TRENDS IN PREHISTORIC GRAYWARE OF THE AMERICAN SOUTHWEST AS REPRESENTED BY THE CHACO CANYON ASSEMBLAGE FROM BASKETMAKER III TO PUEBLO III.

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The advent of pottery about A.D. 400 among the ancestral Puebloans of Chaco Canyon marked a cultural shift to a more sedentary lifestyle. Chaco Canyon itself flourished from A.D. 1100 until A.D. 1300 when it fell to a sudden and quick desertion. Its location is not reminiscent of sandy beaches or tall, billowing trees but is a region in Northwestern New Mexico engulfed in arid heat and little water when the summer months arrived. The pottery that comes from this area is as enigmatic as its people but its purpose was paramount for a growing cultural center. Grayware isn’t as fancy as the eye-catching painted ware but it is more importantly the foundation from which all other ware types would evolve, and it is this particular ware upon which I will devote my attention. Through intensive research I tend to create a paper that allows for the opportunity to follow the progression of this ware as it adjusts and adapts in an effort to appease a growing Chaco Canyon population from Basketmaker III to Pueblo III.
Introduction

Located in the center of the San Juan Basin, (Figure 1) Chaco Canyon has inspired novice and professional alike to be immersed in its ancient beauty. Treasures both unusual and practical have been brought forth from this barren land and of these artifacts I choose to focus only on Grayware. I will observe and document in greater depth a specific account of Chaco Canyon Grayware that ranges from Lino Gray to Pueblo III Corrugated. Although it may not be brilliant in painted color or in elaborate design the pure ingenious behind such a development should be recognized at its most ascetically basic form. However, Grayware too had undergone marvelous redesign as it became the canvas for stylistic and functional manipulations, exhibited first on the neck and eventually engulfing the entire vessel.

It may seem that Grayware is universally just Grayware but because it is primarily associated with utility ware, the assumption has been that most settlements created their own thereby leaving room for regional variation (Toll 2001: 56). Chaco Canyon’s alluring nature is captured by ruins intent on preserving a legacy and the mystery behind its birth and decline. Grayware not only demonstrates the progression of its own production, from Lino Gray to Pueblo III Corrugated, but also that of its people. Such vessels were instrumental to the survival of those that inhabited Chaco Canyon due to their
versatility not just as storage containers or water and culinary vessels, but also because their manufacture created industry and within that, job specialization.

**Background**

Chaco Canyon has been a curiosity of American Southwest archaeology for over a hundred years. Quietly it stood watch in wait for the inquisitive to wander through, flanked by mesa tops and an arroyo, its ruins lay dormant. Centuries after its first documented discovery, it was proclaimed one of the first...
eighteen national monuments by Theodore Roosevelt and was further protected by the Antiquities Act of 1906 (Lister and Lister 1981:47).

The first to stumble upon the splendor of Chaco Canyon were militant Spaniards in a quest for territorial gain against the Navajos. This early documentation of the uninhabited region in the mid-seventeenth century is the earliest known comment on Chaco Canyon; however it was assumingly destroyed in the Pueblo Revolt of 1680. Years to come would bring more Spanish and yet more acknowledgement of Chaco but it wasn’t until the mid-nineteenth century when the first informative documentation would take place (Lister and Lister 1981:3).

When James H. Simpson arrived as party to the Army of Topographical Engineers in 1849, he seized the opportunity to meticulously document the steadfast structures (Lister and Lister 1981: 6). He and his troops were enroute following the trail of Navajo bandits when they first arrived at the eastern most ruin of modern day Chaco Culture National Historical Park.

Pueblo Pintado was located just outside of where Simpson set up his eighth camp on August 26th, 1849 and it was this structure upon which he reflected upon in his journal, describing in detail the impressiveness of its construction.

Forming one structure, and built of tabular pieces of hard, fine-grained compact gray sandstone (a material entirely unknown in the present
architecture of New Mexico), to which the atmosphere has marked a redish tinge, the layers or beds being not thicker than three inches, and sometimes as thin as one-fourth of an inch, it discovers in the masonry a combination of science and art which can only be referred to a higher stage of civilization and refinement than is discoverable in the works of Mexicans or Pueblos of the present day. Indeed, so beautifully diminutive and true are the details of the structure as to cause it, at a little distance, to have all the appearance of a magnificent piece of mosaic work (Simpson 1849: 36).

