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The white ware pottery from Tijeras Pueblo (LA 581): learning frameworks and communities of practice and identity

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The white ware pottery from Tijeras Pueblo (LA 581): learning frameworks and communities of practice and identity

The Tijeras Pueblo Ceramics Project was designed to explore how the origin and spread of glaze-painted pottery and technology among the Ancestral Eastern Pueblos of the middle Rio Grande was associated with inter-regional macro-scale social processes, such as immigration, population aggregation, and coalescent community formation during the Pueblo IV period in the American Southwest (AD 1275-1425). However, carbon-painted black-on-white ceramics make up over half of the decorated pottery from Tijeras Pueblo and these white wares have their own unique story to tell. In particular, this article argues that the diversity of traits that characterize local carbon-painted black-on-white pottery was directly associated with the context in which novice potters learned to make pots, how technological practices were transmitted and regulated within these communities of practice, and how such practices were related to strategies of coalescence and identity formation around the turn of the fourteenth century.

Keywords: Ancestral Pueblo; Pueblo IV period; middle Rio Grande; Tijeras Pueblo; pottery; typology; learning networks; communities of practice

Word Count: 4796

Introduction

The focus of the Tijeras Pueblo Ceramics Project is on examining how changes in pottery technology, production, and distribution are connected to macro-scale social processes, such as immigration, population aggregation, and coalescent community formation, during the Pueblo IV period in the American Southwest (AD 1275-1425) (Habicht-Mauche 2022). The project was designed explicitly to explore how the origin and spread of glaze-painted pottery and technology among the Eastern Pueblos was associated with these dynamic processes. However, as I began to examine the decorated pottery from Tijeras Pueblo (LA 581), I realized that I was not going to be able to simply classify, summarize, and dispense with the local white ware pottery as I had expected. Despite my best attempts, I could not shove much of the black-on-white pottery recovered from Tijeras Pueblo into the standard typological boxes generally associated with Rio Grande white wares. In making this discovery I began to appreciate that the black-on-white pottery from Tijeras Pueblo, rather than being vestigial to the research questions I was exploring, had its own unique story to tell. Instead of fretting about my inability to classify the local white ware from Tijeras Pueblo I came to embrace this feature of the pottery as a way to understand micro-scale processes of learning, cultural practice, and community identity formation in the Albuquerque district of the middle Rio Grande during the fourteenth century.

Background

Although generally acknowledged as an ancestral Southern Tiwa site (see Arazi-Coambs and Thompson et al. in this issue), the possibility that Tijeras Pueblo began as a multi-ethnic coalescent community (sensu Kowalewski 2006) seems strong. In particular, the presence of

both imported and locally made Zuni Glaze Ware types mixed with local Rio Grande black-on-white pottery in the basal units of stratigraphic profiles suggests that Western Pueblo immigrants may have been among the settlers who founded the village around the turn of the fourteenth century (Habicht-Mauche and Eckert 2021). These early levels are overlain by units marked by the introduction of and gradual increase in the local version of Rio Grande Glaze Ware (Agua Fria Glaze-on-red). While Agua Fria G/R makes up close to 80% of the decorated ceramic assemblage in some of the latest dated contexts, Tijeras Pueblo remained a mixed black-on-white and glaze ware site throughout its occupation (Judge 1974).

Close to half of the decorated pottery assemblage from the site is white ware and the vast majority (88%) of this black-on-white pottery is carbon-painted, which is typical for the northern and middle Rio Grande during the fourteenth century (Table 1). Visual paste sorting and petrographic analyses suggest that about a third of the carbon-painted white wares recovered from Tijeras Pueblo were produced locally in the Albuquerque district. However, I have found it virtually impossible to sort these local white wares into any of the well-known Rio Grande black-on-white types. I have even found it difficult to create reproducible sorting groups, based on replicable constellations of technological, formal, and stylistic attributes. Most remarkable is the diversity in paste composition and temper choices that characterize these local white wares. This eclectic use of non-standardized tempering material is in stark contrast to patterns seen in other areas of the northern and middle Rio Grande, where temper choice was extremely conservative over many generations and often characterized the products of specific villages or clusters of villages within what emerged historically as distinct ethnolinguistic provinces (Habicht-Mauche 1993).

[Table 1 near here]

I am not the first person to remark on the difficulty of typing white ware pottery from the Albuquerque district. Hammack (1966) identified a large number of black-on-white sherds from the fourteenth century Tunnard Site (LA6868) that exhibited such a complex mix of attributes that they were impossible to type, resulting in what he referred to as "many undescribed varieties." Reports from salvage excavations in Tijeras Canyon (Oakes 1979, Wiseman 1980) describe a generalized sorting category, referred to as "Santa Fe-Wiyo Black-on-white," characterized by diverse paste compositions and mixes of attributes that are not wholly typical of the classic varieties of either of these northern Rio Grande types. Warren (1980) also commented on the difficulties she encountered in trying to sort and type the carbon-painted white wares from San Antonio de Padua Pueblo (LA 24), a site located just a few miles north of Tijeras Pueblo. And more recently, Larson (2013: viii) noted that black-on-white pottery from the Albuquerque district did not "fit well into established typologies." So why are white wares from the Albuquerque district so difficult to sort into types?

Artifact types as congealed practice

Artifact types are etic constructs created by archaeologists to help organize and make sense of the diversity that characterizes material culture (Adams and Adams 1991; Ford 1954). However, our ability to generate replicable typologies does on some level reflect normative choices and actions among groups of artisans in particular places at particular times (Rouse 1960). Shared knowledge, skills, techniques, and routines employed by a community of artisans result in the production of objects with similar attributes. Thus, what we recognize archaeologically as types reveal standards of technical competency and taste that were taught,

learned, and regulated within specific social contexts. They are manifestations of congealed practice; the embodiment of patterned activities collapsed into an array of replicated features (see Ingold 1993).

Types, therefore, allow us to materially recognize what Wenger (1998) has described as "communities of practice" among groups of artisans and consumers. Wenger (1998) identifies three core characteristics of communities of practice: mutual engagement, which implies dense social relationships centered around a common activity; joint enterprise, wherein accountability is continuously negotiated among individuals; and shared repertoire, which implies that people are knowledgeable about the same kinds of tools, processes, and stories involved in their shared activity. Social identities are constructed and reproduced by belonging and participating in multiple and diverse communities of practice. Thus, in regards to the local carbon-painted black-on-white pottery from Tijeras Pueblo, instead of asking, "Why can't I type these pot sherds," I needed to focus on what this eclectic diversity of traits tells us about the social context in which novice potters learned to make pots, about how technological practices were transmitted and regulated within different communities of practice, and about how such practices were related to specific contexts and strategies of community and identity formation among the Ancestral Pueblos of the Albuquerque district during the fourteenth century.

