Patterns of Resistance: Violence, Migration, and Trade in the Gallina Heartland

Lewis Borck

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TO MAYA LOU AND ZOE MARIE

My daughters, without any effort beyond breathing, laughing, and loving, reawakened the humanity of the past for me. It is hard to study conflict. It is harder now that I need to take a moment to compose myself after reading a quick, dry account of a toddler’s remains trapped in the ventilator shaft of a burned structure. The pure, naked fear that must have flowed through the thoughts of those parents and that poor child overwhelm me. As archaeologists, we must respect that. We must remember that we build our careers on past lives and we need to remember that those past lives were as filled with happiness, love, sadness, fear, and occasionally terror as ours are today. More importantly, we should recognize the pain that occurred in the past. Ignoring it only hurts our research and our humanity. So, I suppose in a way this is a dedication to the prehistoric inhabitants of the Gallina highlands, as well. I hope I have done your story justice.
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CHAPTER 1: INTRODUCTION AND PROBLEM STATEMENT

A jigsaw puzzle should not be left unfinished. After all, how will you know that it is Elvis shooting pool with James Dean if all you have are the outlines of the puzzle and a mound of mixed up pieces in the center of the card table? Archaeological interpretations can resemble unfinished puzzles; bare outlines–sometimes with the wrong pieces jammed into place–from which we try to reconstruct entire past cultures. After completing such a reconstruction, archaeologists then move on and attempt to answer more relevant historical and anthropological questions. This can only happen, though, if the puzzle was correctly reconstructed.

The areas that surround the Gallina region have been the subjects of over a century of archaeological research. Yet a gap exists in the archaeological knowledge of their intervening spaces, of their marginalia. Seemingly, from the core, in both prehistory and in modern archaeology, the periphery appears empty. This is likely more apparent than real in prehistory, though. Some of the reason for this neglect, in the Gallina region at least, is an apparent stasis in newer interpretations. This is partly a product of the marginal nature of the Gallina and their proximity to Chaco Canyon and Mesa Verde - two vastly more scholastically “sexy” subjects in American archaeology. Forward movement is occurring thanks to a small, dedicated group of investigators (Bremer 2010; Constan 2011; Massouh 2009; Myers 2007; Simpson 2008; Sleeter 1987), but the overall dearth of interest in this area has limited the production of new research.

This drought of inquiry is not only detrimental to researchers interested in the Gallina, or other peripheral groups, but to all archaeologists working in the northern
Southwest. Investigators must recognize that peripheral groups are, and were, active agents in the construction and maintenance of their culture, environment, and landscape, not just by-products of the nearby cultural cores. By being active agents, they necessarily affected the cultural arc of neighboring societies. Only by fully integrating our understandings of the core areas with the peripheries, and vice versa, can archaeologists correctly connect the jigsaw puzzle of prehistory (Figure 1).

**Problem Statement: Violence and Spatial Analysis**

The goal of this paper is to develop and apply a spatial approach to determining whether the instances of violence in the Gallina region are the product of internal or external conflict. This question has previously been approached in a number of nonspatial ways, such as recording the presence of intrusive rock art from contemporary groups or stylistically distinct projectile points embedded in human remains. By using spatial analysis, researchers can still determine whether the violence originated from inside or outside of the group in situations that lack those unique lines of evidence. This has largely been approached archaeologically and ethnographically by analyzing no-man’s lands and site clustering (Chagnon 1977:120; Ferguson 1984; Haas and Creamer 1985; LeBlanc 1999; Sleeter 1987:60-74; Upham and Reed 1989:159). Frequently, though, even if the perpetrators were outsiders, it is difficult to determine which particular groups were doing the attacking.

In the Gallina district, it is still unclear whether the violence originated with domestic (i.e. local) or foreign agents. This analysis will begin with a brief review of the relevant archaeology of the Gallina area. Following this, I set out to understand who the aggressors might be in this region by employing macroregional spatial analyses in two
different case studies. Spatial analysis is ideal for understanding the source of violence in a region. For one, it is applicable at various scales. This is especially important in determining violence between local groups versus violence across a regional landscape. It is only by understanding the spatial patterns of violence that researchers can comprehensively demonstrate the difference between local versus regional, internal versus external patterns.

In the first case study, I examine evidence of trade ceramics in the Gallina and the Northern Rio Grande regions to determine possible avenues of movement of these ceramics into the Gallina region. This is followed up by a microregional analysis of two communities with evidence of trade ceramics to determine against whom, if anyone, they may have been defending themselves. For this case study, I conclude that the location of structures within the communities is more suggestive of internal conflict, but not necessarily violence.

The second case study situates the Gallina cultural area within pan-regional processes that were occurring at the end of the 13th century. In this study, using a modified form of least-cost mapping, I model multiple, probable migration routes from sites in the Four Corners to immigrant settlements in the Lower Rio Chama and Northern Middle Rio Grande areas. These modified cost paths more effectively model human decision-making strategies during long distance travel than traditional least-cost path analyses. Once the migration routes are determined, all known Gallina sites with direct skeletal evidence of violence are plotted in comparison to these routes. Most of these sites are positioned along two of the probable migration routes. A chi-square analysis indicates that it would be statistically improbable for this site patterning to occur by
chance. Consequently, based on both of these case studies, it appears that the prehistoric violence in the Gallina highlands originated from both internal and external sources.