He goes on to describe its layout and also estimates its potential height as being between twenty-five and thirty feet and surmises there must have been three stories. The layout appears to be 403 feet and observes fifty-four apartments on the ground floor that range in size from five square feet to the larger twelve by six feet. He accounts and describes many more characteristics of Pueblo Pintado and regrets his inability to “dig among the rubbish of the past” due to the impressing orders to continue along his route to the Navajo (Simpson 1849: 36-37, 39).

It is with this great precision that he would continue to document each substantial ruin he came upon, measuring, examining and describing seven major sites and several smaller ones as he trekked through Chaco Canyon. It was Simpson, with the help of his guides, who were the first to name: Pueblo Pintado, Una Vida, Hungo Pavi, Chetro Ketl, Pueblo Bonito, Pueblo del Arroyo, and
Peñasco Blanco. Following the same route as that of Simpson more than a quarter of a century later was a photographer of the Geological and Geographical Survey of Territories (Lister and Lister 1981:6, 11).

In 1877 William Henry Jackson expanded and enhanced Simpson’s previous accounts of Chaco Canyon and also visited two additional sites, Kin Kelsto and Casa Chiquita. It was Jackson who was also responsible for naming a new and major site, Pueblo Alto (Lister and Lister 1981: 11).

While the first major documentations of Chaco Canyon occurred with great precision the first legitimate excavation wasn’t implemented until 1896 where droves of artifacts were unearthed from the prominent site of Pueblo Bonito. Richard Wetherill, who had arrived in 1895 and who had succumbed to the intrigue of Chaco Canyon, was able to sway the Hyde brothers of New York to fund an expedition, which would follow his arrival in 1896. Under the name and funding of the Hyde Exploration Expedition, Wetherill and his small team, including George Pepper, were able to uncover multiple rooms, kivas, and numerous artifacts that were shipped cross-country to New York within four seasons of field work (Lister and Lister: 22-23, 28).

_Pecos Classification_

In Pecos, New Mexico, 1927, a gathering of people associated with Southwestern archaeology and related disciplines met from August 29th through the 31st to discuss important aspects of both Southwestern history and prehistory
Their main objectives included devising suitable methods of attack regarding the problems of the region's history; combine one another’s knowledge and technique, to create the foundations for a cohesive system of nomenclature, and simply to meet others in the field. More specifically however, the meeting in Pecos was an attempt to define the stages of cultural development based on diagnostic criteria; the most dominating were architecture and pottery. Ultimately eight phases of Southwestern culture emerged ranging from the prehistoric to the historic, beginning with the pre-aggregate Basketmaker I, to the historic Pueblo V (Kidder 1927: 489-90). However, because the scope of this paper focuses on the time between Basketmaker III to Pueblo III, discussion only of these periods will follow, excluding Basketmakers I and II and Pueblos IV and V.

Basketmaker III (A.D. 500 to 700 [Cameron and Toll 2001:9]). This period in Chaco Canyon prehistory is marked by a newly sedentary lifestyle characterized by innovations in architecture and industry. Domiciles were of a more permanent and subterranean nature known as the pit-house, whose walls were constructed of large stone slabs. Villages were clustered closely together but not contiguous (Kidder: 490, Roberts 1929: 4, Wormington 1966: 49).

Pottery was the new technological advancement and at first represented plain gray surfaces (Kidder 1927: 490, Roberts 1929: 4, Wormington 1966: 52), but eventually modeled decorated black-on-white forms (Roberts 1929: 4).
Diet now consisted of new varieties of corn and included the bean (Roberts 1929: 4, Wormington 1966: 55). Although the atlatl was still the primary weapon, the bow-and-arrow was introduced towards the end of the period (Wormington 1929: 55).

*Pueblo I (A.D. 700 to 875* [Cameron and Toll 2001:9]). For the first time cranial deformation was witnessed in the region (Kidder 1927: 490, Roberts 1929: 4, Wormington 1966: 60) and had become a universal phenomenon by Pueblo II (Wormington 1966: 60). The exact nature of this practice is debatable but is generally attached to the use of a cradleboards and/or hard neck rests (Wormington 1966: 60).

Dwellings were still predominately pit-houses but later jacal construction, poles set apart and then plastered with adobe, was in use (Wormington 1966: 61). The single room evolved into structures containing numerous rectangular, contiguous rooms and in some instances, first true masonry was employed (Roberts 1929: 5).

Neckbanding of culinary vessels was utilized (Kidder 1927: 490, Roberts 1929: 5) and decoration of painted wares became more common (Wormington 1966: 65).