Sampling and methods

The pottery analyzed for this project came from the collections of the University of New Mexico Field School excavations in the 1970s (see Arazi-Coambs; Kulisheck in this issue; Cordell 1975, 1977a, 1977b; 1980; Judge 1974) curated at the Maxwell Museum in Albuquerque. Like much of the other research presented in this issue, the Tijeras Pueblo Ceramics Project was made possible

by the curatorial efforts of museum staff and volunteers to bring the collections up to modern collections standards and make them more accessible to researchers (see Phillips et al. in this volume). I was assisted by volunteers from the Friends of Tijeras Pueblo (see Thompson et al. this issue) and by a corps of undergraduate and graduate students from the University of California, Santa Cruz. Thus, this research exemplifies the importance of Tijeras Pueblo's continuing role in transgenerational archaeological training, interpretations of regional culture history, and local public outreach, as is highlighted by other contributions in this issue.

The pottery sherds selected for analysis came primarily from the fill of rooms associated with tree-ring cutting dates that spanned the entirety of the villages' occupation during the fourteenth century and were broadly distributed across all excavated room blocks. This sample yielded approximately 3000 decorated vessel fragments. Values for technological, formal, and stylistic attributes were recorded for every sherd from each of the sampled contexts at the site. Sherds that refitted or clearly came from the same vessel were only recorded once. Every decorated sherd in the sample was also examined using a 40x binocular microscope to make preliminary visual temper/paste identifications. Two sherds from each of the major temper/paste groups (represented by 10 or more sherds each) were thin-sectioned for petrographic analysis. Thin sections were analyzed using an optical microscope set up for transmitted polarized light microscopy.

Results

In much of the northern and middle Rio Grande, archaeologists have been able to define several distinct carbon-painted black-on-white "communities of practice" as defined by the products of specific geographic clusters of villages, which appear to represent emergent

ethnolinguistic groups during the fourteenth century (Eckert et al. 2012; Habicht-Mauche 1993). Two of these well-defined communities of practice are identified with the pottery types Santa Fe Black-on-white (AD 1175-1425) and Galisteo Black-on-white (AD 1270-1425).[1] Santa Fe B/W was produced in a wide variety of villages and small settlements in the northern Rio Grande Valley, ranging roughly from Santa Fe to Española (Figure 1). This area is the ancestral homeland of the Northern Tewa (Ortman 2012). Galisteo B/W was produced in communities that were largely centered on the Galisteo Basin in the middle Rio Grande, south of the Santa Fe River (see Figure 1). This area is the ancestral homeland of the Southern Tewa or Tano, although some Keres or mixed Keres/Tano communities also may have been present in this area into historic times (Lippard 2010; Ramenofsky et al. 2017).

[Figure 1 near here]

Sherds from Tijeras Pueblo that I identified as Santa Fe B/W (Figure 2) or Galisteo B/W fit the classic descriptions of these types (Kidder and Amsden 1931; Mera 1935; Stubbs and Stallings 1953; Habicht-Mauche 1993) and paste analyses show that these vessels were clearly imported to Tijeras Pueblo from communities further north. These imported types make up more than half of the carbon painted black-on-white pottery recovered from the site (see Table 1), demonstrating Tijeras Pueblo's position at the crossroads of regional interaction among communities in the northern and middle Rio Grande. For both types, the most common vessel forms are medium-sized bowls (22-24 cm diameter). Santa Fe B/W bowls are usually made from fine textured silty sedimentary clays that fired a distinctive blue-gray and that were either untempered or tempered with fine volcanic ash or a mix of ash and finely ground sherd. Rims are either direct or slightly inverted with mostly rounded lips. Surfaces were usually unslipped, but interiors were sometimes slipped with a thin, translucent wash. Exteriors are almost never

slipped or polished. In contrast, Galisteo B/W bowls were made from light firing clays, tempered with moderate to coarse ground sherd or occasionally crushed volcanic rock. Bowl rims were also either direct or slightly inverted, but lips were more often flattened than rounded. Surfaces were usually thickly slipped and polished on both surfaces and the slip is often "crackled" because of a poor fit between the slip and clay body. Designs on both types are very similar, especially after around AD 1300, with both types characterized by a predominance of banded designs with parallel lines, checks, solid elements, and alternating solid and hatched elements.

[Figure 2 near here]

Probably the most significant distinguishing characteristic of these two types is the difference in slipping strategies. All of the other well-defined carbon-painted black-on-white types from the northern and middle Rio Grande also fall clearly within either the "no slip/thin slip" (e.g., Wiyo Black-on-white) or the "thick slip" (e.g., Rowe Black-on-white) traditions. These strategies appear to represent quite distinct and mutually exclusive approaches to making black-on-white pottery, with specific communities of potters in the northern and middle Rio Grande apparently selecting either one approach or the other and remaining fairly consistent in that choice over multiple generations. Thus, learning to make pottery in a certain way in these Rio Grande villages appears to have been part of complex processes associated with the formation of long-standing and relatively stable communities of practice and identity.

Potters who made carbon painted black-on-white pottery recovered from Tijeras Pueblo that based on temper and paste characteristics can be identified as having been produced within the Albuquerque district utilized both the "no slip/thin slip" and "thick slip" strategies. One of the most common of these local paste groups consists of brown to brownish gray pastes with

either mixed lithic sand or a combination of mixed lithic sand and sherd temper. Such mixed lithic sands, which include various ratios of schist, granite, basalt, and rhyolite, are typical of sediments in the Albuquerque Valley, located to the east of Tijeras Pueblo. Similar pastes are associated with locally-made glaze-painted pottery recovered from the site (Habicht-Mauche and Eckert 2021). White ware sherds in this paste group exhibit both the Santa Fe-style (no slip/thin slip) slipping strategy, as well as the Galisteo-style (thick slip) strategy (Figure 3). While I used these differences in slipping strategy to designate *Tijeras* varieties of Santa Fe and Galisteo B/W, it was impossible to identify a consistent constellation of other attributes, beyond slipping strategy, with which to define these varieties. For example, lip form (rounded vs. flattened) is not as well correlated with slipping strategy as is characteristic of the classic versions of these types (Figure 4).

[Figure 3 near here]

[Figure 4 near here]

Precisely because of this difficulty in identifying groups of sherds characterized by consistent clusters of attributes among the other paste groups, I decided to lump them into a single "indeterminate carbon-painted white ware" sorting category. This sorting group was characterized by close to 70 distinct paste groups, many of which were represented by only one or two vessels in the sample (Figure 5). Some of the pottery in this sorting group was likely imported from the extreme western part of the Albuquerque district or even from outside the district. For example sherds with basalt or basalt and sherd temper likely came from areas to the west of the Rio Grande, while pottery tempered with hornblende latite ash was likely made at ancestral Keres settlements near the modern Pueblo of San Felipe. However, the overwhelming majority of the pottery in this sorting group appears to have been made by potters utilizing

diverse materials collected along the eastern flanks of the Sandia and Manzano mountains and is characterized by an eclectic mix of granites, gneiss, quartzite, and schist. While it is impossible to determine how much of this material was made at Tijeras Pueblo itself, much of it was likely produced by potters living within a cluster of late thirteenth to early fourteenth century aggregated settlements that I have elsewhere defined as the Tijeras Canyon Coalescent Community (Habicht-Mauche and Eckert 2021). The overall impression is of widespread, small-scale production by a variety of local potting groups utilizing a broad diversity of geologically related raw materials.