Additionally, the findings of these studies, along with two of the most important artifacts from this region – the pointed bottom pot and the pit house – are examined through theoretical frameworks of innovation and learning to further explore the cultural process that were occurring within the Gallina region. These cultural processes, while comprising the meat of what artifactually makes the Gallina unique, are explained as reactionary to what was occurring in the Chacoan and Mesa Verdean spheres. In the process of examining spatial patterns on a regional scale, the Gallina area is situated within the larger regional context of Southwestern prehistory. In this way, my research presents a case study in which regional processes can be better understood when peripheral groups are included in the analyses.

To wit, researchers continually lay the onus of “war-like” on the Gallina population. If the conflict originates internally, then this is correct. However, if it originates externally, the sheer number of Gallina dead, as opposed to those from the attackers, would indicate that if the Gallina were war-like, they were particularly ineffective warriors. The question of whether the violence in this area originated within the Gallina culture and only affected their own populations or was between the Gallina and an external group needs to be addressed so that more rigorous and comprehensive models of past behavior can be created.
CHAPTER 2: PREVIOUS RESEARCH

The geographic region occupied by the Gallina (Figure 2) covers an area of high altitude elevations (Harrill 1983:202-203) with inaccessible mesas, finger ridges, razorbacks, sheer cliffs, and deep canyons. This extreme ruggedness likely facilitated and emphasized the “traditional” archaeological interpretation of the Gallina as “isolated” (Sleeter 1987), or even as refugees (Schulman 1950:293) from the contemporary cultural processes of the Southwest during the Pueblo II and III periods. Pendleton, though, noted that in many regards the isolation of the region is really just a product of modern bias toward particular modes of transportation when he wrote that “[t]he country is quite accessible from any direction to a man on foot” (Pendleton 1952:152). Whatever the reality, this perceived isolation is often used to interpret the Gallina as “backwards” in their worldviews and lifeways (Stuart and Gauthier 1981:93). Furthermore, it is possible that this geographical isolationist view has biased prior research (Sleeter 1987:40). However, two perennial rivers – the Rio Gallina and the Rio Chama – flow through the region. As natural travel routes, one must wonder just how geographically isolated this area actually was.

The Gallina were removed from, or never placed within, the arc of southwestern prehistory by the tunnel vision of early archaeologists. Comprehensive literature surveys by outside researchers were, for many years, the only occasions where this culture was resituated within the broader Southwestern cultural sequence (Cordell 1979; Crown et al. 1996; Turner and Turner 1999; Wilcox and Haas 1994).
While macro-regional scale analyses are rare in the Gallina region, some researchers have focused on large-scale settlement pattern analyses (Baker and Langenfeld 1990; Ellis 1991; Ireland 1984; Sleeter 1987, 1990). The majority of investigators, however, have tended to focus on individual sites. This micro-scale focus has contributed to the separation of the Gallina area from the regional context and, thus, has limited our understanding of regional spatial and temporal processes (Anschuetz 2006; Cartledge 1988:E-6). Nonetheless, without these more localized investigations there would be no way to extrapolate to a bigger picture. Only a more landscape focused, diachronic perspective, utilizing these site level analyses, will allow us to parse out patterns at a macroregional scale.

To facilitate this broader picture, we first need to understand what makes the Gallina culture unique in the region. Primarily, researchers use the materials recovered from the Gallina region to argue for a culture distinct from the general arc of Ancestral Pueblo prehistory (Ellis 1988; Green 1962, 1964; Hibben 1938, 1949; Mera 1935:8). This separation is occasionally questioned (Lancaster 1983; Langenfeld and Baker 1988), though. This interpretive dispute arises partly because the Gallina artifact assemblage is simultaneously ordinary and unique in comparison to other Ancestral Pueblo material. For instance, while Gallina ceramic technology and design styles fit within the normative standard for Ancestral Pueblo ceramics (Hibben 1949) their pottery has a spatial and temporal homogeneity that is unique in the Southwest of this period (Seaman 1976:41). Put simply, their ceramics just do not change, stylistically or technologically. The issue, then, is not that the Gallina people are working from a different cultural basis as those of
their neighbors, but that they followed a different track through the Pueblo II and III periods.

Hibben (1949:194-199) defined the original ceramic types for the Gallina region. These include Gallina Black-on-gray, Gallina Black-on-gray Overfired, Gallina Plain Undecorated, Gallina Plain Utility, Gallina Coarse Utility, Gallina Plain Unfired, and Gallina Punched Ware. Many researchers have subsequently modified these types. Generally, the ceramics from the region are split into two categories: Gallina Black-on-white and Gallina Gray (Myers 2007; Wilson 1994). Gallina Gray usually incorporates undecorated gray ware as well as utility ware. Most recently, Constan (2011:145) split the assemblage into Gallina Gray and Gallina Utility based on inferred functional uses. Some researchers also include Gallina Corrugated (Knight 1990) or at least some form of corrugated surface treatment (Cope 1879:361; Green et al. 1958:48; Knight 1990; Mera 1935:8; Snow 1978; Whiteaker 1976:9).

