NewsMAC

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Formative Period Movement in New Mexico

Contents

IN MEMORIUM

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INTRODUCTION

Bradley Vierra, Editor
Statistical Research Inc.

As a hunter-gatherer archaeologist I was taught that mobility was critical to the survival of foraging societies. That being in the right place at the right time was the difference between living and dying. Any group implemented a mixture of residential and logistical mobility depending on the structure of the natural and cultural environment. By contrast, we've come a long way since the days of assuming that agriculturalists were relatively sedentary people. Upham's (1984, 1994) concept of *adaptive diversity* referred to the fluid nature of past social organization, mobility, and land use; or, Nelson and LeBlanc's (1986) *short-term sedentism* that discussed long-term shifts in residential stability, noting that "this concept allows a vision of grand temporal trajectory of local adaptation, one which ultimately came full circle (1986:251)." As pointed out by Varien (1999) "rather than being opposing concepts, sedentism and mobility were strategies that were simultaneously employed (1999:194)" by agricultural communities and households. Therefore the discussion has shifted to cyclic patterns of regional movement which provide for a much larger scale of residential mobility than previously imagined (Cameron 2005; Wilshusen and Ortman 1999; Wilshusen and Van Dyke 2006). Indeed, Ortman and Cameron's (2011) recent review discusses the complexities involved in exploring the archeological implications of regional population movement. Nonetheless, concepts like migration and abandonment often assume a one way trip; whereas, movement or mobility implies a cyclic and repeated pattern of movement between areas. The latter has commonly been associated with foraging groups and is becoming more relevant for understanding Southwestern agriculturalists.

Cameron, Cathy M.
2005 Exploring Archaeological Cultures in the Northern Southwest: What were Chaco and Mesa Verde. *Kiva* 70:227-253

Nelson, Ben A. and Steven A. LeBlanc
1986 *Short-Term Sedentism in the American Southwest: The Mimbres Valley Salado.* Maxwell Museum of Anthopology and University of New Mexico Press, Albuquerque.

Ortman, Scott G. and Cathy M. Cameron
2011 A Framework for Controlled Comparisons of Ancient Southwestern Movement. In *Movement, Connectivity and Landscape Change in the Ancient Southwest*, edited by M. Nelson and C. Strawhacker, pp, 233-252. University of Colorado Press, Boulder.

Upham, Steadman
1984 Adaptive Diversity and Southwestern Abandonment. *Journal of Anthropological Research* 40:235-256.

1994 Ten Years After: Adaptive Diversity and Southwestern Archaeology. *Journal of Anthropological Research* 50:155-157.

Varien, Mark D.
1999 *Sedentism and Mobility in a Social Landscape*. University of Arizona Press, Tucson.

Wilshusen, Richard H. and Ruth M Van Dyke
2006 Chaco's Beginnings. In *The Archaeology of Chaco Canyon: An Eleventh Century Pueblo Regional Center*, edited by S. Lekson, pp. 211-260. School of American Research Press, Santa Fe.

Wilshusen, Richard H. and Scott G. Ortman
1999 Rethinking the Pueblo I Period in the San Juan Drainage: Aggregation, Migration and Cultural Diversity. *Kiva* 64:369-399.

Young, Lisa C.
1994 Lithics and Adaptive Diversity: An Examination of Limited Activity Sites in Northeast Arizona. *Kiva* 50: 141-154.

ARCHAEOLOGICAL STUDY OF MOVEMENT AS A WAY OF ANCESTRAL PUEBLOAN LIFE IN THE NORTHERN RIO GRANDE

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It is a truism that anthropologists and archaeologists working in the northern Southwest have found the traditional historical accounts celebrated by contemporary Pueblo people in their communities and an archaeological landscape richly populated with the traces of great villages the stuff of lasting intrigue. Since the turn of the previous century, each generation of investigators has struggled to lift the heavy mantle of this subject matter in its own intellectual time and for its own purposes. They have also operated within an environment of insatiable appetite among the general public for answers to their questions about where did the Ancestral Puebloan people of Chaco, Mesa Verde, or [fill in the blank of just about any other cultural-historical park or monument in the Four Corner States] moved.

Concerned with more than the great inter-regional migrations from the central San Juan Basin and the northern San Juan drainage to other parts of the Pueblo World, anthropologists and archaeologists recognized early on that the large number of Ancestral Puebloan village ruins was indicative of a fundamental aspect of the people's way of life: Ancestral Puebloan populations not only moved, they appeared to have moved relatively frequently. For example, Elsie Clews Parsons wrote,

> Although attached to their houses or town, the Pueblos are far from being absolutely sedentary peoples…The very great number of ruins in the Pueblo territory, once much larger than it is today, can only be accounted for as the result of seminomadism. The early Pueblos were nomads in towns not of days or seasons but of decades or centuries. [1996:14 {1939}]

Leslie Spier, reporting his archaeological observations in the Zuni Valley, remarked,

> It is certainly startling to come on ruin after ruin with long rows of rooms stretching away in straight lines or graceful curves, but with hardly a sign of ash and broken pottery—in short, every jot of evidence pointing to a flitting occupation. [1917:300]

Alfred V. Kidder, in a similar vein, observed,

> In spite of the solid construction of their towns and the great labor in building them, the Pueblo Indians are (or rather were in the recent past) less firmly anchored to them than might be supposed…but the Pueblos were always ready to abandon their dwellings on what seems to us as the slightest pretext…This relative impermanency of towns whose construction seems so very permanent is a highly important phenomenon. [2000:147, 149 {1924}]

Readily seizing on Kidder's declaration of the importance of Ancestral Puebloans' willingness to move their residences as a call to order for designing research, numerous individuals have since committed themselves to examining this topic. Included in this list of participants in this endeavor was Linda S. Cordell, whose contributions on the topic date back to her doctoral investigation of settlement pattern changes on Wetherill Mesa at Mesa Verde using nascent technologies and methods of archaeological computer simulation (1972, 1975a). She found that many—but by no means all—of the residential site abandonments on Wetherill Mesa over time related, in some way, to decreased crop yields resulting from relatively minor and local changes in rainfall patterns and growing season length. Nonetheless, Cordell lobbied for continued work to develop systemic explanations for Ancestral Puebloan residential movement. In her published summary of key findings, she offered the following remark, which would quietly underlie her subsequent work in New Mexico's Northern Rio Grande region:

> If nearly all Pueblo sites were demonstrably forsaken in the 12th and 13th centuries, catastrophic explanations [for village abandonments] would seem plausible. We know that on the contrary Pueblo peoples frequently deserted their villages, which would suggest that *the explanation for abandonments should be sought among continuing or recurrent aspects of Pueblo life*. [Cordell 1975a:190, emphasis added]

Following her own move from the northern San Juan drainage to the northern Rio Grande to begin teaching at the University of New Mexico (UNM), Cordell soon immersed herself in the region's Ancestral Puebloan archaeological record. She directed the UNM Summer Field School in Archaeology at Tijeras Pueblo between 1974 and 1976 (Cordell 1975b, 1977a, 1977b, 1980). She also prepared synthetic overviews of the region's archaeology for the USDA Forest Service/USDI Bureau of Land Management (Cordell 1979a) and for the Smithsonian Institution's Handbook of North American Indians (Cordell 1979b).

Drawing from these research experiences, Cordell (1979a:103-104) concluded that within a cultural-historical environment in which residential movement was characteristic among Ancestral Puebloan populations across the northern Southwest as a whole, this settlement attribute was expressed with particular strength in the northern Rio Grande over the span of the Classic period (A.D. 1300/1325-1600). She also pointed out that the northern Rio Grande's Ancestral Puebloan populations often left villages independent of documented instances of widespread drought (1979a:103). Later, when reporting the results of the UNM Summer Field School in Archaeology at Rowe Pueblo near Pecos, Cordell offered the following observation concerning the movement of Pueblo people among north-central New Mexico's large villages:

> Aggregated settlements did not last for centuries. Their inhabitants seemed to come and go, the settlements themselves changing both size and configuration in response to social forces we barely understand. In my mind, the shifting locations of population and the modifications of community layout that suggest the incorporation and dispersal of groups of people are signs of a social landscape with far fewer constraints than any we know in the region today. They are mirrored in the fluidity and lack of formality that seem to characterize the patterns of exchange in ceramics. They seem to be part of a larger but much more open social world in which the notion of abandoning a dwelling or a site may have been of minimal importance, perhaps something to have been embraced rather than resisted. [1998:90–91]

In making her remarks, Cordell revealed that she viewed Pueblo communities as the embodiment of social actions by individuals who continuously form and reform social relationships. Cordell's description of a Pueblo World that seems "larger but much more open" and has "far fewer constraints" challenges researchers to consider webs of intimate relationship, which integrates and organizes individuals as they shape and reshape social groups that crosscut the physical limits defined by habitation settlements.

