



Compositional analysis of Intermountain Ware pottery manufacturing areas in western Wyoming, USA

Judson Byrd Finley^{a,*}, Laura L. Scheiber^b, Jeffrey R. Ferguson^c

^a Department of Sociology, Social Work, and Anthropology, 0730 Old Main Hill, Utah State University, Logan, UT 84322-0730, USA

^b Department of Anthropology, Indiana University, 701 E. Kirkwood Ave., Student Building 130, Bloomington, IN 47405, USA

^c Archaeometry Laboratory, University of Missouri Research Reactor, 1513 Research Park Drive, Columbia, MO 65211, USA

ARTICLE INFO

Keywords:

Intermountain Ware
Shoshone
Neutron activation analysis
Petrography
Greater Yellowstone Ecosystem

ABSTRACT

In this study we examine 50 sherds from four archaeological sites to understand ceramic vessel source area variation in western Wyoming. Intermountain Ware ceramics are a diagnostic marker of Shoshone ethnicity, and our central hypothesis explores changing mobility during the Late Prehistoric and Historic Periods, ca. 1500–1870 CE. We use neutron activation analysis (NAA) for bulk paste chemical analysis and thin-section petrography to characterize clay and temper mineralogy. NAA places ceramic artifacts into eight groups with little overlap between sites in southwest and northwest Wyoming. Temper composition supports NAA groups indicating that ceramic vessels in this sample were made locally and not transported long distances before their eventual discard.

1. Introduction

More than a decade of drought, coupled with invasive bark beetle species, has left forests in the Greater Yellowstone Ecosystem (GYE) prone to major wildland fires that have burned vast stretches of remote wilderness. Archaeological discoveries in the aftermath of fires have documented significant archaeological sites, and many of those associated with complex bighorn sheep (*Ovis canadensis*) drivelines and catch pens (Frison et al., 1990) evidence a transitional material culture that includes both stone and metal arrow points, flintlock rifle parts, glass trade beads, cut metal, and worked glass (Eakin, 2005; Scheiber and Finley, 2010, 2011a; Todd, 2015). Another pattern identified during post-fire surveys is that of high-altitude (> 3050 m ASL) alpine villages in the Wind River Range apparently focused on harvesting whitebark pine (*Pinus albicaulis*) seeds and bighorn sheep (Adams, 2010; Morgan et al., 2012; Losey, 2013; Stirn, 2014). Fragmented Intermountain Ware ceramic vessels are a common occurrence linking the sites to Mountain Shoshone bands (Larson and Kornfeld, 1994; Scheiber, 2015). Relatively few studies document native ceramic traditions in the North American Central Rocky Mountains (Finley and Boyle, 2014; Finley et al., 2017; Ideker et al., 2017) and, in light of these recent discoveries, provenance analysis is essential to emerging understandings of Late Prehistoric to Historic Period (ca. 1500–1870 CE) mobility patterns and ethnic identity.

Specifically we question the pre-contact reality of an ethnographic

record that joined the Mountain Shoshone of the GYE with neighboring horse-mounted bands who hunted Wyoming's intermontane basins to form the sociopolitical Eastern Shoshone Tribe on the Wind River Reservation (Shimkin, 1986; Stamm, 1999). We are only now beginning to understand the disparate social histories of regional land use of several distinct groups. For example, based on an analysis of sourced obsidian artifacts from western Wyoming, Finley et al. (2015) proposed two distinctive prehistoric conveyance zones: a northern one centering on the Yellowstone Plateau (including Obsidian Cliff in Wyoming and Bear Gulch in Idaho), and a southern one centered on the Wyoming Basin (including Malad in Idaho). Although obsidian was found at some distances from the sources, artifacts from northern sources were rarely found in the south, and vice-versa (see also Bohn, 2007; Scheiber and Finley, 2011b; Morgan et al., 2016). The pattern instead suggests west-east movement rather than strictly north-south, which was expected given ethnographic literature. These data expand upon an ethnographic pattern that linked the Wyoming Basin and Greater Yellowstone Ecosystem, among other areas, in an annual round during the nineteenth century. Finley et al. (2015) conclude that pre-contact Shoshone bands in the Wyoming Basin (Buffalo Eaters) maintained deeper connections with groups from the northeastern Great Basin, while those to the north in the GYE (Sheep Eaters) were traditionally linked to those in the Snake River Plain. The obsidian data also complicate Adams's (2006) reconstruction of Shoshone regional land use based on the distribution of steatite cooking vessels that mirror Intermountain Ware vessels in

* Corresponding author.