Hibben’s Overfired types were never adopted for use, likely, because they do not fit within the established nomenclature for Southwestern ceramics and are only oxidized variants of Gallina types. Researchers frequently observe these dull red to reddish-orange types during excavations and on survey (Fiero 1978; Hibben 1949; Page 1989; Peterson et al. 2006; Wilkinson 1958). These oxidized sherds are recognizable as a misfired (usually accidentally refired during structural burning) Gallina Ware and are not readily mistaken for other plain or decorated red ware. They frequently co-occur with burnt adobe/jacal on site surfaces and are one of the primary reasons that sites are recorded as burned during pedestrian surveys.
The primary differences in ceramics between the Gallina and neighboring regions are in the use of fillet rims (Hibben 1949; Mera 1935:8), the ubiquitous presence of conical bottomed utility vessels (Knight 1990:15; Mera 1935:8), the use of organic paint during a period dominated by a mineral paint tradition in the Chacoan and Northern Rio Grande regions (Cordell 1979; Ellis 1976; Hibben 1939:85, 1949:199; McKenna and Toll 1991:153; Wendorf and Reed 1955), and the stability of ceramic technology and style during the Gallina period. Vessels with conical bottoms do occasionally occur elsewhere during this period (Hibben 1939:88, 1949:202; Jeancon 1929; Mera 1935:10), such as in Pueblo Bonito in Chaco Canyon (Hibben 1949:202; Jett 1964:294). Yet they never occur in the proportions present in the Gallina area where they appear to be the primary utility type (Mera 1935:10). Moreover, it is unclear whether these other contemporaneous conical bottom pots are not actually products from the Gallina region.

The similarity between later Athabaskan pointed bottom vessels and those of the Gallina region (Figure 3) has been noted (Brugge 1983:494; Mera 1935:494). Brugge believes the resemblance resulted from incoming Athabaskans copying the ceramics discovered in caches and ruins. Hibben (1938:135), and many of his students, proposed an Eastern Woodland connection based on this ceramic type and the presence of paddle-and-anvil finishing and cord marking. However, later studies indicate that the paddle-and-anvil finishing (Dick 1976:14; Ellis 1976:25; Green 1956; Green et al. 1958:48; Knight 1990:14; Snow 1978) and cord marking (Dick 1976:14; Snow 1978:vii) were misidentified in these early studies. Herb Dick (1976:14) reasonably argued for a local invention of the pointed bottom pot. It may have taken 40 years of research, but someone eventually postulated internal sources for material change.
Some researchers maintain that the technological and stylistic homogeneity present in Gallina ceramics is a false product of excavator bias and methodology (Snow 1978). Nonetheless, the preponderance of evidence at this stage indicates that it is a real pattern. This ceramic conservatism, as contrasted with the dynamic ceramic traditions observed throughout the northern Southwest, is partially why the Gallina are persistently perceived as culturally, and not just geographically, separated from the surrounding cultural areas (Cordell 1979:46; Hall 1944:42; Koehring n.d.:6; Seaman 1976:16). While form and stylistic change in Gallina ceramics are argued to be minimal to nonexistent, proportions of various wares do appear to differ through time. Hibben (1939:39) argued for a higher proportion of pointed bottom pots in pit houses as opposed to surface structures. However, it now seems more likely that the change in proportion is associated with a temporal change, particularly with an increase in the prevalence of pointed bottom pots in the A.D. 1200s (Fiero 1978:205; Seaman 1976:47-48).

The lack of trade goods, especially ceramics, has also been employed to justify an interpretation of the Gallina as isolationist and warlike aberrants. The reality, though, is that this lack of trade in a rugged area with riparian passages is more likely an indication of traditionalism or conservatism of cultural practices than of a violent warrior culture.

It is not only the Gallina ceramics that are ordinary, yet distinct. Gallina architecture falls into this contradiction as well. While other Pueblo groups made the transition from pit houses to aboveground structures and pueblos around A.D. 900, the Gallina constructed pit houses for habitation purposes until the region’s abandonment around A.D. 1300, often contemporaneously occupying pit houses and surface (unit) houses (Douglass 1917:8; Green 1956:193; Hibben 1939:51-52, 1948; Mera 1935). These
structures are also frequently built adjacent to each other. Hence, it appears that the choice to build above or below ground is not simply one of dirt depth or environmental considerations. The unit houses appear as above ground duplicates of pit house architecture (Figure 4, Figure 5), although slightly larger (Dick and Davidson 1985:42). In general, the internal layout of Gallina habitation structures is remarkably standardized. The houses are comprised of banquettes, wing bins, hearth, an auxiliary ash pit, and a U-shaped deflector (Dick 1976; Simpson 2008). A sub-hearth feature was also uncovered (Ellis 1991:72) and was likely related to either a construction blessing or the ceremonial functions of the structure.

The pit structure transition from habitation to ceremonial use never occurred in the Gallina area (Dick 1980:61; Douglass 1917:8; Green 1956:193, 1964:31-33; Pattison 1968:126-127), although Dick (1988:236) argues that the largest pit house on Huerfano Mesa is a possible council house. In general, though, kivas and sipapus are not found in the region (see Ellis 1988; Ellis and Dodge 1990; Hayden 1978 for possible exceptions). The presence of banquettes and murals indicates that habitation structures likely doubled as ceremonial structures (Anschuetz 2006:241; Bain et al. 1993; Green 1964:39; Hibben 1938:133; Kliendienst 1956; Lange 1956; Mackey and Green 1979:150; Mackey and Holbrook 1975:73; Pattison 1968:126-127). Furthermore, the roofs of unit structures and pit houses were covered in sandstone slabs (Bain et al. 1993:16; Dick 1976:24; Hall 1944:3; Hicks 1949), contained storage bins (Dick 1976:25), and may have been used as work surfaces (Bain et al. 1993:30; Seaman 1976).

When they did create above ground structures, the Gallina almost never built pueblos. Instead, they constructed single room unit houses and towers (Douglass 1917;
Hibben 1948; Mera 1935). The collapsed remains of these two forms are often confused during pedestrian surveys and in the earlier literature (Hibben 1939).