* * *

As outsiders looking back upon the Ancestral Puebloan past, Southwestern archaeologists over the past three decades have generally adopted cultural-ecological perspectives to view residential movement systemically as an organizational strategy for coping with environmental uncertainty and risk. Useful contributions in designing, conducting, and evaluating these research activities include the introduction of the ideas of short-term sedentism (Kintigh 1985; Nelson and Anyon 1996; Nelson and LeBlanc 1986) and shifting sedentism (Lekson 1990) to describe settlement systems based on the year-round occupations lasting relatively short periods of time. In these constructions, movement is seen as a strategy with which Ancestral Puebloan populations frequently rearranged themselves across geographic space in accord with changing environmental conditions over time.

While the ideas of short-term sedentism and shifting sedentism are useful, their application in archaeological practice often has been limited because archaeologists have viewed the environment in narrowly materialistic terms. With strict processualism yielding to an eclectic mix of theoretical approaches in present-day Southwestern archaeological practice (Minnis and Redman 2011:19), there has been broader recognition that cultural systems structure and organize people's interactions and experience with their environments (e.g., Deetz 1990; Ingold 1993; Tuan 1977). In turn, environments, which are the foundations of the cultural landscapes in which people play out every aspect of their lives, have natural, economic, social and ideational dimensions (Anschuetz et al. 2001). Cordell's earlier statement that explanations for Ancestral Puebloan population movements "should be sought among continuing or recurrent aspects of Pueblo life" (1975a:190) found a home within this intellectual milieu.

Updated ethnographic appraisals, inspired by cogent commentaries by Pueblo people themselves, firmly establish that movement is a principal theme in Pueblo life (e.g., see discussions by Anschuetz 2002, 2007a; Bernardini 2005; Duwe 2011; Fowles 2011). Notably, Pueblo traditions characteristically employ the concepts of rest and renewal when referring to population movement, houses, agricultural land, and foraging and collecting areas (Anschuetz 2005). On the one hand, concepts of rest and renewal correspond nicely with the idea of fallow cycles for hunting-and-gathering territories, as well as agricultural land. On the other hand, the idea that people would withdraw from a locality to allow it to "rest and renew" (its fertility) also carries the implication that they would return in the future. In other words, movement neither was unidirectional nor necessarily constituted abandonment, which is the act of people willingly extinguishing their

cultural-historical ties with a place. That is to say, within the world of Ancestral Puebloan movement, "true" abandonments were likely rare, even if spectacular from an archaeologist's point of view.

Studies of village histories in the northern Rio Grande document that large villages are the products of "complex patterns" of construction, use, modification, disuse and reuse "sometimes over hundreds of years" (Snead et al. 2004:29; e.g., see Adler 2002; Cordell 1980, 1998; Creamer 1993; Shapiro 2005). The persistent ebb and flow of Ancestral Puebloan populations among a number of settlements, which were simultaneously sequential and contemporaneous when viewed from the perspective of their comparative life histories over the long term, might have been an essential structural principal of movement in at least some parts of the northern Rio Grande, such as the Chama District (Anschuetz 2007b; Duwe and Anschuetz 2013s; Scott G. Ortman, personal communication 2013).

There exists a more powerful meaning in the Pueblo idea of movement that informs and motivates a particular way of life. As stated by several Pueblo of Santa Clara Tewa authors, "movement is the revered element of life" (Naranjo and Swentzell 1989:261). Tessie Naranjo adds, "Movement, clouds, wind and rain are one. Movement must be emulated by the people" (1995:248). In talking about the process of people's movement through a sequence of places, Rina Swentzell observes that Pueblo people traditionally "did not settle in place for a long time, but rather emulated the movement of the seasons, winds, clouds, and life cycles by moving frequently (1993:145). Pueblo conceptualizations of movement, therefore, possess the power not only to inform people about their relationship with the world and one another, they can motivate action and help influence the structure how the people then act out their everyday lives (Anschuetz 2007b:138). Severin M. Fowles raises the important question of how Pueblo identity, which is linked to relatively frequent movement among a number of large settlements scattered across the landscape, could have been maintained over the years, if not the decades, that individuals "spent sojourning at prehistoric villages" (2011:52). In his essay, Fowles offers ethnographic examples of private and public acts through which movements important to Pueblo people's identities are celebrated in thought and action. He follows with an examination of certain archaeological traces of movement, notably roads, trails, and depictions of pathways. In making these steps, Fowles shows how archaeologists can respond to Cordell's petition and integrate traditional and recurrent aspects of Pueblo life into their studies of Ancestral Puebloan movement.[1]

I anticipate that interrelated sequences of village and agricultural field construction, remodeling, use, and lapse in use possess much more potential to provide archaeologists with information and insight about how the northern Rio Grande's Classic period Ancestral Puebloan populations created and maintained their identity as people on the move more than we have yet realized. Pueblo people, their villages, and their fields are unified through compelling, tightly nested (and mutually reinforcing) symbolism in which "the analogy *people are to villages as corn is to fields*" (Ortman 2009:19, emphasis in original) is subsumed within high level abstractions, including *people are corn*, *women are corn*, *corn is our mother*, *men are clouds, men are rain*, and *men are water* (e.g., Anschuetz 2010; Ford 1994; Ortman 2009, among others). Keeping these age-old metaphors in mind, it is possible for us to begin grasping the deep meaning embedded in statements by Rina Swentzell, Tessie Naranjo, and Tito Naranjo that movement is revered and must be emulated by people both to be faithful to—and to sustain—a Pueblo way of life (see above). And to return to Cordell's appeal once more, house construction and maintenance, just as agricultural field clearing and the wide host of other activities making up agricultural practice, are "continuing or recurrent aspects of Pueblo life" (1975a:190).

The villages that embody a Pueblo community's center of all centers (Rina Swentzell, in Trimble 1993:53) and the fields that predominate within the middle reaches of a community's landscape (see Ortiz 1969) are the products of repetitive cycles of actions, which trace and document the passage of time through a choreography of movement. The rhythms of these cycles were not strictly determined by precipitation and temperature patterns in the natural environment. Rather, people fine-tuned the cadence and sound of the beat through their seasonal, short-term, and long-term strategies and practices of agricultural land use, rest, and reuse. These actions, in turn, were informed and motivated by the people's cultural traditions (i.e., their *spiritual ecology* [Cajete 1994] that guide how they should ideally interact with the land, water, plants, animals and one another in the environmental community of which they were members (Porter Swentzell, personal communication 2011). With the recognition of traditional faith and belief as establishing guiding principles for action, the meaning of the statement that agricultural practice "stands as the day-to-day practice of Pueblo religion" (Anschuetz 2001:58) becomes more accessible to outsiders because it makes clear that agricultural "work" entails the investment of considerable physical and mental energies throughout most aspects of Pueblo life.

Features of the Ancestral Puebloan ritual landscape, such as the shrines, petroglyphs and trails (e.g., see the work by Anschuetz [1998], Duwe [2011], Fowles [2004, 2011], Ortman [2010a, 2012], and Snead [2002, 2008] in the northern Rio

[1] I recommend contributions by Samuel G. Duwe (2011), Wesley Bernardini (2005), and Scott G. Ortman (2010a, 2012) to the interested reader for other recent examples of innovative and promising research.

Grande), therefore, are other material traces that archaeologists need now to incorporate systematically into their investigations of movement. Formal consideration of their presence, morphology, and pattern of distribution across the landscape is obligatory because these features possess the potential to convey corroborative information about changes in ideational patterns related to movement.

Forming communities that celebrated grand dramas of past movement and looked toward to future in anticipation of future moves, Ancestral Puebloans transcended the time that they spent in their transitory residences to sustain their identities as people who moved with the seasons, winds, clouds, and life cycles. Simultaneously, for much of their history, communities of Ancestral Puebloan people made deep commitments to place and further defined their identity in terms of their landscape by projecting their sense of their soul *into* (and not on simply onto) particular entities, phenomena, and spaces across their homeland (after Cajete 1994:83; see also discussion in Anschuetz 2002:3.33). That is, the people and the landscape were inseparable. Throughout much of the Ancestral Puebloan past, just as in the Pueblo's ethnographic present and continuing into their present-day time, the landscape provided the people with the foundations of continuity, permanence, and coherence with which they could construct and maintain distinctive identities within a world wherein village life for years and decades at a time itself was a kind of change.

* * *

Scott G. Ortman and Catherine M. Cameron (2011:233) noted in their introductory remarks for a session on *Movement and Ethnogenesis* at the 20th Anniversary Southwest Symposium (held in 2008)—and as the inclusion of this and the other accompanying brief essays in the present issue of NewsMAC illustrate—the topic of population movement is once again dominant research theme in Southwestern Archaeology. Just as our intellectual forebears did in their own time, we are making useful progress and are placing substantive contributions onto the table for critical evaluation and enthusiastic debate (e.g., see Boyer et al. 2010; Lipe 2010; Ortman 2010b).

