Plain Pots Do Travel: Insights Into Mogollon Early Pithouse Pottery Circulation

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Introduction

Pottery in the Mogollon region, particularly the Mimbres Mogollon, has been the focus of numerous neutron activation analysis (NAA) studies (e.g., Gilman et al. 1994, Powell-Marti and James 2006, Sedig 2015) to discern pottery circulation and social networks throughout the region. Most of these studies, however, have focused on the painted ceramics with little attention given to the undecorated ceramics. Generally, it is assumed that plain, undecorated ceramics represent local production, and thus, offers little insight into issues of pottery circulation. Yet, recent studies (e.g., Glowacki et al. 2015; Jorge et al. 2012) have challenged this notion and suggest that undecorated ceramics can provide insights into pottery circulation.

We present the results of NAA on plain brown ware and red-slipped ceramics to examine pottery production and circulation during the Mogollon Early Pithouse period (AD 200-700). This is the first substantial NAA study in the Mogollon region focusing exclusively on early undecorated pottery. In this poster we highlight the movement of the ceramics and examine pottery circulation from different perspectives: interregional, intraregional, intrasite, and ware type.

This study examines NAA data from 342 plain brown ware and red-slipped pottery samples from 11 Early Pithouse period sites in the Mimbres, Upper Gila, and Mogollon Highlands areas. This sample includes new NAA data from 200 sherds from seven sites and two reconstructed vessels from McAnally, as well as previously published NAA data on 140 sherds from four sites (see *Supplemental Text for references*). All samples were analyzed at the Archaeometry Laboratory at the University of Missouri Research Reactor (MURR). In addition, the Mogollon Mimbres NAA database (Creel and Speakman 2012, 2018), which contains roughly 5,000 pottery samples (including over 160 clay samples) from around the Mogollon region, was used to help assign compositional groups and production locales to the samples.

Map of Regions and Sites Used in This Study

List of Samples Analyzed By Site and Ware Type

Region/Site	Brown ware	Red-slipped	Total
Mimbres			
McAnally (LA 12110)	17*	15	32
Thompson (LA 14976)	24	1	25
Power Site (LA 121158)	5	0	5
LA 129562	18	0	18
LA 59652	92	9	101
LA 54814	16	0	16
Upper Gila			
Winn Canyon (LA 34813)	15	15	30
Two Boots (AZ CC:4:32 (ASM))	23	2	25
Mesa Top (AZ CC:4:12 (ASM))	20	10	30
Mogollon Highlands			
Mogollon Village (LA 11568)	15	15	30
SU (LA 64931)	15	15	30
Total	260	82	342

Newly analyzed samples listed in bold.
* Includes two reconstructed vessel specimens submitted by D. Creel

Compositional Groups and Production Zones

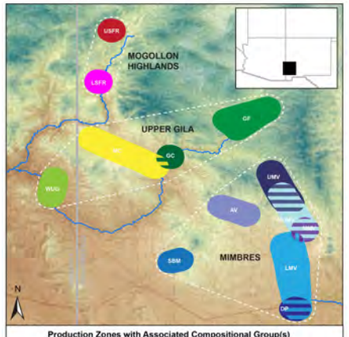
- The compositional groups were defined with MURR's GAUSS statistical routines following the analytical procedures outlined in Glascock (1992) and Neff (2002).
- For the assignment of compositional groups, the new samples were first assigned to provisional groups then these groups were compared to the Mogollon Mimbres NAA database. In addition, the Cibola NAA database (Peeples 2011, 2018) and the Archaeology Southwest NAA database were used to further refine groups in the Mogollon Highlands and Upper Gila, respectively.
- 263 samples were assigned to 23 compositional groups with 79 samples (23%) remaining unassigned.
- With this study, five new compositional groups (M-52, M-53, M-54, M-55, South) were added to the Mogollon Mimbres NAA database.
- Possible production zone locales were assigned building off the previous work by Creel and Speakman (see 2012, 2018 for details).
- It should be stressed that many of the production zone assignments are tentative and may change with future NAA data. Furthermore, there is a strong bias towards the Mimbres region over the Upper Gila and Mogollon Highlands in terms of number of NAA samples and identified production zones.
- Only a little over half (55%) of the samples were produced in the same general area in which they were found.

