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THE TEMPORAL RELEVANCE OF SCRAPING AND

POLISHING OF TRINCHERAS POTTERY SHERDS IN THE

ALTAR VALLEY, SONORA, MÉXICO

BY

ETA PASTREICH

Senior Honors Thesis

Submitted in partial fulfillment of the requirements for the Bachelors Degree in Anthropological Perspectives in the School of Binghamton University State University of New York 2020

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Thesis Signature page THE TEMPORAL RELEVANCE OF SCRAPING AND POLISHING OF TRINCHERAS POTTERY SHERDS IN THE ALTAR VALLEY, SONORA, MÉXICO By Eta Tzipporah Pastreich April 2020

Submitted in partial completion of the requirements for Honors in Anthropology, Department of Anthropology, Binghamton University April 2020

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Abstract

This thesis focuses on the classification of Trincheras plainware pottery. Trincheras plainware ceramics classifications and their applications have been reexamined in recent years due to an expansion of research. My participation in laboratory research of recently excavated Trincheras pottery was conducted during the 2018 field season of Proyecto Tradicíon Trincheras- in Sonora, México. This project was led by Randall McGuire and Elisa Villalpando. I organized two preliminary studies on ceramics from the Sonoran sites of La Potranca (SON:F:2:4) and San Martin (SON:F:2:82). This paper attempts to illustrate the chronological and typological relevance of scraping and polishing, and the significance of these markings being found on the interior and/or exterior of the sherd. I put these variables in stratigraphic context to illustrate change through time on the two sites excavated. My findings demonstrate that sherd scraping may be temporarily fixed, whereas sherd polishing is not definitively so. As a result of my research, I designated the new ceramic type, "San Martin Textured" which encompasses bold exterior scraped Trincheras sherds.

Acknowledgements

First and Foremost, I would like to express my sincere appreciation to Dr. Randall McGuire, without whom, this thesis would not have been possible. From his initial invitation to join a field season of Proyecto Tradicíon Trincheras, to all of his guidance throughout the thesis process, his encouragement has broadened and enlivened my academic career. Dr. Ruth Van Dyke, was not only a phenomenal second reader, but also helped me foster my love for archaeology through my work in her lab. This thesis topic was formulated with Hunter Claypatch, who sparked my interest in and taught me how to analyze Trincheras pottery. Claypatch then went on to very generously coach me throughout the thesis process and has offered invaluable help. Thank you to Elisa Villalpando for assisting with the final edits of this thesis. Many thanks to Thomas Yaeger for letting me use his Area B La Potranca harris matrix. I would also like to extend my thanks to all of my colleagues in the field.

I would especially like to thank the National Science Foundation for awarding me the 'Research Experience for Undergraduates Supplement,' without which I would not have been able to conduct this research. Additional thanks are due to the INAH Centro Regional de Noroeste and Binghamton University.

I am also grateful to Charlie Shames for emotional support throughout the process and for teaching me how to make thesis worthy graphs. Special thanks to my mom, Penny Ostreicher for helping me believe I could finish this thesis. I would also like to acknowledge the support of my dad, brothers, and friends. Last but not least, many thanks to Amara, Razel, Mega Margs, Chochi and the chickens who would stop by the lab.

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Introduction and Research Problem

The Trincheras culture is located in northern Sonora, México. This thesis focuses on the Altar Valley, a basin-and-range topographic region (McGuire and Villalpando 1993:6). This region has not historically been a central focus of U.S. or Mexican archaeological research. Researchers have studied the Casas Grandes tradition to the East and the Hohokam tradition in the North. Despite nearly a century of research in the Trincheras region, fundamental questions about chronology and artifact typology have yet to be answered. Due to its location on the physical periphery of both the U.S and México it has been on the archaeological periphery as well. Mexican archaeologists have mostly chosen to focus their archaeological efforts on Mesoamerica and West México to the south, and American archaeologists have often been intimidated by the border crossing and language barrier (McGuire and Villalpando 1993:8). Ongoing research in the region attempts to remedy this lack of understanding.

Carl Sauer and Donald Brand (Sauer and Brand 1931) first studied Trincheras pottery to seriate the ceramic typologies of surrounding culture groups (Brand 1935). The understanding of Trincheras pottery has been constantly evolving over the last several decades. Trincheras plainware in particular was often overlooked by ceramic analysts who favored more aesthetically pleasing painted sherds. The Trincheras ceramic typology has been constructed mostly to assist with regional research and has been done with surface survey collections. Due to the objectives behind this research, stratigraphic chronology constitutes only a small factor in their framing. The use of stratigraphic excavation data and a focus on scraping and polishing has led me to conclude that many of the sherds that I analyzed do not fit perfectly into the preexisting pottery

types. Using stratigraphic information and pottery analysis, this paper attempts to ascertain whether temporal relationships can be understood using scraping and polishing found on plainware pottery.

Research Introduction and Research Question

This paper explores possible temporal relevance of variations in the scraping and polishing on Trincheras plainware pottery. This data comes from the Fall 2018 excavation season of Proyecto Tradición Trincheras. I analyzed ceramics in the field lab during excavation. These sherds are from the sites of La Potranca (SON:F:2:4) and San Martin (SON:F:2:82), both located in the Altar Valley of Sonora, México. McGuire and Villalpando believe that San Martin and La Potranca were approximately contemporaneous. After the initial occupation, San Martin was abandoned while La Potranca had multiple later occupation phases.