Cliff houses and the occasional unit pueblos are the only aggregated habitation structures (Hibben 1948). Cliff structures were not built specifically for habitation, though, as some that contain no domestic features exist (Kliendienst 1956). These were likely used for storage. Stockades surrounding surface and pit structures are occasionally found (Mohr and Sample 1972:3; Seaman 1976:40), and are likely missed during most excavations since most previous researchers have not excavated beyond structural walls. Towers are present and appear to be part of a signaling system (Baker and Langenfeld 1990; Cope 1879; Ellis 1988; Ellis and Dodge 1990; Langenfeld and Baker 1988; Sleeter 1987), although whether this is strictly a defensive system or for other forms of communication is currently not clear. The occasional water reservoir is also recorded (Bain et al. 1993). The one located on Rattlesnake ridge has an estimated carrying capacity of 335 cubic meters, which is around 88,500 gallons (Bain et al. 1993:18).

Tri-notched, or pole-notched, axes are also diagnostic of the Gallina (Hibben 1939:221). As with the pointed bottom pot, however, the uniqueness is not in their presence, but in their ubiquity (Hibben 1939:221). Tri-notched axes also occur outside of the Gallina region, including Albuquerque, Chaco Canyon, Aztec (Hibben 1939:221), the Akmen-Lowry area (Hibben 1939:221; Rinaldo 1950:100), the La Plata, Piedra, and Whitewater districts, as well as at Zia (Lange 1956:40).

**Gallina Origins**

The Gallina genesis was originally explained as the product of an immigration of people from areas far from the San Juan Basin. These models included a vanguard of
wandering Plains tribes from the northeast (Gallenkamp 1953; Mera 1935:35), possible
derivation from a Chacoan population (Lange 1941:17, 1956:85; Mera 1935:34), an
influx of Woodland peoples from eastern Colorado and western Nebraska (Blumenthal
1940:12; Hibben 1938:34, 1949:199, 201-202), Woodland peoples from the Missouri
valley (Ceram 1971; Gallenkamp 1953), migration of people from the Great Basin and
Fremont/Northern Periphery areas (Green 1962:156; Hibben 1949:200; Jennings et al.
1956:101-102; Koehring n.d.:9; Pattison 1968) an admixture of Mogollon and Anasazi
groups (Ellis 1976, 1988:14), or wandering Towa drifting away from Mesa Verde toward
their eventual homeland in the Jemez mountains (Ellis 1976:5-6). The majority of these
models were primarily based on the similarity in ceramic form and design style between
the proposed source area and the Gallina region. A comparable analogical inference has
been used to argue that the pointed bottom pots found in Athabaskan ceramic
assemblages were possibly based on Gallina forms (Bice 1980:494).

The idea of an external origin for the Gallina culture was only erased through the
diligent investigations of many later researchers. These investigators, while recognizing
the distinctive material traits in the region, saw clear antecedents in Basketmaker II –
Pueblo I populations in the Upper San Juan Basin. The origins of the Gallina appear to be
northwest of their heartland with the Los Pinos, Sambrito, Rosa, Piedra, and Arboles
Phase populations in the Navajo Reservoir District (Cartledge 1988; Ellis 1988; Ford et
al. 1972; Hall 1944; Hibben 1939; Mackey 1977; Mera 1938; Pendleton 1952; Snow
1978; Stuart and Gauthier 1981). This connection is based on continuity in material
culture, including both ceramics and architecture, and a settlement pattern that indicates a
slow southeasterly movement of populations away from Chimney Rock and the Mesa
Verde region with an eventual destination in the Gallina region (Bremer 2010; Mera 1935:8; Oakes 2007; Simpson 2010). This movement is variously credited as the result of deteriorating climatic conditions (Cartledge 1988:E-2) and population or societal pressure from the more complex societies in Chaco Canyon and Mesa Verde (Stuart and Gauthier 1981). The reality, though, is that choices were likely made by the ancestors of the Gallina to either partake or disassociate with the massive, iconoclastic social changes that were occurring within the Mesa Verdean (and Chacoan) cultural spheres. Some likely partook while others, as the Gallina prove, obviously disassociated themselves.

Finally, ceramic technology and design style indicate a connection between the Rosa phase groups and the Gallina people. Rosa Transitional, variantly named Bancos Black-on-white (Dittert 1958), is an intermediate type between Rosa Black-on-white and the later Gallina Black-on-white. The pointed bottom pot, however, has no antecedent in the Rosa phase (Bahti 1945, 1949; Hall 1944; Pattison 1968) and is likely an independent invention of the Gallina branch (Dick 1976:14).

**Evidence of Violence**

After positioning the Gallina back within Southwestern prehistory, a larger question remains unanswered. Why was there so much violence in the area? Based on multiple lines of evidence, archaeologists characterize the Gallina region as a place of endemic conflict and violence. Sites are frequently located on steep ridgebacks, inaccessible mesas, and, by and large, on any raised geographic feature. These locations are argued to be defensive (Douglass 1917; Haas and Creamer 1985; LeBlanc 1999; Muceus and Lawrence 1990; Plog 1984; Sleeter 1987; Wilcox and Haas 1994), although sites are not always in these inaccessible locations (Elliott and Smith 1985).
Sites increasingly became clustered through the latter half of the 13\textsuperscript{th} century. This pattern is usually indicative of alliance building (Sleeter 1987:60-74; Upham and Reed 1989:159), which frequently occurs during periods of conflict (Chagnon 1977:120; Ferguson 1984). However, as these settlement clusters are all within one cultural area, Brumfiel’s (1992) factions may be more pertinent. The difference between factions and alliances is essentially scalar, with alliances forming between groups and factions forming within groups.