Wild turkeys were now domesticated and cotton had been introduced (Roberts 1929: 5, Wormington 1966: 70).
**Pueblo II (A.D. 875 to 1100 [Cameron and Toll 2001: 9])**. The Pecos Classification describes this period as one of “widespread geographical extension of life in small villages” (Kidder 1927: 490). These villages were comprised of above ground dwellings, unit houses, whose walls were completely masoned (Roberts 1929: 5) or a collaboration of masonry and adobe (Wormington 1966: 63). Wormington (1966: 63) also describes the following characteristics of a great house as being typically one story, containing six to fourteen rooms and built in an “L” or “U” shaped layout. Great communal houses were also built and although they weren’t common during the Pueblo II times the first emerged in Chaco Canyon by A.D. 1014. They were large structures in size incorporating many stories and multiple rooms.

The once subterranean pit-house has now developed into the ceremonial kiva; a circular, masoned chamber that was situated within a court positioned either south or southeast (Wormington 1966: 64).

Corrugation was now the primary method of surface texturing for culinary vessels, covering the entire vessel, and became a defining characteristic of the period (Kidder 1927: 490, Roberts 1929: 5). Painted ware, although general in style in form (Roberts 1929: 5) had greater variety (Wormington 1966: 65).

**Pueblo III (A.D. 1100 to 1300 [Cameron and Toll 2001: 9])**. Considered the pinnacle of Southwestern prehistoric culture this period saw the emergence of large communities and urban centers. It was at this time there was a flourishing

The hallmark of Chaco Canyon culture was its regionally defining architecture and methods of construction (Wormington 1966: 76), some of the finest examples include Pueblo Bonito and Chetro Ketl (Roberts 1929: 5). Chaco Canyon masonry is one of the most distinctive during Pueblo III times and can be defined by a center of stone and adobe or rubble that is between two tabular stones laid horizontally (Wormington 1966: 86-87).

A majority of the villagers lived in unit houses while the great communal houses (Chaco Canyon had twelve of these structures) still remained in the minority. These impressive buildings were rectangular, oval or “D” shaped and contained up to four stories on three sides, the fourth side being one story that bowed to the southeast. They surrounded an expansive open court that contained numerous kivas (Wormington 1966: 76, 84).

Pottery had reached its apex and had become so specialized that each cultural center of the time had its own characteristic forms (Roberts 1929: 5, Wormington 1966: 88).

Ornaments in Chaco Canyon had also reached its zenith and included the use of turquoise and shell to create marvelous works of jewelry and mosaics (Wormington 1966: 89-90).
However, although Chacoan culture reached its pinnacle, it also witnessed its decline. By the end of the thirteenth century the entirety of this brilliant cultural center lay abandoned to the elements (Wormington 1966: 80). The exact reasons for such sudden desertion leaves much to debate.

**Methodology**

The ruins of Chaco Canyon have left much to document, photograph and diagram; many of which found themselves in one form of literature or another. It was these materials upon which I placed a great degree of emphasis although my primary research involved the library. By going through various articles both on and offline I was able to compile a paper that attended to the Grayware of Chaco Canyon. I managed to gather numerous primary sources (Kidder 1927, Simpson 1849, Holmes 1882-1883, Roberts 1929, Judd 1954) which lent a first hand account of initial progress at Chaco and I had also looked at secondary (Lister and Lister 1984, Mathien 1997, McNitt 1966) and some tertiary (Neitzel 2003, Wormington 1966) sources to provide an adequate and universal account of the Grayware associated with this region.

Following the introduction will be a background section that will detail the history of Chaco Canyon National Park from unknown ruins to protected national treasure, and also an overview of the Pecos Classification that defines cultural
periods of the prehistoric Southwest from Basketmaker III to Pueblo III. Next will be an account of the varying vessel from assemblages associated with Chaco Canyon pottery including open and closed forms. The results will chronicle the various Lino Gray, Lino Fugitive Red Gray, Polished Tan Gray (Obelisk Gray), and textured Grayware including: Wide Neckbanded, Narrow Neckbanded, Corrugated Neckbanded, PII Corrugated, PII – PIII corrugated, and PIII Corrugated.

All sections and sub-sections will be detailed accounts of its respective research, which draws from multiple sources. The end result will fall nothing short of a thorough understanding of Chaco Canyon Grayware from which we will gain a further understanding.

