

**Application Requesting Support for Characterization of Archaeological Specimens  
by NAA, XRF or ICP-MS in the Archaeometry Lab at MURR**

Please complete all requested information and send to Dr. Glascock along with your MINI-PROPOSAL & CURRICULUM VITA before April 15 or December 1 of each year.

1. Title of project:

Community Formation, Mobility, and Resettlement in the El Morro Valley, New Mexico, AD 1200-1300

2. Applicant's name, address, telephone number, FAX number, and e-mail address:

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3. Names of other project participants (if any):

Graduate Advisor: Dr. Keith K

4. Starting date of the proposed project:

March 2004

5. Quantities and types of specimens for which NAA is being requested:

580 ceramic sherds  
30 clay samples

6. List external sources of funds through grants or contracts supporting this project:

I am currently applying for a National Science Foundation Dissertation Improvement Grant. The project will also be supported by funds from the Department of Anthropology at ASU.

Greg Schachner

November 28, 2003

submitted electronically

Signature

Date

## COMMUNITY FORMATION, MOBILITY, AND RESETTLEMENT IN THE EL MORRO VALLEY, NEW MEXICO, AD 1200-1300

Many of the most significant changes in social organization in the American Southwest correspond with periods of widespread population movement and the formation of new communities. Although mobility has received considerable research attention, its corollary, resettlement, is less well known. Disruption of existing social networks and settlement systems requires their reestablishment in destination areas. Regardless of whether this involves the integration of migrant groups within host populations, or the creation of entirely new systems, opportunities arise for the transformation of previous social norms and structures. By studying resettlement we are able to understand how various patterns of mobility affect the formation of communities, and through that process, the cultural construction of communities themselves.

Mobility is one of the key concepts employed in the study of the long-term development of prehistoric communities and societies in the American Southwest. In the past few decades, dichotomous treatments of sedentism and mobility have been re-evaluated (Lekson 1990; Nelson 2000; Rocek 1996), and Southwest archaeologists have approached studies of movement by agricultural groups with renewed vigor. Two of the most important trends have been a re-conceptualization of the frequency and importance of supra-annual residential mobility as a factor contributing to continuity and change in local settlement systems (Adler 1990; Nelson and LeBlanc 1986; Nelson 1999; Varien 1999), and a renewed appreciation of the role of migration in influencing both local and regional social systems (Bernardini 2002; Cameron 1995; Clark 2001; Herr 2001; Lyons 2003; Stark et al. 1995). Studies of both of these types of mobility have attempted to understand how movement contributes to processes of community maintenance and formation (Adams 2002; Clark 2001; Herr 2001; Nelson 1999; Varien 1999).

Movement and subsequent periods of resettlement can be seen as generative, providing contexts within which community structure, organization, and composition are malleable (Nelson 2000; Pauketat 2003). By studying the linkage between movement, resettlement, and community formation at a local level, we can gain insight into the changes in social structures and practices that are implicated in larger social transformations (Pauketat 2003). Many of the fundamental shifts that occurred in the Southwest, such as trends toward aggregation (Fish et al. 1994), the rise of new ritual systems (Adams 1991; Crown 1994), and the creation of distinctive, region-wide social identities (Duff 2002; Lyons 2003) had community level implications and occurred during or soon after periods of substantial population movement and resettlement. How movement affects community social structures and leads to widespread trends is not well understood, in part because the circumstances and effects of mobility at a local level are often obscured in the archaeological record.

I propose to examine the process of community formation following a massive population influx into the El Morro Valley of west-central New Mexico during the AD 1200s (Figure 1). During this period, hundreds of ancestral Puebloan farmers moved into this high-elevation valley, constructing scores of roomblocks in an area largely devoid of previous settlement. The scale and rapidity of this process suggests that populations were drawn from throughout the surrounding region, attracting households and larger groups that likely had little prior social interaction. During a brief interval the new residents constructed a variety of aggregated communities with diverse spatial configurations and types of public architecture. All of these communities were short-lived, and were soon transformed by a shift toward the occupation of large, nucleated pueblos each containing hundreds of rooms. Although the outlines of the settlement trends in the area are relatively well known, the scale of movement involved, the variation in community spatial form and rapidity of settlement, and the type and size of social groups that participated in their creation are open to question. By coupling recent perspectives on mobility and community formation, the proposed research will yield insights into the process by

which communities were negotiated and formed in the novel social milieu created by large-scale movement of human populations into a previously vacant zone.

