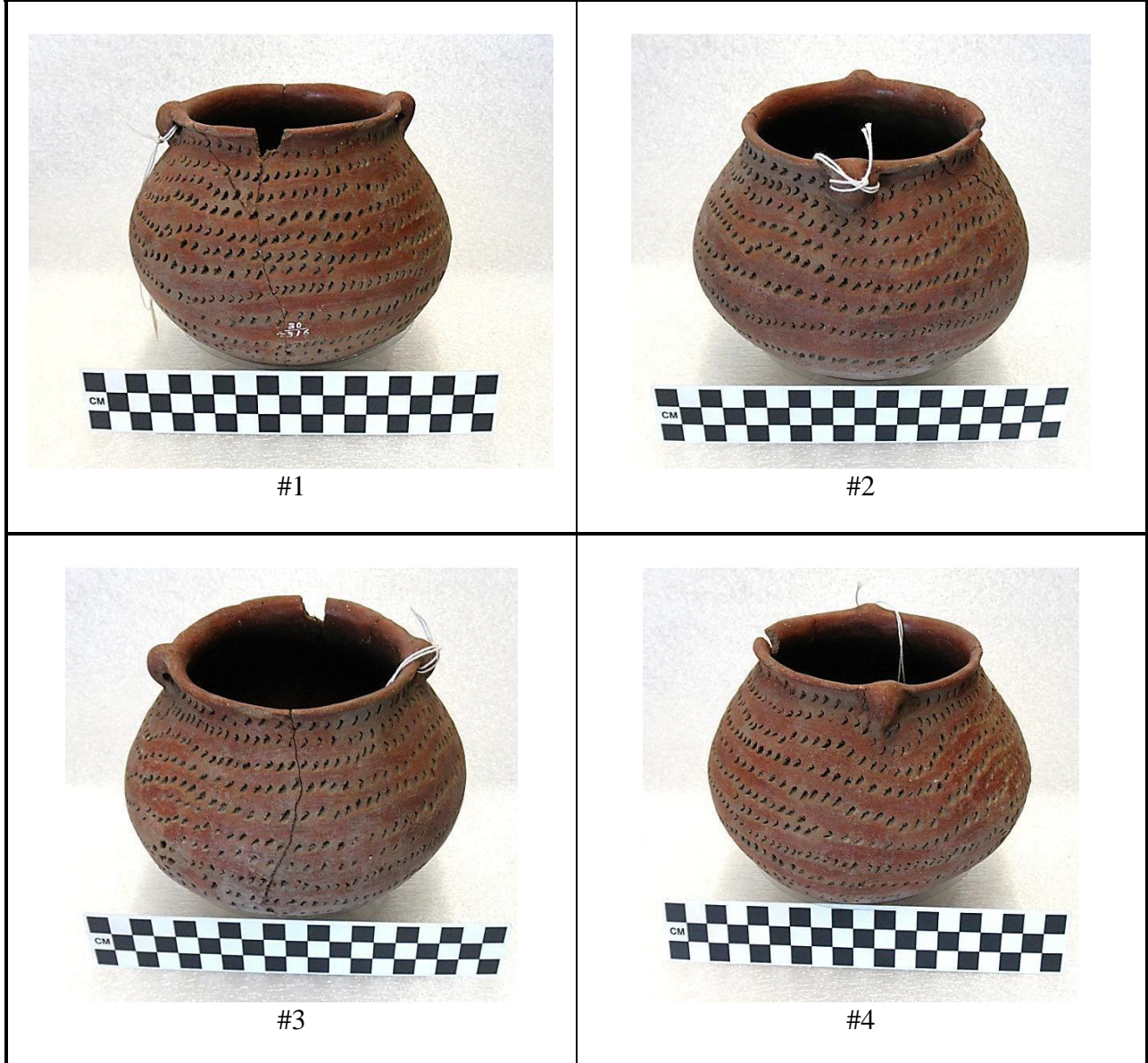


#4

AMNH 30 / 4315  
Counterclockwise Rotation  
Playas Red Incised

“Jar of plain ware: more than half of rim missing, circles of incised lines 4  $\frac{3}{4}$  in. high.  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

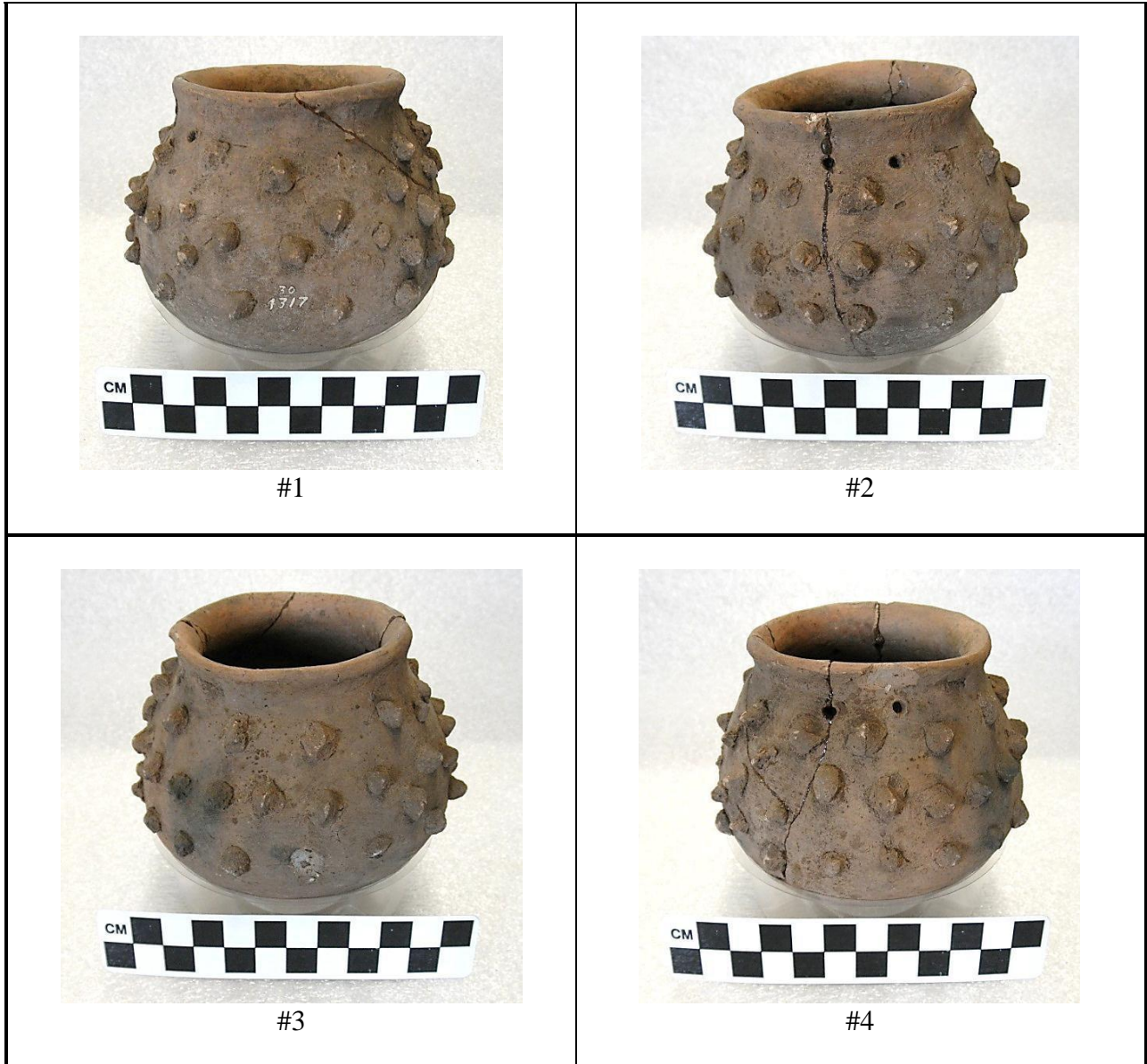
(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4316  
 Counterclockwise Rotation Playas Red - Punctated  
 Spheroid Jar - Medium Center of Gravity

“Jar – red ware, 2 ears – decoration, many “pits” 4 7/8 in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4317  
 Counterclockwise Rotation  
 Casas Grandes Applied Plainware  
 Ovoid Jar - Medium Center of Gravity

“Jar – plain ware – many projecting points, double perforations, 3 ½  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4318  
 Counterclockwise Rotation  
 Playas Red Incised  
 Ovoid Jar - Low Center of Gravity

“Tall jar – Circles of incised lines. Lower half and inside red color (8 ½ in. high)  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4319  
 Counterclockwise Rotation  
 Playas Red – Incised alternating triangles  
 Ellipsoid Jar - Medium Center of Gravity

“Red jar – decorated design in incised lines 6 ¾ in. high Rancho San Diego 10 miles so. Casas  
 Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4320 - a



AMNH 30 / 4320 - b



AMNH 30 / 4321 - a



AMNH 30 / 4321 - b

AMNH 30 / 4320 and AMNH 30 / 4321  
Playas Red and Playas Red Incised

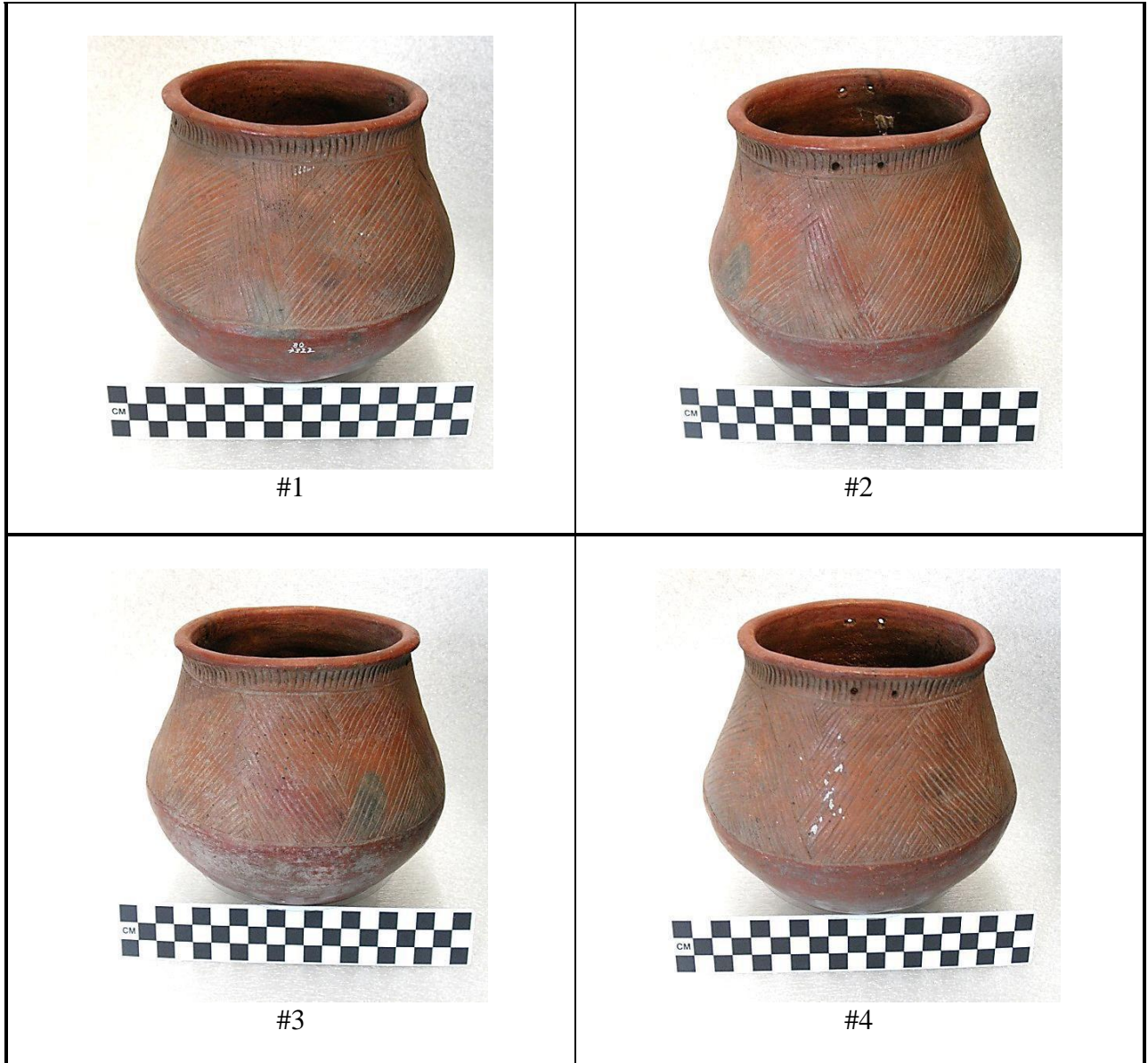
AMNH 30 / 4320 “Large bowl – plainware – diameter of aperture 6  $\frac{3}{4}$  in.

AMNH 30 / 4321 “Tall jar – painted red and decorated with design in  
incised lines & red paint 8  $\frac{1}{4}$  in. high.

Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4322

Counterclockwise Rotation

Playas Red – Incised alternating triangles with punched design on rim

Ovoid Jar - Medium Center of Gravity

“Jar red ware – double perforation, Decorated in design in incised lines 6 in. high Rancho San Diego 10 miles so. Casas Grandes, Chihuahua, under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4323



AMNH 30 / 4325



AMNH 30 / 4326



AMNH 30 / 4327

AMNH 30 / 4323, AMNH 30 / 4325, AMNH 30 / 4326, AMNH 30 / 4327

AMNH 30 / 4323 "Bowl plainware – diameter 6 7/8 in.

AMNH 30 / 4325 "Bowl plainware – diameter 4 7/8 in.

AMNH 30 / 4326 "Bowl plainware – diameter 5 3/4 in.

AMNH 30 / 4327 "Bowl plainware – diameter 4 3/4 in.

Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos"

(Lumholtz Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4324  
 120 degree Rotation Playas Red Fish Effigy  
 Spheroid Jar - Medium Center of Gravity

“Pottery – animal form.  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4329



AMNH 30 / 4331



AMNH 30 / 4332



AMNH 30 / 4333

AMNH 30 / 4329, AMNH 30 / 4331, AMNH 30 / 4332, AMNH 30 / 4333  
Plainware

AMNH 30 / 4329 "Small Bowl plainware – diameter 3 3/8 in.  
AMNH 30 / 4331 "Small saucer shaped AMNH unpainted – diameter 4 in.  
AMNH 30 / 4332 "Bowl of small clay ladle  
AMNH 30 / 4333 "Small, coarse cup of clay  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos"

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4330

Counterclockwise Rotation Playas Red with Faint Interior Design  
Squared Miniature Bowl

“Small bowl red ware – painted design inside, Irregular in shape.  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4334



AMNH 30 / 4335



AMNH 30 / 4336-a



AMNH 30 / 4336-b

AMNH 30 / 4334, AMNH 30 / 4335, AMNH 30 / 4336  
Plainware

AMNH 30 / 4334 "Small toy bowl or cup  
AMNH 30 / 4335 "Small (toy?) saucer plainware.  
AMNH 30 / 4336 "Small (toy?) saucer plainware  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos"

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4337

Counterclockwise Rotation Casas Grandes Plainware Small square bowl

“Bowl – plain ware – diameter (rim) 3 ¾ inches  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4338  
Counterclockwise Rotation Ramos Black Square bowl

“Bowl – black ware diameter 5 1/8 inches  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4339  
Counterclockwise Rotation  
Plainware

“Plain, rough bowl diameter 3  $\frac{3}{4}$  in.  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4340  
Playas Red

“Plain bowl diameter 3 5/8 in.  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4341  
Counterclockwise Rotation  
Ramos Blackware

“Bowl of blackware – heart-shaped - broken.  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4342 Counterclockwise Rotation Plainware

“Bowl - plainware diameter 5 ½ in.  
 Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
 under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4343  
 Counterclockwise Rotation  
 Plainware

“Bowl - plainware diameter 6 in.  
 Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
 under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3

AMNH 30 / 4344  
Playas Red

“Bowl - painted red (broken) diameter 7 in..  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4345  
 Counterclockwise Rotation  
 Playas Red  
 Bowl with slightly incurved rim

“Bowl painted red diameter 7 in.  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4346  
Counterclockwise Rotation  
Playas Red

“Bowl painted red – diameter 4 in.  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4347  
Counterclockwise Rotation Playas Red  
Bowl with slightly incurved rim

“Red Bowl diameter 7 ¼ in.  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4348-a



AMNH 30 / 4348-b



AMNH 30 / 4348-c



AMNH 30 / 4349-a



AMNH 30 / 4349-b

AMNH 30 / 4348 and AMNH 30 / 4349  
Playas Red

AMNH 30 / 4348 "Bowl - redware diameter 7 ¼ in..  
AMNH 30 / 4349 "Bowl - plainware diameter 4 ¼ in..  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos"

(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4350-a



AMNH 30 / 4350-b



AMNH 30 / 4350-c



AMNH 30 / 4351-a



AMNH 30 / 4351-b

AMNH 30 / 4350 and 4351  
Playas Red and Plainware

AMNH 30 / 4350 "Bowl - plain ware diameter 3 1/8 in.  
AMNH 30 / 4351 "Bowl - plain ware diameter 2 1/2 in.  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos"

(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2

AMNH 30 / 4352  
Playas Red

“Jar – redware – 2 perforated ears.  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4353  
 Counterclockwise Rotation  
 Non-Local  
 Ovoid Jar - Medium Center of Gravity

“Jar red ware 2 perforated ears  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

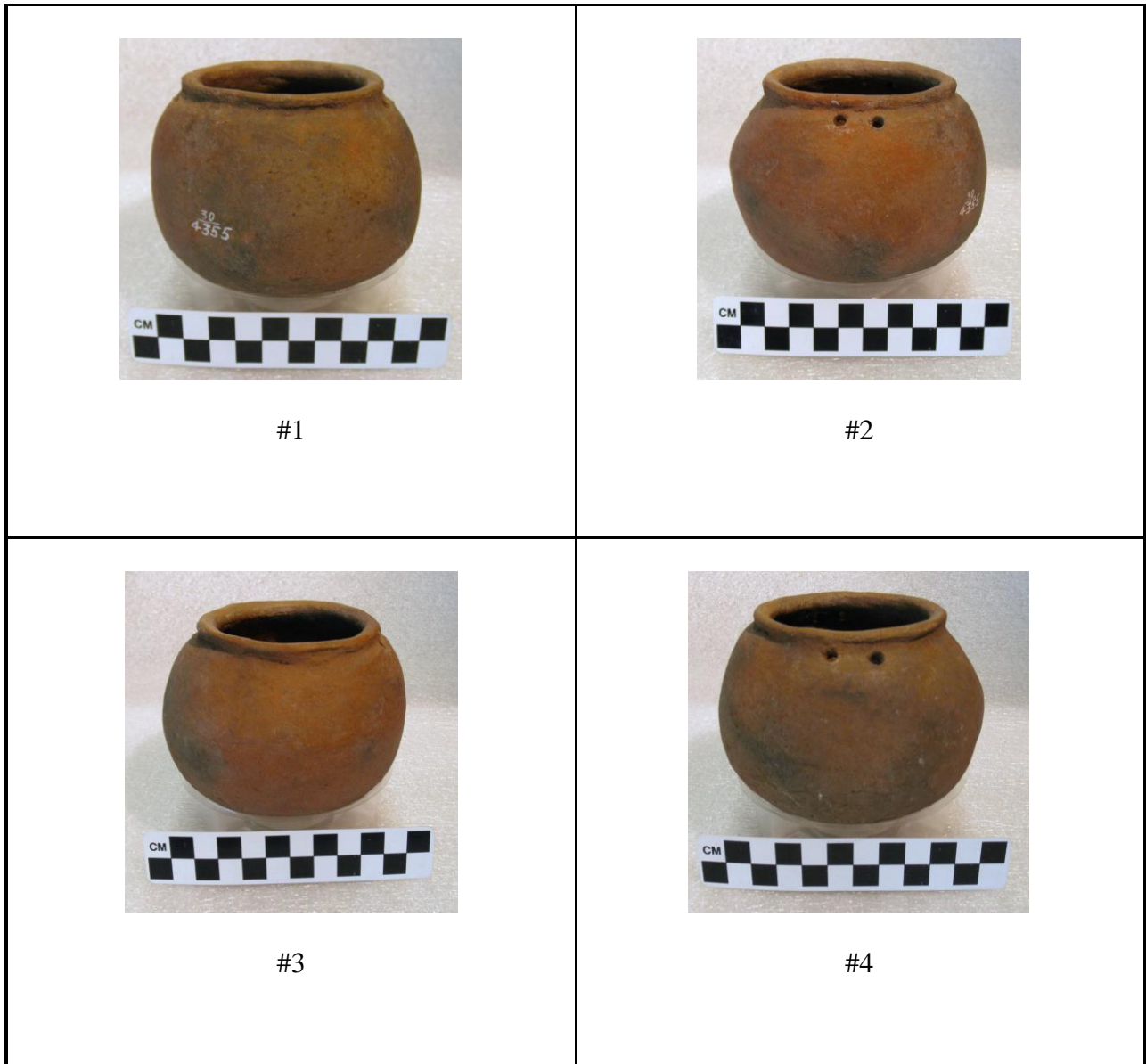
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AMNH 30 / 4354  
 Counterclockwise Rotation  
 Casas Grandes Plainware Heavily Sooted  
 Ellipsoid Jar - Low Center of Gravity

“Jar – red ware 2 perforated ears  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

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#4

AMNH 30 / 4355  
 Counterclockwise Rotation  
 Plainware

“Plain Jar – 2 perforations on either side.  
 Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
 under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3

AMNH 30 / 4356  
Playas Red

“Saucer-like vessel (or part of vessel) hole in bottom.  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4357-a



AMNH 30 / 4357-b



AMNH 30 / 4358-a



AMNH 30 / 4358-b

AMNH 30 / 4357 and AMNH 30 / 4358  
Playas Red

AMNH 30 / 4357 "Portion of small, red bowl.  
AMNH 30 / 4358 "Portion of small, red bowl.  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos"

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4359-a



AMNH 30 / 4359-b



AMNH 30 / 4360-a



AMNH 30 / 4360-b

AMNH 30 / 4359 and AMNH 30 / 4360  
Playas Red

AMNH 30 / 4359 "Portion of small, red bowl.  
AMNH 30 / 4360 "Jar – red ware – broken – had double perforation (4 ¼ in. high).  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos"

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4361  
 Counterclockwise Rotation  
 Playas Red  
 Spheroid Pot with restricted opening

“Jar – plain ware – broken – 2 perforations on either side  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4362  
Counterclockwise Rotation  
Playas Red

“Jar plain ware rim worn & chipped (3 ½ in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4363

Plainware

Counterclockwise Rotation

“Jar plain ware (3 ½ in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4364  
Counterclockwise Rotation  
Plainware

“Jar or cup – plain coarse ware (3 ¼ in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4365  
Counterclockwise Rotation  
Plainware

“Jar plain ware broken (3 ¾ in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4366  
 Counterclockwise Rotation Casas Grandes Plainware  
 Spheroid Bowl with restricted rim

“Bowl plain ware 3 ½ in high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4367  
Counterclockwise Rotation  
Redware

“Small jar – red ware – broken at rim – 2 perforations  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4368  
Counterclockwise Rotation  
Plainware - Punctated

“Portion of Jar decorated with indentations (6 in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4369  
Counterclockwise Rotation  
Plainware

“Plain Jar Rim broken (4 5/8 in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4370  
Counterclockwise Rotation  
Plainware

“Plain Jar much broken (5 ½ in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4371

Counterclockwise Rotation

Plainware

“Portion of Jar plainware (5 1/8 in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4372  
 Counterclockwise Rotation  
 Casas Grandes Plainware  
 Ellipsoid Jar - Medium Center of Gravity with Everted Rim

“Jar of plain ware – rim chipped 4 ¼ in. high  
 Rancho San Diego, 10 miles So. Of Casas Grandes Chihuahua  
 Under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



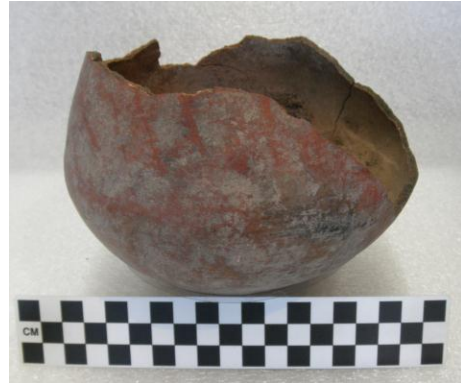
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#4

AMNH 30 / 4373  
Counterclockwise Rotation  
Playas Red

“Jar red ware – badly broken & mended (5 5/8 in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4376  
 Counterclockwise Rotation  
 Casas Grandes Plainware  
 Ovoid Jar - Medium Center of Gravity with 2 perforations

“Jar plain ware – 2 perforations on either side 6 ¼ in. high  
 Rancho San Diego, 10 miles So. Of Casas Grandes Chihuahua  
 Under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)

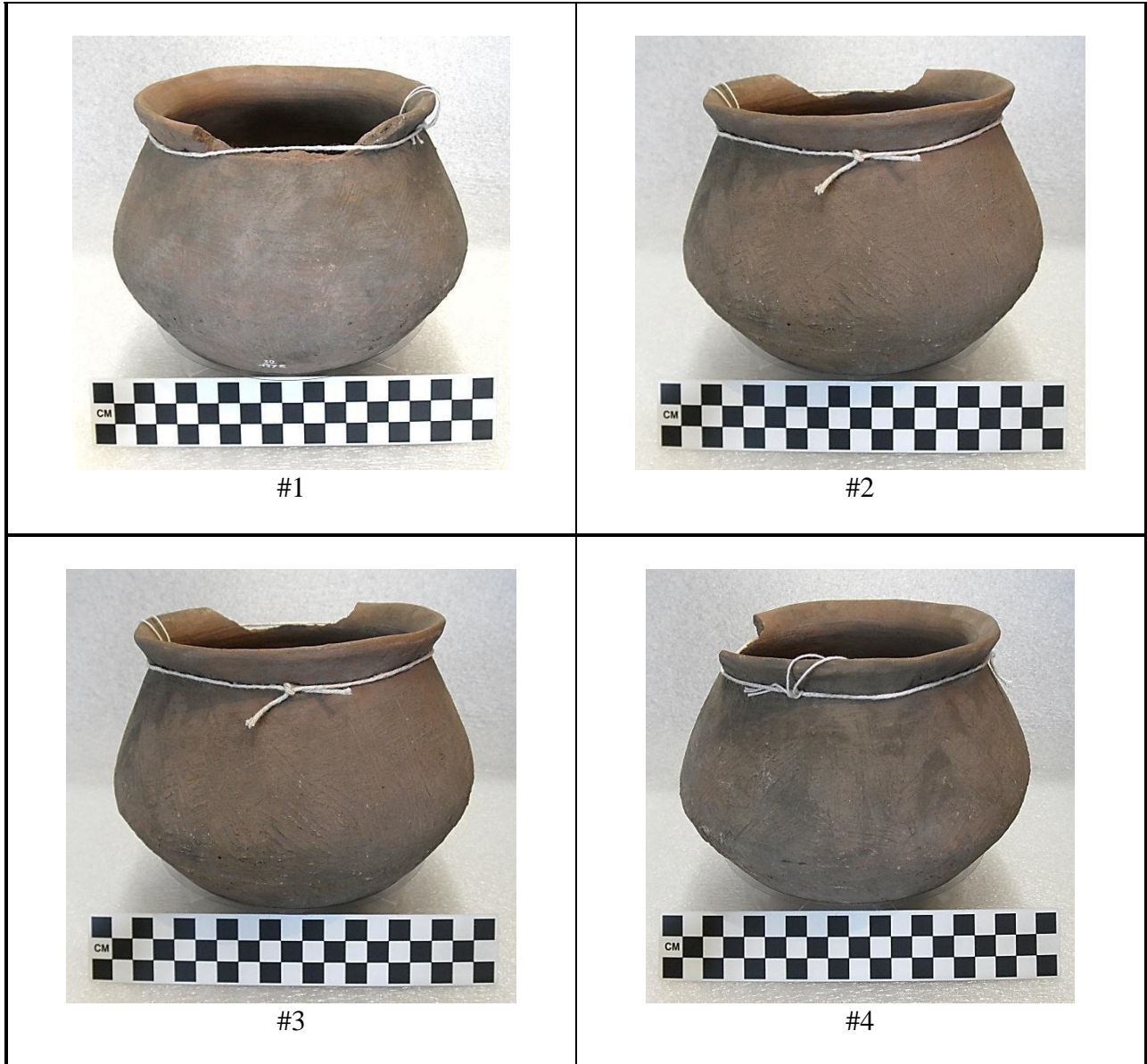


AMNH 30 / 4377

Counterclockwise Rotation  
 Casas Grandes Plainware with Everted Rim  
 Ovoid Jar - Low Center of Gravity