Results

In an environment of sparse water and abundant heat the need for adequate storage containers, including both goods and water, along with appropriate culinary vessels, was a necessity for a growing Chaco Canyon populous. Undoubtedly it proves to be one of the most abundant ware types throughout the span of Chaco Canyon as demonstrated by the countless number of sherds; this being a result of its position as a utility ware and therefore the demands placed upon it left room for its own demise. Grayware was usually bulky and large in
form and made with coarse paste to allow for heating and cooling changes (Toll 2001: 58). As years progressed, following A.D. 900, surface texture such as corrugation became a prominent feature of culinary vessels and were manipulated in such a way as to create appealing relief decoration that began at the neck and eventually expanded to include the body of the vessel (Holmes 1882-1883: 268). However, aside from its visual appeal corrugation has demonstrated its resilience against cracks during periods of expansion and contraction during testing (Toll 2001: 58). It has also been speculated that the prior treatments functional benefits include not only an increase in grip but also an increase in thermal shock resistance (Mathien 1997: 239). Unfortunately corrugation began to phase out following A.D. 1300 suggesting the function of such surface treatment did not out way the importance of style (Mathien 1997: 254). Discussion in Pecos, New Mexico defined the development of culinary ware beginning with plain ware, followed by neck corrugation, corrugation of the entire vessel, degradation of the corrugation technique and then finally complete abandonment of the style and an increase in plain ware (Kidder 1927: 490).

*Lino Gray*

The production span of Lino Gray pottery is between A.D. 450 and 900 and is notable for its plain gray exterior primarily in closed forms (Figure 2). Lino Gray, Fugitive Red Gray and Polished Tan Gray are often associated with earlier vessel forms or those that are out of place or absent in later periods. Its
surface is often scraped smooth and its temper is coarse. Without a rim, neck, or shoulder sherd it is often impossible to classify an object as Lino Gray. It is possible via microscopic examination to determine that some Lino Gray was in fact washed in Fugitive Red (Mathien 1997: 218).

_Lino Fugitive Red Gray_

This particular surface treatment was not fired onto the surface of a vessel and thereby was impermanent (Figure 3) (Roberts 1929: 110). The absence of soot on Fugitive Red wares suggests its impermanence and that the vessels to which it was applied weren’t intended for cooking (Mathien 1997: 218). Chaco Canyon applied Fugitive Red exclusively on non-culinary vessels, a practice that
differs from one of its outlying villages where traces have been found on the interior of cooking pots (Roberts 1929: 111). Through chemical analysis the primary component of the wash was red ochre (Roberts 1929: 111).

**Polished Tan Gray or Obelisk Gray**

Most likely a variation of Lino Gray, the Polished Tan Gray was produced between A.D. 450 and 750. It was composed of a brownish paste but had variation in surface color (Mathien 1997: 226).

**Wide Neckbanded**

Otherwise known as Kana’s Gray or Banded Neck Culinary this Grayware was manufactured from A.D. 850 to 925. Its earliest construction left the neck
exposed revealing partially obliterated to intact coils that are uniform in width (Figure 4). Filet size varies from vessel to vessel but 5mm is the cut-off. The temper commonly used in these vessels is chalcedonic in nature (Mathien 1997: 226).

*Neckbanding.* There is little difference in relief between the coils and the filets are visible (Mathien 1997: 226).

*Clapboarding.* It is likely that this technique became more frequent towards the end of the production period and is characterized by the upper coils overlapping the top edge of the bottom coil (Mathien 1997: 226).

*Narrow Neckbanded*  
Sometimes called Tohatch Banded or Developmental Pueblo Neckbanded this Grayware saw production from A.D.900 to 1050. Frequently clapboarding of the neck was produced by tooling between the coils and was the general surface manipulation, although there is an occurrence of tooling across the entirety of the coil to create patterns but this is less common. Coil width and surface treatment are of great importance when trying to differentiate between Wide and Narrow Neckbanded. Narrow Neckbanded is considered to have more formal surface treatments than that of Wide Neckbanded. 91% of Wide Neckbanded cases display clapboarding or wide banding was a primary exterior manipulation while 30% of Narrow Neckbanded have bands that are wider than 5mm (Mathien 1997: 235).
Neck Corrugated

Produced between A.D. 975 and 1050, Exuberant Corrugated or Coolidge Corrugated have plain gray bodies and indented corrugated necks. The term ‘exuberant’ is derived from the corrugation being large, bold and wavy, a diagnostic feature along with rim filets that are smaller than vessels of later types. Like other vessels with similar neck treatments it is important to have a portion of a neck sherd or a neck sherd to assess pottery type (Mathien 1997: 239).
Pueblo II Corrugated

Chaco Corrugated or Coolidge Corrugated was produced from A.D.1040 to 1100. It is the most abundant of all ware types found in Chaco Project Collections and also has the most variation in surface texturing. Corrugation covers the entirety of the body and the rim has a small degree of flare but follows the continuous line of the neck. The rim itself has a flat, uncorrugated filet (Mathien 1997: 245).