To examine this process, I propose to address questions of community chronology, settlement structure, social composition, and social interaction through a number of methods. First, this research will synthesize the large, existing body of archaeological survey data from the El Morro Valley area. A number of systematic surveys have been conducted in the valley over the last three decades providing a unique opportunity to examine the spatial and chronological structure of El Morro communities. Variability in architectural and spatial patterns will be examined as a means to address differences in community structure and organization. Systematic surface collections of ceramics will be analyzed to gain insights into the temporal trajectory of community formation. Second, numerous studies in the Southwest have utilized compositional analyses of ceramics to track exchange ties within migrant communities (Bernardini 2002; Lyons 2003; Triadan 1997; Zedeño 1994, 2002). This research has built upon cross-cultural studies of migration that indicate migrants maintain exchange ties reflective of their origins (Anthony 1990; Duff 1998; Schwartz 1970; Stone 1996). This observation can be leveraged to assess variability in the social composition of migrant communities (Adams 2002; Bernardini 2002; Clark 2001; Herr 2001; Lyons 2003; Triadan 1997; Zedeño 1994, 2002). Examination of the variability in ceramic exchange within and between four El Morro Valley communities will be utilized to understand the diversity and types of social groups involved in community formation. The coupling of the examinations of settlement structure and exchange ties will provide multiple lines of evidence for assessing the variability of resettled social groups and resulting effects on community structure, organization, and chronology.

## PROJECT METHODOLOGY AND THE ROLE OF INAA

The proposed study of community formation in the El Morro Valley will draw upon two primary data sets: detailed studies of variation in community settlement histories and compositional analyses of Cibola area ceramics. The proposed research will build upon a number of previous studies of the region employing these techniques (LeBlanc 1978; Kintigh 1985, 1996; Saitta 1994 for the former, Duff 2002; Mills 1995; Huntley 2004 for the latter, and Duff 1993; Stone 1992 for both). These methodologies will be coupled to reveal information concerning community history, structure, and social composition. Settlement pattern analyses will utilize a large, systematic body of archaeological survey data from the El Morro Valley (Huntley and Schachner 1998; LeBlanc 1978; Saitta 1994; Watson et al. 1980). In addition, the El Morro case has long been the subject of intensive chronological and ceramic seriation analyses (Duff 1996; LeBlanc 1975; Marquardt 1978), allowing for a finely detailed, diachronic study of changes in settlement pattern, composition, and architecture that will help elucidate patterns of community formation. The compositional component of this project is aimed at examining the social diversity and origins of groups migrating into the El Morro Valley during the 13th century. Many INAA studies over the past fifteen years have been key components of examinations of migration and population movement (Bernardini 2002; Duff 2002; Lyons 2003; Triadan 1997; Zedeño 1994, 2002) and serve as models for interpreting patterns in the movement of ceramics in the past. The remainder of this proposal concentrates on the theoretical and methodological underpinnings of the compositional analysis component of my research.

### *Population Movement and Compositional Studies*

Most recent studies in the Southwest have suggested that migration events are enacted at social levels below the entirety of the community. Drawing upon both cross-cultural literature