It is well to remind ourselves from time to time that Kidder's (2000 [1924]) declaration that the subject of the Ancestral Puebloans' willingness to move their residences was important and relevant is now nearly a century old. Still, the task that awaits us remains immensely challenging.

To understand and explain why movement was a way of Ancestral Puebloan life more fully, archaeologists need to continue to step up to Cordell's call for action and expand their knowledge of "continuing or recurrent aspects of Pueblo life" (1975a). This task includes, at a minimum, the ability to work in collaboration of Pueblo community members and practical knowledgeable of the ethnographic, ethnohistoric and historical literature that provides cultural-historical information needed for identifying, documenting, and evaluating archaeological traces of movement. With respect to the latter, archaeologists at all levels also need to improve their skills in the recognition, documentation, and evaluation of the material traces of agricultural and ritual landscape features.[2]

I expect that ongoing and future investigations will contribute valuable new information and keen insight into Ancestral Puebloan population movements throughout the Pueblo World, and especially so in the northern Rio Grande, over the next few years. I also like to think that Linda Cordell will also be watching with excitement, rooting for us all.

References Cited

Adler, Michael A.
2002 The Ancestral Pueblo Community as Structure and Strategy. In *Seeking the Center Place: Archaeology and Ancient Communities in the Mesa Verde Region*, edited by M. D. Varien and R. H. Wilshusen, pp. 3–23. University of Utah Press, Salt Lake City.

Anschuetz, Kurt F.
1998 *Not Waiting for the Rain: Integrated Systems of Water Management by Pre-Columbian Pueblo Farmers in North-Central New Mexico*. Ph.D. dissertation, Department of Anthropology, University of Michigan, Ann Arbor. University Microfilms International, Ann Arbor.

[2] Based on my work in the Tewa Basin and the Western Keres Culture Province, not only do these features exist, they are *much* more common than many archaeologists currently perceive.

2001 Soaking It All In: Northern New Mexican Pueblo Lessons of Water Management and Landscape Ecology. In *Native Peoples of the Southwest: Negotiating Land, Water, and Ethnicities*, edited by Laurie Weinstein, pp. 49–78. Greenwood Publishing Group, Westport, CT.

2002 A Healing Place: Rio Grande Cultural Landscapes and the Petroglyph National Monument. In *"That Place People Talk About": The Petroglyph National Monument Ethnographic Landscape Report*, by K. F. Anschuetz, T. J. Ferguson, H. Francis, K. B. Kelley, and C. L. Scheick, pp. 3.1–3.47. Community and Cultural Landscape Contribution 8. Prepared for: National Park Service, Petroglyph National Monument, Albuquerque, New Mexico, NPS Contract No. 14431CX712098003 (RGF 109B). Rio Grande Foundation for Communities and Cultural Landscapes, Santa Fe.

2005 Landscapes as Memory: Archaeological History to Learn from and to Live By. In *Engaged Anthropology: Research Essays on North American Archaeology, Ethnobotany, and Museology. Papers in Honor of Richard I. Ford*, edited by Michelle Hegmon and B. Sunday Eiselt, pp. 52–72. Anthropological Papers No. 94. Museum of Anthropology, University of Michigan, Ann Arbor.

2007a The Valles Caldera National Perserve as a Multi-Layered Ethnographic Landscape. In *More than a Scenic Mountain Landscape: Valles Caldera National Preserve Land Use History*, by Kurt F. Anschuetz and Thomas Merlan, pp. 129–162. U.S. Forest Service, Rocky Mountain Research Station, Fort Collins.

2007b Room to Grow with Rooms to Spare: Agriculture and Big Site Settlement Systematics in the Late Pre-Columbian Tewa Basin Pueblo Landscape. *Kiva* 73(2):173–194.

2010 Women Are Corn, Men Are Rain: Agriculture and Movement in North-Central New Mexico Between A.D. 1250 and 1598. In *Papers in Honor of Glenna Dean*, edited by Emily J. Brown, Karen Armstrong, David M. Brugge, and Carol J. Condie, pp. 7–20. Papers of the Archaeological Society of New Mexico No. 36. Albuquerque.

Anschuetz, Kurt F., Richard H. Wilshusen, and Cherie L. Scheick
2001 An Archaeology of Landscapes: Perspectives and Directions. *Journal of Archaeological Research* 9:157–211.

Bernardini, Wesley
2005 *Hopi Oral Tradition and the Archaeology of Identity*. University of Arizona Press, Tucson.

Boyer, Jeffrey L., James L. Moore, Steven Lakatos, Nancy J. Akins, C. Dean Wilson, and Eric Blinman
2010 Remodeling Immigration: A Northern Rio Grande Perspective on Depopulation, Migration, and Donation-Side Models. In *Leaving Mesa Verde: Peril and Change in the Thirteenth-Century Southwest*, edited by Timothy A. Kohler, Mark D. Varien, and Aaron M. Wright, pp. 285–322. University of Arizona Press, Tucson.

Cajete, Gregory
1994 *Look to the Mountain: An Ecology of Indigenous Education*. Kivakí Press, Durango.

Cordell, Linda S.
1972 *Settlement Pattern Changes at Wetherill Mesa, Colorado: A Test Case for Computer Simulation in Archaeology*. Ph.D. dissertation, Department of Anthropology, University of California, Santa Barbara.

1975a Predicting Site Abandonment a Wetherill Mesa. *Kiva* 40(3):189–202.

1975b The 1974 Excavation of Tijeras Pueblo, Cibola National Forest, New Mexico. Archaeological Report 5. USDA National Forest Service, Southwestern Regional Office, Albuquerque.

1977a The 1975 Excavation of Tijeras Pueblo, Cibola National Forest, New Mexico. *Archaeological Report* 18: 1–43. USDA National Forest Service, Southwestern Regional Office, Albuquerque.

1977b The 1976 Excavation of Tijeras Pueblo, Cibola National Forest, New Mexico. *Archaeological Report* 18:169–200. USDA National Forest Service, Southwestern Regional Office, Albuquerque.

1979a *A Cultural Resources Overview of the Middle Rio Grande Valley, New Mexico*. Southwestern Region, USDA Forest Service, Albuquerque, and Bureau of Land Management, Santa Fe, U.S. Government Printing Office, Washington, DC.

1979b Prehistory: Eastern Anasazi. In *Southwest*, edited by Alfonso Ortiz, pp. 131–151. Handbook of North American Indians, Vol. 9, William C. Sturtevant, general editor, Smithsonian Institution, U.S. Government Printing Office, Washington, DC.

---, editor
1980 Tijeras Canyon: Analyses of the Past. Maxwell Museum of Anthropology and University of New Mexico Press, Albuquerque.

1998 *Before Pecos: Settlement Aggregation at Rowe, New Mexico*. University of New Mexico, Maxwell Museum of Anthropology, Albuquerque.

Creamer, Winifred
1993 *The Architecture of Arroyo Hondo Pueblo, New Mexico*. Arroyo Hondo Archaeological Series, Vol. 7. School of American Research Press, Santa Fe.

Deetz, James
1990 Landscapes as Cultural Statements. In *Earth Patterns: Essays in Landscape Archaeology*, edited by William M. Kelso and Rachel Most, pp. 2–4. University Press of Virginia, Charlottesville.

Duwe, Samuel G.
2011 *The Prehispanic Tewa World: Space, Time, and Becoming in the Pueblo Southwest*. Ph.D. dissertation, School of Anthropology, University of Arizona, Tucson. University Microfilms, Inc., Ann Arbor.

Duwe, Samuel, and Kurt F. Anschuetz
2013 Ecological Uncertainty and Organizational Flexibility on the Prehispanic Tewa Landscape: Notes from the Northern Frontier. In *From Mountain Top to Valley Bottom: Understanding Past Land Use in the Northern Rio Grande Valley, New Mexico*, edited by Bradley J. Vierra, pp. 95-113. University of Utah Press, Salt Lake City.

Ford, Richard I.
1994 Corn is Our Mother. In *Corn and Culture in the Prehistoric New World*, edited by S. Johannessen and C. A. Hastorf, pp. 513-525. Westview Press, Boulder.

Fowles, Severin M.
2004 *The Making of Made People: The Prehistoric Evolution of Hierocracy Among the Northern Tiwa of New Mexico*. Ph.D. dissertation, Department of Anthropology, University of Michigan, Ann Arbor. University Microfilms, Inc., Ann Arbor.

2011 Movement and the Unsettling of the Pueblos. In *Rethinking Anthropological Perspectives on Migration*, edited by Graciela S. Cabana and Jeffrey J. Clark, pp. 45–67. University Press of Florida, Gainsville.

Ingold, Timothy
1993 The Temporality of Landscape. *World Archaeology* 25:152–174.

Kidder, Alfred V.
2000 *An Introduction to the Study of Southwestern Archaeology, with a New Essay by Douglass W. Schwartz*. Yale University Press, New Haven. (Originally published in 1924, as *An Introduction to the Study of Southwestern Archaeology, with a Preliminary Account of the Excavations at Pecos*. Papers of the Southwestern Expedition 1. Published for the Phillips Academy by Yale University Press.)