Pueblo II to Pueblo III Corrugated

From A.D. 1075 to 1150, Chaco Corrugated as it was sometime known as can only be discerned from other corrugated wares by sherds that include the rim and the neck. The rim is now slightly averted and trachyte temper use was of a high percentage (Figure 5) (Mathien 1997: 250).

Pueblo III Corrugated

Chaco Corrugated or Cibola Corrugated had a production time that spanned from A.D.1100 to 1300. With increasing rim flare this ware type also requires a neck and rim sherd for identification; in some cases the rim filets are flared to such great extent that they severely bend back. The average rim width is narrower than earlier ware types but the range is similar. Later corrugated vessels lean towards a shape that is squatter and more round than previous types. Trachyte temper is less common but sherd temper is at an increase during Pueblo III, reaching its height at 20% (Mathien 1997: 254).
Chaco Canyon recognizes two vessel form assemblages; open and closed and within these categories fall multiple forms. However, extending beyond the two assemblages are effigies, pipes and miniatures but they will be left out of the discussion as the focus of the paper is to highlight Grayware and its affiliation with both open and closed forms.

**Open**

*Bowl.* The structure of this vessel rarely exceeds more than half of a sphere and has its greatest diameter at the rim. While it has varied use and varied size it is

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**Figure 5. Chaco Corrugated sherd. A.D. 1075 to 1150.** (Courtesy of the Totah Archaeological Project, San Juan College, online).
most commonly used for food service, which may explain why a majority of bowls display a plain exterior, some with slip or polish, while only a few have additional decoration such as corrugation, fugitive red wash, or painted design. The earliest of the following festooning occurred between A.D. 600 to 700’s and was dominated by fugitive red wash. However, painted design also occurred early on using both carbon and mineral paints. Pueblo II was dominated by corrugated bowls but appeared in low frequencies during the beginning of Pueblo III (Mathien 1997: 49).

*Ladle.* In Chaco Canyon the ladle assumes two forms; the earliest being a gourd or trough dipper, noted for the handle and bowl being continuous and the discrete bowl with a round or flat handle appearing in Pueblo II. Ladles can be identified as having a bowl that has a rounded exterior edge and a sharper interior edge (Mathien 1997: 50).

*Closed*

Closed vessels apply to nearly all Grayware and account for their greater variation in size. Decorated wares also vary in size and include the smallest, pitchers and seed jars, medium, and large, most notably the olla. The general form of closed forms is characterized by large, globular bodies with restricted holes perched atop a neck (Mathien 1997: 50).

*Jar.* The term jar is applied to those vessels that don’t quite fall into a defined form and generally includes a majority of Grayware. They are typically bulky
and large and because of their labored use would often break. Surface treatments would include those that were scrapped smooth during early manufacture and in some instances a fugitive red wash was applied but was soon abandoned when neck banding occurred. By the beginning of A.D. 900 the entirety of the vessel would be corrugated and would account for a majority of the Grayware that has been unearthed (Mathien 1997: 50-52).

**Olla.** The usual form of this vessel had a body that ranged in shape from nearly spherical to a tall body with rounded shoulders. They were large in shape, sometimes extremely large, and had small vertical necks accompanied by a small orifice that made them ideal for storage and water containment. In its early stages the shape of the olla had a gradual, sweeping line from the shoulders to the rim and was produced up until Pueblo II in Lino Gray. As time passed the angle between the base of the neck and the body became more defined. Decoration often differed and appeared unrelated between the neck of the vessel and the rest of the body (Mathien 1997: 65-67).