and Southwest ethnography Herr and Clark (1997) and Duff (1998) state that households are the most common units of migration. Other readings of Southwest ethnography and oral tradition highlight the importance of slightly larger social groups, such as clans (Bernardini 2002). Migration occurring primarily at smaller social scales would result in the formation of composite communities with diverse social origins and ties (Bernardini 2002; Cordell 1995; Schwartz 1970). It should be noted however, that most of these studies address long-distance, inter-regional migration events. It is unclear if this pattern also holds true for the types of movement involved during colonization of the El Morro Valley. Although the valley was largely unoccupied prior to the AD 1200s, large residential populations were located nearby (within 30 km). Some of the groups moving into the valley likely derived from these proximal areas. However, most of these areas, such as the modern Zuni Reservation, remained heavily occupied throughout the 1200s, and exhibit little evidence for population decline. On the contrary, recent studies suggest population grew slightly over this interval in these areas (Kintigh et al. n.d.). Thus some groups moving into the valley must have come from more distant parts of the Cibola region. Currently, there is no evidence for interregional migration into the Cibola area prior to AD 1350 or so (Kintigh 1985; Schachner n.d.), suggesting that most of the movement into the El Morro Valley can be considered an intraregional population shift. Less is known about the unit of movement in these types of situations, thus we should not rule out the possibility that some communities may have moved more or less intact into the El Morro Valley.

Researchers focusing on the settlement of frontiers often make note of the importance of recruitment of homeland populations by early pioneers. Frontier situations are characterized by a lack of people necessary for laborious tasks, to fulfill social roles, and to provide adequate social networks for reproduction and the acquisition of economic necessities (Herr 2001; Stone 1996). This often leads the earliest migrants to recruit kin and others from their points of origin. In small-scale societies, these factors can even arise during relatively short moves, such as during the Kofyar colonization of new lands less than 70km from their home villages (Stone 1996). Recruitment directly impinges upon the formation of communities in two ways. First, it leads to the creation of "migration streams", conduits of migration encouraged by the sharing of information between recent migrants and homeland populations (Anthony 1990; Bernardini 2002; Cameron 1995; Duff 1998). Although research focusing on migration stresses the stream itself, migration streams also impact the creation of migrant communities in destination areas. The migration streams drawn upon in community formation should be reflected in exchange ties, with predominant streams often contributing the greatest proportion of exchanged goods (Bernardini 2002). Second, the earliest migrants responsible for initiating migration streams are often accorded important social positions within the community (Herr 2001; Kopytoff 1986; Schlegel 1992; Stone 1996). This results from both their early arrival, which enables their control of choice lands and resources, but also from their position as the contact point with homeland populations.

Many recent investigations of migration in the American Southwest have utilized studies of ceramic production and exchange to elucidate patterns in social group composition and geographic origins. These studies have used a variety of techniques, including traditional typological classifications (Adams 2002; Clark 2001; Herr 2001), the examination of technological and design styles (Clark 2001; Hegmon et al. 1998; Lyons 2003; Stark et al. 1995), and compositional studies (Bernardini 2002; Lyons 2003; Triadan 1997; Zedeño 1994, 2002) to track the process, pattern, and effects of population movement on ceramic production and exchange. Most of this research has explicitly incorporated insights from the ethnographic study of migration, including those presented above, in order to propose material correlates relevant to

the compositional analysis of ceramics (Bernardini 2002; Duff 2002; Triadan et al. 2002; Zedeño 2002). If ceramic exchange is reflective of social ties, particularly in migrant communities, the diversity of ceramic sources from which people obtained pottery should be reflective of the homogeneity or diversity of social groups within communities. This information aids in determining whether newly founded communities moved as units from homeland areas, or if they formed as composite communities in destination areas. Patterns in the geographic sources of ceramics should also be indicative of the creation of migration streams from particular areas. The INAA component of the proposed project will compare patterns in ceramic compositional data between four El Morro Valley communities. Multiple sites will be sampled within each community in order to provide data on intra-community variation as well. An understanding of patterns in the ceramic compositional data and their linkage to social diversity within El Morro communities, when coupled with information from the settlement pattern component of this project, should yield valuable insights into the processes and historical circumstances implicated in the formation of El Morro Valley communities.