Kintigh, Kieth W.
1985 *Settlement, Subsistence, and Society in Late Zuni Prehistory*. Anthropological Papers of the University of Arizona 44. University of Arizona Press, Tucson.

Lekson, Stephen H.
1990 Sedentism and Aggregation in Anasazi Archaeology. In *Perspectives on Southwestern Prehistory*, edited by Paul E. Minnis and Charles L. Redman, pp. 330–340. Westview Press, Boulder, Co.

Lipe, William D.
2010 Lost in Transit: The Central Mesa Verde Archaeological Complex. In *Leaving Mesa Verde: Peril and Change in the Thirteenth-Century Southwest*, edited by Timothy A. Kohler, Mark D. Varien, and Aaron M. Wright, pp. 262–284. University of Arizona Press, Tucson.

Minnis, Paul E., and Charles L. Redman
2011 Ten Millennia, Twenty Years Later. In *Movement, Connectivity, and Landscape Change in the Ancient Southwest: The 20th Anniversary Southwest Symposium*, edited by Margaret C. Nelson and Colleen Strawhacker, pp. 17–23. University Press of Colorado, Boulder.

Naranjo, Tessie
1995 Thoughts on Migration by Santa Clara Pueblo. *Journal of Anthropological Archaeology* 14:247–250.

Naranjo, Tito, and Rina Swentzell
1989 Healing Spaces in the Pueblo World. *American Indian Culture and Research Journal* 13(3–4):257–265.

Nelson, Ben A., and Roger Anyon
1996 Fallow Valleys: Asynchronous Occupations in Southwestern New Mexico. Kiva 61(3):275–294.

Nelson, Ben A., and Steven A. LeBlanc
1986 *Short-Term Sedentism in the American Southwest: The Mimbres Valley Salado*. Maxwell Museum of Anthropology and University of New Mexico Press, Albuquerque.

Ortiz, Alfonso
1969 *The Tewa World: Space, Time, Being, and Becoming in a Pueblo Society*. University of Chicago Press, Chicago.

Ortman, Scott G.
2009 On the Dual Nature of Metaphor and Its Implications for an Archaeology of Worldview. Paper presented in the Amerind Foundation Seminar, "Religious Ideologies in the Pueblo Southwest, A.D. 1250-1450," April 1–5, 2009. Dragoon, Arizona.

2010a *Genes, Language and Culture in Tewa Ethnogenesis, A.D. 1150–1400*. Ph.D. dissertation, School of Human Evolution and Social Change, Arizona State University, Tempe. University Microfilms, Inc., Ann Arbor.

2010b Evidence of a Mesa Verde Homeland for the Tewa Pueblos. In *Leaving Mesa Verde: Peril and Change in the Thirteenth-Century Southwest*, edited by Timothy A. Kohler, Mark D. Varien, and Aaron M. Wright, pp. 222–261. University of Arizona Press, Tucson.

Ortman, Scott G., and Catherine M. Cameron
2011 A Framework for Controlled Comparisons of Ancient Southwestern Movement. In *Movement, Connectivity, and Landscape Change in the Ancient Southwest: The 20th Anniversary Southwest Symposium*, edited by Margaret C. Nelson and Colleen Strawhacker, pp. 233–252. University Press of Colorado, Boulder.

Parsons, Elsie Clews
1996 *Pueblo Indian Religion*. 2 vol. Reprinted. University of Nebraska Press, Lincoln. (Originally published in 1936. University of Chicago Press, Chicago.)

Shapiro, Jason S.
2005 *A Space Syntax Analysis of Arroyo Hondo Pueblo, New Mexico: Community Formation in the Northern Rio Grande*. School of American Research Press, Santa Fe.

Snead, James E.
2002 Ancestral Pueblo Trails and the Cultural Landscape of the Pajarito Plateau, New Mexico. *Antiquity* 76(293):756–765.

2008 *Ancestral Landscapes of the Pueblo World*. University of Arizona Press, Tucson.

Snead, James E., Winifred Creamer, and Tineke Van Zandt

2004 "Ruins of Our Forefathers": Large Sites and Site Clusters in the Northern Rio Grande. In *The Protohistoric Pueblo World, A.D. 1275–1600*, edited by E. Charles Adams and Andrew I. Duff, pp. 26–34. University of Arizona Press, Tucson.

Spier, Leslie
1917 An Outline for a Chronology of Zuni Ruins. *Anthropological Papers* 17(3):207–331. American Museum of Natural History, New York.

Swentzell, Rina
1993 Mountain Form, Village Form: Unity in the Pueblo World. In *Ancient Land, Ancestral Places: Paul Logsdon in the Pueblo Southwest*, edited by Stephen H. Lekson, pp. 139–147. Museum of New Mexico Press, Santa Fe.

Trimble, Stephen
1993 *The People: Indians of the American Southwest*. School of American Research Press, Santa Fe.

Tuan, Yi-Fu
1977 *Space and Place: The Perspective of Experience*. University of Minnesota Press, Minneapolis

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TRACING PATHWAYS

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There is a basic paradox within Pueblo ethnography that has not, to my mind, been given adequate consideration. On one hand, most Pueblo communities repeatedly report a deep sense of attachment to the landscape that immediately surrounds the village. Consider a statement offered at Taos Pueblo:

> "We have lived upon this land from days beyond history's records, far past any living memory, deep into the time of legend. The story of my people and the story of this place are one single story... no man can think of us without thinking of this place… We are always joined together."

This is a statement that frames much of the literature offered by the tribe to outsiders—including their tourist brochures—and as a claim, it's quite familiar to anthropologists. The identity of the Taos community, the statement tells us, is inextricably bound to the Taos landscape; the tribe is of its place and always has been. Most native groups in the Southwest make similar claims from time to time.

Of course, this understanding of the community's identity as tethered and geographically fixed is not just what Taos presents to outsiders; it also has a private ceremonial counterpart. Early ethnographers encountered repeated assertions that the tribe literally emerged out of the earth in the Taos landscape. Different natural features might be used to provide a material referent for this assertion. The sacred Blue Lake, high in the Sangre de Cristo Mountains above Taos Pueblo, was often said to be the actual place where the ancestors made their way up into the present world from the prior one belowground. A small spring in the pasture just outside the pueblo was also sometimes treated as the place of emergence. All of which is to say that, from one perspective, Pueblo communities, like Taos, look downward, into the land, as a means of conceptualizing their identities. They claim to have emerged more-or-less in place.

But there is another, quite different means of reckoning identity that usually accompanies this "vertical" one. At the same time a community might say it emerged in place, right there, out of this spring or that lake, there are

always a great many other indigenous statements detailing the elaborate migration pathways by which different groups made their way to the present community. Within Taos ethnography, one finds stories about how the Day People of the community originated in the Chimney Rock-Piedra district east of Durango before traveling to the northern Rio Grande, or how the Water People emerged near Santa Fe, making their way north over time to arrive in the Rio Grande del Rancho valley where they sojourned for a period before joining the growing community at Taos Pueblo itself. In such clan histories, we confront a kind of "horizontal" identity construction that looks outward, across the landscape, rather than down into it.

At the surface, these two approaches—let us call them vertical vs. horizontal strategies of reckoning corporate identity—would seem to be at odds. What are we to make of the fact that Pueblo communities can simultaneously claim that their ancestors emerged right here, out of the ground in the present landscape, but also that they migrated in from a distant land via a complicated route?

I imagine some would argue that this paradox is simply an artifact of the reservation system, which has had the effect of locking formerly nomadic (or at least, merely "semi-sedentary") peoples in place, resulting in all sorts of new political struggles for control of land. With this in mind, it's worth noting that the Taos statement included above was initially made in the course of the protracted legal battle over Blue Lake and its watershed. We might reasonably speculate, therefore, that the profound tethering of identity it expresses is modern and quite unlike the way of things in pre-reservation times. The paradox, in other words, could be said to mark the degree to which the contemporary Pueblos have awkwardly sought to juggle both their longstanding migration traditions and the new logics of land ownership imposed on them during the colonial era.

But I'm not so sure we're looking at an artifact of the modern age. Nor am I convinced that the apparent contradiction in Pueblo claims about their origins is truly paradoxical. Consider this: what I have presented as contrasting vertical and horizontal strategies do not, in fact, express a distinction between one corporate identity vested in fixed places ("we have lived upon this land from days beyond history's records, far past any living memory") and an opposed corporate identity vested in movement ("we are members of the Day People who have migrated from place A to place B, C, D, and E"). On the contrary, the vertical strategy of reckoning corporate identity—premised as it is on ancestral migrations upwards through prior worlds—is just as premised on movement as the horizontal strategy. Every Pueblo group, in this sense, seems to locate itself along two migration pathways: a comparatively recent trajectory of group relocations from place to place in the present world and a much deeper and more mythic trajectory comprised of migrations (a.k.a., emergences) up from lower worlds. Rather than two competing philosophies, then, we encounter a single understanding of corporate groups as constituted by particular histories of worldly movements.