Within this broad sorting group, I identified both Santa Fe-style and Galisteo-style slipping strategies (Figure 6). However, there are also a significant number of bowl fragments in this group that appear intermediate between these two styles, with "moderate" slips on either interior, exterior, or both surfaces. These diverse slipping strategies cross-cut even relatively small paste groups, suggesting that potters from the same settlement or potting group regularly used different slipping strategies. This variation in slipping strategy does not appear to be a temporal trend. Both styles are common in room contexts associated with either the early (AD 1300-1369) and late (AD 1370-1395) construction phases at the site (following Cordell and Damp 2010), with the Santa Fe-style being slightly more common in late component contexts (Figure 7). However, if deposits from room contexts with a mix of early and late tree ring cutting dates are interpreted as containing mostly late component trash, then even this apparent temporal trend disappears.

[Figure 5 about here]

[Figure 6 near here]

[Figure 7 near here]

Discussion

So why can't we classify carbon-painted white wares from the Albuquerque district in the same way that we can similar and contemporaneous pottery from other parts of the northern and middle Rio Grande? Or, put another way, why can't we identify consistent technological choices and practices among groups of local potters in this district? Following Ingold (2013) and Arnold (2018), I argue that making pottery, or other artifacts, is not so much about imposing design on matter as it is about how crafted things emerge from the purposeful and knowledgeable engagement of makers with materials using socially learned and physically embodied repertoires and sequences of action. Technical knowledge and performance are parts of cultural traditions that are passed on from one generation to the next, mentor to apprentice (Wallaert 2008). Ethnoarchaeological studies (e.g., Gosselain 2008; Greenfield et al. 2003; Wallaert 2008) have shown that how apprentices learn, the kinds of teaching and learning strategies employed, can have a significant impact on the levels of conservatism and adherence to strict standards versus creativity and experimentation we see among the products of specific communities of artisans.

In particular, a distinction can be made between closed (culturally conservative) and open (culturally innovative) models of informal education (Crown 2007; Lyons and Clark 2012; Wallaert 2008). These distinct modes of apprenticeship are not necessarily conscious or intentional choices, but rather seem to emerge implicitly within different social contexts and economic conditions (Greenfield et al. 2003). In closed learning frameworks, the emphasis is on observation and exact imitation (Figure 8). Questioning and experimentation are frowned upon and errors are negatively critiqued. Such systems are characterized by more "technological regulation" (Gosselain 2008) within artisan groups. Demonstration of competency through

adherence to well-defined standards and norms of production is valued and critical to a sense of shared identity. The products of such communities of potters are generally more homogeneous and more conservative from one generation to the next. Thus, this training model favors the production of items that express and maintain a stable and enduring cultural tradition (Greenfield et al. 2003).

[Figure 8 near here]

In contrast, open learning frameworks emphasize independent learning through individual trial-and-error, rather than strict guidance by a master. Experimentation is tolerated and even encouraged. Technology and techniques are less regulated and competency is not judged by strict adherence to community standards. The products of such communities of potters tend to be more diverse and are more open to innovation and change across generations. Ethnographic research suggests that open learning strategies emerge within communities of practice during times of social and economic stress and transformation (Greenfield et al. 2003).

The difficulty that archaeologists encounter when trying to "type" carbon-painted black-on-white pottery from the Albuquerque district is likely a reflection of the more open learning frameworks that characterized the training of apprentice potters. In contrast, communities of potters in other parts of the northern and middle Rio Grande appear to have favored more closed learning strategies that reproduced and maintained stable cultural traditions. Thus, it should not be surprising that our classic typologies work better in those places.

These distinctions may also be telling us something about the way that emergent group identities were being negotiated and reproduced in various parts of the Rio Grande region around the turn of the fourteenth century. Differences recognized by archaeologists between black-on-white pottery communities of practice, as reflected in the distinction between Santa Fe and

Galisteo B/W, are based largely on differences in clay and temper choice and on slipping strategies. Clay and temper choice result in largely "invisible" features of finished pots. They are more likely to be regulated through processes of enculturation, facilitated by the habit of conforming to local norms among a community of potters (Gosselain 2008; Lyons and Clark 2012). In contrast, slipping strategy results in a more visible characteristic of finished vessels and, thus, is potentially more open to conscious and discursive manipulation in signaling group identity and social boundaries. The homogeneity of both potentially discursive and non-discursive practices that archaeologists have perceived as ceramic "types" within certain clusters of northern and middle Rio Grande villages in the fourteenth century may reflect processes of community identity formation and reproduction that were relatively fixed and stable. In contrast, the extreme diversity and lack of regulation that we see in temper choice and slipping strategy among contemporaneous communities of potters in the Albuquerque district may suggest that processes of community coalescence and group identity formation there were much more fluid and inchoate. Larson (2013) has suggested that this social flexibility may have been part of a long-term adaptive strategy that developed in response to the district's location at an inter-regional cultural cross-roads where small-scale immigration and population mobility may have been the norm for generations.

These insights bring me back to the research questions that initially sparked the Tijeras Pueblo Ceramics Research Project. The development of a local Rio Grande tradition of glaze ware pottery-making required the adoption of radically new aesthetic tastes, materials, and techniques, along with a whole suite of exotic social practices and ideologies that made their production and use culturally meaningful. It is increasingly clear that the foundations for these practices were introduced by immigrants from some of the more unstable regions of the Western

Pueblo area, who appear to have been among the earliest settlers at Tijeras Pueblo and other emerging coalescent communities in the Albuquerque district (Habicht-Mauche and Eckert 2021). The ways in which these macroregional demographic and social transformations played out on the local scale resulted, at least in the short-term, in less structured and more fluid communities of practice and identity that favored more open models of cultural apprenticeship. These more independent learning frameworks fostered experimentation and innovation, as reflected in the incredible diversity of local white ware pottery recovered from Tijeras Pueblo, as well as a cultural openness to new ideas, practices, and techniques. It was in this context that potters in the Albuquerque district first began to copy Western prototypes and then innovate and experiment with new styles and strategies of glaze-painted pottery production and use creating their own unique and enduring cultural tradition.

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Data availability statement

The data analyzed in this article can be accessed at Judith Habicht Mauche (2020) Tijeras Pueblo (LA 581) Decorated Pottery Attribute Data (tDAR id: 458589); doi:10.6067/XCV8458589.