The comparison of pottery data within and between these two sites sought to uncover a temporal connection with the level of polishing and/or scraping on Trincheras plainware sherds. I found that neither site showed a clear change in the intensity or presence/absence of ceramic polishing over time. Ceramic scraping seemed to decrease in prevalence in strata closer to the surface at La Potranca. The lowest levels of La Potranca Area B (Strata BC) seemed to contain similar amounts of scraped ceramics to San Martin. This suggests a temporal connection between the lowest levels of La Potranca Area B and San Martin. My research showed that Trincheras scraped pottery is temporally sensitive. With this data, I recommend a new type, "San Martin textured," be created to classify bold exterior scraped Trincheras sherds.

Theory

James Ford and Albert Spaulding (Rice 1987) famously debated the definition and uses of typologies. Ford believed that typologies are categories created by the researcher to organize and understand data. Spaulding argued that types are rooted in historical and archaeological phenomena that can be supported using systematic testing (Rice 1987).

A typology is a "theoretically oriented classification that is directed toward the solution of some problem or problems-." (Rice 1987: 276). Archaeologists use typologies to study ceramic seriation across different sites. While these seriations cannot give exact dates, they can help with relative dating to order sites within a chronological timeline (Rice 1987:436-37). Typology can be used to study culture and trade as well as chronology. Ceramic dating contributes to the understanding of the cultural and historical timeline of the Trincheras people. Hunter Claypatch, the lab director, focused his research on painted pottery which tends to receive more attention in archaeology. However, the plainware pottery which was far more prevalent, made up more than three quarters of the assemblage and could also be categorized in significant ways.

Absolute dating methods such as thermoluminescence are effective but pose problems when analyzing a large collection of artifacts. This method costs hundreds of dollars per sample and requires time to process. Additionally, this process can destroy a portion of the sample being dated (Orton et al. 1997:188). Relative dating methods, such as ceramic seriation, are more accessible and can be used to understand the majority of collections. Small amounts of absolute dating can be used to bolster and support the discoveries made using relative dating methods.

History of Trincheras Research

The Trincheras culture is concentrated in the Mexican state of Sonora. Trincheras culture existed from approximately 400 CE to 1350 CE (McGuire and Villalpando 1993:71-72). Corn, beans, squash, columnar cactus, opuntia cactus and other local flora made up the bulk of the Trincheras peoples' subsistence (McGuire and Villalpando 1993:1, 8). At certain points, they traded with surrounding culture groups and seemed to be an integral part of the shell trade as evidenced by high amounts of shells found on sites far from the coastline (McGuire and Villalpando 1993:90). Therefore, research is conducted on individual sites that are then understood within regional context. Trincheras habitation sites are found along the floodplains of rivers in the Sonoran Desert. The most famous site is Cerro de Trincheras (SON:F:10:2), a volcanic hill with human made terraces (McGuire and Villalpando 1993:8). The O'odham people resided in the region when the Spanish arrived, but the relation of the Trincheras people to the Hohokam or later O'odham people's is still unclear (McGuire and Villalpando 1993:9).

Trincheras pottery typologies have been in a continuous state of refinement for over 50 years. This is due to the wide variety of characteristics such as shape, thickness and color that Trincheras pottery displays. Despite the wide variation, Trincheras pottery was consistently constructed using the coil and scrape method (Chiykowski 2016:71). The most common vessel shapes are ollas (jars), tecomates (seed jars), and cuencos (bowls). Also found in conjunction with Trincheras pottery is Sells pottery, which is associated with the Hohokam tradition which occupied the area at a later phase. Burials and cremations, sometimes placed in nonlocal ceramics, have also been found throughout the region (McGuire and Villalpando 1993: 90)



which indicates trade with other regional groups.

Figure 1. The traditional Trincheras zones are demarcated, as well as surrounding cultures and modern borders. Image produced by Catherine Gilman for Archaeology Southwest: 30(3).

Border areas, like Northern Sonora, often do not fit within nationalist archaeological themes and goals due to their peripheral locations. Research in the region has therefore been subject to intense political influence. Since the 1980's, collaboration between archaeologists from the U.S. and México has increased levels of research in the area (McBrinn and Webster 2008).

The need for researchers of surrounding cultures to understand their ceramic typologies within the context of other regional cultural traditions sparked the first interest in Trincheras ceramics. Sauer and Brand (1931)- conducted the first comprehensive research of the Trincheras heartland; however, they were not very interested in Trincheras pottery because they viewed it as less visually interesting than that of the surrounding region. The earliest survey and excavation based research of the Trincheras Tradition started at the beginning of the 20th century. Frank Midvale conducted one of the first significant surveys that mentioned Trincheras. The survey primarily focused on Papaguería, therefore, the mention of Trincheras tradition was mostly anecdotal. Midvale came up with the pottery type "Sonora Red on Buff" (Gladwin and Gladwin 1929:11-13).