My guess is that this understanding has roots that extend well back into pre-Hispanic times, at least to the large villages of the Pueblo III era when the distinctive pattern of "short-term sedentism" or "sequential migrations" became widespread. Some years ago I had a conversation about this issue with a friend from Taos Pueblo. We were standing in front of a pre-Hispanic petroglyph panel comprised of two parallel lines of dots extending nearly three meters across the rock face (Figure 1). It was the sort of (apparently) aniconic imagery that has often frustrated archaeological interpretation (a pecked deer glyph is obviously a deer, but a line of dots is…). His reading, however, was that the panel might well be thought of in iconic terms, and he compared it with the Zuni tradition of narrating clan histories by laying out kernels of corn in a line on the floor of the kiva, each kernel representing a different stopping point of the ancestors in the course of their migrations. As with the line of placed kernels on the kiva floor, so too, perhaps, with the line of pecked dots on the rock face: each provides a graphic representation of a people constituted by a history of movement, each history constituted by a horizontal series of places, which are in turn constituted by a vertical series of underlying worlds. Social identity might be understood, then, as residing at the intersection of both these vertical and horizontal movements.

I offer these speculative comments keenly aware that they were of special concern to the late (and deeply missed) Linda Cordell, whose 1995 essay "Tracing Migration Pathways from the Receiving End" remains the clearest statement of the archaeological challenges involved not only in documenting the horizontal movement

of Ancestral Pueblo groups across the landscape but also in coming to terms with the complexity of the new vertical or place-based identities forged at the "receiving ends" of these migrations. "The 'problem'," she suggested, "is that any Pueblo village that is occupied today is most likely made up of descendants of a combined group of those whose ancestors had always been there and those whose ancestors came from one or more distant locations." The scare quotes in Linda's statement are significant; indeed, the pluralism and cultural exchange within Pueblo villages is only a "problem" in the eyes of the archaeologist seeking clear-cut evidence of past migration pathways, and Linda would have been the first to note that the social diversity that characterizes most Pueblo villages, then as now, clearly had many adaptive benefits. What we have begun to realize during the past decade or so, however, is that beyond the issue of communities composed of different groups of immigrants and autochthons lies a deeper question of how each group, or even each individual, could assume the position of both immigrant and autochthon at the same time. This, we are learning, is less a matter of identity than of ontology—of what constituted personhood within the Pueblo tradition.

All of which may partially address the seemingly paradoxical claim of many Pueblo groups that—however far they may have traveled to get there—they have never been from anywhere else. But with respect to the basic archaeological questions of migration and ethnogenesis raised by Linda decades ago, we find ourselves at the beginning all over again, with a great many new interpretive pathways to be traced.

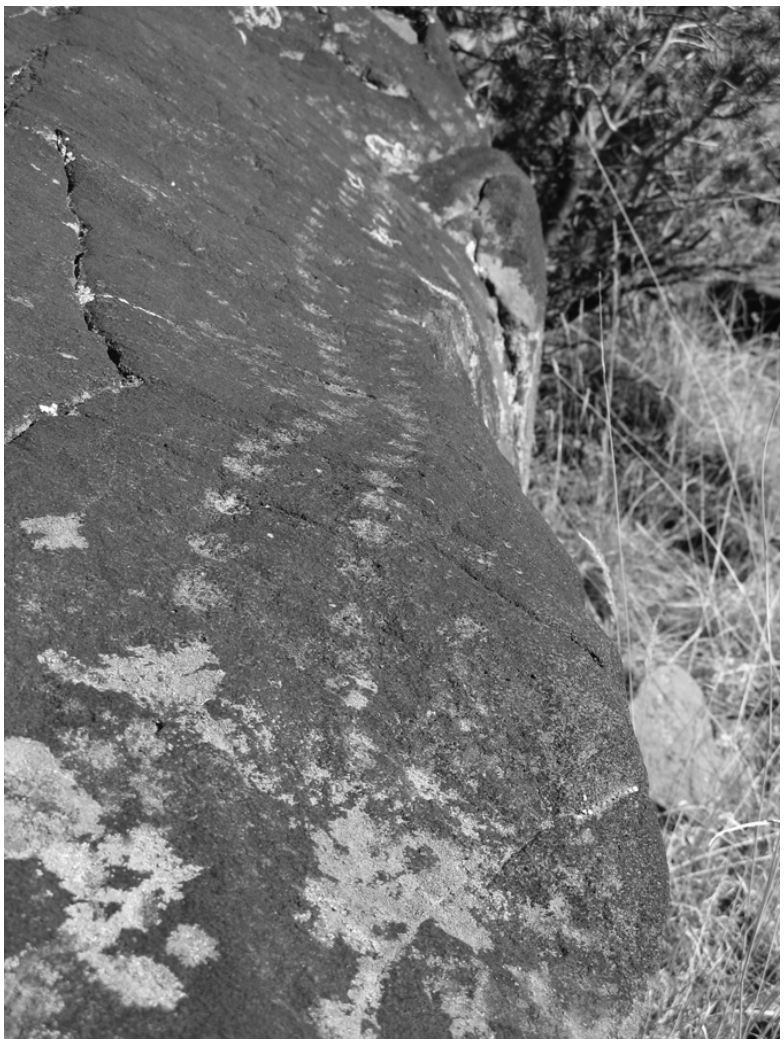

Figure 1. Petroglyph in the Rio Grande Gorge Exhibiting Two Parallel Lines of Dots

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MOBILITY, DIVERSITY, AND POPULATION GROWTH: THE EARLY PUEBLO PERIOD

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Over two decades ago we all but stumbled over the possible links between the early histories of Mesa Verde and Chaco (Windes and Ford 1992). I became intrigued with this possible connection when I did not see a clear continuity between the Pueblo I and II periods in the research results of the Dolores project (1978-1985) in the Mesa Verde region. This project was immense, and our chronology—despite some weaknesses—was adequate to suggest gaps in our potential occupation dates. With ever larger data sets, this initial pattern in the dendrochronological data has become all the more striking, especially for southwestern Colorado. Yet in 1985 the proposal that there was a significant drop in the population in the Mesa Verde region between approximately A.D. 920 and 1020 was far more controversial than it is today.

Our culture histories were simpler and more straightforward then, and a gap in the record simply meant that you were not looking hard enough for sites that dated to that break. The cultural sequences in the Mesa Verde and Chaco were seen as largely distinct (with the exception of the later McElmo phase at Chaco); corrugated gray wares were assumed to have replaced neck-banded gray wares almost simultaneously across the Southwest at approximately 900 AD; and there was no thought that a drop in population in the Mesa Verde region in the tenth century might have had any consequence for what was occurring at that same time in the San Juan Basin. Maybe other scholars knew better, but most of us struggled with the conventional wisdom of the time. However, the apparent gaps in each region's settlement histories and the relatively abrupt changes seen in settlement patterning challenged these conventions. In addition, innovative research on community centers and household mobility by scholars such as Varien (1999) offered more satisfying explanatory models of regional change.

We now study Mesa Verde's past with much greater input from descendent communities, and we perceive much more cultural diversity and mobility within past occupations. These changes have brought an increasingly regional view of the changes between A.D. 600 and 950 and current research focuses far more on large and small-scale population movements, deep cultural histories, and social networks than I could have imagined 25 years ago. Population growth is no longer restricted to low growth rates (Kohler and others 2006) and change is not necessarily perceived as gradual. For the early Pueblo period many of our current research questions require that we understand developments both within and between regions.

So, when Greg Schachner, Jim Allison, and I organized the chapters of the *Crucible of Pueblos* (2012), we recognized that to track the rise of early farming societies across seven regions of the northern Southwest between A.D. 650 and 950 we necessarily had to pull together a wide range of data on settlement histories, paleodemographic estimates, and assessments of regional and interregional population movement. To tease out the role of mobility and sedentism in these changes—for even a single region—required large, relatively well-dated samples of excavated and surveyed sites. Within regions such as Mesa Verde the data allowed us to do more. For example, earlier research (Wilshusen and Ortman 1999) suggested it was possible to detect simultaneous occupations of different cultural groups with distinct patterns of organization and yet overlapping histories. Recent investigations (Potter and Perry 2011), as well as several chapters in the book, reinforced this proposal of culturally diverse and relatively mobile populations within other early Pueblo village settings based on a variety of detection methods.