E-mail addresses: judson.finley@usu.edu (J.B. Finley), scheiber@indiana.edu (L.L. Scheiber), fergusonje@missouri.edu (J.R. Ferguson).

form. Soapstone bowls have been found widely throughout western Wyoming, with higher densities in the high altitudes of the GYE, commiserate with an increased numbers of known sources. However, they are rarely found on the western side of the continental divide, which is a topic that should be explored in more detail. In this study we further examine presumed social connections between the GYE and Wyoming Basin by focusing on the geological composition of Intermountain Ware pottery vessels. We present the results of a pilot provenance analysis of 50 sherds from four archaeological sites in both the Wyoming Basin and the Absaroka Range, two adjacent physiographic provinces with contrasting geological histories. Because of geological differences, we hypothesized that ceramics from these areas will have disparate chemical and mineralogical signatures and may thus provide evidence for movement of people and/or pottery between these areas. If Shoshone bands moved fluidly throughout western Wyoming (i.e., if groups residing in these two areas were not ethnically distinct) during the terminal Late Prehistoric and/or early Historic periods, Intermountain Ware ceramics should evidence diverse clay and temper mineralogy from both regions. Of course, ceramic vessels may have been transported over large areas as part of mobile domestic toolkits, a reasonable assumption given the results of sourcing studies in the northern Great Basin that demonstrate movement of ceramic vessels over great distances (Lyons and Cummings, 2002) and Adams's (2006) distribution of heavy steatite vessels at great distances from their sources. We also proposed that if mobility declined during the Historic period and Shoshone bands moved less frequently between the Wyoming Basin and Absaroka Mountains, clay and temper mineralogy of Intermountain Ware pottery should reflect only local manufacture. The purpose of this paper is to demonstrate the extent of chemical and mineralogical differences between ceramic assemblages manufactured in different physiographic provinces, as a baseline for future hypothesis testing. We use neutron activation analysis (NAA) to characterize trace element geochemistry and petrographic analysis to characterize the mineralogy of temper assemblages. Statistical analyses of these data do indicate regional differences in clay composition and temper mineralogy. We here provide a brief review of Mountain Shoshone archaeology and Intermountain Ware pottery in the Wyoming Basin and Absaroka Mountains, outline the geological basis for our hypothesis, and discuss the results and implications of our pilot study. Future research with larger sample sizes will help demonstrate whether pottery sourcing is a reasonable indicator for human mobility throughout the region during the period of interest.

2. Shoshone archaeology in the Central Rocky Mountains

Any investigation into the late period archaeological history of the Central Rocky Mountains and adjacent regions quickly exposes two diametrically opposed schools of thought regarding the antiquity of Shoshone occupations there. Many contemporary scholars attribute the source of this confusion to Sydney Lamb's (1958) glottochronological hypothesis for a Numic origin in the far southwestern Great Basin ca. 1000 CE. Some argue that Numic speakers used ecological niches and new foods, thereby outcompeting and replacing extant populations (Bettinger and Baumhoff, 1982). Proponents of a recent migration (Butler, 1981; Wright, 1978) place the arrival of Numic speakers in the Northern and Central Rocky Mountains, the northern and eastern limits of Numic lands, approximately 750–500 years ago for this is in fact when the suite of material attributes recognized as Shoshone (i.e., Desert-side notched and Cottonwood triangular projectile points, beveled knives, and Intermountain Ware pottery) appear in the archaeological record (Larson and Kornfeld, 1994). Proponents of long-term Shoshone occupations in the Northern and Central Rocky Mountains (Finley et al., 2015; Francis and Loendorf, 2002; Holmer, 1994; Husted, 1995; Husted and Edgar, 2002; Nabokov and Loendorf, 2004; Scheiber and Finley, 2011b) see continuity in stone tool and rock art traditions, along with settlement and subsistence strategies as evidence for long-term

occupations spanning at least the last several millennia.