Notes

1. In Western Pueblo pottery classifications the kinds of differences in technological style (e.g. ways of making pottery and raw material choices) that I am discussing in this section are most often encompassed more formally by the ware concept. However, in the Eastern Pueblo area the ware concept is not as well developed and is usually used more generically to refer to broader categories of pottery such as utility ware, white ware, or glaze ware. Thus, classificatory distinctions that are likely related to the choices and practices of specific communities of potters are most usefully discussed at the level of types or clusters of types in this context.

References

Adams, William Y., and Ernest W. Adams

1991 *Archaeological Typology and Practical Reality: A Dialectical Approach to Artifact Classification and Sorting*. Cambridge University Press, Cambridge.

Arnold, Dean

2018 *Maya Potters' Indigenous Knowledge: Cognition, Engagement, and Practice.* University Press of Colorado, Louisville.

Cordell, Linda S.

1975 *The 1974 Excavation of Tijeras Pueblo Cibola National Forest, New Mexico.* Archaeological Report No. 5, Cibola National Forest, New Mexico. U.S.D.A. Forest Service, Southwestern Region, Albuquerque.

1977a *The 1975 Excavation of Tijeras Pueblo Cibola National Forest, New Mexico.* Archaeological Report No. 18, Cibola National Forest, New Mexico. U.S.D.A. Forest Service, Southwestern Region, Albuquerque.

1977b *The 1976 Excavation of Tijeras Pueblo Cibola National Forest, New Mexico: Final Field Report.* Archaeological Report No. 18, Cibola National Forest, New Mexico. U.S.D.A. Forest Service, Southwestern Region, Albuquerque.

Cordell, Linda S. (editor)

1980 *Tijeras Canyon, Analyses of the Past*. University of New Mexico Press, Albuquerque.

Cordell, Linda S., and Nicholas E. Damp

2010 Adobe Meltdown. *Papers of the Archaeological Society of New Mexico*, 36: 49-57. Albuquerque, NM.

Crown, Patricia L.

2007 Learning about Learning. In *Archaeological Anthropology: Perspectives on Method and Theory*, edited by J.M. Skibo, M.W. Graves, and M.T. Stark, pp. 198-217. University of Arizona Press, Tucson.

Eckert, Suzanne L., Kari L. Schleher, and William D. James.

2015 Communities of Identity, Communities of Practice: Understanding Santa Fe Black-on-white Pottery in the Española Basin of New Mexico. *Journal of Archaeological Science* 63: 1-12.

Ford, James A.

1954 On the Concept of Types. *American Anthropologist* 56(1): 42-57.

Gosselain, Olivier P.

2008 Mother Bella Was Not a Bella: Inherited and Transformed Traditions in Southwestern Niger. In *Cultural Transmission and Material Culture: Breaking Down Boundaries*, edited by M.T. Stark, B.J. Bowser, and L. Horne, pp. 150-177. The University of Arizona Press, Tucson.

Greenfield, Patricia M., Ashley M. Maynard, and Carla P. Childs

2003 Historical Change, cultural learning, and cognitive representation in Zinacantec Maya Children. *Cognitive Development* 18: 455-487.

Habicht-Mauche, Judith A.

1993 *The Pottery from Arroyo Hondo Pueblo, New Mexico: Tribalization and Trade in the Northern Rio Grande.* Arroyo Hondo Archaeological Series, vol. 8, D.W. Schwartz, general editor. SAR Press, Santa Fe.

2022 Linda Cordell and the Tijeras Pueblo Ceramics Project. In *Linda Cordell: A Gift for Detail, Passion, and Innovation in Archaeology, and Beyond,* edited by M. McBrinn and D. Huntley. Museum of New Mexico Press, Santa Fe, in press.

Habicht-Mauche, Judith A., and Suzanne L. Eckert

2021 Coalescence and the Spread of Glaze Painted Pottery in the Central Rio Grande: The View From Tijeras Pueblo, NM. *American Antiquity* 86 (4).

Hammack, Laurens C.

1966 *The Tunnard Site: A Fourteenth Century Ruin Near Albuquerque, New Mexico.* Museum of New Mexico Research Records, No. 3. Museum of New Mexico Press, Santa Fe.

Ingold, Tim

1993 The Temporality of the Landscape. *World Archaeology* 25(2): 152-174.

2013 *Making: Anthropology, Archaeology, Art, and Architecture.* Routledge, London.

Judge, W. James

1974 *The Excavation of Tijeras Pueblo 1971-1973: Preliminary Report.* Archaeological Report No. 3, Cibola National Forest, New Mexico. U.S.D.A. Forest Service, Southwestern Region. Albuquerque.

Kidder, A.V., and C.A. Amsden

1931 *The Pottery of Pecos, Volume 1: The Dull-Paint Wares.* Papers of the Phillips Academy. South West Expedition, no. 5. Yale University Press, New Haven.

Kowalewski, Stephen A.

2006 Coalescent Societies. In *Light on the Path: The Anthropology and History of the Southeastern Indians*, edited by T.J. Pluckhahn and R. Ethridge, pp. 94-122. University of Alabama Press, Tuscaloosa.

Larson, Dorothy L.

2013 *Albuquerque the Frontier? Exploring Migration and Social Identity in the Albuquerque Area During the Late Developmental to Coalition Period Transition.* Ph.D. dissertation, Department of Anthropology, University of New Mexico, Albuquerque. https://digitalrepository.unm.edu/anth_etds/40

Lippard, Lucy R.

2010 *Down Country: The Tano of the Galisteo Basin, 1250-1782*. Museum of New Mexico Press, Santa Fe.

Lyons, Patrick D., and J.J. Clark

2012 A Community of Practice in Diaspora: The Rise and Demise of Roosevelt Red Ware. In *Potters and Communities of Practice: Glaze Paint and Polychrome Pottery in the American Southwest, A.D. 1250 to 1700*, edited by L.S. Cordell and J.A. Habicht-Mauche, pp 19-33. Anthropological Papers Series. University of Arizona Press, Tucson.

Mera, H.P.

1935 *Ceramic Clues to the Prehistory of North Central New Mexico.* Laboratory of Anthropology Technical Series Bulletin, no. 8. Santa Fe.

Oakes, Yvonne R.

1979 *Excavations at Deadman's Curve, Tijeras Canyon, Bernalillo County, New Mexico.* Laboratory of Anthropology Note No. 137. Santa Fe.

Ortman, Scott G.

2012 *Winds from the North: Tewa Origins and Historical Anthropology*. University of Utah Press, Salt Lake.

Ramenofsky, Ann F., Kari L. Schleher, and Ariane O. Pinston

2017 Situating San Marcos: Space, Time, and Tradition. In *The Archaeology and History of Pueblo San Marcos*, edited by A.F. Ramenofsky and K.L. Schleher, pp. 25-38. University of New Mexico Press, Albuquerque.