Sauer and Brand (1931) did the first substantial survey of the Trincheras area in 1930. In a later report about the survey, Brand identified and named the Trincheras culture group (Brand 1935). Brand also created the first Trincheras pottery typology, defining the types Trincheras-Purple-on-Red and Trincheras Polychrome (Nogales Polychrome) (Brand 1935).

Archaeological inquiry into the Trincheras tradition became more common in the mid 20th century, though it was often done in relation to surrounding culture groups. In 1955, Charles Di Peso sent Thomas Hinton to conduct the first full scale survey of the Altar Valley (Hinton 1955). Hinton was first to discuss ceramic typology separate from the surrounding cultures ceramic typologies. Hinton created an initial ceramic typology which was the basis for subsequent typologies. He was the first to observe that both Trinchras and Sells pottery were found in the Altar valley (Hinton 1955:10). Hinton's 1955 survey also mentioned the site of La Potranca (SON:F:2:4) (McGuire and Villalpando 1993:108). In 1959, Alfred Johnson (1960) dug test pits at La Playa (SON:F:10:3). He tried to introduce new ideas such as increased plainware pottery analyzation and petrographic analysis, to enhance the study of plainware pottery but he was widely ignored at the time (Claypatch 2018:22).

In the 1970s, researchers made the first attempts at constructing a chronological timeline of the Trincheras tradition. Thomas Bowen participated in a survey of Sonora organized by William Walsey with the intention of identifying Hohokam migration (Bowen 1976:iii). In Bowen's later survey report, he drew many conclusions, including that the Trincheras culture existed until the 14th century, relied mainly on foraged food rather than agriculture, and was involved in regional shell trade (Bowen 1972:iii). Bowen was the first to focus significant attention on the plainware pottery of the Trincheras tradition. His report divides the prehistoric occupation into four chronological periods connected to four topographic zones: fluvial river valleys, coastal, mouth of the Concepcion river and interior zones (Bowen 1976:141). Bowen divides the Trincheras tradition into cultural periods that have been the basis of later Trincheras chronologies including the one created by McGuire and Villalpando. The earliest stage is "San Dieguito I" which he categorized as being preceramic (Bowen 1972:138). The following phase was the "Isolationist" phase which he believed started around 300 CE and was defined by the appearance of interior scraped plainware pottery. The "Receptive" stage has plainware as well as purple-on-brown ceramics, sherd disks, shell ornaments and a variety of other new artifact types. He believed that the site of La Playa (SON:F:10:3) fit within the "Receptive" stage (Bowen 1972:139). The "Receptive" stage may have lasted until the 14th century CE. Bowens final stage was the "Late Stage" beginning in the 14th century CE when intrusive pottery started flooding the region (Bowen 1972:139). His report states that painted Trincheras Purple-on-Brown pottery first appeared in the Receptive stage (later name phase 2)(Bowen 1976:88). He discusses the scraping on sherds, stating that 46 percent of the assemblage had deep scraping (Bowen

1976:83). He illustrates the variants in firing temperatures, tempers and techniques between painted and unpainted wares. Bowen's research also found that painted pottery was more likely to be heavily scraped and not smoothed out on the non-painted side than non-painted pottery. He also argued that painted pottery may have been made in one place and traded regionally. The painting on the pottery may also be chronologically significant (Bowen 1976:91). Bowen entertained the idea that variations in plainware could be chronologically significant (Bowen 1976:88).

In the 1970s, the INAH Centro Regional del Noroeste, was established in the Sonoran capital of Hermosillo (Claypatch 2018:23). This organization has supported an expansion of archaeological research within the region. Concurrent with the introduction of INAH to the region, though not working for them, Felipe Jácome's 1986 report excavated the Southern Arizona Nogales Wash site (Jácome 1986). Nogales is a transitional Hohokam and Trincheras region. Jácome's research focused on the Hohokam tradition, with the aim of establishing a temporal sequence and typology of Hohokam pottery. He believed that the Trincheras ceramics found on the site were trade wares. Jácome vas one of the first to attempt to look at variations of local plainware and its divisions (Jácome 1986). He further discusses the reddish hue that some Trincheras plainware ceramics have, which had earlier been confused for a slip (Jácome 1986:51).

Beatriz Braniff, (Braniff 1992) in her research, classified plainware ceramics based on their interior and exterior brushing. In 1992, Braniff excavated the sites of La Proveedora (SON:E:8:5) and El Ranchito (SON:G:102). Her research showed high quantities of exterior scraping on local plainware sherds (Braniff 1992:733, 830;Claypatch 2018: 23). Braniff's work helped draw the boundary lines between Trincheras and Río Sonora traditions (Claypatch 2018: 23). In her ceramic analysis, Braniff studied exterior and interior scraping, which she refers to as brushing (Braniff 1992: 733, 830).