Signaling, or information exchange, networks have been confidently documented in the Gallina region (Douglass 1917:8-9; Ellis 1991; Sleeter 1987). These networks are usually interpreted as defensive in nature (Haas and Creamer 1985; LeBlanc 1999; Service 1971). No-man’s lands are present and have been documented between the Gallina and Chacoan areas (Dew 2003; Tyson 1954). In general, no-man’s lands are considered evidence for the presence of conflict between two settled groups. A different, less separated pattern would emerge if nomadic groups were involved (LeBlanc 1999:53).

Many excavated sites in the Gallina area also contained the skeletal remains of individuals who suffered a violent death. This was typically the result of acute cranial trauma, although embedded projectile points, and burning, were occasionally observed (Bahti 1949; Hibben 1939; Turner et al. 1993). Tree-ring dates indicate that most, if not all, of the skeletal evidence associated with violent trauma occurred in the mid- to late A.D. 1200s (Elyea 1994). Bodies left articulated and unburied were present and were likely the product of bloodshed (Hibben 1939:251; Turner et al. 1993). There was also a higher than normal proportion of males in the burial population (Turner et al. 1993),
which could be evidence for conflict as well as female captive taking. In the Southwest, Kohler and Turner (2006) identified a pattern consistent with the capture of female victims during raids based on a disproportionately high number of women in the skeletal assemblage. Researchers have also argued that evidence for trophy taking is present in the region based on the high frequency of missing hands and feet (Bahti 1949; Turner et al. 1993) and the presence of metatarsals and metacarpals without other associated skeletal elements (Green 1962:152).

Burned structures are very common during the late Gallina phase, and have been argued to be the result of conflict. These burned structures often held full food bins and the unburied remains of people who suffered violent deaths (Bahti 1949; Dick 1976; Ellis 1976; Green 1962, 1964; Green et al. 1958; Hibben 1938, 1948; Mackey and Green 1979; Pattison 1968). However, burned structures can result from numerous behavioral processes, only some of which are related to violence, and caution needs to be employed when using them as evidence for conflict (Lally 2005; Sleeter 1987:40).

Most explanations for the violence in this region have focused on environmental causes, such as competition over dwindling subsistence resources brought on by drought (Mackey and Green 1979; Mackey and Holbrook 1978). These hypotheses are generally the result of a reductionist and environmentally deterministic oversimplification of the causes of conflict (see Keeley 1996; LeBlanc 1999). The prevalent archaeological image of the Gallina culture as “isolated” and “regressive” has also skewed the perceptions of modern researchers toward viewing this prehistoric population as “aberrant and war-like provincials” (for a more in depth discussion on this, see Seaman 1976:122).
Moreover, exposure of the dead prior to burial appears common in the Gallina region (Snow 1978:179) and probably led to some false identifications of conflict, and certainly cannibalism, in early studies. Notably, Turner et al. (1993) argue against the presence of cannibalism within the Gallina region, although they do note that Rattlesnake Ridge comes close to fulfilling their requirements.

Investigators have often argued that the violence in the Gallina region was internecine. This was originally inferred because early archaeologists considered the surrounding Ancestral Pueblo regions to be too peaceful to be the aggressors (Hicks 1949:6; Schulman 1950:296) and the nomadic Athabaskans were not yet in the Southwest. While this pacified vision of the Pueblo Southwest has since been overturned (Haas and Creamer 1985; Kuckelman et al. 2000; Lambert 2002; LeBlanc 1999; Marlar 2000; Turner and Turner 1999; White 1992; Wilcox and Haas 1994), the idea that the Gallina must have turned on themselves has not. Partially because there is good evidence that they did.

Population pressure and competition for resources (Seaman 1976:16-17) are often implicated in the outbreak of violence. Climate change (Mackey and Green 1979; Mackey and Holbrook 1978:47) is also argued to be a motivating factor, though Southwestern populations have survived many debilitating droughts without killing their neighbors. “Chaos and social pathology” (Turner et al. 1993:106-107) in the Gallina region have also been argued to be possible reasons for some of these horrible episodes. However, conflict and violence are usually regulated by cultural rules (Chagnon 1977; Heider 1970; Hobsbawm 1973:209-215), and thus prolonged societal chaos is unlikely.
Social pathology is actually a deviation from the rules of society (Sutherland 1945:429). If the rule of society was violence, it would hardly be pathological to follow suit.

Massouh (2009:233) suggests there may have been a breakdown of balance in social networks. This is further supported by the possible witch extermination found at Rattlesnake Ridge (Ellis 1988). Witchcraft retributions usually occur during times of stress (Walker 1998:295) and often occur on members of one’s own ethnic group (Darling 1998), although outsiders are nearly always potential witches (Darling 1998:734). Ellis maintains that much of the conflict in the region is the product of intra-group jealousies and witchcraft persecutions (Ellis 1976:8-9). Her evidence relies on a direct historical analogy between a story told to her by a Jemez informant about the burning of a village by its neighbors who were suspicious that the attacked village’s agricultural success was the result of witchcraft (Ellis 1976:8-9). This informant noted that this occurred in ancestral territories to the northwest. Over two decades, and multiple publications, Ellis, based on the skeletal evidence of violence at the site, slowly extrapolated that this particular event occurred at Rattlesnake Ridge (Ellis and Dodge 1990:8). There is no direct evidence to make this connection, though, nor is it supported by the original testimony of the informant (Ellis 1976:8-9).

Not all researchers focused on internal sources of violence. Hall (1944) argued for the presence of a nomadic group in the area with whom the Gallina traded, intermarried, and fought. Nonetheless, evidence for nomads in the region has never been found. As such, it is unlikely that the violence was the result of marauding bands of nomads.