Rouse, Irving

1960 The Classification of Artifacts in Archaeology. *American Antiquity* 25(3): 313-323.

Stubbs, S.A., and W.S. Stallings

1953 *The Excavation of Pindi Pueblo, New Mexico.* Monographs of the School of American Research, no. 18. Museum of New Mexico Press, Santa Fe.

Wallaert, H.

2008 The Way of the Potter's Mother: Apprenticeship Strategies Among Dii Potters from Cameroon, West Africa. In *Cultural Transmission and Material Culture: Breaking Down Boundaries*, edited by M.T. Stark, B.J. Bowser, and L. Horne, pp. 178-198. The University of Arizona Press, Tucson.

Warren, A. Helene

1980 Appendix C. Technological Notes on the Pottery of San Antonio de Padua (LA 24), Bernalillo County, New Mexico. In *Archaeological Excavations at San Antonio de Padua, LA 24, Bernalillo County, New Mexico*, edited by Alan Dart, pp. 388-403. Laboratory of Anthropology Note No. 167. Santa Fe.

Wenger, Etienne

1998 *Communities of Practice: Learning, Meaning, and Identity.* Cambridge University Press, Cambridge.

Wiseman, Regge N.

1980 *The Carnue Project: Excavation of a Late Coalition Period Pueblo in Tijeras Canyon,*

New Mexico. Laboratory of Anthropology Note No. 166. Santa Fe.

Table 1. Frequency of white ware ceramic types in analyzed sample from 1970s University of New Mexico Field School Excavations at Tijeras Pueblo (LA 581).

Type	Number	Percent
Mineral Painted		
Casa Colorado B/W	3	< 1%
Chupadero B/W	69	5%
Kwahe'e B/W	4	< 1%
Socorro B/W	33	2%
Tularosa B/W	10	1%
Indeterminate Mineral Painted	16	1%
Total Mineral Painted:	**135**	**9%**
Carbon Painted		
Galisteo B/W	432	29%
Galisteo B/W, *var. Kendi*	37	2%
Galisteo B/W, *var. Tijeras*	79	5%
Rowe B/W	4	< 1%
Santa Fe B/W	358	24%
Santa Fe B/W, *var. Pindi*	9	1%
Santa Fe B/W, *var. Tijeras*	139	9%
Wiyo B/W	80	5%
Indeterminate Carbon Painted	182	12%
Total Carbon Painted:	**1320**	**88%**
Indeterminate (no paint)	50	3%
TOTAL:	**1505**	**100%**

Figure 1. Map showing core area for production of Santa Fe Black-on-white in the Española Basin (dark gray oval) and Galisteo Black-on-white in the Galisteo Basin (light gray oval).

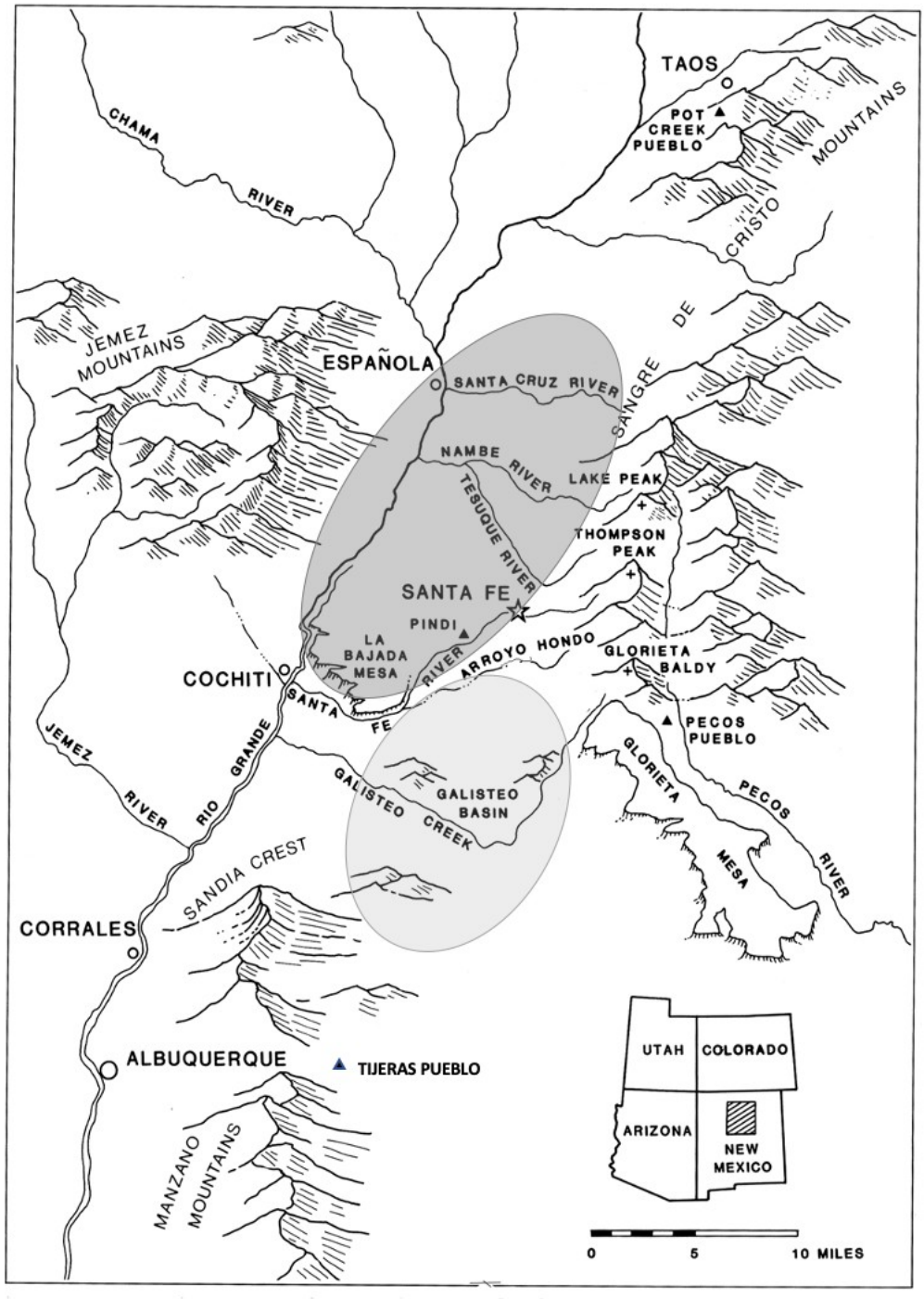
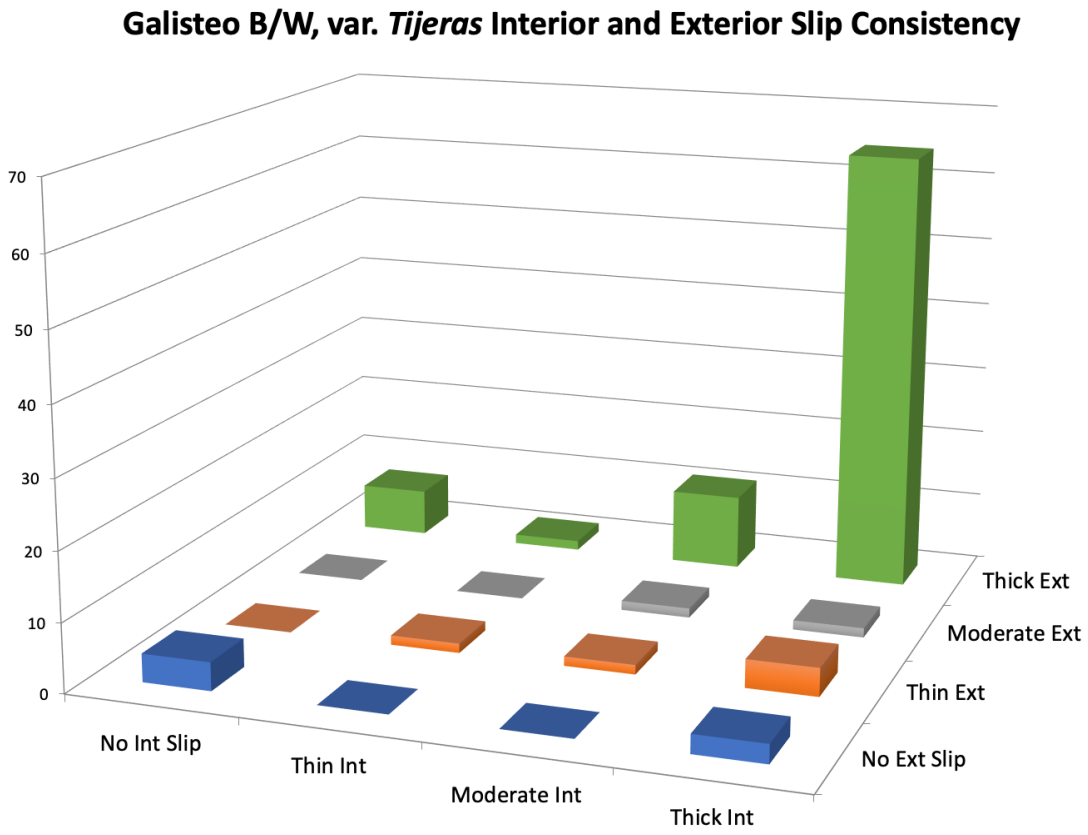