Randall McGuire and Elisa Villalpando created a binational project, Proyecto Tradición Trincheras, that has done extensive surveys and excavations on Trincheras sites since 1985. The three sites excavated during the 2017 and 2018 field seasons, which lasted from September to December, were recorded in their 1988 pedestrian survey of the Altar Valley (McGuire and Villalpando 1993). McGuire and Villalpando also conducted excavations at Cerro de Trincheras (SON:F:10:2) and compiled their research findings in a two volume report (McGuire and Villalpando 2011). They created the most recent regional chronological sequence (McGuire and Villalpando 1993: 71-73) based on Bowen's earlier work (Claypatch 2018:24; Bowen 1972). The earliest Trincheras phase, the Átil phase (circa 200-800 CE, though possibly later) is characterized by small, agricultural settlements clustered along the river and associated with utility wares. It is also associated with the appearance of Trincheras Plain Variant 1, Plain Variant 1a, and fine lined Trincheras Purple-on-Red specular ceramics (McGuire and Villalpando 1993:71-72). The following phase, the Altar phase (circa 800-1300 CE) is marked by larger and more diverse sites. This phase was also when Trincheras Plain variant 2, Trincheras Purple-on-Red non-specular, and Thin Red-on-Brown begin to appear on sites (McGuire and Villalpando 1993:72). The latest Trincheras phase, El Realito phase (circa 1300-1450 CE) is mostly seen through changes in ceramics. During this phase, in the Altar valley, coil-and-scrape ceramic production is overtaken by the paddle-and-anvil technique, and locally painted pottery was mostly replaced by intrusive pottery (McGuire and Villalpando 1993:72). The El Realito phase, as well as later Santa Teresa, Oquitoa, and Tohono O'odham phases are associated with the Hohokam and Tohono O'Odham people, not the Trincheras tradition.

Randall McGuire and Elisa Villalpando contributed the most recent ceramic typology in their 1993 survey. They described Trincheras plainware types Lisa 1, 2 and 3. The types Lisa 3 and 3a were originally called "Thin Plain" and only defined later at the Cerro de Trincheras excavations. These type differentiations are based on thickness, coarseness, hardness and color (McGuire and Villalpando 1993: 27-31). Trincheras Plain Variant 1 is manufactured using coiland-scrape and often has a grey or black core with a red exterior. It is a crumbly pottery type and is never polished though it often exhibits scrape marks (McGuire and Villalpando 1993:29). Trincheras Plain Variant 1A is the same as Trincheras Plain Variant 1, though it is a thinner and more polished version. This pottery type is occasionally slipped and significantly softer than type 1 (McGuire and Villalpando 1993:29).

Trincheras Plain 2, also called Trincheras Purple-on-red is manufactured using the coiland-scrape technique and scrape marks are often found on the interior (McGuire and Villalpando 1993: 29). This type tends to have a coarse paste and be red, brown, grey or black. The exterior of these sherds tend to be lightly polished and is occasionally scraped. The temper is often visible on the sherd's surface (McGuire and Villalpando 1993: 29). This type is very similar to Lisa 1 but it tends to have larger temper, a more yellow hue, and is thicker (McGuire and Villalpando 1993: 29).

Thin Plain, later called Lisa 3, is also a coil-and-scrape manufactured ceramic. Scraping marks are common on the interiors of these sherds and they are often grey or black at the core and have a red brown exterior. These sherds are characterized as having a lightly polished exterior- and occasionally scraped interior. Lisa 3 is generally differentiated from Lisa 1 and 2 in a number of significant ways. Lisa 3 is defined as being thin and hard, with very visible temper (McGuire and Villalpando 2011:96).

Sells pottery, which was coeval with Lisa 3, was originally referred to as "Late Plain" by McGuire and Villalpando. Sells Plain is a pottery type associated with the Hohokam people and is prominent during the Realito phase in the Altar valley. The pottery was often thicker than Trincheras pottery and is made using the paddle-and-anvil technique.

My analysis was mostly based off of recent iterations of the McGuire and Villalpando 1993 Survey typology. The 1993 survey had limitations in that it was a surface survey which offered no stratigraphic chronology. Additionally, surface sherds are subject to more erosion than those found during an archaeological excavation. There was a lack of differentiation between Trincheras and Sells plainware before their survey. McGuire and Villalpando coined the term "Late Plain" to refer to what we now call Sells pottery (McGuire and Villalpando 1993:33). The survey divided Trincheras plainware into broad categories that could be further refined. The ceramic typology has been constantly evolving to include new and combined types. I believe that the sherds analyzed in this paper do not perfectly fit within any of the aforementioned pottery types. Those type distinctions were made using sherd thickness and hardness, but it seems scraping, and to a lesser extent, polishing, are also temporally significant. These type distinctions were classified during the earlier stages of Proyecto Tradición Trincheras before stratigraphic excavation had been done. Since they were created at such an early stage of research, the type designations are subject to ongoing refinement.

The researchers excavated the site of El Póporo (SON:F:2:61) in the 2017 field season. El Póporo was a multi component site which had occupations from the Altar, Realito and Protohistoric periods. The site had small amounts of nonlocal ceramics (Claypatch 2018:37). The ceramics excavated from that site were not included in my analysis.

During the 2018 field season, researchers excavated La Potranca (SON:F:2:4) and the smaller site of San Martin (SON:F:2:82). La Potranca appears to be a multi-occupational site, with potential occupations in the Altar and Realito phases. The majority of the pottery at the site fits into the Trincheras or Hohokam pottery traditions. Small amounts of nonlocal painted pottery and other trade items found at the site indicate regional connectivity. Many of these nonlocal artifacts, including pottery, and nonlocal minerals, can even be pinpointed to approximate locations of origin.