Hibben (1939:228-229) noted that 5 of the 13 side-notched points excavated from Cuchillo were found in “‘flesh’, in or near the chest cavity, or, in one case, in contact
with the lumbar vertebra.” He posits that this type belonged to a hostile, unspecified Pueblo III group, since it is prominent in many of the larger Pueblo III centers (Hibben 1939:229). This point type also occurs in the Gallina region, though, so it is equivocal evidence of an external source for conflict.

As noted earlier, no-man’s lands between the Gallina and Chacoan regions (Dew 2003; Tyson 1954:1), have been used to argue for some form of conflict between the separated groups (LeBlanc 1999), or at least evidence for a “policy of avoidance” (Dew 2003:65). Conversely, no-man’s lands can also be interpreted as resource buffer zones between groups (Cordell 1989:319; DeBoer 1981). These buffer zones, based on ethnographic analyses (DeBoer 1981), help maintain a population to resource balance. Cordell (1989:319) suggested that the violence seen in the Gallina region might be present because they occupied another group’s buffer zone (particularly Chaco Canyon’s). However, this interpretation is not supported by recent sourcing analyses of faunal remains from Chaco Canyon. Of the 35 animals that Grimstead (2011:138-139, Table 4) sourced, only one could have possibly come from anywhere near the Gallina region. While reasons other than avoidance between the two groups might explain the Chacoans procuring resources in different areas, such as pre-existing trade ties, it is appears that little to no Chacoan subsistence procurement occurred within this buffer zone. It is probable, then, that the vacant area between Gallina and Chaco Canyon was most likely a true no-man’s land and thus the product of societal tension between the residents of the Chacoan system and the population living in the Gallina region during the period of occupation overlap (~ A.D. 1000 to mid-1100s).
Signaling networks can also be evidence for an external source of violence. These networks, inferred by line of site between towers in the Gallina region, are often defensive in nature (Douglass 1917; Ellis 1991; Haas and Creamer 1985; Ireland 1984; LeBlanc 1999; Service 1971; Sleeter 1987). While it is possible that these networks could be used to convey information about neighbors, the slow speed at which the information travels would make the network more effective for transmitting information about an enemy incursion than the relatively sudden approach of neighbors.

To date, the evidence for either an internal source or an external source of the violence present in the Gallina region is equivocal, at best. External enemies were likely present in the nearby Chacoan and Mesa Verdean regions. However, as the majority of the sites with skeletal evidence of violence have tree-ring dates in the late 1200s (Elyea 1994; Table 2 this paper), violence between the Gallina and the Chacoan hegemony is less likely. The spatial patterns of site location and the chemical signatures present in the faunal assemblage indicate that both sides likely avoided contact with the other. Consequently, while physical violence between the two groups does not at present appear to have been an issue, some form of conflict, or societal tension, was assuredly present. The Mesa Portales and Jones Canyon sites, however, are possible exceptions (Elyea 1994, 2002, 2005; Myers 2007). Here, Chacoan and Gallina people appear to have been living together at the extreme southern end of the Gallina region.

**Fate of the Gallina**

By the beginning of the A.D. 1300s, people had departed the Gallina region. Investigators have argued for a number of destinations, with the Jemez region discussed most frequently (Ellis 1988; Ford et al. 1972; Mackey 1982; Reiter 1938:69; Wiseman
2007). This migratory model is frequently accepted by Southwestern archaeologists (Cordell 1979; Stuart and Gauthier 1981) based on little available data and has not been systematically tested (Elliott 1998). Those who have done comparative statistical analyses on skeletal (Mackey 1977:480; Mackey and Holbrook 1975:Table IX) and architectural (Simpson 2008) material between the two regions found no reason to claim that this migration occurred. Other researchers disagree with the Gallina to Jemez model (Elliott 1998; Kulisheck 2006) and argue that the current data neither confirm nor refute this supposed link (Lange 1956:84).

Problems with the Gallina to Jemez hypothesis abound, not the least of which is the inconsistency in Jemez oral traditions. Sando (1982), a Jemez native, published a book on Towa origins in which he detailed Jemez legends that speak of an emergence near Boulder Lake (now Stone Lake) in northwestern New Mexico. Furthermore, he said that Jemez traditions indicate an ancestral connection to Largo Canyon, an area that has many Rosa, and a few Gallina sites (Sando 1982:7).

Sando was sanctioned by the tribe for his publication (Roberts 1996). His stance has since been contradicted by William Whatley, who worked as the tribal archaeologist for Jemez. According to Whatley, the Jemez oral traditions that he has access to, do not involve migrating from the Gallina region and there is no descendent link (Roberts 1996:153). Moreover:

an advance party of Jemez came through the Gallina area. At first, they were treated hospitably by the people living there; then the Gallina turned around and killed the Jemez. The Gallina people did not realize that the large main body of
Jemez was coming right behind. That main body eliminated all of [the] Gallina, maybe in only a few days [Roberts 1996:156].

The official position of the Pueblo of Jemez is that they migrated en mass from the Four Corners region around A.D. 1275 (Pueblo of Jemez 2011). At one point, they even emphatically denied a connection to the Gallina (Elliott 1998:6), although this is no longer present on their website. Ellis (1988; Ellis and Dodge 1990:1) also reasoned that the ancestral Jemez settled in the Gallina region before eventually moving farther south, but the fact that the Pueblo of Jemez does not claim Gallina archaeological material or sites under NAGPRA raises questions about this interpretation.

Ortman (2010:50) notes that the culture history Ellis constructed contradicts some of the oral accounts she collected. In at least some of the traditions she recorded, Sleeping Ute Mountain in southwest Colorado is the original home. Wherever the specific location, though, southwestern Colorado is the general area, the Gallina country is not.