“Jar – plain ware rim broken 7 ¼ high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4378  
 Counterclockwise Rotation  
 Casas Grandes Plainware Scored  
 Spheroid Jar - Medium Center of Gravity

“Jar plain ware – decorated with design in incised lines 5 5/8 in. high  
 Rancho San Diego, 10 miles So. Of Casas Grandes Chihuahua  
 Under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4379  
 Counterclockwise Rotation  
 Casas Grandes Plainware with Everted Rim  
 Spheroid Jar - Low Center of Gravity

“Jar – plain ware hole in side & part of rim missing 5 in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4380  
Counterclockwise Rotation  
Redware

“Jar plainware 2 perforated ears piece of rim missing (5 1/8 in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4381  
Counterclockwise Rotation  
Casas Grandes Plainware with Everted Rim  
Spheroid Jar - Medium Center of Gravity

“Jar – plain ware small hole in side 5 ¼ in. high  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4382  
 Counterclockwise Rotation  
 Casas Grandes Plainware Scored  
 Ovoid Jar - Medium Center of Gravity

“Jar – unpainted – neck decorated with cuts 5 ½ in. high  
 Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
 under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
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AMNH 30 / 4383  
 Counterclockwise Rotation  
 Playas Red- Punctated (heavily abraded)  
 Spheroid Jar - Low Center of Gravity

“Portion of unpainted jar – decorated with rings or rows of “bosses”, 2 perforated ears, 4 ¼ in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
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#1



#2



#3



#4

AMNH 30 / 4384

Counterclockwise Rotation  
Playas Red – Punctated & Pinched

“Jar upper part decorated (“pinched” & incised) (5 1/8 in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
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AMNH 30 / 4385  
 Counterclockwise Rotation  
 Playas Red on Brown with 2 perforated ears  
 Ovoid Jar - Low Center of Gravity

“Jar (broken) with 2 perforated ears, Red band painted around middle 5 5/8 in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
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AMNH 30 / 4386  
Playas Red

“Plain Jar of reddish ware (5 ½ in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4387  
Counterclockwise Rotation  
Playas Red

“Jar – plain reddish ware 2 perforated ears (5 1/8 in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4388

Counterclockwise Rotation

Playas Red

Note: only 1 perforated ear – opposite has 2 perforated holes

“Jar plain reddish ware 2 perforated ears (3 7/8 in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4389  
Counterclockwise Rotation  
Playas Red

“Jar plain reddish ware 2 perforations on either side – hole in bottom (5 ½ in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

#2

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#4

AMNH 30 / 4390  
 Counterclockwise Rotation  
 Playas Red

“Plain Jar of reddish ware (5 ¼ in. high)  
 Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
 under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4391

Counterclockwise Rotation Bi-Chrome Jar – heavily sooted  
Spheroid Jar - Medium Center of Gravity

“Large jar – red ware decorated in black. 7 3/8 in. high  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



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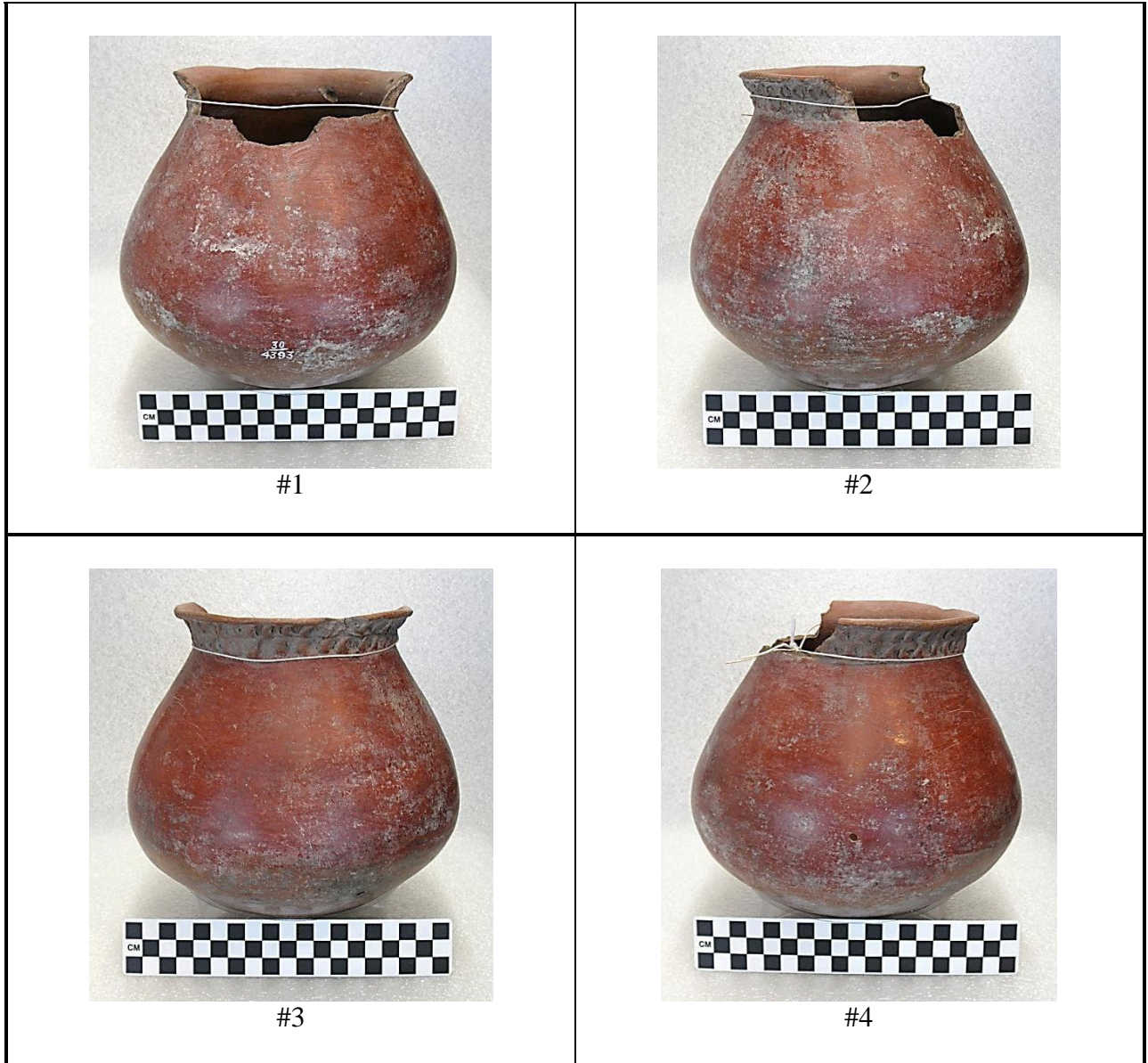


#4

AMNH 30 / 4392  
Counterclockwise Rotation  
Casas Grandes Plainware

“Plain Jar (6 ¼ in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4393

Counterclockwise Rotation

Playas Red with pinched design on everted rim

Ovoid Jar - Low Center of Gravity

“Red jar – large piece of rim missing. “Pinched” decoration under rim. 7 ¾ in. high.  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4394  
Counterclockwise Rotation  
Playas Red with pinched rim

“Plain Jar – broken (7 ½ in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4395  
Counterclockwise Rotation  
Casas Grandes Plainware

“Plain Jar Broken (7 ¼ in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4405

Four Side Views Ramos Black on White Flute shaped vessel

“Pottery Object – resembling handle of Vessel – length 4 ¼ in. White decorated in black.  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

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#4

AMNH 30 // 4406  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Miniature Bowl

“Small bowl decorated in black – diameter 2 ¾ in.  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua  
 under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4407-a



AMNH 30 / 4407-b



AMNH 30 / 4409-a



AMNH 30 / 4409-b

AMNH 30 /4407 Plainware  
AMNH 30 /4409 Playas Red

AMNH 30 / 4407 “Small saucer – plainware (paint dish) diam. 2 in.  
AMNH 30 / 4409 “Portion of pottery AMNH – with handle & grotesque head  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

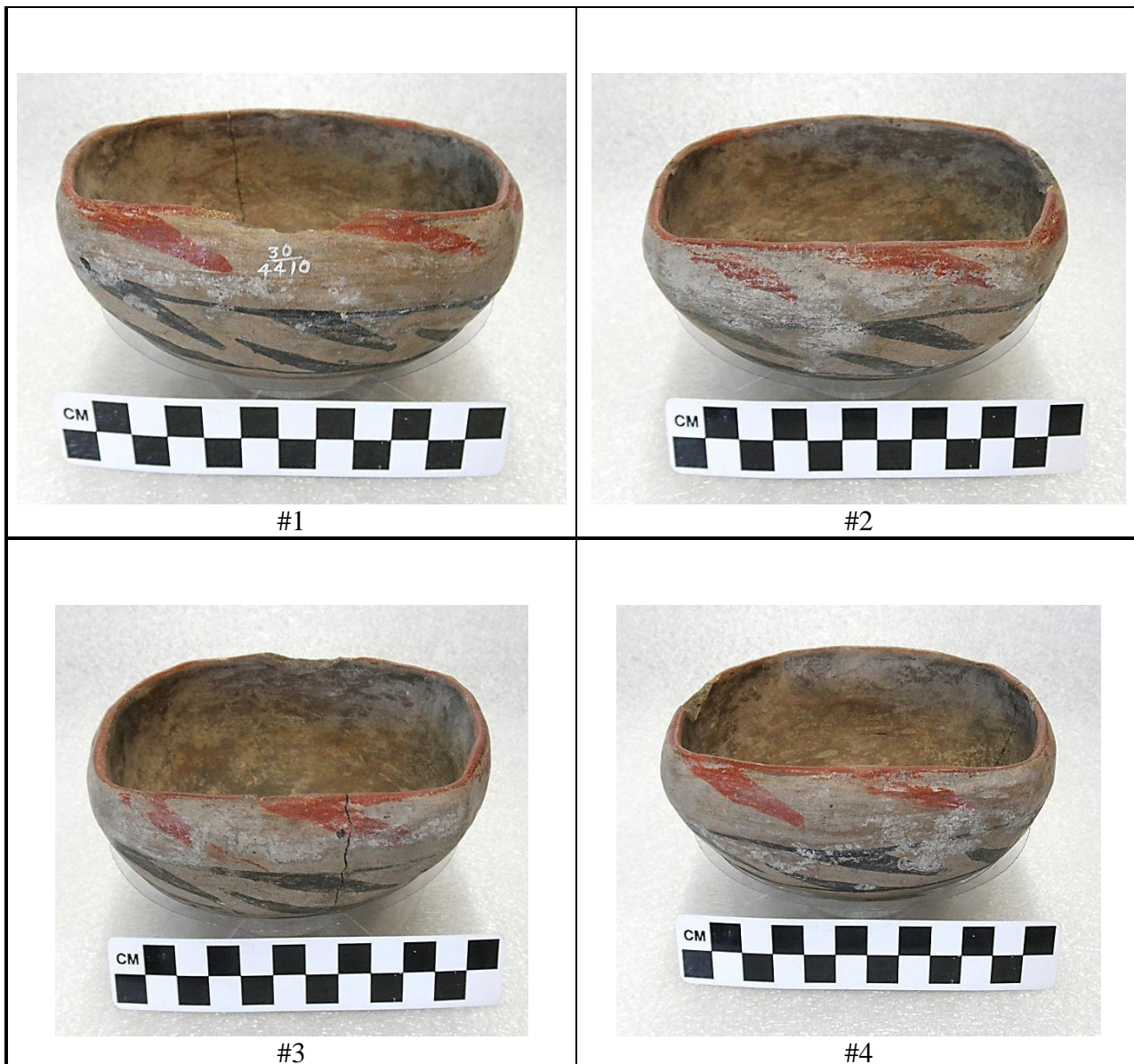
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AMNH 30 / 4408  
 Counterclockwise Rotation  
 Non-Local  
 Spheroid Jar - Medium Center of Gravity

“Bowl decorated in black (cracked in several places) diameter 4 7/8 in.  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
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AMNH 30 / 4410  
 Counterclockwise Rotation  
 Villa Ahumada Polychrome  
 Square shaped bowl with incurved rim

“Bowl – aperture square (4 5/8 in.) Painted in red & black  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

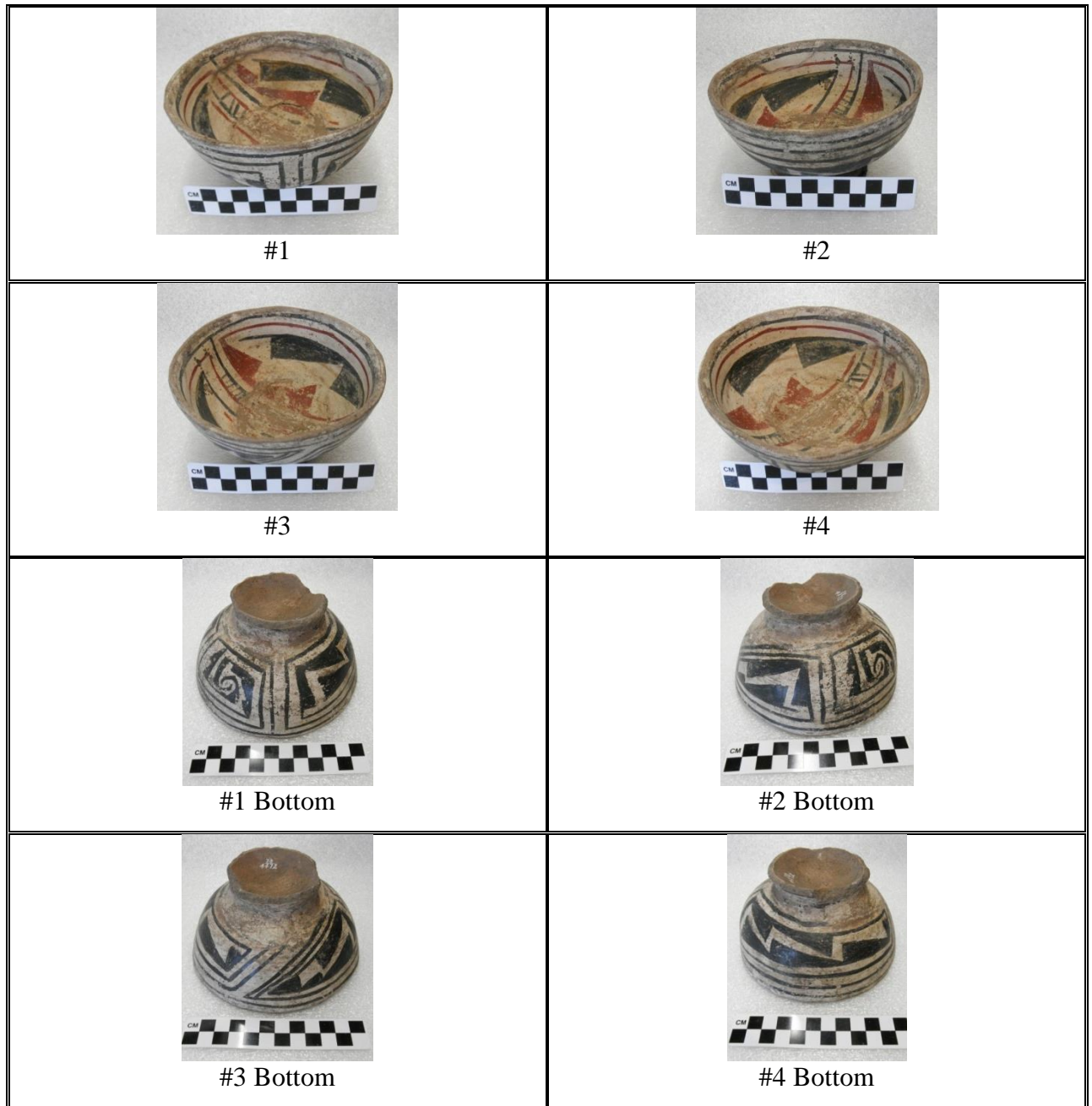
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AMNH 30 / 4411  
 Counterclockwise Rotation Babicora Polychrome  
 Ellipsoid Jar - Medium Center of Gravity with tall neck