**Pitcher.** This shape is characterized by a globular base that is taller than it is wide, has a definable neck and often has a vertical strap that attaches from the rim to the base of the neck. They are almost always Whiteware although there are some accounts of Grayware. In Chaco Canyon pitchers are commonly Whiteware and are straight necked with sharp shoulders but occur late and are rather uncommon. From A.D. 900 to the 1100’s they are the most abundant and were
less globular and taller towards the end of the period. Chaco Black-on-White
decorated pitchers had the highest percentage but other decorated types included

*Mug.* Derived from the square shouldered pitchers the mug has a cylindrical or
conical shape, is flat bottomed and has a handle extending from the rim close to
the base. They are found in later periods and are decorated with carbon paint. In
Chaco Canyon they are extremely rare encompassing only four documented finds
and three questionable ones (Mathien 1997: 68).

*Seed Jar.* The seed jars production period occurs over a long time span but they
are of an uncommon occurrence. They are neck less, are nearly spherical in shape
with a flattened top and have a significantly smaller opening. Although they are
reserved almost exclusively for Redware and Whiteware there was an occurrence
of Lino Gray (Mathien 1997: 68).

*Tecomate.* Similar in appearance to the seed jar the tecomate is larger and taller
in size than its smaller counterpart. They are globular vessels with a rounded,
restricted hole and no neck. Most are found early and manufactured in Lino Gray,
Polished Tan Gray and early Redware. Later tecomates can be found as
Whiteware and some Redware (Mathien 1997: 63-69).

*Canteen.* The canteen is a very small, flattened sphere that has handles at the
shoulders and necked orifices. Similar to its larger cousin the olla, neck
decoration is independent of body decoration (Mathien 1997: 69).
Duck Pot. Otherwise known as the shoe from vessel it is oblong in shape with an upward pointing orifice at one end and a “duck butt” or rounded end opposite. They can have either handles or effigy heads and they assume two forms of function; the larger closed forms with handles may have served as containers, while its smaller more open affiliates maybe have possibly been effigies (Mathien 1997: 69).

Gourd Jar. Most examples of gourd jar are appear early and do not postdate Red Mesa Black-on-White. Their shape mirrors that of a gourd or squash, and are predominately decorated Whiteware. Near where the stem would be was the opening and in some cases the neck would curve back to form a handle (Mathien 1997: 69).

Cylinder Jar. These vessels are of uncommon design applied to its Whiteware. Most are hattured Gallup and Chaco Black-on-White or solid design of Chaco McElmo Black-on-White; however there is one occurrence of Red Mesa Black-on-White but it predates A.D. 1040. Perhaps an anomaly of Chacoan pottery the cylinder jar appears late and is a rare vessel form. There are two hundred and ten known vessels, two hundred come from Chaco Canyon and one hundred and ninety-two are from Pueblo Bonito (Mathien 1997: 69-70).
Pueblo Bonito

“This Pueblo, although not so beautiful in the arrangement of the details of its masonry as Pueblo Pintado, is yet superior to it in point of preservation” (Simpson 1849: 47). It was this structure from which the Hyde Exploration Expedition uncovered 198 rooms and seven kivas, as well as their affiliation with discovering stairways, dams, ditches, headgates, and Chacoan roads (Simpson 1849: 48). However, Wetherill and Pepper’s on going excavations were unknown to the general public and continued as such until Edgar L. Hewitt of the New Mexico Normal University accused the team of unprofessional behavior (McNitt 1966: 187-88). Unfortunately for the duo and their team, the uproar created by Hewitt and other universities increased public awareness and they found themselves in the midst of federal investigations and an eventual court order in 1900 preventing them from further excavation (McNitt 1966: 189). It wasn’t until 1921 when the first “substantial” excavations took place at Pueblo Bonito under the supervision of Neil Judd and his crew who were backed by the National Geographic Society and who would unearth and additional 151 rooms and 26 kivas (Simpson 1849: 48).

The structure of Pueblo Bonito (Figure 6) was constantly reinvented throughout its “lifetime” beginning in A.D. 800 and ending during the early to late mid 12th century, although there was continued use into the early 13th century.
Because of its continued construction it demonstrates a variety of masonry types and was built pit-houses which according to the Pecos Classification system, are characteristic of Basketmaker III and fall within A.D. 500 to 700 (Cameron and Toll 2001: 9, Kidder 1927: 490). Neitzel (2003: 144-46) deduces that the structure of Pueblo Bonito served two main functions although they were constantly shifting: residence and ceremonial center.

Following initial construction Pueblo Bonito served primarily as a residence although the resident population did not exceed 100 people. This view was adapted from the architecture as well as burials, those of which indicated it
was occupied by high status individuals. It is assumed that these periods of increased residency occurred in the early A.D. 800’s or 900’s or possibly the early 1100’s as evidenced by an increase in household refuse. Its second main function served as a ceremonial center which increased in significance by A.D. 1050 and upon which had been renovated into a major ceremonial center. The appearance of great kivas, ritual artifacts, elite burials, and astronomical alignment attest to this view and by A.D. 1150 the structure had assumed a completely ceremonial identity (Neitzel 2003: 31-32, 144-46).