San Martin was recorded as a single occupation site from the Átil phase. Only Trincheras tradition ceramics were found at San Martin. Thus far, nonlocal artifacts have not been identified from San Martin. Analysis on artifacts from San Martin and La Potranca are still taking place. Research on nonlocal ceramics aims to establish the trade link between the Trincheras tradition and other regional cultures. The decision to excavate a site that was originally believed to span different chronological phases was an intentional move to understand a broader time period in the Altar River Valley.

Sites included in my analysis

The site of La Potranca (SON:F:2:4) is located near the town of Átil, and at the base of Tía Chepa, a *cerros de trincheras* (McGuire and Villalpando 1993:108). La Potranca had been partially excavated by Manuel Robles. Robles excavations in the 1970's revealed a habitation site as well as multiple cremations and burials. Robles' work focused on excavating the cremations, many of which had been placed in intrusive ceramics. The excavations took place at the base of Tía Chepa (McGuire and Villalpando 1993:108).

McGuire and Villalpando relocated this site in the 1988 survey. Before excavations, they believed it dated to after 1200 CE (McGuire and Villalpando 1993:108) and was a single component Realito site. This belief was based on the presence of mounds, the vast majority of surface pottery being Sells Plain and the previous study by Robles which found Realito phase ceramics. McGuire and Villalpando hoped that a single component Realito site would help further their understanding of how the Trincheras culture changed throughout time. Recent excavations by McGuire and Villalpando refute the idea that La Potranca was a single component Realito site.

During this past excavation, a variety of trade goods from different surrounding regions were found. These show clear regional connections during at least part of the site's occupation. Researchers discovered multiple pit houses which is indicative of its use as a habitation site. They also noted a high artifact density both in the survey and during excavation. The significant amounts of stratified Sells and Trincheras pottery led researchers to believe that this site houses multiple occupation layers. McGuire and Villalpando divided up La Potranca into Areas A, B, C, and D. I analyzed only one bag from Area C but it was excluded from this paper because the number of pottery samples was deminimis. Area B and D made up most of the excavation and therefore served as better areas to draw data from.



Figure 2. The Altar River Valley project area in the shaded area. Both sites included in my analysis are located in the Altar River Valley near the town of Átil. La Potranca is located along a fertile floodplain while San Martin is a few kilometers away from one, allowing the Trincheras people access to water and the ability to build habitations.

In the 1988 survey, the archaeologists identified the site of San Martin (SON:F:2:82) as an Átil phase site (McGuire and Villalpando 1993:177). The site was dated to the Átil phase which has not yet been clearly defined, though this site is believed to predate 1200 CE. In the survey, McGuire and Villalpando located a sherd and lithic scatter and an overall low artifact density (McGuire and Villalpando 1993:178). They decided to dig the site because they believed it to be an intact single component Átil phase site. This belief was based on the majority of the ceramics found during the survey being typed as Lisa 1. Before excavating the site, McGuire and Villalpando believed that Átil phase pottery was undecorated which was disproved by their most recent excavation.

San Martin exclusively contained Trincheras pottery and seems to represent a single occupation. The belief that the site represents a single occupation is due to the fact that there is little stratigraphic depth. In addition to this, the site has little overlaying ceramics or other artifacts and the ceramic styles and motifs seem to be consistent. San Martin is a more isolated site than La Potranca and contains only one occupation layer. This assumption is based on the lack of nonlocal goods found in excavation and the lack of a clear change of pottery style between the earliest and latest levels of the site.

La Potranca is a multi-component site composed of two Trincheras (Átil/Altar?) phase occupations and a Realito phase occupation. Aside from a small amount of intrusive ceramics, the majority of the pottery found was made during the Trincheras or Realito occupations. Trincheras, Mogollon, Casas Grandes, Hohokam, O'odham, Rio Sonora, Salado, and Seri sherds were all found on the site. The site had many other nonlocal goods aside from pottery. This suggests an established and complex regional trade network during the La Potranca occupation periods. The ceramic evidence suggests that San Martin is an earlier site than La Potranca.

The majority of the ceramics found at La Potranca and San Martin are plainware sherds, and they are a key focus of site analysis. In my analysis of the 1,058 sherds identified as belonging to the Trincheras tradition at La Potranca, 938 sherds are plainware (about 88.7 percent of the total collection). Similarly, at San Martin 540 are plainware (74.9 percent) out of 721 Trincheras sherds. The plainware contains a noticeable variety of sherds distinguished by their variations of size, vessel type, color, scraping, and polishing.

As chronometric dating of the phases is still a work in progress, the relative dating of plainware pottery can be invaluable for further refining the ceramic typology and assisting in the dating of other Trincheras sites. The individual handcrafting that pottery requires can hopefully show a chronological pattern. Further refinement of plainware dating on Trincheras sites can be used more effectively as an early dating method that is accessible before radiocarbon dating and other methods are available.