Figure 2. Santa Fe Black-on-white bowl recovered from UNM excavations at Tijeras Pueblo (LA 581). Catalogue No. 78.67.336. Courtesy of the Maxwell Museum of Anthropology, University of New Mexico.

Figure 3. Comparison of interior and exterior slip consistencies on carbon-painted white ware bowl sherds with lithic sand or lithic sand and sherd temper from Tijeras Pueblo (LA 581), classified as *Tijeras* varieties of Santa Fe and Galisteo black-on-white.


Galisteo B/W, var. *Tijeras* Interior and Exterior Slip Consistency
70
60
50
40
30
20
10
0
No Int Slip
Thin Int
Moderate Int
Thick Int
Thick Ext
Moderate Ext
Thin Ext
No Ext Slip

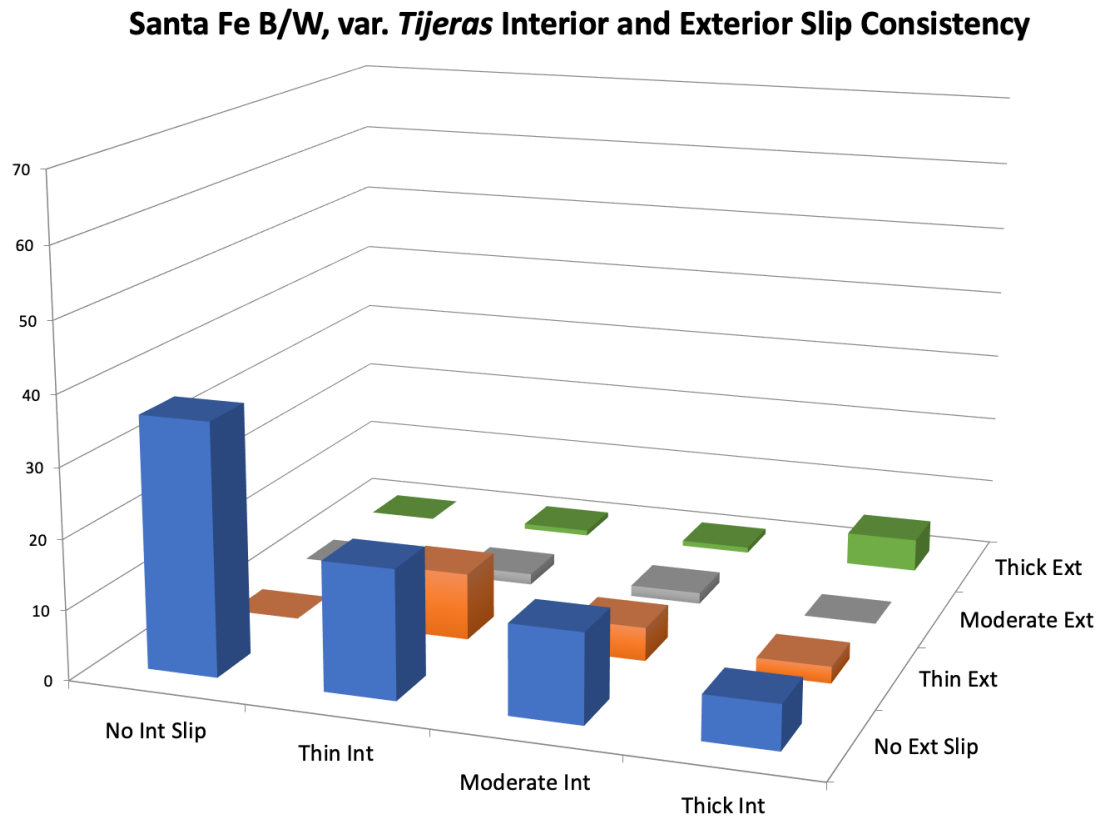


Figure 4. Relative ratio of lip forms by type or sorting group on carbon-painted white ware bowl rims from Tijeras Pueblo (LA 581).