#### *Prior INAA Studies in the Cibola Region*

Compositional analyses of ceramics in the Cibola region have been particularly successful in identifying both intra- and interregional patterns of exchange (Duff 1993, 2002; Huntley 2004; Mills 1995; Stone 1992). These studies have investigated the exchange of both decorated and utilitarian ceramics within the region. More importantly for this project, most of these studies have used INAA, resulting in the accumulation of a significant number of ceramic compositional signatures for both ceramics and clays (e.g., Duff 2002; Huntley 2004; Mills 1995 [a total of 283 ceramic samples, 49 clays, Huntley 2004:Table 5.1]). Although these studies have concentrated on later time periods (the 14th century AD or later), 13th century populations resided in identical areas and likely used the same raw materials. Thus this prior research represents an excellent base to build and expand upon in the proposed study.

The geology of the Cibola region is quite variable (see Duff 2002; Ferguson and Hart 1985; Huntley 2004 for extended discussions), providing an excellent arena for the compositional study of ceramics. Previous studies have identified a number of compositional groups, which have been associated with various geographic subareas within the region. These subareas appear to correspond to different geologic formations (or chemically distinct parts thereof) and allow for investigation of ancient exchange over relatively short distances (tens of kilometers or less) (Duff 2002; Huntley 2004; Mills 1995). The ability to track ceramic movement at an intraregional level is crucial to the proposed project, as this is the scale at which most population movements into the El Morro area likely occurred.

#### *Sampling Strategy*

Compositional analyses will focus on two types of ceramics from four communities in the El Morro Valley and complimentary areas from which migrant populations may have originated (Table 1). Within each El Morro community, multiple sites will be sampled, including community centers containing public architecture, closely associated residential roomblocks, and other pueblos within each cluster. The relatively large sample sizes from each community, 120 sherds each, were chosen in hopes of adequately capturing diversity in ceramic exchange within individual communities, and to provide a secure basis for comparison between communities. Smaller, complimentary samples will be submitted from outlying areas in order to attempt to identify the possible sources of El Morro Valley ceramics. As mentioned above, compositional signatures for much of the region have already been generated by previous studies, but these

additional samples are necessary to evaluate prior patterns and to provide data on surrounding areas that have not been previously sampled and are likely sources for El Morro populations.

The two most common types of pottery on AD 1200s Cibola region sites, St. Johns Polychrome and Cibola Corrugated were selected for study. By analyzing two classes of ceramics, the former decorated, and the latter utilitarian, I hope to track different types and scales of exchange. In general, decorated ceramics were more widely circulated in the Southwest, and may capture aspects of long distance ties (Bernardini 2002; Bishop et al. 1988; Creel et al. 2002; Duff 2002). Utilitarian ceramics were often traded amongst kin and usually track shorter distance social networks (Abbott 2000; Duff 2002; Graves 1991). Huntley's (2004) analysis of ceramic exchange in the El Morro Valley and surrounding areas during the subsequent Pueblo IV period (AD 1275-1400) suggests that both decorated and utilitarian ceramics circulated within the region.

A small number of clays will also be included for study. Forty-nine clays collected from both archaeological and geological contexts in the area have already been submitted for INAA by other researchers (Duff 2002; Huntley 2004; Mills 1995). This project will attempt to add thirty samples to this database. These clays will be gathered during an ongoing survey of the El Morro Valley conducted by Arizona State University, and ideally from archaeological clays from relevant areas. Many of the geological clays previously analyzed have not been assigned to compositional groups, possibly as a result of clay preparation techniques utilized by Cibola potters (Huntley 2004:109). The contexts of these samples have not yet been designated, and thus they appear as a separate line in Table 1.

## SIGNIFICANCE

The proposed study will provide key insights into the process of resettlement following the large-scale movement of agricultural populations in the ancient Southwest. Most studies of mobility have focused on the process of movement and its causes, rather than the effects it has on social organization and networks. Many Southwest archaeologists have noted the correlation of significant organizational change and movement (Adams 1991, 2002; Crown 1994; Fish et al. 1994; Nelson 1999), but few of these studies have examined the effects of resettlement at local levels (see Adams 2002 for a notable exception). The study of variation in El Morro Valley settlement histories, social groups, and strategies of community maintenance and growth will contribute to a growing body of data that articulates pan-regional social trends with concrete processes in local communities.