And as we have gained control over these early village histories, we have been able to document that early "great houses" (Windes 2004)--places housing a sociopolitical community leadership--may have their origins in community gatherings/potlucks of hundreds of people from groups organized by principles of dualism or complementarity (Wilshusen, Ortman and Phillips 2012). Depending on whether the gatherings occurred at early oversized pithouses, great kivas, or dance circles potentially may have set up different political principles that ultimately determined whether

communities were organized around more rigidly structured great houses or ritually structured great kivas. In the sixth and seventh centuries these ideas as well as people moved across wide landscapes. Some of the first great houses of the ninth century may have been north of the San Juan River (Wilshusen and Van Dyke 2006), which further confounds the conventional wisdom of two decades ago. The early Pueblo period in Mesa Verde and Chaco presents a much messier and much more dynamic looking cultural landscape than we thought possible 25 years ago, but the picture than emerges looks more and more like real people making complex and difficult decisions as farmers living on and moving across an ever-more densely populated, and potentially contested, landscape.

References Cited

Kohler, Timothy A., Matt Pier Glaude, Jean-Pierre Bocquet-Appel, and Brian M. Kemp
2008 The Neolithic Demographic Transition in the U.S. Southwest. *American Antiquity* 73:645–669.

Potter, James M., and Elizabeth M. Perry
2011 Mortuary Features and Identity Construction in an Early Village Community in the American Southwest. *American Antiquity* 76:529-546.

Varien, Mark D.
1999 *Sedentism and Mobility in a Social Landscape: Mesa Verde and Beyond*. University of Arizona Press, Tucson.

Wilshusen, Richard H., and Scott G. Ortman
1999 Rethinking the Pueblo I Period in the Northern Southwest: Aggregation, Migration, and Cultural Diversity. *Kiva* 64:369–399.

Wilshusen, Richard H., Scott G. Ortman, and Ann Phillips 2012
2012 Processions, Leaders, and Gathering Places: Changes in Early Pueblo Community Organization as Seen in Architecture, Rock Art, and Language. In *Crucible of Pueblos: The Early Pueblo Period in the Northern Southwest*, edited by Wilshusen, Richard H., Gregson Schachner, and James R. Allison, pp. 198-218. Cotsen Institute of Archaeology Press, University of California, Los Angeles.

Wilshusen, Richard H., Gregson Schachner, and James R. Allison (editors)
2012. *Crucible of Pueblos: The Early Pueblo Period in the Northern Southwest*. Cotsen Institute of Archaeology Press, University of California, Los Angeles.

Wilshusen, Richard H., and Ruth Van Dyke
2006 Chaco's Beginnings: The Collapse of Pueblo I Villages and the Origins of the Chaco System. In *The Archaeology of Chaco Canyon: An 11th Century Pueblo Regional Center*, edited by Stephen H. Lekson, pp. 211–259. School of American Research Press, Santa Fe.

Windes, Thomas C., and Dabney Ford
1992 The Nature of the Early Bonito Phase. In *Anasazi Regional Organization and the Chaco System*, edited by David E. Doyel, pp. 75–85. Anthropological Papers 5. Maxwell Museum of Anthropology, Albuquerque.

Windes, Thomas C.
2004 The Rise of Early Chacoan Great Houses. In *In Search of Chaco: New Approaches to an Archaeological Enigma*, edited by David Grant Noble, pp. 14–21. School of American Research, Santa Fe, New Mexico.

SETTLEMENT STABILITY AND HOUSEHOLD MOVEMENT DURING THE PITHOUSE PERIOD IN THE MIMBRES REGION OF SOUTHWESTERN NEW MEXICO

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Groups living in the Mimbres River Valley of southwestern New Mexico during the Late Pithouse (A.D. 500-1000) and early Classic periods (A.D. 1000-1100) do not exhibit the same patterns of movement seen elsewhere in New Mexico and even later (post A.D. 1150) in the Mimbres region. Instead, they have long-term ties to particular localities, with continuity in occupation visible at some sites from at least A.D. 500 to 1100. This stability in the use of particular locations on the landscape does not necessarily correlate with long-term sedentism, however. Instead, the situation appears similar to what Varien (1999) has described in the Mesa Verde region of southern Colorado, with sedentism and mobility practiced as complementary strategies and long-term settlement stability coupled with household movement.

The interpretation of this pattern depends in part on the aspect of movement that one focuses on. For example, looking at a site like NAN Ranch Ruin in the Mimbres River Valley, which exhibits clear evidence of continuity in occupation from the Pithouse through the Pueblo period (Shafer 2003), provides a sense of extreme stability with strong roots to a particular spot along the river. However, expanding out from sites located in these key spots to incorporate the network of sites surrounding them complicates this picture. These surrounding sites represent a range of mobility strategies from temporary resource procurement to small seasonal farmsteads to large satellite villages that were occupied for one portion of the temporal sequence.

My work at two upland Pithouse period sites away from the Mimbres River Valley and at the Harris Site, a large Pithouse period site located along the Mimbres River that lacks a Classic period component, illustrates some of the complexities involved in discerning movement in Mimbres populations. Work on the Pithouse component at the Lake Roberts Vista (LRV) site (Roth 2007) and at La Gila Encantada (Roth 2010) showed that some groups remained relatively mobile through the San Francisco (ca late A.D. 600s) and early Three Circle phases, then shifted to becoming more sedentary and agriculturally dependent at some point during the late A.D. 700s. What was not clear from this work, however, was the relationship of these more "rural" occupations to those in the Mimbres River Valley, where large pithouse villages inferred to represent sedentary villages had been documented beneath the major pueblos in the valley. Was the trajectory different at the riverine sites and was there more sedentism and agricultural dependence early in the sequence? Or were these differences a function of the database, given that most of the excavated pithouse components at the large Mimbres Valley sites were beneath pueblos?

Recent fieldwork at the Harris Site has shed substantial light on these issues. The site is known for excavations done in the 1930s by Emil Haury (1936), who excavated 34 pithouses and used the data in his definition of the Mogollon as a distinct cultural group. The site has houses dating to all phases of the Late Pithouse period (Georgetown, San Francisco, and Three Circle) but lacks a pueblo component so it was possible to reconstruct the village lay out and examine issues such as sedentism and social organization using pithouse data. Our excavations have focused on the north end of the site, north of where Haury excavated. Our results show that Harris is substantially different than the Pithouse period sites away from the river. Harris began as a small agricultural village during the Georgetown phase, but quickly became a large, bustling village. Our excavations have shown that land-holding family groups established households at the site by A.D. 600 and continued to live there through the A.D. 900s. We can trace the development of clusters of pithouses that we think are extended family households from these initial occupants. I refer to these as founding households, akin to the core households described by Harry Shafer (2003) at the NAN Ranch Ruin. They are represented by large superimposed structures that anchor clusters of related houses that share distinct characteristics (Roth 2012). Several of the superimposed structures contain burials that suggest that ancestry and perhaps land tenure were important to the families that occupied them. Two of the houses that we excavated and one that Haury excavated contained wealthy child burials (with shell, turquoise, and numerous ceramic vessels) in the floor of the lower house. Another one that we excavated contained an adult female buried in the trash but with the burial pit excavated through the floor of the upper house so she was seated on the floor of lower house. This suggests long-term connections to the site (and land) associated with specific households and supports the inference of long-term sedentism for some households.

Not all households at the site represent this pattern, however. Instead, it appears that village life at Harris was typical of ethnographically documented villages in that the social composition waxed and waned with population movements. While the clustered pithouses represent long-term sedentism, other autonomous households were dispersed across the site away from the clusters and lack the traits that the clustered pithouses share. These houses are clearly tied to the village and likely participated in activities taking place in the central plaza and kivas, but they were only occupied for the lifetime of a pithouse (25-30 years) and then abandoned, and lack any evidence of remodeling or superpositioning. It appears that some families moved into and out of the village on a regular basis, exhibiting a level of household mobility within an otherwise long-term sedentary occupation. It is likely that some of these households were moving to sites like LRV and La Gila Encantada. Social processes likely explain this movement, with groups moving out as factions developed and opting to go to smaller sites away from the tempo and intensity of the large riverine villages, while others moved for marriage or to join other family members at nearby sites.

We do not know why there was no pueblo built at Harris, but it is unique in the valley as the only large Pithouse period village that lacks a pueblo component. The core pueblo households documented at sites like Galaz, NAN, and Old Town likely developed from extended family households represented by the pithouse clusters at Harris; as others have suggested (Shafer 2003; Schachner 2010), it is easier to accommodate extended family corporate groups with pueblo architecture - but this did not happen at Harris. Instead, the occupants dispersed – some to several smaller pueblo sites in the vicinity of Harris, others perhaps to Mattocks, a large pueblo located about a mile south from Harris, and others probably farther afield.

The lesson from all of this in terms of movement during the Pithouse period is that the degree of movement depends on which family you look at. Some stayed for generations, some moved regularly. This pattern of sedentism and movement appeared to work quite well for many centuries, making the later movement out of the valley (see Lekson, this volume) even more intriguing.

References Cited

Haury, Emil W.
1936 *The Mogollon Culture of Southwestern New Mexico*. Medallion Papers No. 20. Gila Pueblo, Globe.