Frequency of Pottery by Production Area*

	Local	Intraregional	Nonlocal	Total
Brown ware	116 (57%)	64 (32%)	22 (11%)	202
Red-slipped	29 (48%)	18 (30%)	14 (23%)	61
Total	**145 (55%)**	**82 (31%)**	**36 (14%)**	**263**

*Unassigned omitted

Local = production same general area as site
Intraregional = production outside of local but within region
Nonlocal = production outside of region



Production Zones with Associated Compositional Group(s)

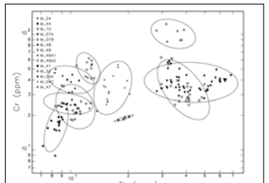
MIMBRES
- Arenas Valley (AV) — M-24, M-44
- Southern Buno Mountains (SBM) — M-10
- Lower Mimbres Valley (LMV) — M-48, M-49A1
- Deming Plain (DP) — M-07A, M-07B
- Middle Mimbres Valley (MMV) — M-41
- Middle to Upper Mimbres Valley (MUMV) — M-52
- Upper Mimbres Valley (UMV) — M-04A, M-04C, M-47, M-49, M-49A2

MOGOLLON HIGHLANDS
- Lower San Francisco River (LSFR) — M-55
- Upper San Francisco River (USFR) South

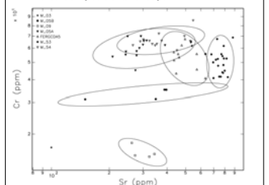
UPPER GILA
- Gila Forks (GF) — M-03, M-05B, M-09
- Gila Cliff (GC) — M-05A
- Mule Creek (MC) — FergCDAS
- Western Upper Gila (WUG) — M-53, M-54

Kilometers

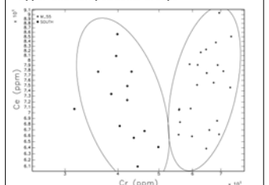
Possible Locales for Production Zones



Mimbres Compositional Groups



Upper Gila Compositional Groups



Mogollon Highlands Compositional Groups

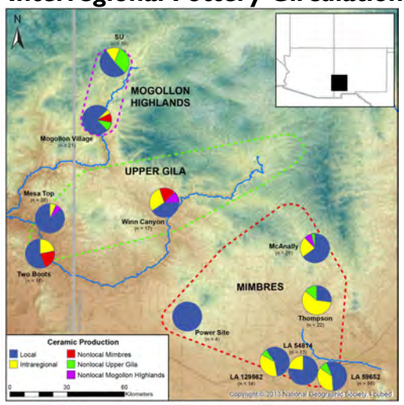
Bivariate Plots of Compositional Groups by Region (Ellipses represent 90% confidence intervals for group membership)

Production Zones/Compositional Groups Assignments by Site

	AV	SBM	DP	LMV	MMV	MUMV	MMV			GF		GC	MC	WUG	LSFR	USFR		
	M-24	M-44	M-10	M-07A	M-07B	M-48	M-49A1	M-41	M-52	M-04A	M-04C	M-47	M-49	M-49A2	M-03	M-05B	M-09	M-05A	FergCDAS	M-53	M-54	M-55	South	Unassigned	Total Known
McAnally		1				5			10	3	2			1			1						2	7	25
Thompson		1		4		2			7		5						3							3	22
Power Site			4																					1	4
LA 129562			4	3	1	2			2										1					5	13
LA 59652	1		12	33	6	5	1	2	2	1	4	9	1	2	1	7								17	84
LA 54814			2	9							1													4	12
Winn Canyon											1			2				7	5			2		13	17
Two Boots		1									2			1				4		1	9			7	18
Mesa Top																		2		17	7	2		2	28
Mogollon Village												1		1					2			16	1	9	21
SU																			3	3		3	10	11	19
Total	1	2	23	49	7	14	1	2	21	4	15	10	1	7	1	7	4	14	10	21	16	23	13	79	263

Mimbres | Upper Gila | Mogollon Highlands

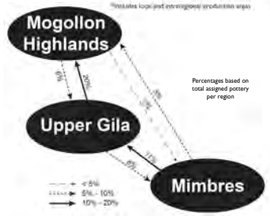
Interregional Pottery Circulation



Distribution of Production Area by Site

	Within Region*	Nonlocal	Total
Mimbres	145 (91%)	15 (9%)	160
Upper Gila	52 (83%)	11 (17%)	63
Mogollon Highlands	30 (75%)	10 (25%)	40
Total	**227 (86%)**	**36 (14%)**	**263**

*Includes local and intraregional production areas



Schematic Diagram of Nonlocal Pottery Circulation

- Although movement of vessels occurred between all three regions, pottery circulation is more frequent between regions that are closer in proximity to one another.
- In general, the movement of vessels between the regions is reciprocal.

Brown ware vs. Red-slipped Pottery Circulation

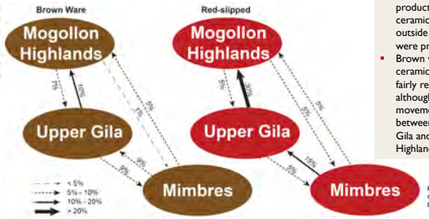
	Within Region*	Nonlocal	Total
Brown ware	180 (89%)	22 (11%)	202
Red-slipped	47 (77%)	14 (23%)	61
Total	**227 (86%)**	**36 (14%)**	**263**

*Includes local and intraregional production areas

$\chi^2 = 4.79$, $df = 1$, $p = 0.03$

Brown ware sherd found in Unit 11 at McAnally - from the Gila Forks production zone (M-09)