“Jar or vase – Elegantly decorated in black & red from Casas Grandes (7 5/8 in. high)”

(Lumholtz Collection Handwritten Archive Notes:  
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AMNH 30 / 4412  
 Counterclockwise Rotation  
 Carretas Polychrome Chalice

“Bowl on base (broken) decorated in white, red & black inside and out diameter 5 1/8 in.  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”  
 (Lumholtz Collection Handwritten Archive Notes:  
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AMNH 30 / 4413  
 Counterclockwise Rotation  
 Corralitos Polychrome Double Jar  
 Spheroid Double Jar - Medium Center of Gravity

“Double jar – designs in incised lines  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2

AMNH 30 / 4414  
180 Degree Rotation  
Corralitos Double Jar with Handle

“Double Jar Painted Red – figure in black on handle  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#2



#3

AMNH 30 / 4415  
180 Degree Rotation  
Corralitos Incised Double Jar with Handle

“Double Jar decorated with rings of incised lines  
Presented by Mr. Galvin of San Diego”

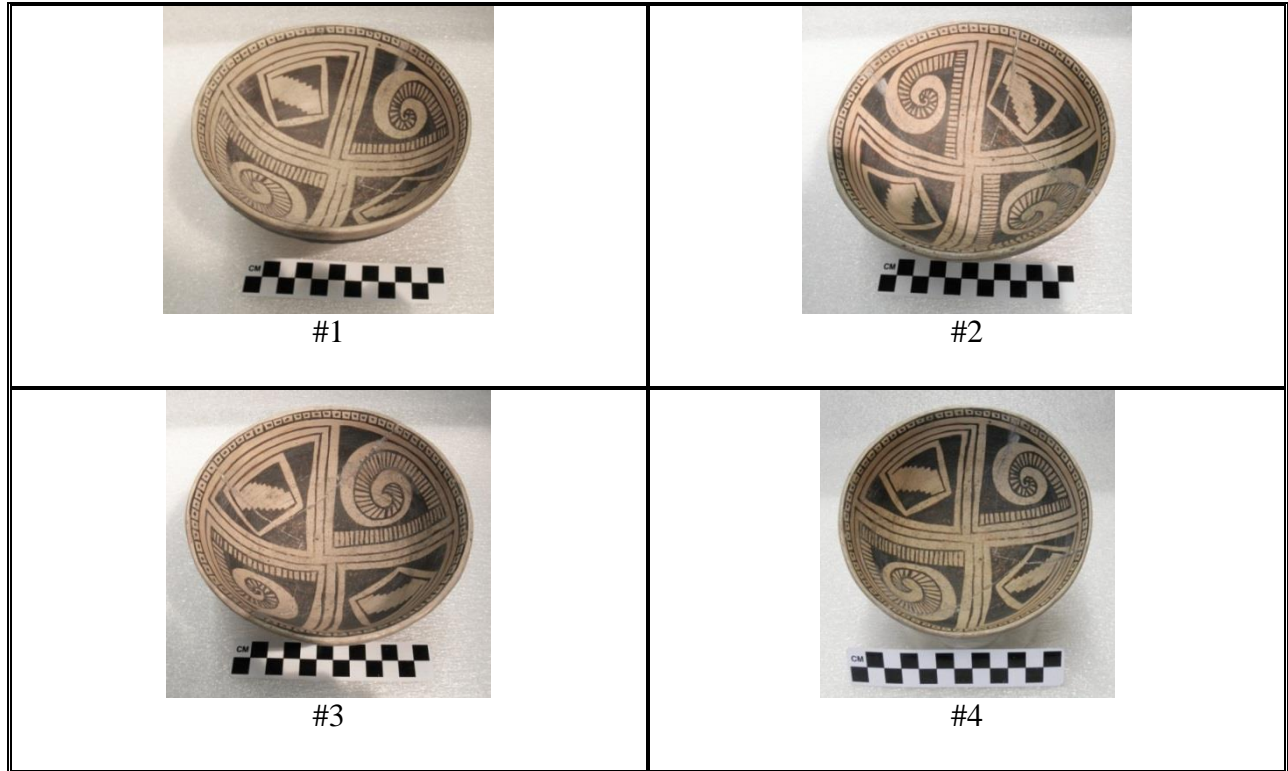
(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4416  
 Counterclockwise Rotation  
 Escondida Polychrome  
 Open Bowl with Exterior red slip

“Bowl – outside red, inside light – decorated in black, aperture 5 1/8 in.  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



Exterior

AMNH 30 / 4417

Counterclockwise Rotation

Non-Local – possibly Salado

Outcurved Bowl with Interior & Exterior Design

“Bowl decorated in white, red and black, diameter aperture 5 3/8  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua”

(Lumholtz Collection Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4418  
 180 Degree Interior Rotation  
 Escondida Polychrome  
 Open Bowl with Exterior red slip

“Bowl – outside red, inside decorated red & black, aperture 4 1/8 in.  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4419  
 Babicora Polychrome  
 Counterclockwise Rotation  
 Bowl with Slightly Inverted Rim

“Bowl (broken) outside decorated white, red & black, aperture 3 5/8”  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4



Interior

AMNH 30 / 4420  
 Counterclockwise Rotation  
 Escondida Polychrome  
 “Spheroid Bowl with slightly everted rim  
 Bowl decorated in yellow, black & red – Very  
 fine. Aperture 4 7/8 in.  
 Presented by Mr. Galvin of San Diego”  
 (Lumholtz Collection Handwritten Archive  
 Notes: Courtesy of the Division of  
 Anthropology of the American Museum of  
 Natural History)



AMNH 30 / 4421  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Animal Effigy Bowl in form of bird

“Bowl bird form in red, white & black aperture 3 5/8  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

#2

AMNH 30 / 4422

Counterclockwise Rotation Ramos Polychrome  
Bowl with large bull's eye design

“Bowl decorated on outside in black aperture 4 ½ in.  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4423  
 Counterclockwise Rotation Non-Local  
 Bowl with Elaborate Outcurved Rim

“Bowl – rim peculiar, outside plain – for inside design see sketch diameter aperture 5 ¾ in.  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4424  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Small bowl with step design

“Small bowl (broken) painted in red & black diameter 2 ¾ in.  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4425  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Bowl with slightly incurved rim

“Small bowl decorated in yellow, red & black aperture 2 ¾ in.  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua”

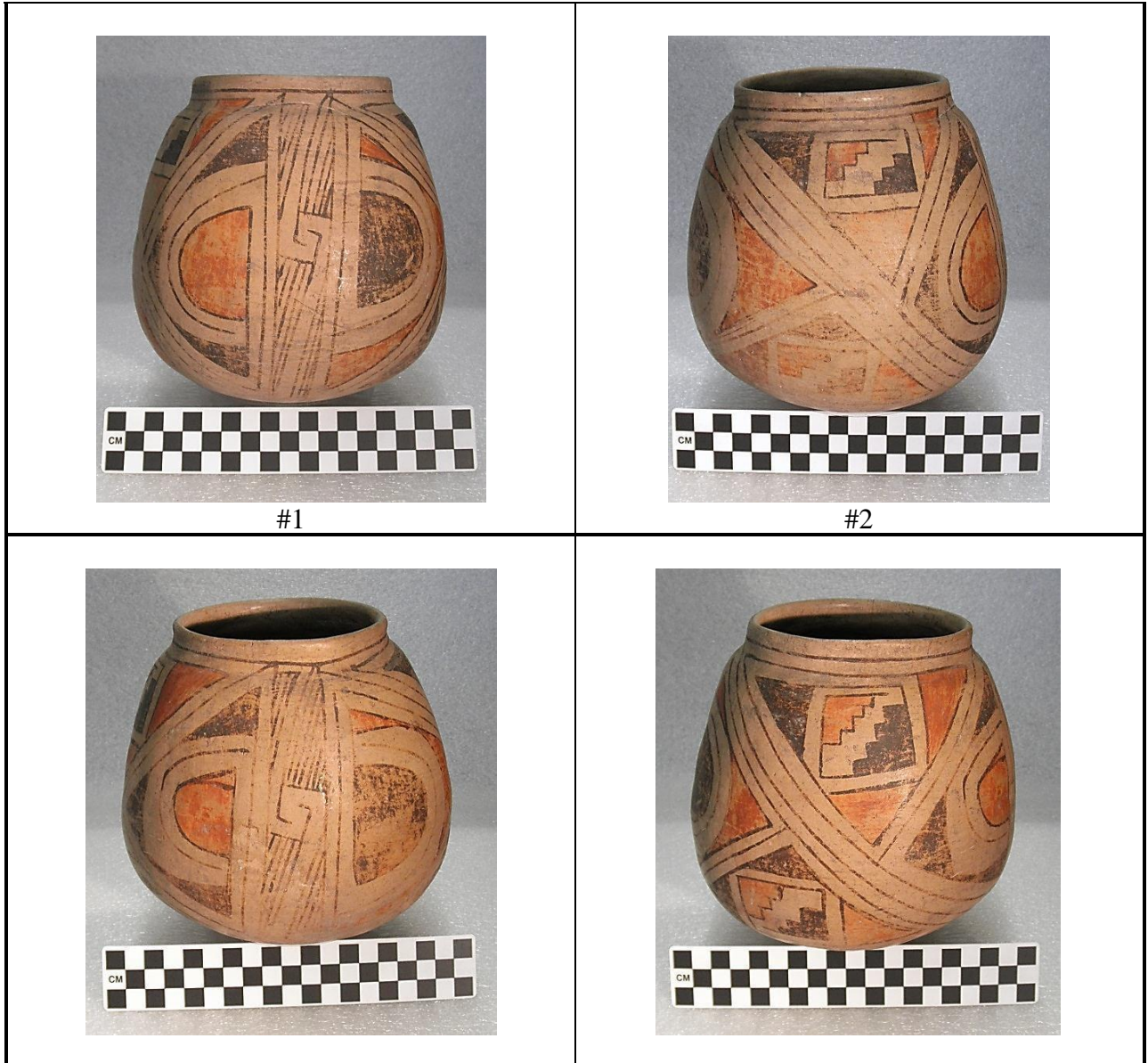
(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4426  
 Clockwise Rotation  
 Ramos Polychrome  
 Hooded Human Effigy Vessel

“Vase - form of woman sitting - figures in red black.  
 Bird in black painted on either breast  
 Casas Grandes”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4427  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Ovoid Jar - Low Center of Gravity

“Jar-light ware decorated in red & black diameter of aperture 3 5/8 in.  
 Casas Grandes”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4428  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Spheroid Jar - Medium Center of Gravity

“Jar - light ware decorated in red & black, 7 in. high  
 Casas Grandes”

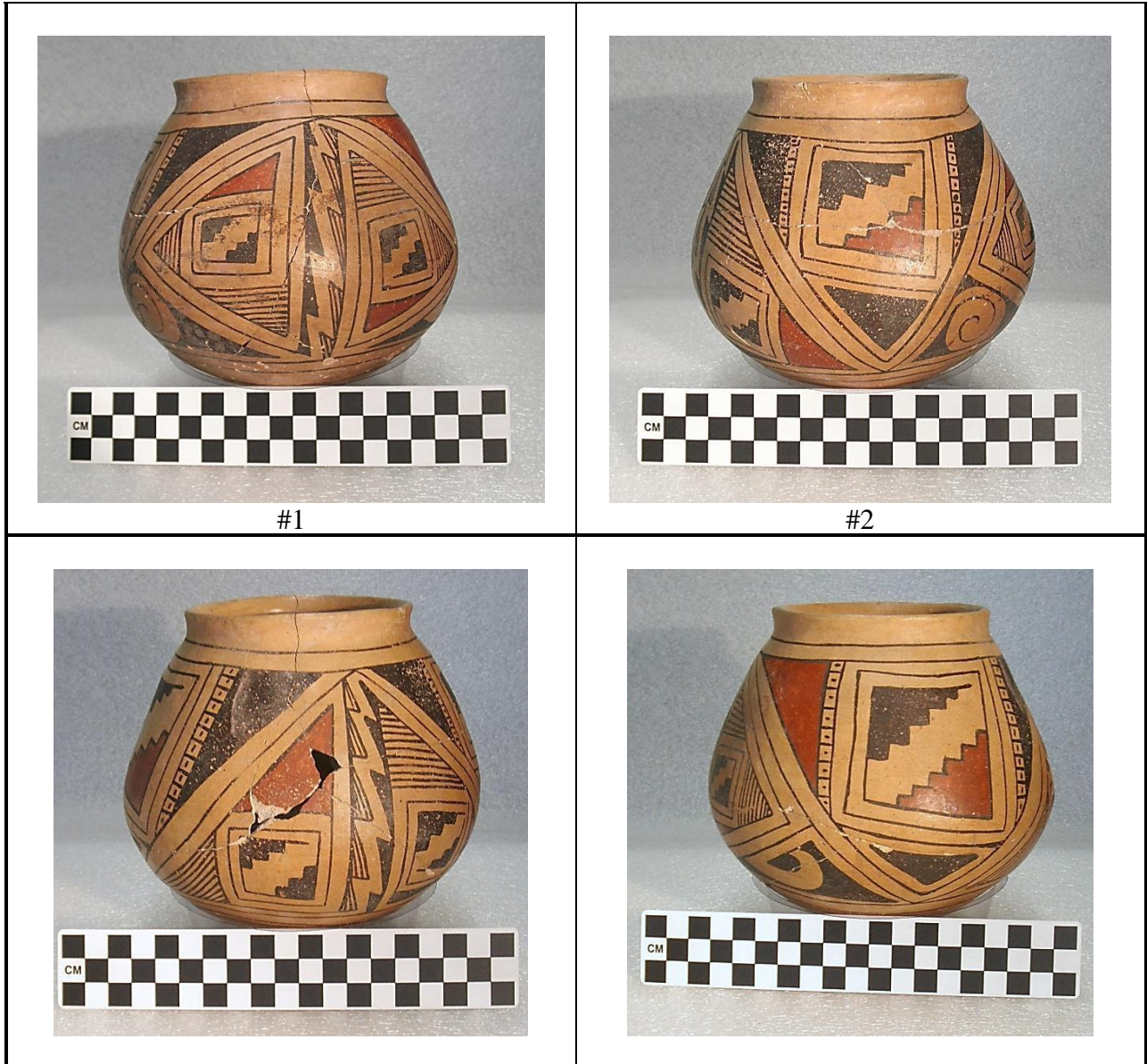
(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4429  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Ovoid Jar - Medium Center of Gravity