Methods

This paper is based on the initial analysis done of La Potranca and San Martin ceramics. All of the data was collected between October and December 2018 through Proyecto Tradición Trincheras in Átil, Sonora, México. I worked on ceramic analysis in conjunction with Hunter Claypatch, the field lab director of Proyecto Tradicón Trincheras. My sample size is about one percent of La Potrancas pottery sherds and about five percent of San Martins. In total, I analyzed 1,915 sherds from La Potranca and 1130 sherds from San Martin. Claypatch and I selected an assortment of bags by using the bag information tags. We collected a judgemental sample of the assemblage by picking bags based on excavation dates and areas. We hoped to get a typical sample of the sites' ceramics through this selection process. When choosing bags from La Potranca, we chose more bags from Area B and Area D as they were the largest areas and made up the bulk of the excavation. A few bags from Area A were included but will not be the focus of my research. My sample size was 991 plainware Trincheras sherds from the site of La Potranca and 583 plainware Trincheras sherds from San Martin. The amount of sherds chosen for analysis was a rough estimate of what would equate to least one percentage of the ceramic assemblage form each site. The larger number of La Potranca sherds was intentional to account for its significantly higher artifact density and larger site size.

While sorting the Trincheras plainware pottery, we had to sort out the Sells plainware and a minute number of nonlocal sherds. Sells plainware was the second most common pottery type found at La Potranca making up 25.4% of my sample with 269 sherds. San Martin contained only Trincheras pottery and some sherds too small or damaged to be identified. Claypatch and I used the following techniques to differentiate between Sells and Trincheras plainware sherds. We identified the Sells as being thicker and grey, particularly in the core area. Trincheras often tended to be thinner and more red or orange hued. Sells plainware sherds contain more mica than Trincheras sherds and are often polished or smoothed leading to less temper sticking through the surface. Conversely, Trincheras pottery tended to have a grainier finish and were not often polished. Sells pottery did not possess scraping as it was made using a paddle-and-anvil technique rather than a coil-and-scrape technique as found on Trincheras pottery. Sells Plain was often slightly dimpled and smooth due to the use of the paddle-and-anvil technique of shaping.

We used the project's general analysis form on a FileMaker database. The analyses mostly focused on understanding the form and function of sherds. Through our analysis of individual sherds' morphology, we hoped to sort the sherds into categories to better understand them within the context of preexisting pottery typologies. Claypatch and I recorded site, provenience, bag number, weight, tradition type, number of sherds, vessel form, the presence of a rim, the presence of a slip, sooting, and if it was worked. This analysis was conducted on all contents of the bag I was analyzing including nonlocal wares. In addition to this general analysis, I analyzed whether the sherds were scraped and/or polished, and what sides these activities

occurred on. I only conducted additional evaluation on Trincheras sherds that were neither slipped nor painted. Any other distinctive features would be marked down in the comments section.

I used control sherds in my analysis to keep variation in sorting to a minimum. Additionally, Randall McGuire determined that sherds smaller than a five peso coin (25.5mm) could not be identified properly and were labeled as "unidentifiable." The control sherds used throughout my analysis were what Claypatch and I considered to be clear examples of "light scraping," "heavy scraping," "Lisa Texturizado," "light polishing," and "heavy polishing." The use of these sherds allowed me to consistently analyze sherds without an unrecognized changing bias throughout the field season. We felt the sherds would be representative of these categories and they became the standard for how we sorted pottery throughout the rest of the analysis.

We used control sherds (Figure 3) to maintain a consistent classification of the pottery. The sherd on the left is the minimum example of light exterior scraping, followed by the minimum example for bold interior scraping, followed by the minimum example for light polishing and the minimum example for bold polishing. The polish levels on these sherds are a bit ambiguous in the photo but were helpful in maintaining consistency throughout our analysis.



Figure 3. The control sherds. Photo by Hunter Claypatch

I created a partial Harris Matrix for Areas A and D at La Potranca. Since I did not have sherds from every strata in my analysis, I did not feel that the completed area Harris Matrices were necessary. I am using Thomas Yaeger's completed Harris Matrix for Area B. After constructing the Harris Matrices I conducted exploratory data analysis on the different variables from my additional analysis within the framework of strata. These Harris Matrices helped temporally place the bags of sherds that I analyzed.

Since returning from the field, I have been conducting exploratory data analysis on the data collected. This exploratory data analysis is done within the framework of the previously mentioned Harris Matrices. This has allowed me to see patterns and trends in the data that would not otherwise be clear. For this exploratory data analysis, I created histograms to look for trends in polishing and scraping of sherds. I also compared the amount of Sells versus Trincheras plainware sherds and drew comparisons between the two sites. I used the histograms to evaluate

whether these variables wax and wanes throughout the stratas in a recognizable pattern or if they seem generally consistent throughout.



Figure 4. Partial Harris Matrix of La Potranca Area A including the information necessary for my thesis.



Figure 5. Harris Matrix of La Potranca Area B. Created by Thomas Yaeger.





Analysis

My main focus in this paper is on areas B and D, as they made up the bulk of the excavation at La Potranca. In total, I analyzed twenty-six bags from different proveniences of La Potranca. I also analyzed an additional ninety-four study sherds that had been selected as prime

examples of sherd types and/or were considered outstanding artifacts in some way. I have data from only two bags of sherds in Area A which spans only two strata. Due to the small amount of sherds analyzed from Area A, I will include them in my analysis but will consider them ancillary.