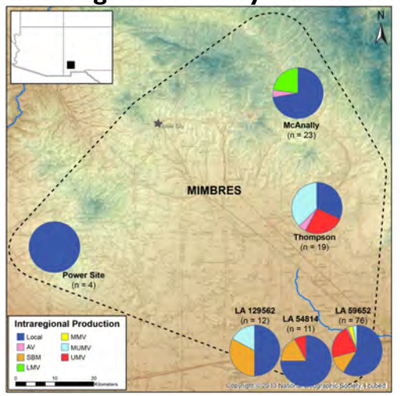
Red-slipped sherd found in Pithouse 12 at Mogollon Village - from the Upper Mimbres Valley (M-49A2)



Schematic Diagram of Nonlocal Pottery Circulation by Ware Type

- There is a significant difference between the ware types in terms of within region and nonlocal production with the red-slipped ceramics found more often outside of the region in which they were produced.
- Brown ware and red-slipped ceramics moved within the same fairly reciprocal networks, although the red-slipped pottery movement is more asymmetrical between the Mimbres and Upper Gila and Upper Gila and Mogollon Highlands regions.

Intraregional Pottery Circulation



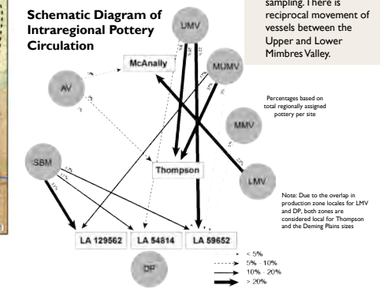
Distribution of Intraregional Production Zones by Site

	Local	Intraregional	Total
LA 54814	9 (75%)	3 (25%)	13
LA 59652	45 (59%)	31 (41%)	76
LA 129562	6 (50%)	6 (50%)	12
McAnally	16 (73%)	6 (27%)	22
Power	4 (100%)	0	4
Thompson	6 (32%)	13 (68%)	19
Total	**86 (59%)**	**59 (41%)**	**145**

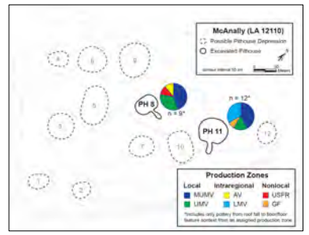
*Note: excludes outliers.

- In the Mimbres region, with the exception of the Power site, at least 25% of the pottery was acquired from outside the local production zone of a site.
- Although pottery movement appears mostly unidirectional, this may be due to sampling. There is reciprocal movement of vessels between the Upper and Lower Mimbres Valley.

Schematic Diagram of Intraregional Pottery Circulation



Intrasite Pottery Circulation

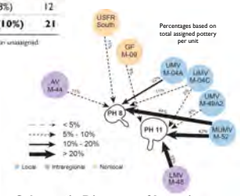


Distribution of Production Zone by Pithouse
(Map adapted from Anyon et al 2001: Figure 10.4)

	Local	Intraregional	Nonlocal	Total*
Unit 8	7 (78%)	1 (11%)	1 (11%)	9
Unit 11	7 (58%)	4 (33%)	1 (8%)	12
Total	**14 (55%)**	**5 (24%)**	**2 (10%)**	**21**

*For Unit 8, 4 sherds (31%) and for Unit 11, 1 sherd (8%) remain unassigned

- Multiple compositional groups were represented from the pottery found in the roof fall to floor context of pithouses 8 and 11.
- The pithouses not only varied in terms of the local compositional groups used, but also in terms of obtaining pottery from areas within and outside of the region.



Schematic Diagram of Intrasite Pottery Circulation

Discussion

Despite the fact that sample sizes are relatively small and the Mogollon Mimbres NAA dataset is heavily weighted towards the Mimbres region, some general patterns of pottery circulation can be discerned at an interregional, intraregional, and intrasite scale.

Given the large number of compositional groups defined for this project, it is clear that pottery production was widespread throughout the Mogollon Early Pithouse period.

Although proximity to production source played a major role in pottery acquisition, the appreciable amount of pottery circulation within and between regions, sites, and pithouses, suggest that social boundaries were open and fluid at multiple scales during the Early Pithouse period.

There appears to be mostly reciprocal movement of vessels within and between regions, which may suggest recurrent interaction in these areas; however, whether this interaction is related to seasonal rounds and/or ceremonialism is unknown.

Both ware types participated in the same circulation networks; however, a higher percentage of red-slipped ceramics moved long-distances (between regions) than the brown ware, which may suggest they were involved in different social processes.

In general, only 55% of the pottery was produced in the same area in which it was found; therefore, movement was involved in the acquisition of a considerable amount of pottery. This is consistent with recent research (e.g., Diehl 2007), which suggests that mobility remained an important practice during the Early Pithouse period. Future research needs to focus on the chronology of these sites/structures to determine if the NAA data can better define the mobility patterns during the Early Pithouse period.

REFERENCES

See the supplemental text associated with this poster for complete listing of the citations.

ACKNOWLEDGEMENTS

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