“Jar light ware decorated in red & black large, rim broken (8 ¾ in. high)  
 Casas Grandes”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4430  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Ovoid Jar - Medium Center of Gravity

“Jar light ware decorated in red & black large, rim broken (5 7/8 in. high)  
 San Diego”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4431

Counterclockwise Rotation

Ramos Polychrome

Large Ovoid Jar - Medium Center of Gravity with Horned Serpent & Bird Motif

“Jar light ware decorated in red & black large, rim broken (6 ½ in. high)

Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua.

Found under floor of totally destroyed pueblos, on plain near Rio San Miguel”

(Lumholtz Collection Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4432  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Bown with slightly incurved rim

“Bowl - light ware decorated in red & black, aperture 5 ¼ in.  
 Rancho San Diego”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4433  
Clockwise Rotation  
Ramos Polychrome  
Bowl with slightly incurved rim

“Bowl - light ware decorated in red & black, aperture  $3 \frac{3}{4}$  in,  $4 \frac{7}{8}$  in. high  
Rancho San Diego”

(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4434  
 Counterclockwise Rotation  
 Escondida Polychrome  
 Spheroid Jar - Medium Center of Gravity

“Light ware decorated in Red & black. Aperture 4 ¾ in.  
 San Diego”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4435  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Bowl with incurved rim

“Bowl decorated in red & black, aperture 4 ¾ in.  
 Rancho San Diego”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4436  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Bowl with slightly incurved rim

“Bowl decorated in red & black aperture 4 in.  
 Rancho San Diego”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4437  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Elipsoid Bowl

“Bowl decorated in red & black aperture 6 3/8 inches  
 Rancho San Diego”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4439  
 Counterclockwise Rotation  
 Ramos Polychrome Bowl – Badly Abraded

“Large bowl – light ware ornamented in red & black Worn and broken Aperture 8 in.  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4440  
Counterclockwise Rotation  
Playas Red

“Jar red ware (6 7/8 in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4441

Counterclockwise Rotation

Villa Ahumada – Ramos Variant

Ellipsoid Jar - Low Center of Gravity with Restricted Rim

“Jar – light ware decorated in red & black 8 ¾ in high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4442  
 Counterclockwise Rotation  
 Babicora Polychrome  
 Ovoid Jar - Low Center of Gravity

“Jar – light ware decorated in red & black 8 ¾ in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4443  
Counterclockwise Rotation  
Babicora Polychrome  
Spheroid Jar - Medium Center of Gravity

“Jar – light ware decorated in red & black 4 7/8 in. high  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4444  
Counterclockwise Rotation  
Escondida Polychrome

“Jar – light ware – decorated in red and black (7 1/8 in. high)  
Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3

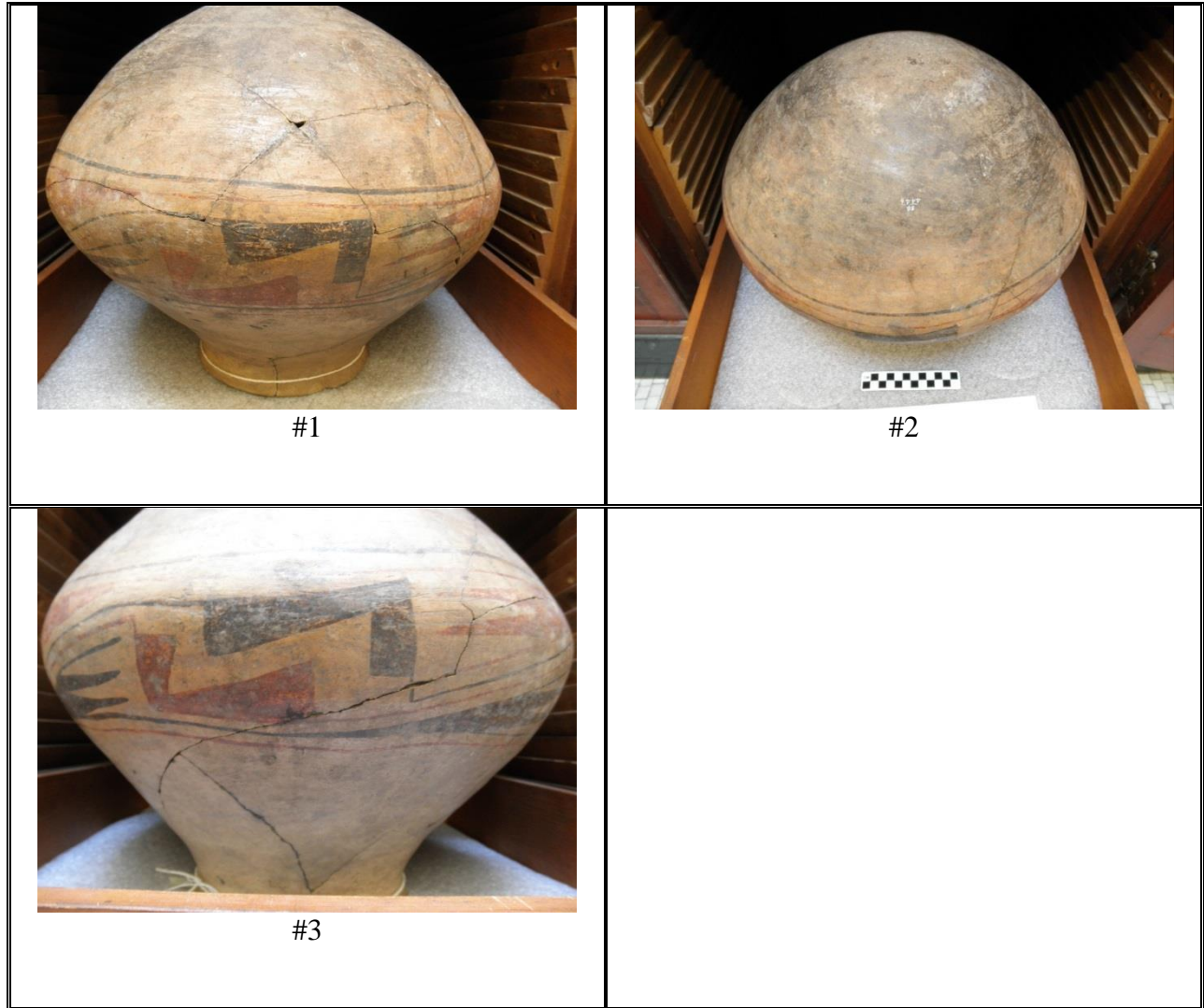


#4

AMNH 30 / 4445  
Counterclockwise Rotation  
Carretas Polychrome  
Ovoid Jar - Medium Center of Gravity

“Jar – light ware decorated in red & black 5 3/8 in high  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4446

Ramos Polychrome – Capulin Variant

“Jar light ware decorated in red & black – Very Large –  
 Decoration confined to middle part of jar (14 in. high)  
 Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
 under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4447  
 Counterclockwise Rotation  
 Babicora Polychrome  
 Spheroid Jar - Medium Center of Gravity

“Jar – light ware decorated in red & black 6 1/8 in high  
 Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
 under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

#2

AMNH 30 / 4448  
 Counterclockwise Rotation  
 Babicora Polychrome  
 Spheroid Jar - Medium Center of Gravity

“Jar – light ware decorated in red & black (broken) 9 ½ in high  
 Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
 under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4449  
 Counterclockwise Rotation  
 Villa Ahumada Polychrome (Ramos Variant)  
 Spheroid Jar - Medium Center of Gravity

“Jar – light ware decorated in white, red & black (2 perforated ears) 4 7/8 in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4450  
 Counterclockwise Rotation  
 Babicora Polychrome  
 Ovoid Jar - Medium Center of Gravity

“Jar – light ware decorated in red & black (2 perforated ears) (rim broken) 5 in high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4451  
 Counterclockwise Rotation  
 Carretas Polychrome  
 Ellipsoid Jar - Medium Center of Gravity

“Jar – light ware decorated in red & black 7 1/8 in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 // 4452  
 Counterclockwise Rotation  
 Villa Ahumada Polychrome  
 Spheroid Jar - Medium Center of Gravity

“Small jar. Decoration in white, red & black (2 perforations on either end) 4 in high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4453  
 Counterclockwise Rotation  
 Villa Ahumada Polychrome  
 Ovoid Jar - Low Center of Gravity

“Large Jar decorated in White, red, & black 8 in. high  
 Rancho San Diego 10 miles so. Casas Grandes Chihuahua”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4454  
 Counterclockwise Rotation  
 Ramos Black on Red  
 Spheroid Effigy Jar (macaw pen?) - Medium Center of Gravity

“Small jar decorated in black – aperture like a short spout 3 1/8 in. high  
 Rancho San Diego 10 miles so. Casas Grandes Chihuahua”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4455  
 Counterclockwise Rotation  
 Villa Ahumada Black on White  
 Ovoid Jar - Medium Center of Gravity

“Jar decorated in black & white 2 perforated ears 5 5/8 in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

#2

AMNH 30 / 4456

Counterclockwise Rotation

Huerigos Polychrome

“Large Jar decorated in black and white (7 3/8 in. high)  
 Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
 under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4457

Counterclockwise Rotation

Ramos Polychrome

Spheroid Jar - Low Center of Gravity with Tall Neck, Slightly everted rim

“Large Jar light colored ware – decorated in red & black, portion of rim broken, 8 ½ in high  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua”

(Lumholtz Collection Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4458  
 Counterclockwise Rotation  
 Ramos Polychrome – Eccentric  
 Double Section Jar with everted rim

“Jar in Red, White & black – Rim broken 7 in. high  
 Rancho San Diego 10 miles so. Casas Grandes Chihuahua”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4459  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Ovoid Jar - Low Center of Gravity

“Jar reddish ware decorated in red & black 6 in. high  
 Rancho San Diego 10 miles so. Casas Grandes Chihuahua”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4460  
 Counterclockwise Rotation  
 Carretas Polychrome  
 Spheroid Jar - Medium Center of Gravity

“Jar reddish ware – decorated in red, black & green 6 ¾ in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4461  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Spheroid Jar - Medium Center of Gravity with 2 perforated ears

“Jar light ware decorated in red & black, 2 perforated ears 6 1/8 in. high  
 Rancho San Diego 10 miles so. Casas Grandes Chihuahua”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4462  
 Counterclockwise Rotation  
 Vila Ahumada Polychrome (Ramos Variant)  
 Spheroid Jar - Medium Center of Gravity

“Jar decorated in red, white and black – badly broken 6 ½ in high  
 Rancho San Diego 10 miles so. Casas Grandes Chihuahua”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4463  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Large Spheroid Jar - Medium Center of Gravity

“Jar decorated in red and black 6 ½ in. high  
 Rancho San Diego 10 miles so. Casas Grandes Chihuahua”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

#2

AMNH 30 / 4464  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Ovoid Jar - Low Center of Gravity

“Jar decorated in red, white and black 6 ¼ in. high  
 Rancho San Diego 10 miles so. Casas Grandes Chihuahua”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4465  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Spheroid Jar - Low Center of Gravity

“Jar light ware decorated in red & black (6 ¾ in. high)  
 Rancho San Diego 10 miles so. Casas Grandes Chihuahua”  
 under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4466  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Large Ovoid Jar - Low Center of Gravity

“Jar light ware decorated in red & black (8 ¾ in. high)  
 Rancho San Diego 10 miles so. Casas Grandes Chihuahua”  
 under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

#2

AMNH 30 / 4467  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Large Spheroid Jar - Low Center of Gravity

“Jar light ware decorated in red & black (7 7/8 in. high)  
 Rancho San Diego 10 miles so. Casas Grandes Chihuahua”  
 under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4468  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Spheroid Jar - Medium Center of Gravity

“Jar light ware decorated in red & black (7 3/8 in. high)  
 Rancho San Diego 10 miles so. Casas Grandes Chihuahua  
 under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4469  
 Counterclockwise Rotation  
 Carretas Polychrome  
 Spheroid Jar - Medium Center of Gravity

“Jar light ware decorated in red & black (5 5/8 in high) 2 perforations on either side  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4470  
 Counterclockwise Rotation  
 Escondida Polychrome  
 Spheroid Jar - Medium Center of Gravity

“Light ware decorated in red & black 6 ½ in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4471

Counterclockwise Rotation

Villa Ahumada Polychrome (Ramos Variant) Quail Effigy Ovoid Jar - Medium Center of Gravity

“Jar light ware decorated in red & black (4 projecting heads) 6 in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4472  
 Counterclockwise Rotation  
 Non Local  
 Human Face Effigy Squared Round Vessel

“Jar has 2 human faces (5 7/8 in high)  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4473  
 Villa Ahumada Polychrome  
 Counterclockwise Rotation  
 Bird Effigy

“Jar light ware in the form of a bird decorated in red & black (4 ½ in. high)  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4474  
 Counterclockwise Rotation  
 Villa Ahumada Polychrome (Ramos Variant)  
 Bird – Macaw Effigy Bowl

“Jar Small light ware (4 projecting birds’ heads) 3 5/8 in high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4475  
 Counterclockwise Rotation  
 Villa Ahumada Polychrome  
 Animal Effigy

“Vessel in animal form  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4476  
 Counterclockwise Rotation  
 Villa Ahumada Polychrome (Ramos Variant)  
 Effigy Bowl with constricted opening and Bird Heads

“Jar in animal ( ) form badly broken  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

#2

AMNH 30 / 4477

Villa Ahumada Polychrome  
 Counterclockwise Rotation  
 Four sided Jar

“Small jar – 4 projections in lower part  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4478  
 Medanos Red-on-brown  
 Spheroid Jar - Medium Center of Gravity

“Small Jar decorated in red (5 in. high)  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

#2

AMNH 30 / 4479  
 Babicora Polychrome  
 Counterclockwise Rotation  
 Spheroid Bowl with inverted rim

“Jar decorated in red & black 2 large perforations on either side  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4480  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Headless Human Effigy with Serpent & Bird Motif

“Jar - decorated in red & black with crested serpent - Quetzal bird & human body  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4481  
 Counterclockwise Rotation  
 Escondida Polychrome  
 Spheroid Jar - Medium Center of Gravity

“Jar light ware decorated in red & black 6 ¼ in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4482

Counterclockwise Rotation

Villa Ahumada Polychrome with 2 perforated ears

Spheroid Jar - Low Center of Gravity

“Jar light ware decorated in red & black 6 3/8 in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4483  
 Counterclockwise Rotation  
 Villa Ahumada Polychrome  
 Ovoid Jar - Medium Center of Gravity

“Jar light ware red & black broken and much worn (2 perforations on one side remaining)  
 5 in. high.

Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

#2

AMNH 30 / 4484

Counterclockwise Rotation  
 Villa Ahumada Polychrome (Ramos Variant)  
 Spheroid Seed Jar with Constricted Opening

“Jar in white, red & black (small) 4 1/2 in high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4485  
 Counterclockwise Rotation  
 Non-local  
 Simple Restricted Bowl

“Jar – gray ware (decorated with points in red 2 perforations on either side) 4 7/8 in high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4486  
 Counterclockwise Rotation  
 Babicora Polychrome  
 Ovoid Jar - Medium Center of Gravity

“Jar (broken) decorated in red & black – 2 ears (6 1/8 in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4487  
 Counterclockwise Rotation  
 Non-local  
 Ovoid Jar - Medium Center of Gravity

“Small jar – 10 projections of side – red & white (broken) 4 perforations – 4 ½ in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4488

Counterclockwise Rotation

Villa Ahumada – heavily sooted

Ovoid Jar - Medium Center of Gravity with Raised Checkerboard Snake

NOTE: 30 / 4489 Portion of human skull & teeth were found in this vessel when inventoried.

“Jar with serpent (surface raised) (coiled obliquely around jar) Rim broken and jar cracked. 8 ¼  
in. high

Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:

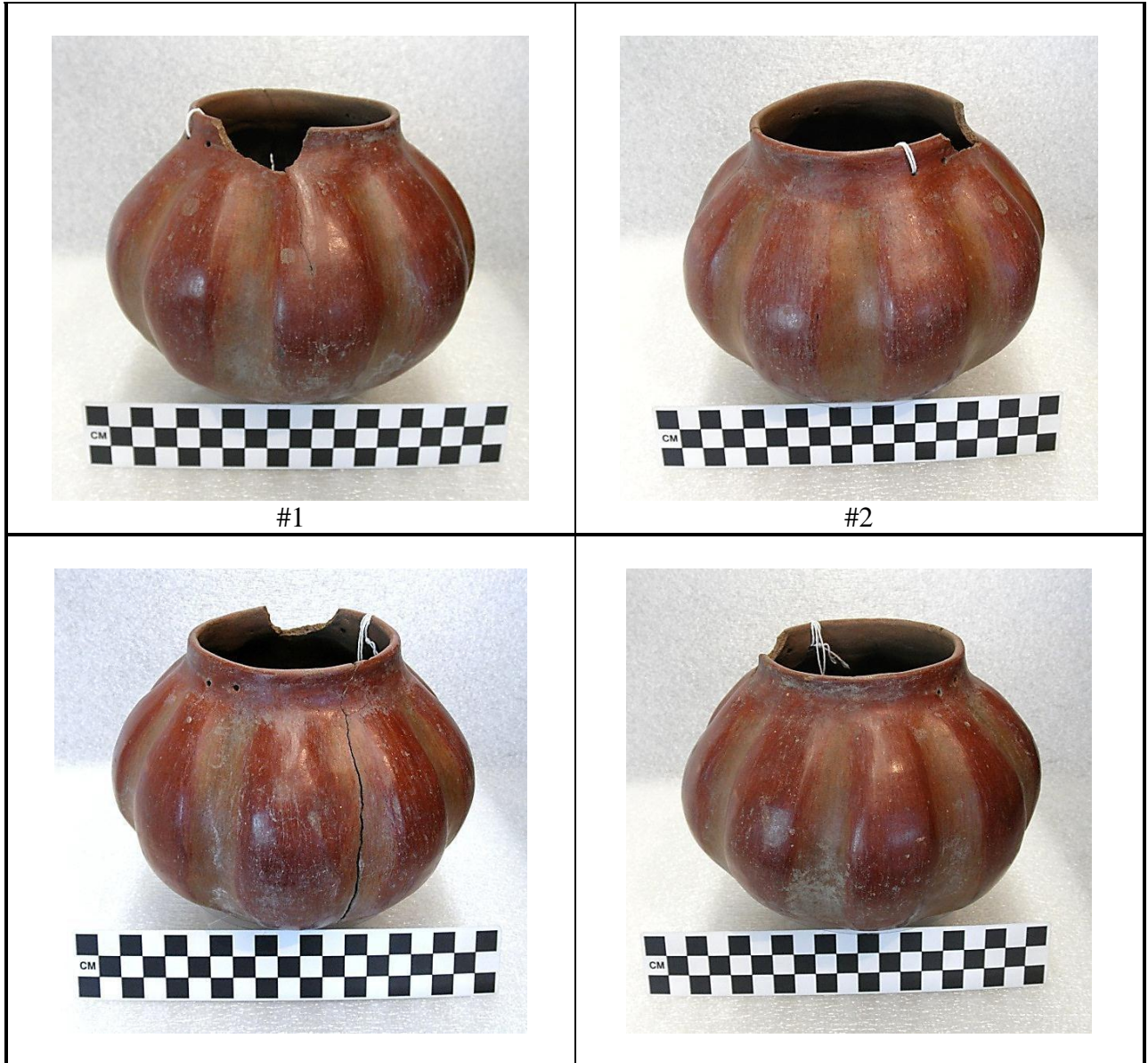
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4490  
 Counterclockwise Rotation  
 Villa Ahumada Polychrome  
 Spheroid Double lobed Jar

“Jar – form of double gourd – decorated in red & black, Rim broken (6 7/8 in. high)  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4491  
 Counterclockwise Rotation  
 Playas Red Squash Effigy  
 Spheroid Jar in the Shape of a Squash

“Red jar – Gourd form 4 perforations 5 ½ in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4492  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Ovoid Jar - Medium Center of Gravity

“Large jar (1/3 of rim missing) decorated in red & black 9 5/8 in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4493  
 Counterclockwise Rotation  
 Villa Ahumada Polychrome (Ramos Variant) Animal Effigy  
 Spheroid Jar - Low Center of Gravity

“Jar with 4 frogs (!) heads & 2 serpents around neck of Vessel  
 Found on Plain between San Diego & Cave Valley”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4494  
 Counterclockwise Rotation Ramos Polychrome  
 Spheroid Jar - Medium Center of Gravity

“Jar – light ware – decorated in red & black 6 1/8 in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4496  
Counterclockwise Rotation Ramos Polychrome  
Ovoid Jar - Low Center of Gravity

“Jar – light ware decorated in red, brown & black 6 1/8 in. high  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4497  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Spheroid Jar - Low Center of Gravity

“Jar light ware decorated in red & brown & black 5 ¾ in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

#2

AMNH 30 / 4498

Counterclockwise Rotation

Ramos Polychrome

Ovoid Jar - Low Center of Gravity

“Jar light ware decorated in red & brown & black 6 in. high (4 perforations)  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4499  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Ovoid Jar - Low Center of Gravity

“Jar - lightware decorated in red & brown & black 7 1/4 in. high (broken piece missing from bottom)  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4500  
 Counterclockwise Rotation  
 Babicora Polychrome  
 Spheroid Jar - Low Center of Gravity

“Jar light ware decorated in red & black (half of neck missing) 5 in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4501  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Ovoid Jar - Low Center of Gravity

“Jar - lightware decorated in red & brown & black 7 in. high (broken & piece missing from side)  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4502  
 Counterclockwise Rotation  
 Villa Ahumada Polychrome (Ramos Variant)  
 Human Effigy Human Effigy Jar

“Jar – light ware Human face – used as handle, Dec. in Colors  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

#2

AMNH 30 / 4503  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Hooded Human Effigy with Human/Bird Motif

“Jar Human face used as handle. Dec. in color  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



AMNH 30 / 4504  
Counterclockwise Rotation  
Ramos Polychrome  
Hooded Human Effigy with Triangular Design

“Jar - Human face used as handle – decorated same general style as 4502 and 4503  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
under floors of ruined pueblos”

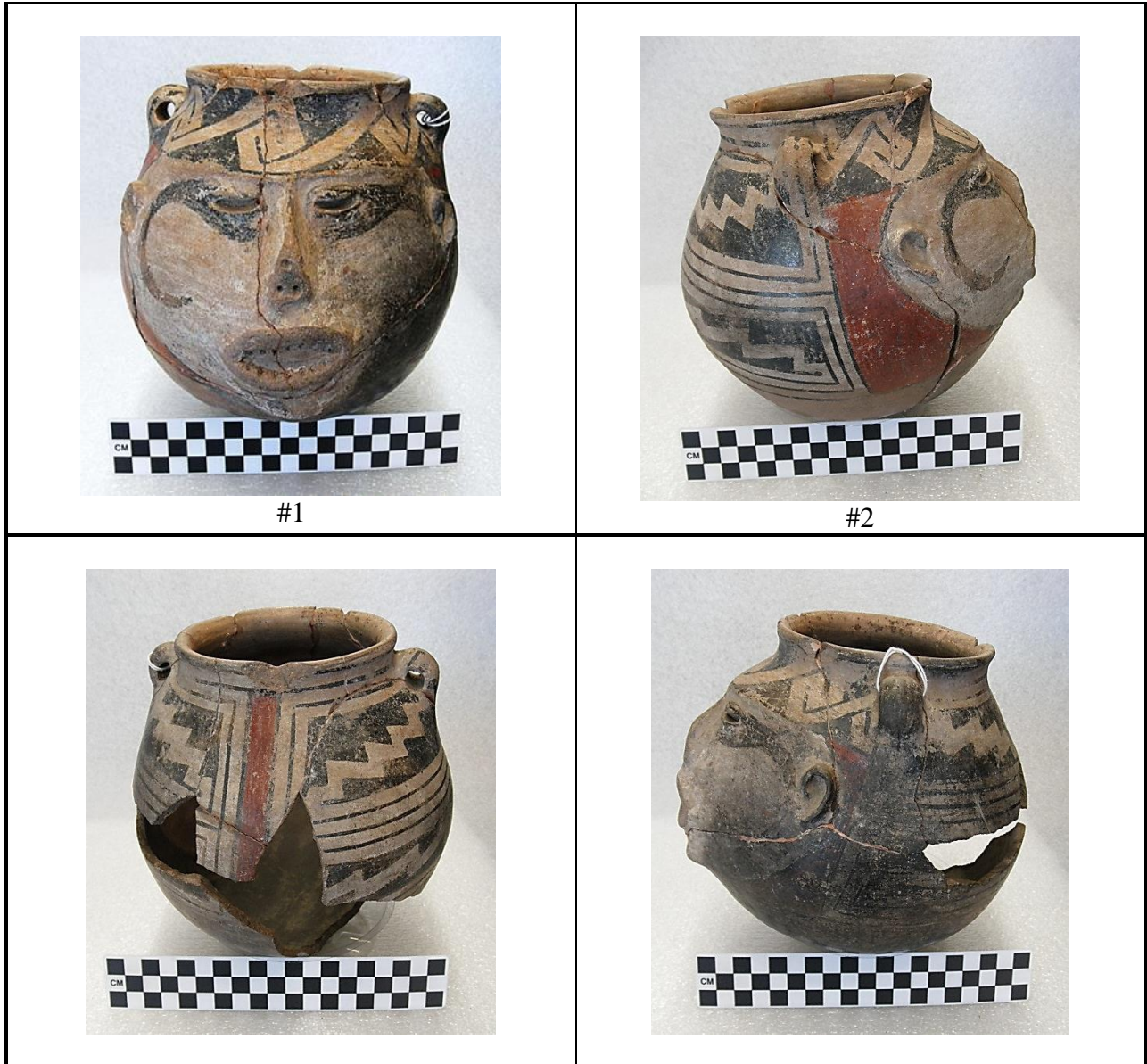
(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4505  
 Counterclockwise Rotation  
 Villa Ahumada Polychrome  
 Spheroid Jar - Medium Center of Gravity

“Jar painted in red & black – 2 small handles – Jar badly cracked (6 in. high)  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

#2

AMNH 30 / 4506

Counterclockwise Rotation

Villa Ahumada Polychrome (Ramos Variant)  
Human Head Effigy with 2 perforated handles

“Portion of jar. 2 perforated handles 7 in. high  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History).



AMNH 30 / 4507  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Spheroid Jar - Medium Center of Gravity

“Jar – light ware – decorated in red & black 6 1/8 in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History).