Roth, Barbara J.
2007 The Late Pithouse Period Occupation of the Lake Roberts Vista Site. In *Exploring Variability in Mogollon Pithouses*, edited by Barbara J. Roth and Robert Stokes, pp. 5-11. Arizona State University Anthropological Research Papers No. 58, Tempe, Arizona

2010 Archaeological Investigations at La Gila Encantada (LA 113467), Grant County, New Mexico. Report submitted to the Archaeological Conservancy, Southwest Division, Albuquerque, New Mexico.

2012 Current Investigations at the Harris Site, Southwestern New Mexico. In *Collected Papers from the 16th Biennial Mogollon Archaeology Conference*, edited by Lonnie C. Ludeman, pp. 95-100. New Mexico State University, Las Cruces.

Shafer, Harry J.
2003 *Mimbres Archaeology at the NAN Ranch Ruin*. University of New Mexico Press, Albuquerque.

Varien, Mark D.
1999 *Sedentism and Mobilitiy in a Social Landscape: Mesa Verde and Beyond*. University of Arizona Press, Tucson.

IN, OUT, THROUGH, AND BEYOND MIMBRES

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Southwestern New Mexico, in ancient times, had more strange visitors from more different directions than the Star Wars cantina: Hohokam, Anasazi, Kayenta, Tularosa, Mesa Verde, Salado and Casas Grandes. Borders then were as porous as now. In this essay, I riff on the good work of people named below (and others unintentionally unnamed; sorry!), and my own work on the Rio Grande and upper Gila. Brevity allows only a few direct references.

Hohokam

There's plenty of evidence for Hohokam interests in Late Pithouse period Mimbres: cremation burials, palettes, glycymeris bracelets, and of course Hohokam pottery (and Boldface at Hohokam sites). Hohokam inspiration seems clear for animal images on Boldface (Style I) and Transitional (Style II) pottery (Lekson 2006). Michelle Hegmon and Peggy Nelson acknowledged this evidence, but concluded that Mimbres and Hohokam were "in synch but barely in touch" (2007). Darrell Creel, in conference papers and soon-to-be-published chapters argues for much closer Hohokam connections in the Mimbres Valley. I agree with Creel, and I think Mimbres and Hohokam were not just in synch, but very nearly touched: a big Hohokam site with a large ballcourt near Safford AZ is less than 40 km and only one river-narrows away from what appears to be a large Mimbres site in the Duncan-Virden Valley (it's certainly a big site and it's most probably Mimbres – that remains to be nailed down). Pat Gilman's work around Safford and in the western Mimbres area, and Jakob Sedig's at Woodrow Ruin near Cliff NM should shed light on this topic, as will Barbara Roth's research at the Late Pithouse Harris site in the Mimbres Valley (Roth, this volume).

Anasazi

Late Pithouse period became the Mimbres phase during momentous times: the retrenchment of Hohokam and, at the same time, the expansion of Chaco. Like a weathervane, Mimbres spun from Hohokam's west to Chaco's north . There's essentially no Mimbres pottery at Chaco, and very little Chaco pottery in the Mimbres area; that tells us, I think, that pottery distributions map some kinds of interactions but miss others. Mimbres – theretofore content in pit houses – suddenly had stone pueblos, "kivas," corrugated jars, and its famous black-on-white bowls with northern-looking designs – the stuff Kidder thought should have been made at Chaco! Emil Haury, who defined Mogollon in the 1930s, saw Mimbers as evidence of Anasazi "swamping" – if not people, then Anasazi ideas. That notion isn't popular among Mimbres archaeologists, but I think Haury was right: otherwise we have to accept Mimbres' independent invention of indented corrugated pottery and ventilator shafts – two very peculiar things, among many other less peculiar things – when prototypes existed to the north. There's more, of course: "roads" (at Old Town; Creel 2006) and Great House wannabes (my opinion, but no one else's). Beyond all that, moreover, is the remarkable simultaneity of Mimbres's and Chaco's rises and falls. Mimbres to Chaco is a bit more of a stretch than Late Pithouse to Hohokam. The Chaco Great Houses nearest to major Mimbres sites are between 100 km to 150 km distant. Far, but not too far. It probably was a two-way street: some of the ceramic innovations that we might call "northern" may have appeared earlier in Mimbres! And – who knows – maybe Chaco's macaws came through Mimbres brokers.

Post-Mimbres Intrusions/Confusions

The Post-Mimbres period (1150-1250/1300) in southwestern New Mexico is a welter of sub-regional taxons and chronologies: Terminal Mimbres, Postclassic Mimbres, Black Mountain, Early El Paso (Hegmon and others 1999). The biggest Mimbres villages were abandoned, more-or-less. More, I think, than less: evidence for very small remnant populations at otherwise empty villages is very aptly called Terminal Mimbres, the last vestiges of old-school Mimbres. Many Mimbres populations left their old towns and moved to upland hamlets (Peggy Nelson and Michelle Hegmon's Postclassic Mimbres in the eastern Black Range). Others "changed clothes" and carried on: in the Mimbres Valley, Black Mountain phase villages were established at or near many of the old abandoned towns (Darrell Creel, Matt Taliferro and Katy Putsavage are working on Black Mountain sites). But not in the Gila, of which more below. For questions of movement, the issue is continuity or discontinuity between Mimbres and Black Mountain is key. Harry Shafer and Steve LeBlanc say "discontinuity" while Darrell Creel and others say "continuity" If the former, then Black Mountain is a replacement population and yet another intrusion into the Mimbres region, perhaps from Casas Grandes (LeBlanc's argument).

Black Mountain and its allied post-Mimbres taxons occupied the eastern and southern fringes of the old Mimbres heartlands: the Black Range, the lower Mimbres River, but not – apparently – the valleys of the Gila. After a decent interval, the first of two waves of northern peoples moved into the apparently deserted Gila valley (Huntley 2012): Kayenta immigrants who arrived in southeastern Arizona by 1250, and probably in the Upper Gila at about the same time (Hilltop Ruin, near Cliff NM, produced two tree-ring dates at 1243). Maverick Mountain pottery – the calling card of the Kayenta intrusion – is found in the upper Gila and beyond, indeed isolated vessels travelled well into the Jornada area. And it's worth noting that Jornada brownwares and El Paso Polychromes make up large proportions of ceramics at many Post-Mimbres sites (Terminal and Postclassic Mimbres, Black Mountain, even Mesa Verde manqué!). At the north edges of the old Mimbres region, Tularosa populations sagged south into the northern fringes of the old Mimbres world, and at the extreme northeast of the old Mimbres world, Mesa Verde migrants reached as far south as T-or-C (an area researched by ASU's Eastern Mimbres Project and Karl Laumbach's Canada Alamosa Project).

Salado and Casas Grandes

After 1300, things get even more interesting. A second wave followed the Kayenta into the Upper Gila, and sent outposts over to the Mimbres and beyond: Salado! Simultaneously, Casas Grandes sites appear in the NM "bootheel" and elsewhere south of I-10 (Christine Van Pool, Todd Van Pool and Gordon Rakita are researching a Casas Grandes site (76 Draw) south of Deming NM). We know that Casas Grandes pottery in quantity reached well into the old Mimbres area, at Salado sites on the Gila River (Lekson 2002); for example, Dutch Ruin near Redrock, which controlled ricolite sources favored by Casas Grandes artisans. And a great deal of Salado polychrome was found at Casas Grandes, including a locally made Gila-Poly-knock-off, Escondido Polychrome. Casas Grandes was a political/commercial system, with a capital and a region (in my book, at least). Salado is more diffuse: a cult? Perhaps, but also in the Upper Gila and presumably the Mimbres valley, a people: Archaeology Southwest is chasing Salado into the Upper Gila.

Conclusions

The Mimbres region was neither isolated nor autochthonous. It was always connected to a much larger world – or, rather, to larger worlds. The Late Pithouse period paid much attention to Hohokam, the following Mimbres phase paid equal attention to Chaco Anasazi. Thereafter, the old Mimbres region was colonized, proselytized, and otherwise hybridized by a remarkable range of "outside" influences and peoples. Movement early and often: in, out, through and beyond Mimbres.

References Cited

Creel, Darrell
2006 *Excavations at the Old Town Ruin*. Cultural Resource Series 16(1). BLM, Santa Fe.

Hegmon, Michelle and Margaret Nelson
2007 "In Synch, but Barely in Touch." In *Hinterlands and Regional Dynamics*, ed. A.P. Sullivan and J.M. Bayman, pp. 70-96. University of Arizona Press, Tucson.

Hegmon, Michelle and others
1999 Scale and Time-Space Systematics in the Post-AD 1100 Mimbres Region. *Journal of Anthropological Research* 65(2):217-40.

Huntley, Deborah L. (ed.)
2012 *A Complicated Pattern: Pursuing the Meaning of Salado in Southwestern New Mexico.* Archaeology Southwest 26(3-4).

Lekson, Stephen H.
2002 *Salado Archaeology of the Upper Gila*. University of Arizona Press, Tucson.