Other hypotheses regarding the fate of the Gallina people include in situ cultural demise with little to no emigration (Dick and Davidson 1985:41), migration to Santa Clara Pueblo (Douglass 1917:4), and movement into villages in the Lower Rio Chama district (Beal 1987; Mera 1935:23).

The chances that there was a single destination for the population of the Gallina region would seem to be low. As discussed previously, multiple processes were affecting the populations in the Gallina highlands. These processes included captive taking, as seen in the dearth of reproductive aged females in the skeletal assemblages of sites with direct skeletal evidence of violence (Turner and Turner 1999; Turner et al. 1993; Upham and
Reed 1989:159). If captive taking transpired, it would necessarily involve a dispersion of Gallina people to different areas, albeit not under their own control. Migration, after all, need not be voluntary.

Lastly, where the Gallina went is a different question then why they left. Theories include fleeing from nomadic aggressors (Ceram 1971:278; Hall 1944) to fleeing from environmental deterioration (Ackerly 2006; Holbrook and Mackey 1976; Mackey and Holbrook 1975:115; 1978) to a mix of cultural and environmental factors (Anschuetz 1998:45). The following case studies will help enhance our understanding of why the Gallina left their highland homes.
CHAPTER 3: ANALYSES

By understanding the spatial patterns of violence, researchers can establish the difference between local versus regional, or internal versus external patterns. Specifically, I employ a modified version of least-cost path analysis in GIS to investigate the source of the violence in the Gallina highlands.

Methodology

A least-cost analysis finds the cheapest path from one location to another. A typical least-cost path analysis starts with a resistance surface, which in many cases is a slope, or elevation, layer. From this resistance surface, a least-cost distance surface is created. The least-cost path is then calculated as traveling backwards from the destination to the source using the least-cost distance surface for its cost values. This route is guaranteed to be the cheapest course relative to the resistance surface. This is an additive process and it will find the overall cheapest route. A least-cost path analysis effectively models energy output when traversing a landscape.

This analysis is useful, but limited in its understanding of human movement over terrain. Specifically, it fails to accurately model human decision-making. Standard least-cost path analyses only calculate the cheapest paths. This can be a very good analog for hydrologic movement; however, it does not model the easiest and quickest route. As a result, a standard least-cost path analysis fails to replicate human decision-making processes.

Current technology does not allow us to accurately model human decision-making. Likely, it never will since humans are often irrational actors, at least as far as computers are concerned. However, current technology does allow us to more accurately
model human decision-making. As noted above, one of the main limitations in a standard least-cost path analysis is the failure to integrate time into the model. To overcome this failure, I used Tobler’s hiking function (Tobler 1993:3). This function gives you the minimum time path, based on off path human walking velocity, to all other places from a starting point. For this analysis, the resistance surface was modified with Tobler's equation:

\[ W = (6 \exp(-3.5 \times \text{abs}(S + 0.05))) \]  
\[ \text{travel time} = D/W \]

where \( W \) equals the walking velocity for each cell, \( D \) is the distance across each cell, and \( S \) is the slope in that cell. Thus, the time needed to cross any given cell with a given slope is calculated. This produces a new surface, using velocity and cost, which is then used as the resistance surface. This equation has been effectively evaluated on archaeological and ethnographic data (Gorenflo and Bell 1991; Kantner 1997).

**First Case Study**

Can evidence of nonlocal ceramics in the Gallina region clarify whether the violence present in the region was from an internal or external source? During the fieldwork that stoked my interest in the topics present in this article, I had a working hypothesis that the Gallina sites I recorded that contained nonlocal trade items were constructed to control foreign access to their associated mesas as well as to the dispersed villages located thereon. One specific region that was newly recorded during fieldwork for the Santa Fe National Forest in the summer of 2008 is used to analyze this hypothesis. The region is primarily composed of inaccessible mesas on the south side of the Rio Gallina.
The mesas are not named and will be referred to by numerical designation. Pit houses and unit structures are present along with one pueblo-like structure. Four of these mesas (3, 4, 6, and 7) only had a few pit houses and unit structures. Two of these mesas, Mesas 1 and 2, were more heavily occupied than the rest.

Mesa 1 is the most unique and was the most heavily populated of the mesas recorded in this survey. It contains 21 sites. The only southern access point is an extremely narrow land bridge with treacherous footing. Additionally, there are two sites—LA 160975 and 160978—at the northern end of this narrow ridge. They are located to control access to the mesa's interior. These sites are large unit houses positioned on high points on the southern rim adjacent to where the land bridge connects to the mesa edge. San Juan Red Ware sherds were observed at LA 160975.

Near the center of the mesa, located on a long, crescent-shaped ridge was another, particularly interesting site. This site, coined The Village with acute field imagination, actually included five, pueblo-like roomblocks for a total of 23 rooms. One unit house, one pit house and one possible reservoir were also in association. These structures are all one, large, interactive site built on the undulating swells of a raised ridge in the center of the mesa.

Mesa 2 has a north aspect with a gradual, and occasionally stepped, descent toward the Rio Gallina. There is a large site, called the Aegis site, located at the point where a narrow ridge connects to the mesa on the southern side. Part of the site extends onto this walkway. This is the only access to the mesa from the south. The ridge is so narrow, and is eroding so rapidly, that only approximately 30 percent of each structure is intact. When built, these structures likely filled all easily traversable space. At the
northern end of the Aegis site, which is the only part actually on the mesa as opposed to the ridge, is a large intact unit structure. The prehistoric inhabitants constructed this building on the highest point of Mesa 2. It has a commanding view of all of the sloping mesa and of the access ridge. A few San Juan Red Ware sherds are present at this site, as well. Additionally, one Three Rivers Red-on-terracotta sherd was located and collected.