AMNH 30 / 4508  
 Counterclockwise Rotation  
 Villa Ahumada Black on White  
 Ovoid Jar - Medium Center of Gravity

“Jar – decoration black & white – much worn, jar broken, 4 5/8 in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4509

Counterclockwise Rotation

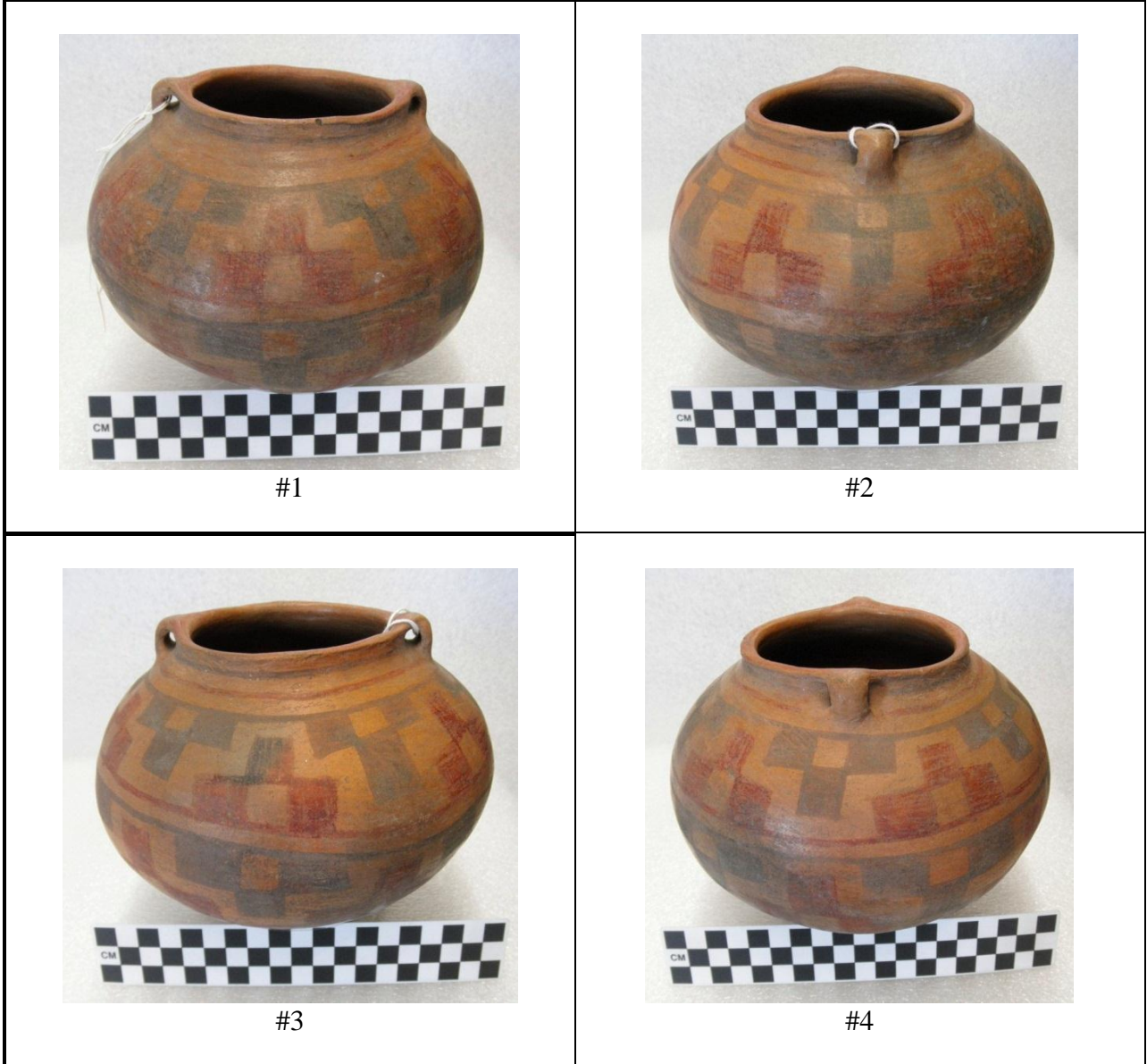
Ramos Black on Red

Spheroid Jar - Medium Center of Gravity and high neck with everted rim

“Jar (broken) reddish ware – decorated in red & black 6 3/8 in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4510 Counterclockwise Rotation

Non Local

Elipsoid Jar - Medium Center of Gravity restricted rim

“Jar reddish ware (black & red squares) 2 small hears 5 ¼ in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

#2

AMNH 30 / 4511  
 Counterclockwise Rotation  
 Ramos Black on Red  
 Ovoid Jar - Low Center of Gravity

“Jar Reddish ware decorated in white & black 5 7/8 in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4512 Counterclockwise Rotation  
 Madera Black on Red  
 Elipsoid Jar - Medium Center of Gravity

“Red Jar – 2 years (6 black stripes 2 groups of 3 each) 5 3/8 in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

#2

#3

#4

AMNH 30 / 4513

Counterclockwise Rotation

Madera Black on Red

Spheroid Jar with perforated lugs

“Red Jar – 2 ears decorated design in black 5 ½ in high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4514  
 Counterclockwise Rotation  
 Madera Black on Red with 2 perforated ears  
 Spheroid Jar - Medium Center of Gravity

“Red Jar 2 ears decorated designs in black rim broken 5 ¾ in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4515  
 Counterclockwise Rotation  
 Madera Black on Red  
 Ovoid Jar - Low Center of Gravity

“Red Jar decorated in designs in black – jar badly cracked 8 in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4516  
 Counterclockwise Rotation  
 Ramos Black on Red  
 Ovoid Jar - Low Center of Gravity

“Red Jar (large) decorated in designs in black jar badly cracked 10 in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4517  
 Counterclockwise Rotation  
 Ramos Black on Red  
 Ovoid Jar - Low Center of Gravity

“Red jar (large) decorated in black 8 ¼ in high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4518  
 Counterclockwise Rotation  
 Madera Black on Red  
 Spheroid Jar - Medium Center of Gravity

“Red jar decorated in black – 6 in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4519  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Horned Toad Effigy

“Jar in form of turtle?  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4519 bottom  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Horned Toad Effigy

“Jar in form of turtle?  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4520  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Spheroid Jar - Medium Center of Gravity

“Large Jar – decorated in red & black 7 5/8 in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



AMNH 30 / 4521

Ramos Black on Cream

Counterclockwise Rotation

Spheroid Jar - Medium Center of Gravity and high neck

“Jar – lightware decorated Black & red 7 ¼ in. high  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4522  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Ovoid Jar - Low Center of Gravity

“Large jar (broken) decorated in red & black 8 1/2 in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4523  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Spheroid Jar - Medium Center of Gravity

“Large jar The decoration has two peculiar figures 7 1/4 in high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4524  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Large Ovoid Jar - Low Center of Gravity

“Jar decorated in black & red (Plumed Serpent, etc.) 7 1/2 in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4525  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Large Ovoid Jar - Low Center of Gravity with Serpent Motif

“Jar - badly broken - very finely decorated (Plumed Serpent, etc.) 7 3/8 in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4526  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Spheroid Jar - Medium Center of Gravity with Neck & Tail of Bird Motif

“Jar bird form - painted red & black  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4527  
 Counterclockwise Rotation  
 Ramos Black on Red Bird Effigy Jar  
 Bird Effigy Jar - Medium Center of Gravity

“Jar bird form, parrot’s head, Red ware – design in black, part of jar missing.  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

#2

AMNH 30 / 4528  
 Counterclockwise Rotation  
 Ramos Polychrome  
 Hooded Human Effigy Vessel

“Jar handle in form of human face. Same style as 30/4503  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4529  
 Counterclockwise Rotation  
 Ramos Polychrome Effigy Jar  
 Ovoid Jar - Medium Center of Gravity

“Jar handle in form of grotesque face. Same style as 30 / 4503  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4530  
 Counterclockwise Rotation  
 Villa Ahumada Polychrome (Ramos Variant)  
 Hooded Animal Effigy Vessel

“Jar handle in form of face - White, red & black. Same style as 4503  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1

#2

AMNH 30 / 4531

Counterclockwise Rotation

Villa Ahumada Polychrome (Ramos Variant)

Hooded Animal Effigy Vessel

“Jar handle in form of owl's or parrot's head in red, white & black  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4532  
 Counterclockwise Rotation  
 Medanos Red on Brown  
 Ovoid Jar - Medium Center of Gravity with flared neck

“Jar (small) badly broken. Middle decorated in brown – upper part with cuts 4 ¼ in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:  
 Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 4533

Counterclockwise Rotation

Babicora Polychrome

Spheroid Jar - Medium Center of Gravity with neck and flared rim

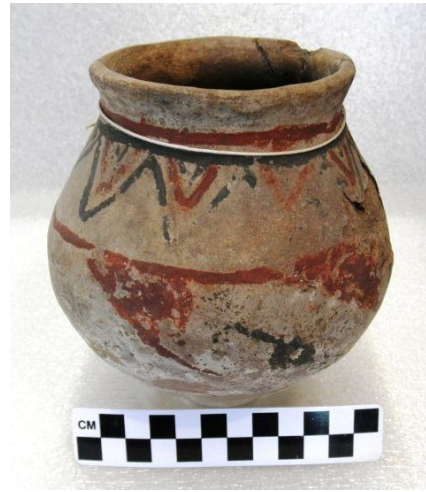
“Small jar – decorated in red & black, piece of rim missing 5 3/8 in. high  
 Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
 under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



#1



#2



#3



#4

AMNH 30 / 4534

Counterclockwise Rotation

Indeterminate Type - Heavily Abraded

Ovoid Jar - Medium Center of Gravity flared rim

“Jar – piece of rim missing. Decorated in red and black. 5 ¼ in. high  
Rancho San Diego 10 miles so. Casas Grandes, Chihuahua,  
under floors of ruined pueblos”

(Lumholtz Collection Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 6331

Playas Red Jar with a rim diameter of approximately 18 cm

Note: As indicated this piece was not cataloged at the time of the Expedition. It closely resembles a portion of a vessel found in Cave Valley.

(1924 note)

“Pottery vessels apparently mended from fragmentary sherds and never numbered or catalogued  
Notes indicate small bowl mended: Sonora”



#1



#2

AMNH 30 / 7492  
Polychrome sherd

“Cave Valley Mounds Chihuahua  
Found under floors of ruined pueblo”

(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 7493

Playas Red Rim

External diameter approximately 8.5 inches

“Cave Valley Mounds Chihuahua Found under floors of ruined pueblo”

(Lumholtz Collection Handwritten Archive Notes:

Courtesy of the Division of Anthropology of the American Museum of Natural History)



AMNH 30 / 7494

Portions of partially restored Vessel  
Playas Red Incised

“Cave Valley Mounds Chihuahua Found under floors of ruined pueblo”

(Lumholtz Collection Handwritten Archive Notes:  
Courtesy of the Division of Anthropology of the American Museum of Natural History)

**APPENDIX II: LUMHOLTZ FIRST EXPEDITION NON-CERAMIC ARTIFACTS**

IMAGE	TYPE AND LOCALE	IMAGE	TYPE AND LOCALE
 <p>AMNH 30 / 4139</p>	<p>Lithics Cave Valley, Mexico</p>	 <p>AMNH 30 / 4140</p>	<p>Stone Cave Valley, Mexico</p>
 <p>AMNH 30 / 4141</p>	<p>Stone Cave Valley, Mexico</p>	 <p>AMNH 30 / 4142</p>	<p>Stone Cave Valley, Mexico</p>
 <p>AMNH 30 / 4143</p>	<p>Stone Cave Valley, Mexico</p>	 <p>AMNH 30 / 4144</p>	<p>Stone Cave Valley, Mexico</p>
 <p>AMNH 30 / 4145</p>	<p>Stone Cave Valley, Mexico</p>	 <p>AMNH 30 / 4146a</p>	<p>Lithics Cave Valley, Mexico</p>
 <p>AMNH 30 / 4146b</p>	<p>Lithics Cave Valley, Mexico</p>	 <p>AMNH 30 / 4147</p>	<p>Stone Cave Valley, Mexico</p>
 <p>AMNH 30 / 4148</p>	<p>Stone Cave Valley, Mexico</p>	 <p>AMNH 30 / 4149</p>	<p>Shell beads Cave Valley, Mexico</p>













IMAGE	TYPE AND LOCALE	IMAGE	TYPE AND LOCALE
 <p>AMNH 30 / 4151</p>	Bone Cave Valley, Mexico	 <p>AMNH 30 / 4154</p>	Stone Pendant Cave Valley, Mexico
 <p>AMNH 30 / 4155</p>	Coral Cave Valley, Mexico	 <p>AMNH 30 / 4156</p>	Shell Mexico
 <p>AMNH 30 / 4157</p>	Beads Casas Grandes	 <p>AMNH 30 / 4158</p>	Corn Cob
 <p>AMNH 30 / 4159</p>	Stone	 <p>AMNH 30 / 4160</p>	Stone
 <p>AMNH 30 / 4161</p>	Shell	 <p>AMNH 30 / 4162</p>	Antler
 <p>AMNH 30 / 4163</p>	Shell	 <p>AMNH 30 / 4164</p>	Bone