Lekson, Stephen H.
2006 "Whence and Wither Mimbres?" In *Archaeology of the Mimbres Region* by S.H. Lekson, pp vii-xxi. BAR International Series 1466, Oxford.

Lekson, Stephen H. and others
2002 Migrations in the Southwest: Pinnacle Ruin. *Kiva* 68:73-101.

Useful Websites

Woodrow Ruin: http://woodrowruinarchaeology.wordpress.com/
Desert Archaeology & Salado: http://www.archaeologysouthwest.org/what-we-do/investigations/salado/m_and_c_iii/
Canada Alamosa Project: http://www.canadaalamosaproject.org/
Eastern Mimbres Project: http://shesc.asu.edu/research/projects/eastern-mimbres-archaeological-project

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FOOTPATHS AND GIS ANALYSIS: A SHOT ACROSS THE BOW

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I remember looking over Trevor Kludt's shoulder as he examined the data collected for a 3,000 acre survey we had done for Fort Bliss using the new TRU system we had developed. He was looking at the distribution of ceramic artifacts in one of the survey blocks and was focusing on a rather dense area indicating a Formative period site. I noticed several linear distributions of ceramics radiating out from the site and disappearing out of our survey area. I commented that those linear distributions might indicate a trail. Trevor's reaction was a 'guffaw', but after several minutes of pondering he changed that initial reaction to a 'maybe'. We called over Dave Kuehn, our geomorphologist at the time, to take a look. The ceramic distribution was overlaid on a color DOQ and Dave could see the general terrain. He too was skeptical, initially preferring to go with the more likely explanation of post-depositional erosion as the explanation. But we were intrigued and a field trip was arranged. The short of it was that field trip confirmed to Dave that the landforms upon which the 'trails' were laid did indeed look stable. This was further supported by the presence of several concentrated pot drops along the trails. We traced the trail system out to the south for a ways to confirm it did continue, possibly to Escondido Pueblo, to the south.

Trevor wrote up the results and added a good discussion on the development of paths and trails (Kludt and Church 2007) and we presented a subsequent paper at the Jornada Conference in 2007 (Church, Kludt, Kuehn 2007). Based on this others began reporting similar linear ceramic distributions based data gathered using our new TRU technique. Shortly after Shaun Philips, a GIS specialist working for Geo-Marine at the time requested our data from the initial survey for further analysis. I immediately sent off the data. Phillips compared gathered data from identified footpaths in the Tularosa Basin to the results of least-cost path analysis. He concluded that our original paths did conform to the expected least-cost paths.

More recently other possible trails have been reported on Fort Bliss and elsewhere (Church and Boggess 2012), most of them using least cost path analysis as a confirmation tool. This is where I have to sound a cautionary note. **A linear distribution of ceramic debris even if conforming to a least cost path analysis is insufficient to demonstrate the linear ceramic patterning is a footpath.**

Least Cost Path Analysis

Least-cost path analysis has become a favorite tool among archaeologists, mainly because it is readily accessible and user-friendly in the ArcGIS 9+ GIS software program (e.g., Howey 2011; Nolan and Cook 2012; Verhagen 2013). However, there are a number of assumptions that go into a least-cost path analysis. For example, least cost path analysis, as has been pointed out by the authors of some reports on these footpaths, takes into account only terrain, not such additional

confounding factors such as vegetation or soils. And, the analysis itself has certain limitations that are often overlooked. These have been examined in some detail by Irmela Herzog (2008, 2012a, 2012b, 2013b).

To the author's knowledge no investigations subsequent to our initial one has evaluated the geomorphology of the footpaths. Even Dave Kuehn's evaluation of the geomorphology of our footpaths should be improved upon by actual dating of these surfaces. Given, that a geomorphological evaluation of the footpaths is a key criterion (as discussed below) in supporting the interpretation as a footpath.

Validating Criteria

When Dave Kuehn threw down the flag and demanded a 'time out' so that the geomorphic viability of the potential footpaths could be determined he was absolutely right (if not a bit irritating at the time). We can't jump to the conclusion that a linear scatter of ceramics marks a footpath. We have to have to treat any such identification as a hypothesis requiring testing. In her review of the recently published book, *Least Cost Analysis of Social Landscapes, Archaeological Case Studies* (White and Surface-Evans 2012) Irmela Herzog notes that of the 11 studies presented in the book 7 provided no validating data(Herzog 2013a). They rely on the reader's belief alone. This is what makes the discovery of physical evidence of footpaths so interesting, we have something tangible to explore, rather than just a computer model.

To demonstrate that a linear distribution of ceramics is 'likely' (I use likely because sans a time machine we cannot prove it was footpath, we must instead rely on eliminating other possibilities, as science dictates) a footpath it must have:

1) A linear distribution of ceramic debris.
2) The distribution resides on a demonstrable stable land surface at least as old as the ceramics indicate.
3) Erosion must be ruled out as a major factor in the formation of the ceramic distribution.
4) Potdrops should be should be present.
5) There should be every effort to establish the beginning and end points of footpath segments. These points should make 'sense', e.g. a residential site, a water source, a field, etc. Linear distributions that simply 'go nowhere' should be suspect.

Of the above, criterion 2 is key, without that any identification of footpaths cannot be supported. I cannot emphasis this point enough.

I am pleased that our initial work has resulted in some interesting subsequent work, but I worry that some are making the proverbial 'mountains out of molehills' rushing into interpretation of trail systems before they have adequately demonstrated the existence of the trails themselves. This is not how science works; science is the process of finding the flaws in our hypotheses. It is about failing more than succeeding. We should not be afraid of reporting our failures. Possible footpaths that simply can't be supported by the application of the above criteria should be reported because this will help us refine our methods and interpretations, and avoid mistakes already made. Burying a 'failed' investigation is simply a waste of everyone's time and money, and professionally indefensible.

References Cited

Church, Tim and Doug Boggess
2012 *Looking over the Edge: A High-resolution Surevy of the 17,795 acre Maroon Cliffs Special Management Area*, Carlsbad District, Bureau of Land Management, Carlsbad.

Church, Tim, T. Kludt, and D. Kuehn
2007 "Unseen" Ancient Paths in the Tularosa Basin. In, *Viva La Jornada!: Papers from the 14th Biennial Jornada Mogollon Conference*, J. Jurgena, L. Jackson, and M. Thompson, eds, pp. 95-110. El Paso Museum of Archaeology, El Paso.

Herzog, Irmela
2013a Review of Least Cost Analysis of Social Landscapes: Archaeological Case Studies. *Internet Archaeology* 34 http://dx.doi.org/10.11141/ia.34.7.

2013b Theory and Practice of Cost Functions. In *Proceedings of the 38th Annual Conference on Computer Applications and Quantitative Methods in Archaeology, CAA 2010*, F. Contreras, M. Farjas, and F.J. Melero (eds), pp. 375-382. BAR International Series 2494.

2012a The Potential and Limits of Optimal Path Analysis. In, *Computational Approaches to Archaeological Spaces*, A. Bevan and M. Lake (eds.), pp. 179-211. Left Coast Press.
2012b Calculating Assessibility. In, *Proceedings of the 40th Conference on Computer Applications and Quantitative Methods in Archaeology, CAA 2012 in Southampton*.
2008 Tilt-Slope-Dependent Least Cost Path Calculations Revisited. In, *On the Road to Reconstructing the Past. Computer Applications and Quantitative Methods in Archaeology (CAA)*, E. Jerem/F. Redő/V. Szeverényi (eds.), pp. 236-242.

Howey, Meghan C.L.
2011 Multiple Pathways across Past Lansscapes: Circuit Theory as a Complementary geospatial method to least cost path for modeling past movement. *Journal of Archaeological Sciences* 38(10): 2523-2535.

Kludt, Trevor and Tim Church
2007 *Pathfinding on McGregor Range: Archaeological Survey of Approximately 8,000 acres on Fort Bliss, New Mexico*. Historic and Natural Resources Report 560-8, Fort Bliss.

Nolan, Kevin C. and Robert A. Cook
2012 A Method for Multiple Cost Surface Evaluation of a Model of Fort Ancient Interaction. In, *Least Cost Analysis of Social Landscapes: Archaeological Case Studies*, edited by DA White, and S Surface-Evans. University of Utah Press.

Verhagen, P.
2013 On the Road to Nowhere? Least Cost Paths, Accessibility and the Predictive Modelling Perspective. In, *Proceedings of the 38th Annual Conference on Computer Applications and Quantitative Methods in Archaeology*, F. Contreras, M. Farjas and J.F. Melero (eds.), pp. 383-390. Archaeopress, Oxford.

White, Devin A., and Sarah L Surface-Evans
2012 *Least Cost Analysis of Social Landscapes: Archaeological Case Studies*. University of Utah Press, Salt Lake City.

It was nice to see Pat Beckett at the 2013 Pecos Conference.
We all wish him well.

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