While we do not attempt to add to this debate here, we clearly identify with those scholars who perceive long-term Shoshone occupations as part of the regional archaeological record. Barring a single mtDNA study from skeletal samples in the far western Great Basin (Kaestle and Smith, 2001), we know of no direct evidence in the Central Rocky Mountains archaeological record for a population replacement ca. 1250–1500 CE that would support a Numic population expansion. What is clear from the ethnographic record is that at Euroamerican contact (typically associated with Lewis and Clark's Corps of Discovery expedition of 1804–1806 CE) people with broadly similar language, social organization, and material culture lived from the High Plains and Rocky Mountains on the east to the Sierra Nevada on the west, and from the Bitterroot Mountains near the 45th parallel to the Mojave Desert on the south (Murphy and Murphy, 1986; Shimkin, 1986). From eastern California to central Wyoming, these Numic-speakers referred to themselves by a variety of food-related terms (i.e., Sheep Eater, Buffalo Eater, Salmon Eater, Seed Eater, Pine Nut Eater). We know that individual membership within these groups was fluid and contextual, and did not necessarily correspond to other material or social markers of difference. What remains unclear but central to our inquiry, however, is when distinct ethnic identities based on food ways emerged (Steward, 1938) and whether or not such an ethnogenesis was a product of colonial processes (Scheiber and Finley, 2010, 2011a, 2012). Furthermore, to what extent can material analysis, namely provenance analysis of ceramic and obsidian artifacts, contribute to our understandings of the emergence of Shoshone ethnicity and territoriality in the contact period archaeological record?

2.1. Intermountain Ware ceramics in the Central Rocky Mountains

Ceramic vessels are a rare component of archaeological assemblages in the North American Rocky Mountains, a fact largely due to the lifeways of mobile hunter-gatherer inhabitants. In the 60 years since Intermountain Ware pottery was first reported (Mulloy, 1958; Wedel, 1954) this unique artifact type has rarely been the focus of study. It is uncommon throughout the region, and usually occurs as small fragments representing single or few vessels. Because sherds are often small, undecorated, and do not vary much in form, they do not easily lend themselves to typological classifications (Finley and Boyle, 2014). Where such typologies have been proposed, they have only proven to fail the tests of spatial and chronological ordering (Larson and Kornfeld, 1994). Thus, Intermountain Ware ceramics remain at the least, temporal diagnostics of the Late Prehistoric period, and at best, markers of Shoshone identity (Janetski, 1991; Kehoe, 1959).

It remains unclear whether the origin of ceramics in the eastern Great Basin, northern Colorado Plateau, and Central Rocky Mountains reflects population movement, diffusion from neighboring groups, or an in situ development of material culture (Eerkens and Lipo, 2014; Finley et al., 2017; Simms, 1994; Sutton and Rhode, 1994). These historical processes characterize our limited understanding of Numic archaeological history. Intermountain Wares are considered poorly made when compared with other ceramic traditions (Pippin, 1986). Construction techniques were varied, and vessel walls are thick with a wide range of temper abundance and grain-size. Firing occurred in both oxidizing and reducing environments and appears to have been executed with little temperature control. Vessels typically follow a classic “flower pot” form with flat, flanged bases, expanding and often shouldered walls, and straight to folded rims. Surface treatment is limited to fingernail or fingertip impressions on either shoulders or rims. Based on direct ages from thermoluminescence (TL) and optically stimulated luminescence (OSL), Intermountain Ware (aka Brownware) pottery first occurred throughout interior western North America approximately 1200 years ago with production persisting well into the nineteenth century AD (Eerkens and Lipo, 2011, 2014; Rhode, 1994). Intermountain Ware pottery from the Central Rocky Mountains in particular

Download English Version:

<https://daneshyari.com/en/article/7445106>

Download Persian Version:

<https://daneshyari.com/article/7445106>

[Daneshyari.com](https://daneshyari.com)