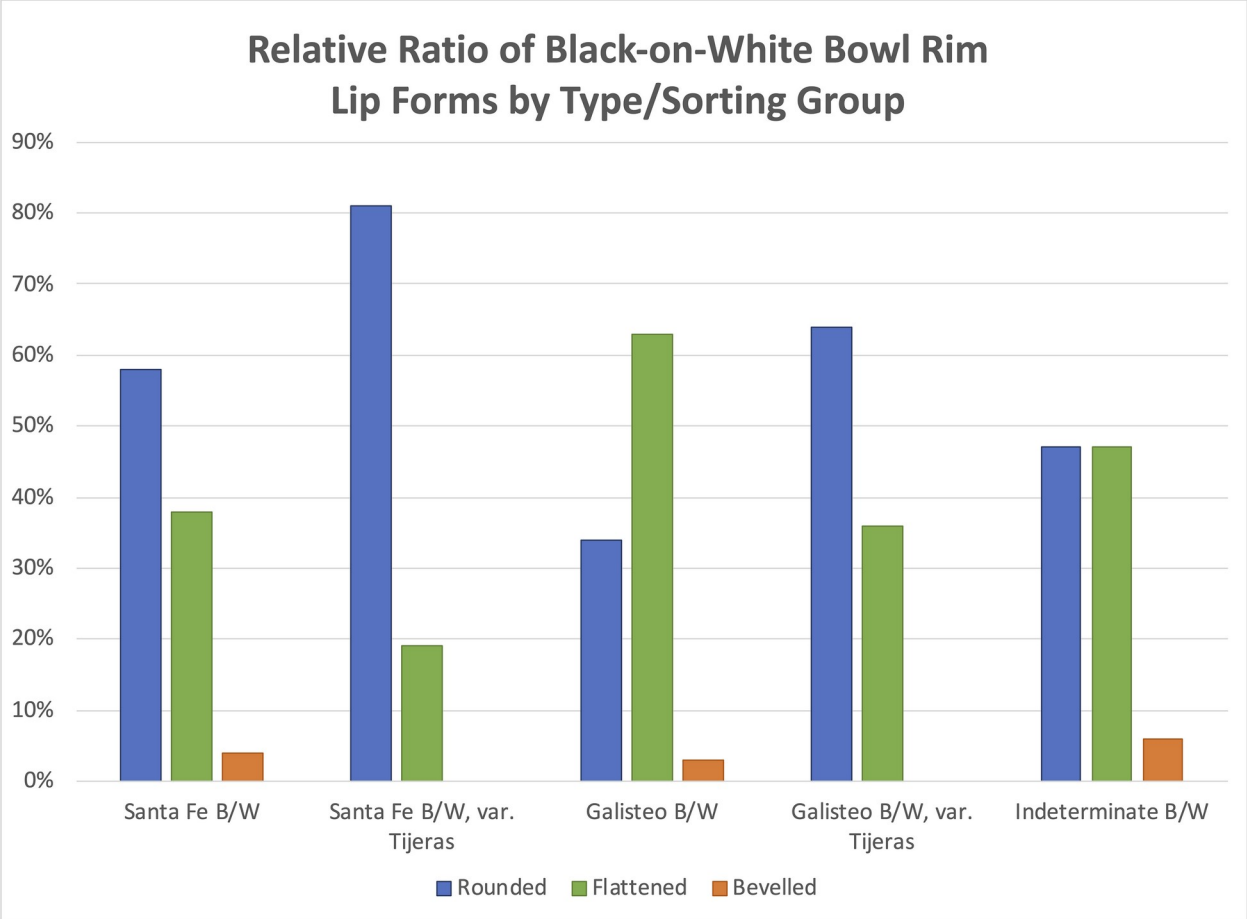


Figure 5. Relative distribution of temper/paste sorting groups among indeterminate (untyped) carbon-painted white wares from Tijeras Pueblo (LA 581). The Miscellaneous group contains more than 60 distinct temper/paste sorting groups.

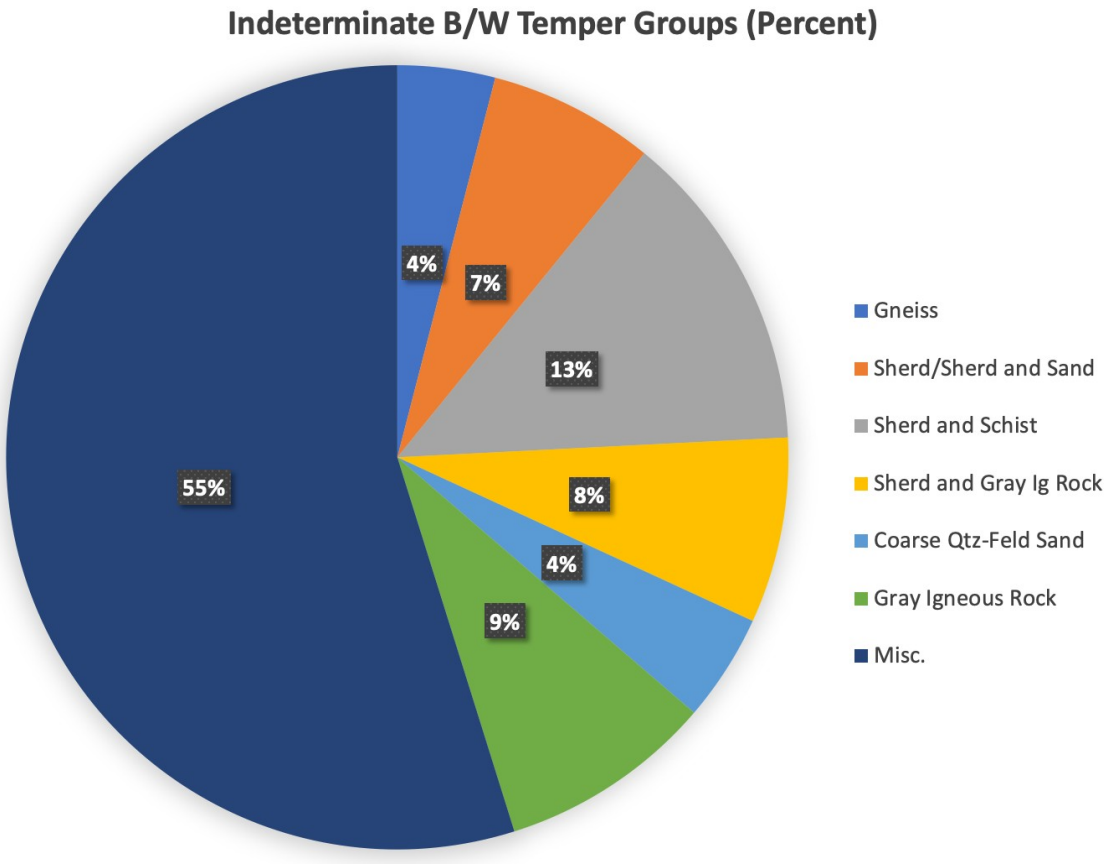


Figure 6. Variability of interior and exterior slip consistencies on indeterminate (untyped) carbon-painted white ware sherds from Tijeras Pueblo (LA 581).