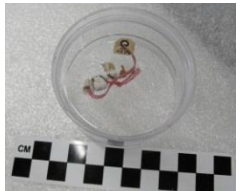


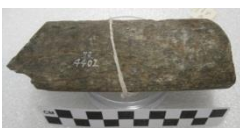






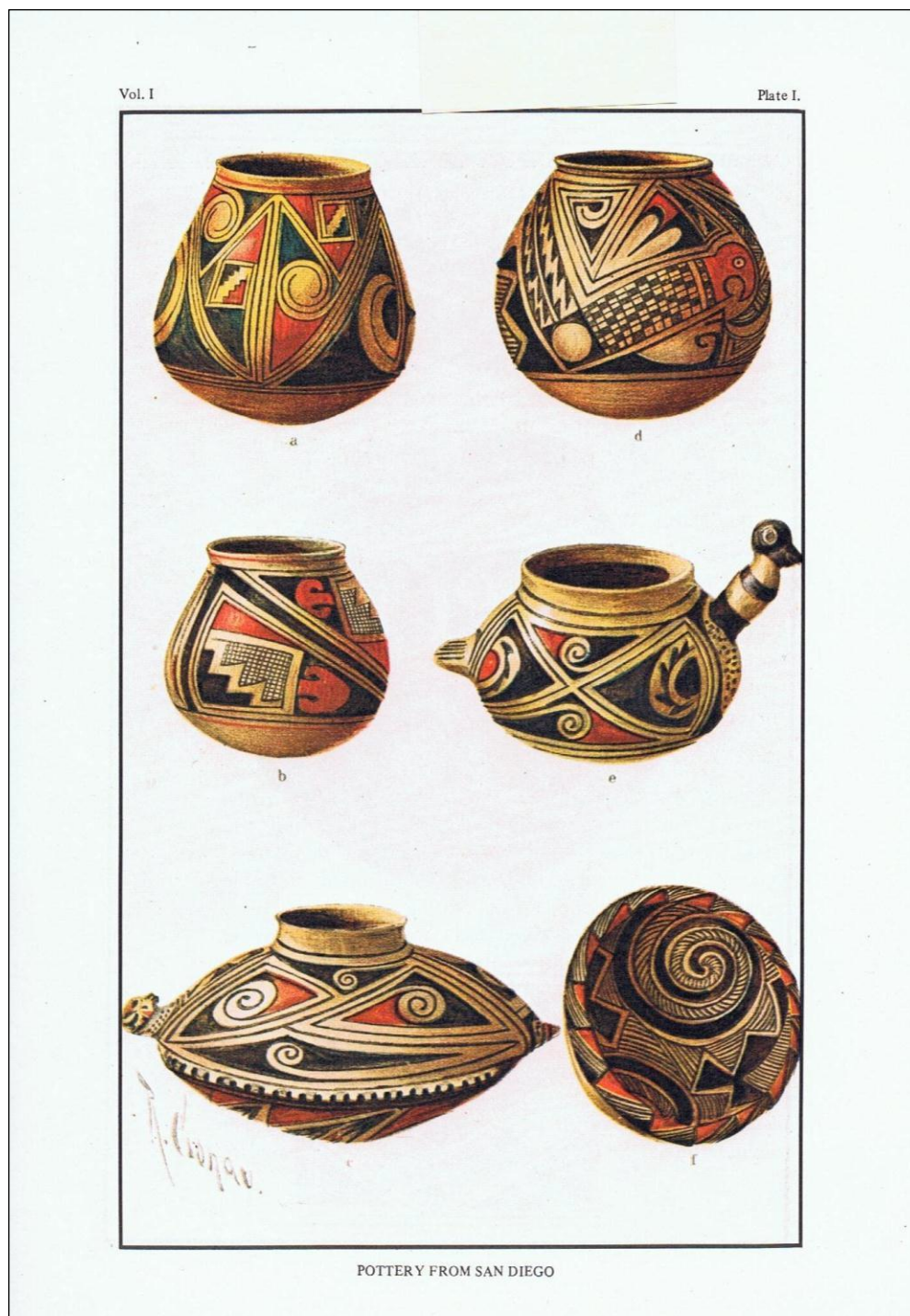
IMAGE	TYPE AND LOCALE	IMAGE	TYPE AND LOCALE
 AMNH 30 / 4165	Beads From ruins 7 miles N.E. of Pinons Altos	 AMNH 30 / 4166	Antler From ruins 7 miles N.E. of Pinons Altos
 AMNH 30 / 4167	Shell From ruins 7 miles N.E. of Pinons Altos	 AMNH 30 / 4169	Shell From ruins 7 miles N.E. of Pinons Altos
 AMNH 30 / 4399	Beads Rancho San Diego 10 mi. So. Of Casas Grandes, Chihuahua under floors of ruined pueblos	 AMNH 30 / 4400	Stone Rancho San Diego 10 mi. So. Of Casas Grandes, Chihuahua under floors of ruined pueblos
 AMNH 30 / 4401	Stone Rancho San Diego 10 mi. So. Of Casas Grandes, Chihuahua under floors of ruined pueblos.	 AMNH 30 / 4404	Stone Rancho San Diego 10 mi. So. Of Casas Grandes, Chihuahua under floors of ruined pueblos.
 AMNH 30 / 4402	Stone Rancho San Diego 10 mi. So. Of Casas Grandes, Chihuahua under floors of ruined pueblos.	 AMNH 30 / 4404	Stone Rancho San Diego 10 mi. So. Of Casas Grandes, Chihuahua under floors of ruined pueblos.
 AMNH 30 / 5742	stone Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua. under floors of ruined pueblos.	 AMNH 30 / 5743	stone Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua.

IMAGE	TYPE AND LOCALE	IMAGE	TYPE AND LOCALE
 AMNH 30 / 5744	copper Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua.	 AMNH 30 / 5744a	red ochre Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua.
 AMNH 30 / 5745	stone bead Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua.	 AMNH 30 / 5746	corn cob Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua.
 AMNH 30 / 5747	Shell beads Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua.	 AMNH 30 / 5748	mortar Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua.
 AMNH 30 / 5750	pestle Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua.	 AMNH 30 / 5751	pestle Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua.
 AMNH 30 / 5755	<i>Glycymeris gigantea</i> shell bracelet Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua.	 AMNH 30 / 5756	bone Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua.
 AMNH 30 / 5757	flint, stone, obsidian Rancho San Diego 10 mi. So. of Casas Grandes Chihuahua.		

APPENDIX III: COLOR PLATES FROM *UNKNOWN MEXICO* (LUMHOLTZ 1902)

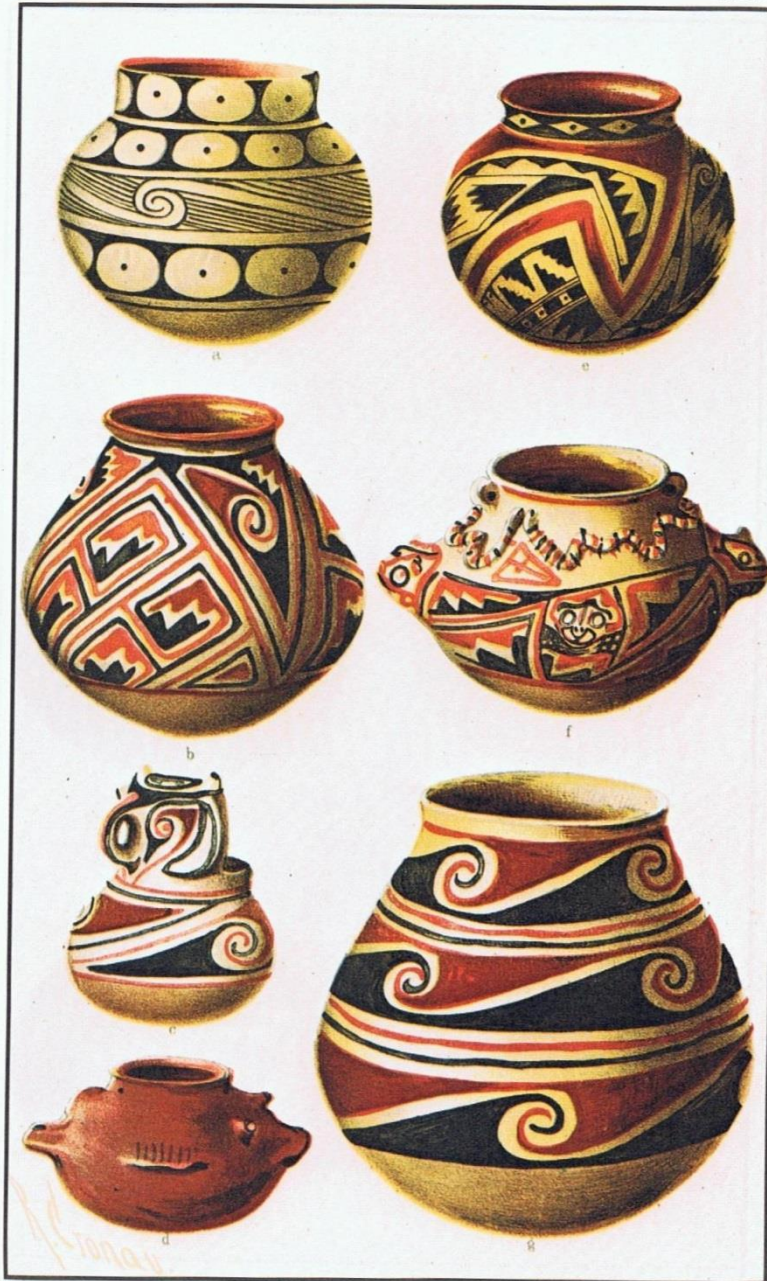


Lumholtz Volume 1: Plate 1 (1902)



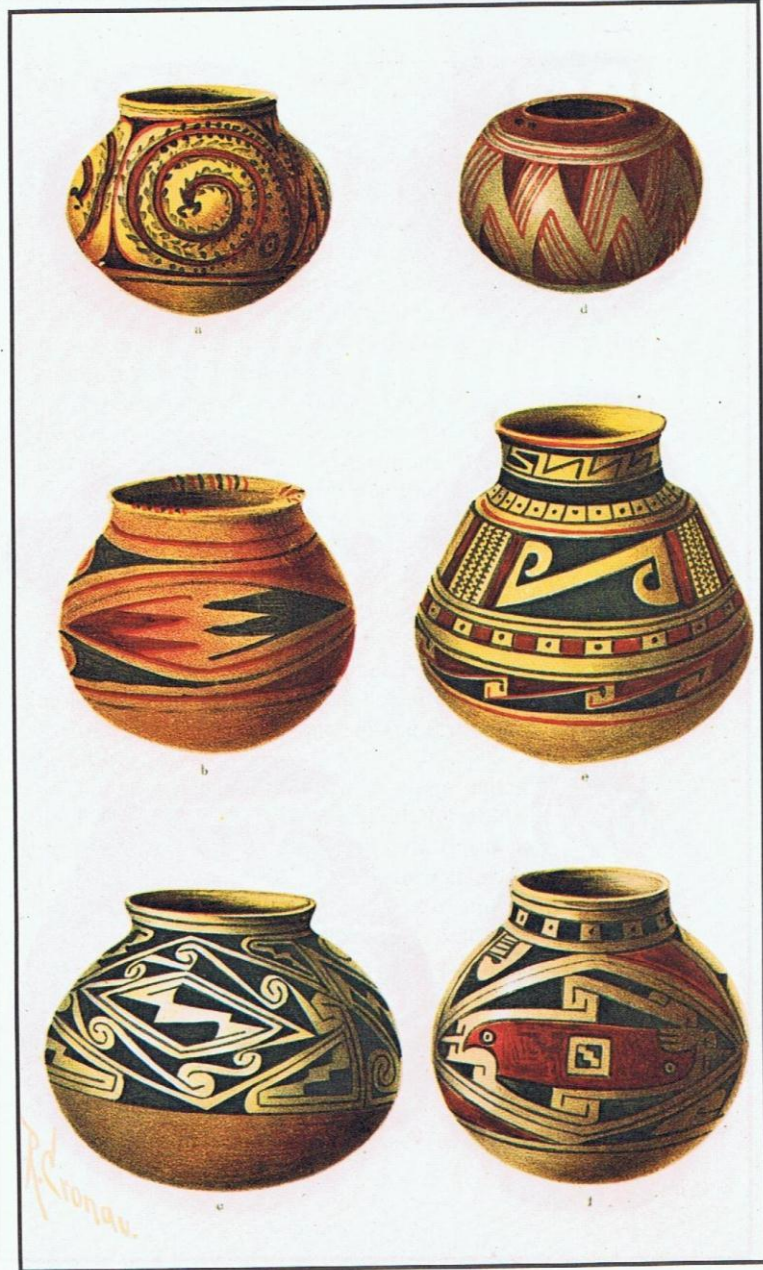
POTTERY FROM SAN DIEGO

Lumholtz Volume 1: Plate II (1902)



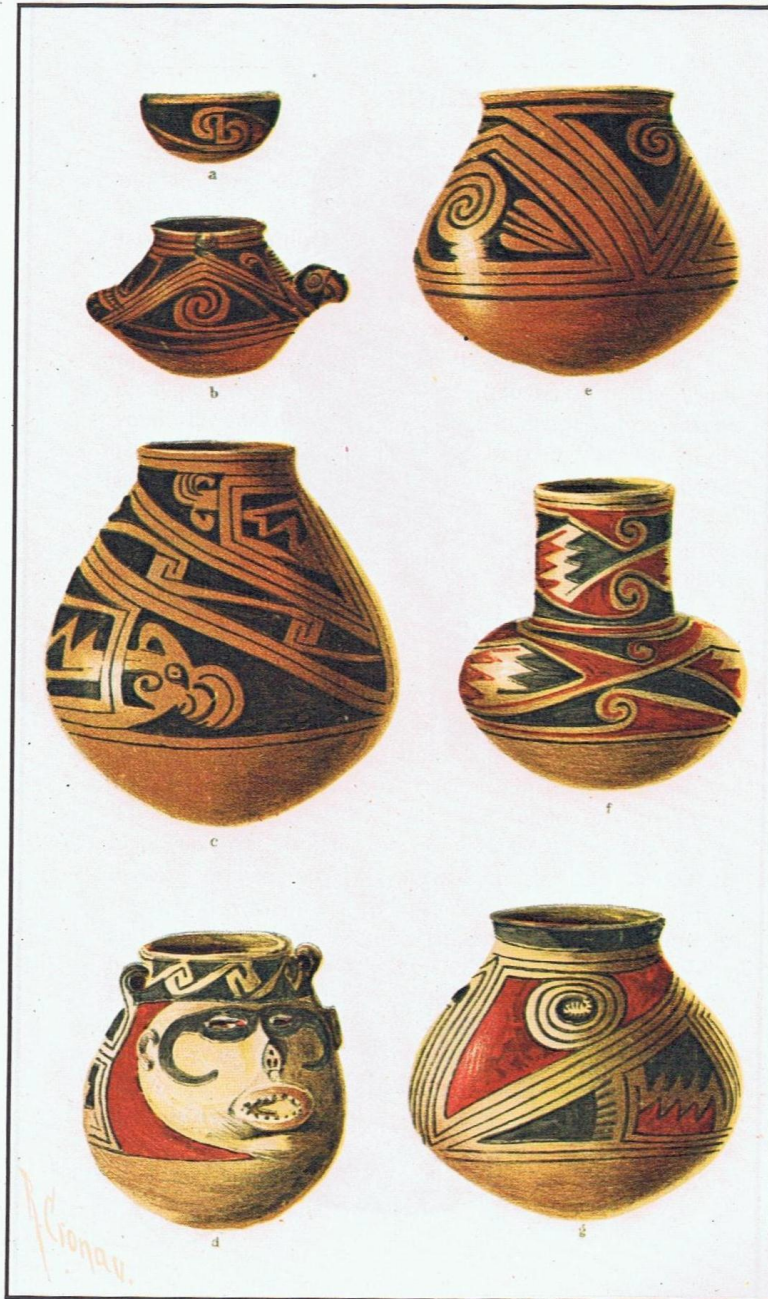
POTTERY FROM SAN DIEGO

Lumholtz Volume 1: Plate III (1902)



POTTERY FROM SAN DIEGO

Lumholtz 1902: Volume 1: Plate IV (1902)



POTTERY FROM SAN DIEGO AND CASAS GRANDES

Lumholtz Volume 1: Plate V (1902)

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