This research will build upon a strong archaeological case with rich settlement data, a precise chronology, and extensive information on ceramic exchange. The study will produce a synthesis of over thirty years of systematic survey in the El Morro Valley, yielding a highly detailed view of Pueblo III period settlement change. By building upon a large, existing body of compositional studies, this research will also result in a remarkable picture of regional exchange patterns for a key area of the northern Southwest. The extension of compositional studies into the Pueblo III period will provide groundwork for the interpretation of the large, existing body of ceramic exchange data from later periods. This research will also produce important baseline data for studies of the formation of later, Pueblo IV period nucleated towns, which have been the subject of substantial recent work in many areas of the Southwest.

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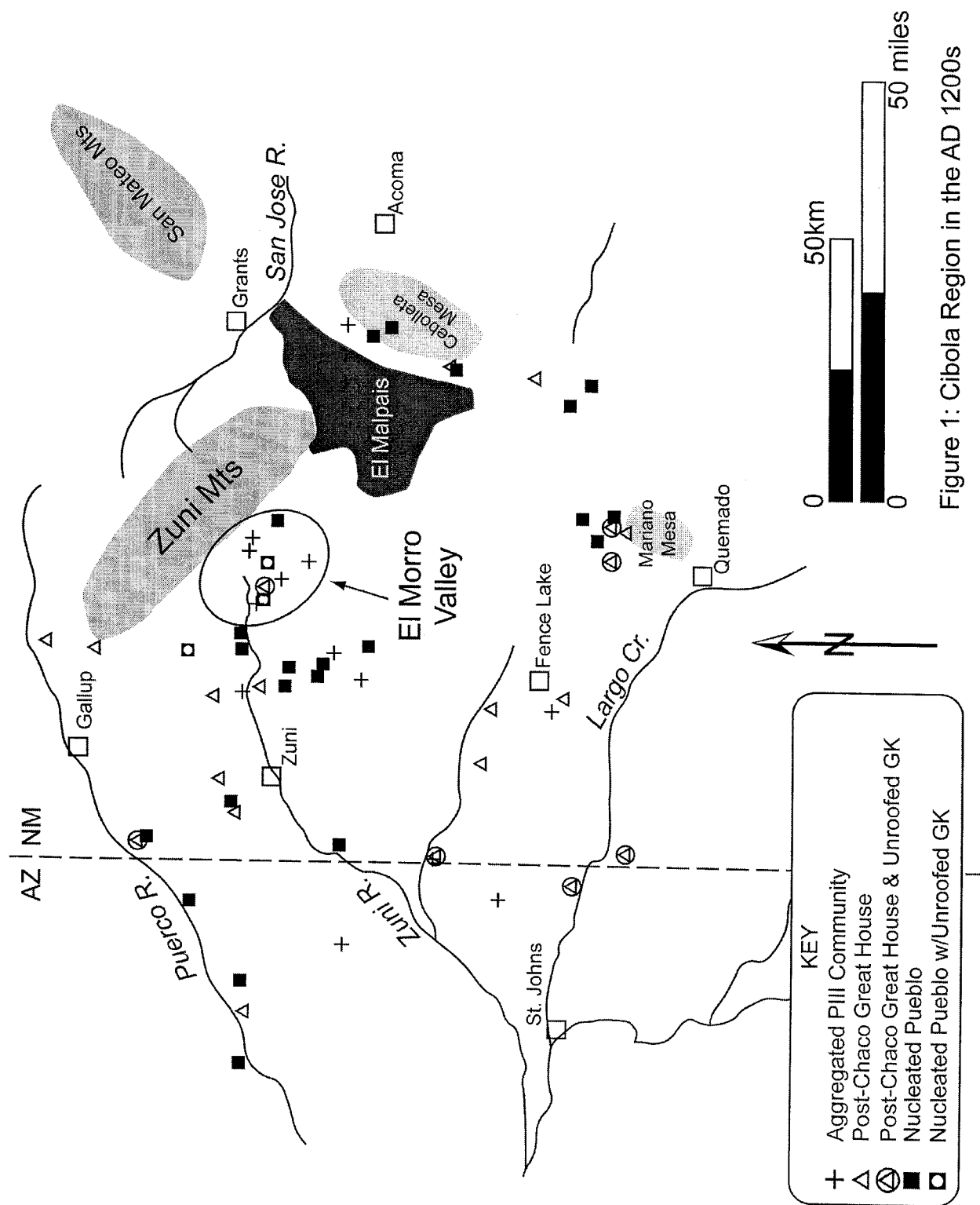