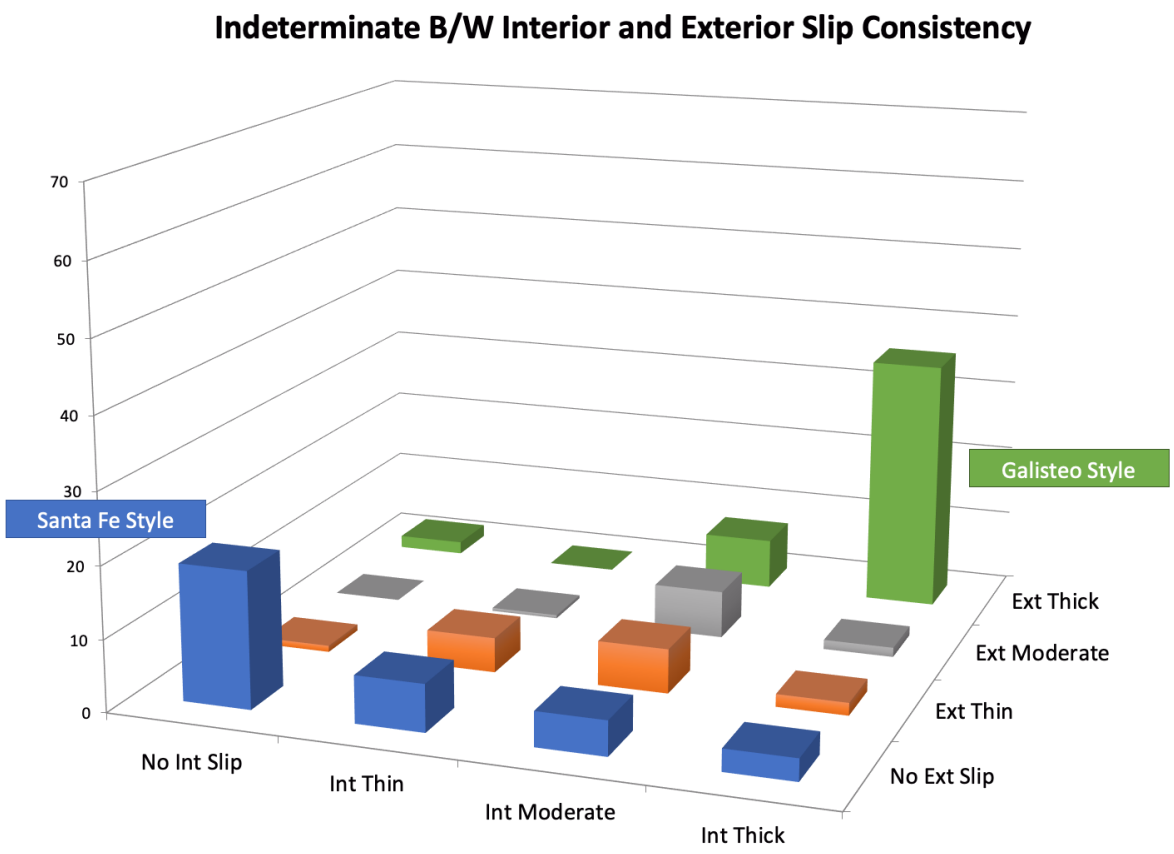


Figure 7. Relative frequency of Santa Fe (no slip/thin slip) and Galisteo (thick slip) style carbon-painted white ware types by temporal component at Tijeras Pueblo (LA 581).

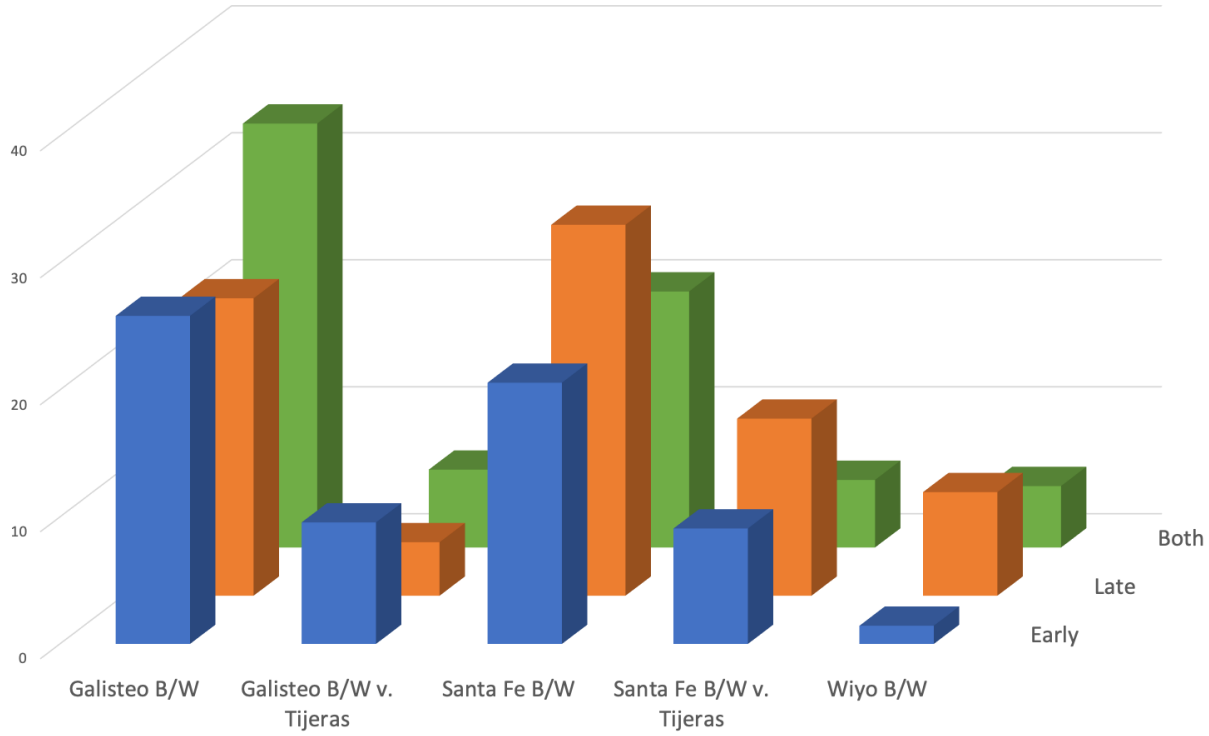


Figure 8. Maria Martinez at San Ildefonso Pueblo (ca. 1940) showing a young potter how to finish a pot using a mentor-guided closed learning strategy (000-099-0564). Courtesy of the Southwest Research Center, University Libraries, University of New Mexico.