It should be noted that Judd believed Pueblo Bonito was inhabited by two distinctly different people groups, the conclusions of which he drew from room observation and data collection. He defined them as the Old Bonitians who initially founded the structure in the mid-9th century and the Late Bonitians who had immigrated to the site in the 11th century (Judd 1954: 179). Thomas C. Windes provided a study in which he concluded that Pueblo Bonito is representative of a cultural shift (Neitzel 2003: 32). No doubt indicative of foreign influence perhaps created from the constant influx of people coming to the vast ceremonial center.

Initial Beginnings

In 1921 Judd chose to excavate the mounds located south of the Pueblo, choosing an undisturbed section of the largest one to the west of the other. At
twenty feet they hit clean sand but interestingly enough the series of sherds he removed from a three-by-three unit did not follow the logical sequence of the oldest near the bottom and the newest at the top. Instead it was the opposite leaving Judd and his team in a state of question and confusion. However, in an effort to understand what was happening within the western mound, Judd broke ground in the eastern mound, the smaller and the more recent of the two mounds. To his astonishment the sherds of this sequence mimicked that of the western mound, the newest at the bottom and the oldest at the top. Such a reversal in what should be a reliable timeline of sherds allowed for Judd to surmise that the two mounds became the receivers of an old rubbish heap during times of expansion and renovation at Pueblo Bonito. As it turns out he was right and after extending the west mound trench into the ruin to room 135 and going north to kiva Q they stumbled upon a kiva floor at 50ft in diameter that had indeed cut into an Old Bonitian midden (Judd 1954: 176-77). Located at one-foot below the kiva were sandstone floor slabs indicating the remains of a pithouse, but above these and extending twenty-feet southward were the remnants of the original trash mound that contained the sherds of “transitional” wares because of the distinction between pre-puebloan and early-puebloan characteristics. Pre-puebloan, according the Judd (1954: 177). is being less advanced in technique and manufacture than early-puebloan and included half-gourd ladles, bowls with a tapered rim, pitchers, small jars, water jars, and neck banded cooking pots The
pithouse floor slabs found by Judd describe habitation during Basketmaker III, no
doubt these transitional wares included sherds designated as Basketmaker III that
Mathien (1997: 226) assessed at having a production span that began in A.D. 450
but would vary in terminal dates depending on ware type. Neckbanding began
around A.D. 850 (Mathien 1997: 226), and can be associated with some of the
earliest sites of occupation in Pueblo Bonito.

Judd and his team also found another trash heap that they associated with
one of the oldest house clusters of Bonitian development. Stretching for more
than an acre, they continued to excavate at various points in the ruin yielding 786
early sherd types below room 153, 548 early sherd types below room 225, below
the latest floor built in room 252 they found 50 sherds, 20% being corrugated or
coiled and in room 343, 147 sherds were corrugated pots. Also, in kiva X, they
unearthed several pottery fragments (Judd 1954: 179).

Grayware

The following is an account of Judd’s findings as they pertain to
Grayware, more specifically culinary ware, and the context of which they were
found including descriptions.

From beneath the west court sherds near the bottom were observed to be
of smooth bodied cooking pots with banded necks the effect of which was created
by overlapping coils [clapboarding] and included both broad and narrow bands
(Judd 1954: 186) and can be dated with the help of Mathien (1997: 226) at the
earliest A.D. 850. They also found sherds whose bands were wavy, coiled or flat ribbons applied for decoration and also some that had loop handles or nubbles. A majority of these fragments were representative of vessels upon which only the upper portion was decorated, the last coil being the rim filet, adding a finished touch. Within the upper layers jars were still defined by smooth bodies but the neck decoration had become more elaborate (Judd 1954: 186-87, 226).

As it was most jars were built up from a rounded body and if such vessels were to serve as storage than what were the means for stabilizing the jar? Judd came across some storage jars that were buried within the dirt which, would provide not only adequate stabilization but would help to undoubtedly preserve the goods within it. In room 323, dated A.D. 935, he and his crew recovered five pots and a total of 24, 587 sherds and of these sherds 40.5% represented an older style of cooking pot, while 13.1% were of overall corrugation. All five pots were neckbanded but two of the five had decorative designs created by tooling. These pots were the only Old Bonitian pots that could be restored but they were also of a style that gradually ceased in being after the arrival of the Late Bonitians in the 11th century (Judd 1954: 187-89).