Figure 1: Cibola Region in the AD 1200s

Table 1. Proposed INAA Samples

El Morro Community

	Site	Location of Collection	Ceramic Types	
			St. Johns	Corrugated
Pettit	Pettit	Denver University	15	15
	DU Ex Site	Denver University	15	15
	CS 193	ASU	15	15
	CS 195	ASU	15	15
Los Gigantes	LZ 1200	ASU	15	15
	LZ 1209	ASU	15	15
	LZ 1228	ASU	15	15
	LZ 1232	ASU	15	15
Scribe S	CS 9	ASU/Washington University	15	15
	CS 11	ASU/Washington University	15	15
	CS 12	ASU/Washington University	15	15
	CS 40	ASU/Washington University	15	15
Tinaja	Rblk 1	ASU/Washington University	15	15
	Rblk 2	ASU/Washington University	15	15
	Rblk 3	ASU/Washington University	15	15
	Rblk 4	ASU/Washington University	15	15
El Morro Valley Total (480)			240	240
Complimentary Areas				
Cebolleta Mesa (East) Cebolla Canyon		Museum of New Mexico	10	10
Mariano Mesa (South) UG 616/UG 143		Peabody Museum/Harvard	10	10
Rio Puerco (North) Ft. Wingate/Manuelito		Museum of New Mexico/ASU	10	10
SE Zuni (Southwest) Fort Site/Ojo Pueblo		ASU/BLM	10	10
Central Zuni (West) HARP		ASU	10	10
Complimentary Area Total (100)			50	50
Total Ceramic Samples			580	
Clay Samples (specific contexts yet to be determined)			30	

**GREGSON SCHACHNER**  
short curriculum vitae-November 2003

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Graduate Teaching Assistantship, Arizona State University	August 2002-July 2004
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**Publications**

Gregson Schachner

n.d. The Decline of Zuni Glaze Ware Production in the Tumultuous 15th Century. In *The Social Life of Pots: Glaze Wares and Cultural Transformation in the Late Prehistoric Southwest*, edited by Judith A. Habicht-Mauche, Suzanne L. Eckert, and Deborah L. Huntley. University of Arizona Press, Tucson, in press.

2001 Ritual Control and Transformation in Middle-Range Societies: An Example from the American Southwest. *Journal of Anthropological Archaeology* 20:168-194.

Margaret C. Nelson and Gregson Schachner

2002 Understanding Abandonments in the American Southwest. *Journal of Archaeological Research* 10:167-206.

**Selected Presentations**

*Invited*

Andrew I. Duff and Gregson Schachner

2003 Becoming Central: Social Processes in the Emergence of Zuni. Paper presented in the symposium "Hinterland and Heartland in Southwest Prehistory" at the 68th Annual Meeting of the Society for American Archaeology, Milwaukee, WI.

Gregson Schachner

2002 Participant in the sponsored forum, "Interdisciplinary Research and the Future of Graduate Education in Archaeology", at the 67th Annual Meeting of the Society for American Archaeology, Denver, CO.

2002 The Decline of Zuni Glaze Ware Production in the Tumultuous 15th Century. Paper presented in the symposium "The Social Life of Pots: Glaze Wares and Cultural Transformation in the Late Prehistoric Southwest" at the 67th Annual Meeting of the Society for American Archaeology, Denver, CO.

*Submitted*

Gregson Schachner

2001 Tracing Zuni Connections to the Hohokam: Integrating Archaeology, Oral Tradition, and Ethnography. Paper presented at the 66th Annual Meeting of the Society for American Archaeology, New Orleans, LA.

1998 Pueblo I Ritual Organization and Change in the Northern San Juan Region. Paper presented at the 63rd Annual Meeting of the Society for American Archaeology, Seattle, WA.