I have data from the thirteen bags of sherds that I analyzed that spanned six strata of Area B. Area B shows a clear decline in the percentage of bold scraping in higher strata as the lowest stratum is 27 percent bold scraped sherds and the layer directly under the surface had 0 percent. The percentage of light scraping declines slightly but not consistently, as the lowest stratum has 18.9 percent light scraped sherds, the intermediate strata have between 21.7 percent and 13 percent and the stratum below the surface has 17.6 percent light scraped sherds. The percentage of polished sherds is lowest in the highest stratum, with 0 bold polished sherds and only 5.3 percent light polished sherds. The lowest stratum has 4.8 percent bold polished sherds and 35.7 percent light polished sherds. Despite that, there is no clear pattern in the polishing data, with intermediate strata ranging from between 17.6 percent and 2.2 percent bold polished sherds and between 34.5 percent and 18.2 percent light polished sherds. The earliest ceramics are more likely to be polished and/or scraped.

Area D had significantly less strata and features than Area B as it was a small area and therefore a peripheral part of my focus. I have data from ten bags of sherds spanning four strata of Area D. Area D has a slight decrease in the percentage of bold scraped pottery sherds over time but not enough of a difference to be noteworthy. The lowest stratum of Area D contains 7 percent bold scraped sherds, while intermediate strata contain between 6.9 percent and 5.5 percent bold scraping. The level directly below the surface of Area D contains 0 percent bold scraped pottery. Bold polishing in Area D ranges from 2.8 percent in the highest stratum to 0

percent in the stratum directly below the surface. There is no clear shift through time as in Area B. Scraping and/or polishing appears on both sides for 5-11 percent of the sherds, and does not exhibit patterning across the strata.

I created bar graphs to evaluate the presence of Sells versus Trincheras plainware sherds per strata at La Potranca. In Area B, there is a gradient of increasing percentages of Sells as the strata become more higher. The highest stratum, containing 27.6 percent Sells pottery, was the stratum containing the most Sells in Area B. The lowest stratum contained 3.8 percent Sells pottery. Sells was never a majority of any stratum in Area B, and one of the lower strata had no Sells at all. In Area D, Sells make up between 30.8 percent and 22.4 percent of the bottom strata and only 7.7 percent of the most recent strata. Area A has slightly more Sells in the higher strata than the lower one. In all areas of La Potranca, Sells make up more of the ceramic assemblage in the more higher strata than in lower ones.

I compared the amount of scraped and polished sherds per site (Figure 7 and Figure 8) to see how much they varied. I then compared the site of San Martin with the lowest La Potranca Area B stratum (Stratum BC) from which I have data. San Martin has a slightly higher percentage of light scraped sherds, but the bold scraping percentages are almost identical (Figure 9). The polishing between San Martin and the bottom layer of La Potranca Area B is only 2.2% different, as San Martin has 2.8 percent bold polishing and La Potranca Area B Strata BC has 4.8 percent. The light polishing also shows a similar distribution, comprising 21 percent of San Martin and 35.7 percent of La Potranca. There was only a 4.2 percent difference in the polishing and external scraping between La Potranca Area B Strata BC and San Martin. The major difference found was that San Martin had 22.5 percent more interior scraped sherds than La

Potranca. I studied twenty-one bags of sherds and sixty-five study sherds from the site of San



Martin for the purposes of this thesis.

Figure 7. Comparison of the intensity of the plainware scraping between San Martin and La Potranca.



Figure 8. Comparison of the intensity of the plainware polishing between San Martin and La Potranca.

Discussion

By contrast with McGuire and Villalpando (1988) my ceramics are from stratigraphically controlled, excavated contexts rather than survey surface collections. McGuire and Villalpando suggested that temporal change can be seen through pottery by analyzing the prevalence of hardness and thickness. I chose to focus on understanding scraping and polishing on plainware sherds. My findings suggest that temporal change might also be visible in scraping, and to a smaller extent, polishing. The assemblage used for this study was from a stratigraphically controlled excavation which gives more temporal insight into the ceramic typologies. The samples collected for this research are hopefully the next step in furthering the understanding of Trincheras plainware pottery and its temporal relevance.

The Trincheras sherds found in my analysis would all fit within the Lisa 2 designation of McGuire and Villalpando's ceramic typology but that may be because the Lisa 1 category was possibly created due to the corrosive surface conditions. Lisa 1 was classified as being soft and eroded which was most likely due to higher levels of surface erosion. Sherds found during stratigraphic excavations did not fall within the Lisa 1 designation.

Area D has the least comprehensive data. It is possible that this is due to issues in the sample size or that there was a previous disturbance in that area. More information on that area will be helpful when the complete ceramic analysis has been conducted. Area B and Area D of La Potranca seem to differ exponentially suggesting different occupations or disturbances.

Relational comparisons between San Martin and La Potranca show that the lowest levels of La Potranca Area B seem to have a loose temporal correlation with San Martin based on the prevalence of scraped sherds (Figure 6). The data on polished sherds does not show clear patterns. The data on the scraping shows not only a loose inter-site relation but also a gradient of change over the stratas. This could be indicative of a change through time. It seems that the lower the strata, the more likely it is that sherds are scraped. The higher stratas that seem to be contemporaneous with the Sells occupation have the lowest likelihood of having scraped Trincheras plainware.