Room 128 turned up four pots, all of which were corrugated in their entirety and had flaring rims. Half had surface embellishment that was created by pinching in alternating directions while the others were given lug handles. Of the twenty-nine cooking pots found in Pueblo Bonito only six have handles although
many sherds with handles were found among household rubbish. These cooking vessels vary from the smallest at 4 and 5/8 inches in diameter by 4 3/4 inches high to the largest being 13 3/4 inches in diameter by 15 and 3/4 inches in height but averaging to 9.06 inches by 10.13 inches. Their distribution is as follows: kivas H, U, W- one each totaling three, room 309- one, room 348- one, from a dwelling with type three masonry- sixteen, and from a dwelling with type four masonry-three. Out of the twenty-nine only five were from Old Bonitian dwellings and was void of any signs of late occupancy (Judd 1954: 187-188).

Temper

The tempering material associated with Pueblo Bonito was primarily pulverized potsherds with would lessen paste shrinkage and also reduce the amount of breaks during firing. However, tests done following to the initial excavation done from 1936 to 1937 by Anna O. Shepard indicated that the primary temper for cooking pots was sand until sadinine basalt gradually occurred throughout 56% of the fragments taken from the four upper layers of the pile beneath the west court. Basalt appears more frequently and is eventually the dominating tempering material which could possibly with coincide with an increasing reliance on trade for common ware, as sadinine basalt is foreign to the Chaco Canyon region, the only known source is located fifty miles west of Chaco Canyon (Judd 1954: 180-181).
Conclusions

The trends observed in the Chaco Canyon assemblage of Grayware tend to follow the cultural traditions of the people. There are nine diagnostically important ware types and twelve vessel forms excluding effigies, pipes and miniatures that are associated with Chaco Canyon however jars are primarily Grayware but there are instances of it appearing in other shapes.

Vessel forms are created and then abandoned just as ware types are manipulated and then discarded. Early Graywares such as Lino Gray, Lino Fugitive Red Gray, and Polished Tan or Obelisk Gray occurred throughout the Basketmaker III period (A.D. 500 to 700) on vessels that were rarely seen later in Chaco production that included tecomates and seed jars. Transitional periods usually saw a combination of methods as demonstrated by Wide Neckbanded (A.D. 875 to 1100) that included neckbanding and a smooth body or an elaboration of a vessel characteristic as seen in Chaco Corrugated (A.D. 1075 to 1150) where the rim filet begins to become more averted than its predecessor Coolidge Corrugated (A.D. 1040 to 1100). Pueblo III Corrugated exemplified the extreme of rim flare and in some cases would be severely bent back. Beginning with Chaco Corrugated it is necessary to have both the neck and the rim sherd for identification.
Corrugation, while a beneficial and visually pleasing technique reached its height during the Pueblo II and Pueblo III periods but gradually became a less common surface treatment as time went, eventually replaced by Plain Grayware by A.D. 1300. Whether the abandonment of corrugation and Chaco Canyon correlate is up to speculation but it appears that it wasn’t replaced for a technique that proved more adequate such as the Lino Fugitive Red was for neckbanding, but the people just stopped producing it. Pueblo Bonito may give insight however into both the rise and fall of complete vessel corrugation. With the arrival of the Late Bonitians came a new method of surface treatment that enveloped the whole ware and out went the old technique of neck banding. Also, the increase of trachyte or sadinine basalt temper, which is alien to Chaco Canyon, indicates a greater reliance on trade for these goods but seeing as Pueblo Bonito was abandoned early into the 12th century the influx of corrugated goods diminished. But, corrugation does dominate the sherds and vessels found in Chaco indicating a once enduring surface manipulation.

The ebb and flow of trends tend to coincide with necessity as well as [cultural] fashion during the time of Chaco Canyon. Some methods of manufacture are discarded for other more permanent ones while still others are left to the wayside because they are no longer in vogue. Either way the Grayware of Chaco Canyon varies in surface texturing and vessel form or both that allows for greater variation. Painted ware has its paint and paste color while Grayware
has its plain exterior but in some cases intricate surface design. The creativity and the innovation of the people of Chaco Canyon are seen not only by their impressive pueblos but also by their ingenious creation methods of Grayware.
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