## **Selected Professional Experiences**

### **Fieldwork**

*Co-Director:* El Morro Valley Prehistory Project, ASU, November 2002-present. Co-directing a study of 13th century AD community formation in the El Morro Valley of west-central New Mexico with Dr. Keith Kintigh. The field portion of the project includes survey, excavation, and outreach with local Native American groups. During the summers of 2003 and 2004 the project serves as the ASU Summer Archaeological Field School.

*GS-7 Archeologist:* El Malpais National Monument Survey, National Park Service, May 2000-June 2003. Served as ceramic analyst for a multi-year sample survey of El Malpais National Monument, NM. Robert Powers, Principal Investigator.

*Crew Member:* Cox Ranch Community Survey, Washington State University, June-July 2002. Pedestrian survey and total station mapping on BLM land near Zuni Salt Lake, NM. Dr. Andrew Duff, Principal Investigator.

*Unit Supervisor:* Tell Abu en-Ni`aj Project, ASU, January-April 2000. Supervised and participated in excavations by a crew of Jordanian workmen at an Early Bronze Age village in the Jordan Valley. Drs. Steven Falconer, Patricia Fall, and Jennifer Jones, Principal Investigators.

*Project Director:* El Morro Valley Survey Project, ASU, August 1999. Organized and directed a two-week pedestrian survey conducted by two crews of ASU graduate students in the El Morro Valley, NM. Dr. Keith Kintigh, Principal Investigator.

*Site Director:* Eastern Mimbres Archaeological Project, ASU, May-July 1998. Directed excavations and instructed graduate and undergraduate students at SJ Hamlet, a Classic Mimbres site near Truth or Consequences, NM. Drs. Margaret Nelson and Michelle Hegmon, Principal Investigators.

### **Ethnographic Research**

*Consultant:* Heritage Resource Management Consultants, June 2001-January 2003. Subcontractor for HRMC, working with the Hopi Tribe to document their cultural affiliation with the Hohokam archaeological culture pursuant to NAGPRA. Dr. T. J. Ferguson, Principal Investigator.

### **Selected Reports**

Gregson Schachner

2003 Archaeology of the Hohokam Region. In *Yep Hisat Hoopq'yaqam Yeese (Hopi Ancestors Were Once Here): Hopi-Hohokam Cultural Affiliation Study*, compiled by T. J. Ferguson, pp. 29-62. Hopi Cultural Preservation Office, Hopi Tribe, Kiqötsmovi, Arizona.

Schachner, Gregson, and J. David Kilby

2004 Interaction and Exchange. In *El Malpais National Monument Survey*, edited by R. P. Powers and J. A. Orcutt, National Park Service, Santa Fe, in press.

J. David Kilby, and Gregson Schachner

2004 Site Chronology. In *El Malpais National Monument Survey*, edited by R. P. Powers and J. A. Orcutt, National Park Service, Santa Fe, in press.

T. J. Ferguson and Gregson Schachner

2003 Social and Geographic Dimensions of the Hohokam as a Past Identifiable Group. In *Yep Hisat Hoopq'yaqam Yeese (Hopi Ancestors Were Once Here): Hopi-Hohokam Cultural Affiliation Study*, compiled by T. J. Ferguson, pp. 63-68. Hopi Cultural Preservation Office, Hopi Tribe, Kiqötsmovi, Arizona.

T. J. Ferguson, Gregson Schachner, Patrick D. Lyons, and Laurie D. Webster

2003 Summary and Conclusions. In *Yep Hisat Hoopq'yaqam Yeese (Hopi Ancestors Were Once Here): Hopi-Hohokam Cultural Affiliation Study*, pp. 247-253. Hopi Cultural Preservation Office, Hopi Tribe, Kiqötsmovi, Arizona.

Gregson Schachner and T. Kathleen Henderson

2000 Feature Descriptions. In *Archaeological Testing for the Kyrene Expansion Project* by T. Kathleen Henderson, pp. 37-57. Desert Archaeology, Inc. Technical Report No. 2000-09, Tucson, Arizona.