Figure 9. BA is the most recent strata. Stratas descend in chronological order until BC which is the oldest strata. These are compared with the overall site data for San Martin.

As illustrated by the graph, boldly scraped pottery tends to appear in lower strata. I therefore created the sherd type "San Martin Textured" to further understand the significance of boldly exterior scraped pottery. Its temporal location gives a potential intentionality to this sherd type.

San Martin Textured

"San Martin Textured" was created to designate an earlier type of Trincheras plainware contemporaneous with the single component site of San Martin. The geographical and descriptive name combination is based on Colton and Hargrave's 1935 criteria for creating a new ceramic type designation (Colton and Hargrave 1935). Based on the temporal changes evidenced in the data on scraped sherds, Claypatch and I believe that significantly exterior scraped sherds should be typologically differentiated from the Trincheras plainware sherds that have little to no exterior scraping. Trincheras sherds that exhibit exterior scraping should be called "San Martin Textured." 72 sherds found at the site of San Martin fit this description as well as 21 sherds from the site of La Potranca. Sherds that I am designating as "San Martin Textured" are often from larger Tecomate shaped vessels, as well as some Ollas. They are thicker and darker than most Trincheras plainware pottery and tend to be larger. Mica is an uncommon inclusion in these sherds. At the site of San Martin, bold interior polishing on these sherds occurred on only 11 cases, making it unlikely that this style was associated with bowl production. Light interior scraping and no interior scraping appeared significantly more than bold interior scraping. The inclusions were often smaller and less grainy than the typical Trincheras plainware sherds. There are no slips or paint on any of the sherds identified as "San Martin Textured." "San Martin Textured" is mainly characterized by the heavy scrape marks on the exterior of a sherd.

Claypatch and I infer that these sherds are from an early layer of Trincheras occupations. This assumption is based on the locations at which they were found during the excavations at San Martin and La Potranca. At San Martin, they were much more common than at La Potranca. At La Potranca they were mostly found in the lower levels of Area B. Both of these locations seem to have been from around the same time as the scraped and painted pottery appears in similar quantities and styles. Absolute dating results from the areas where the majority of the "San Martin Textured" pottery was found will hopefully better illuminate their chronology.

Sherds fitting the designation of "San Martin Textured" have been noted by previous archaeologists working within the Trincheras culture region. David E. Doyel discovered boldly exterior scraped pottery type found at his excavations of AZ DD:8:129 which is near the

northernmost extent of Trincheras pottery (Doyel 1977). Beatriz Braniff noted similar sherds at the site of El Ranchito (Son:G:10:2) and referred to them as "Ranchito Escobillado Externo" (Braniff 1992: 739-740). Braniff argues that sherds fitting this designation are most often Tecomates. She also discusses similarities in this sherd type with the Río Sonora pottery from the Sierra Madres (Braniff 1992:739). Juan Jorge Morales Monroy called boldly exterior scraped sherds from the site of La Playa (SON:F:10:3) "Texturizada" (Morales 2006:62-64). Visual similarities between "Texturizada" typed sherds and "San Martin Textured" are evidenced in the figures below (Figure 10, 11, 12). Hunter Claypatch documented this sherd type on the site of El Póporo (SON:F:2:61) and referred to it as "Trincheras Textured" (Claypatch 2018:28-29). Based on the previous observations of where "San Martin Textured" may have occurred, this sherd type has a relatively wide distribution.



Figure 10 and Figure 11. The above pictured sherds would both be examples of the potential "San Martin Textured" category and were excavated at San Martin. Both have bold scraping that seems to cover the exterior and are tecomate rim sherds. The picture on the right was a collection of sherds from San Martin's study collection known as Vessel Fragment #1. Vessel Fragment #1 was found in feature 2. Photo by Hunter Claypatch



Figure 12. A bold exterior scraped sherd labeled as "Texturizada" from the site of La Playa (SON:F:10:3). This sherd is from a Tecomate rim. Photographed by Hunter Claypatch.

Conclusion

Archaeologists continue to improve the Trincheras ceramic typologies to better assist temporal analysis of Trincheras sites. My research investigates a temporal relationship for polishing and scraping on some Trincheras plainware sherds. Polished sherds do not exhibit conclusive chronological change. Scraped sherds suggest a loose temporal correlation between sites and a clear gradation of chronology in the strata of Area B at La Potranca. This temporal relationship will be explored further as more absolute and relative dating methods are used to analyze the artifacts found on these sites.

"San Martin Textured" is a new type designation, that includes a high number of bold exterior scraped sherds in San Martin and La Potranca (Area B). The precedent for this new type is rooted in discussions by archaeologists such as Claypatch, Braniff and Doyel. As more research is done throughout the region, I expect this type designation will clarify and improve. Future research may suggest that bold interior scraped ceramics should be a different type as well.

My findings address the continued metamorphosis of the Trincheras plainware ceramic typology. Pottery is an important tool for cultural understanding. As new information about Trincheras ceramics and dating becomes available, archaeologists in the region can continue to draw new hypotheses about Trincheras culture and can continue to refine methods of dating Trincheras sites.

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