Although no tree-ring dates exist for the sites on these two mesas, based on previous excavations, it is highly probable that Mesa 1 and 2 are dispersed Gallina communities (Baker and Langenfeld 1990; Cartledge 1988; Dick 1980; Ellis 1988; Green 1964; Green et al. 1958; Mohr and Sample 1972; Pattison 1968; Seaman 1976). The presence of the reservoir near the center of Mesa 1 is further evidence that this was likely a dispersed community (Cartledge 1988:F-15). Furthermore, the location of sites at key access points on the south side of both of these mesas indicates a policy of regulated access to the habitations on both of these mesas from people to the south.

**Nonlocal Ceramics**

Two sites located during this survey, LA 160975 and the Aegis site, contained nonlocal ceramics in their assemblages, specifically undifferentiated San Juan Red Ware. This red ware series dates from A.D. 750 to 1100 (Hegmon et al. 1997). The San Juan Red Ware series, when observed south of the northern San Juan region, has a locus of production in southeastern Utah. San Juan Red Ware bowls, which are the primary forms found outside of the production zone, are interpreted as having ritual significance (Hegmon et al. 1997) and are often associated with ceremonial feasting.

Although rare, these examples of foreign ceramics in the Gallina area are not isolated (Table 1). For example, Mera (1935:10) reported only three nonlocal sherds
during an early survey in the region. In an article on his excavations of the Archuleta pit house, Green (1956:192) described an unpublished Chaco Black-on-white jug from the floor of a pit house that Mera excavated. Green also mentioned a ‘satisfying’ number of trade wares in the Archuleta pit house (Green 1956:192). This totaled four sherds out of 211, approximately two percent of the site assemblage. Considering that a comprehensive survey of all published literature garnered a mere 64 sites with a minimum of 720 sherds of foreign ceramics (Table 1), ‘satisfying’ was a highly accurate word for Green to use. Especially since after almost 60 years of research, the proportion of trade wares in the entire region is similar to what he found at one site.

Green (1956) also described a partial Chaco II Black-on-white bowl. Surprisingly, he recovered four of the six sherds from the bowl in the construction fill of the east banquette. The remaining two sherds, he discovered in the ash in the auxiliary hearth. The trade ware at this site suggests that foreign exchange was primarily between A.D. 900–1100 (Green 1956:193). Conflictingly, the tree ring dates place the occupation of the pit house in the mid-1200s. Green interprets the presence of early trade wares as evidence of later reoccupation of the structure. However, curation would also account for the difference in dates. A more detailed excavation of the structure with the intent of examining remodeling and reuse could resolve this conflict. This instance is important, though, because it limits the viability of cross-dating Gallina sites based on the presence of rare trade items.

Previously published cases of nonlocal ceramics found in or near the Gallina district also include the Mesa Portales (Elyea 2005; Myers 2007) and Jones Canyon (Elyea 1994, 2002) sites on the southern edge of the district. These sites primarily date to
the Pueblo III period and were abandoned around A.D. 1300. Myers (2007) analyzed the ceramic assemblage for the Mesa Portales sites. He reported that they included many ceramics from the Chacoan and Gallina regions. While Myers did not positively identify San Juan Red Ware ceramics in the Mesa Portales assemblage, he suspected that some of the unidentified red ware sherds belonged to one of the three types in the ware.

Based on the ceramic evidence, Myers postulated that the occupants were not Gallina in origin, but were from the central San Juan Basin, at least partially Chacoan influenced, and were exchanging, to some extent, with the Gallina. Elyea (1994, 2002, 2005) identified some of the sites she examined at Mesa Portales and Jones Canyon as Gallina in origin (as opposed to general “Anasazi”), based on a preponderance (i.e., over 50 percent) of Gallina ceramics in each site’s assemblage. Wilson (1994) analyzed the ceramic assemblage from Elyea’s original study and was more cautious regarding identifying any of these sites as Gallina affiliates. Only the sites that Elyea argued to be Gallina sites were included in Table 1. Gallina ceramics were produced in at least two sites in Jones Canyon (Elyea 1994), so it is likely that at least some Gallina people were living in the region. None of the sites excavated by Eastern New Mexico University and analyzed by Myers were included in Table 1, as Myers did not believe they were Gallina affiliates.

Missing examples of nonlocal ceramics in Table 1 may be obvious to some researchers. These are absent because a few other sites are often used to argue for the presence of foreign ceramics in the Gallina area, especially in the older literature. For this analysis, however, I removed a number of sites based on the types of sherds that were used to argue for trade or foreign interaction. Cord-marked sherds were ignored (Hibben
1949; Lange 1956) as they are likely misidentified local products (Dick 1976; Knight 1990). Micaceous sherds were not included (i.e., Knight 1990) as Gallina-made ceramics with micaceous inclusions do occasionally appear (Moore 1988). Furthermore, many foreign ceramics in the literature are identified as Chacoan or Cibola Corrugated Ware. These were not included in Table 1 since researchers are still hesitant to identify points of origin for corrugated sherds (see Wilson 1994:60), especially since there is a local form (e.g., Knight 1990). Wilson (1994:60) avoided this issue by assigning corrugated sherds to categories based on surface treatment and rim eversion, such as Smeared Corrugated or Pueblo II Corrugated Rim. Further research is necessary to determine whether it is possible to separate Cibolan and Gallina Corrugated sherds with visual analyses.

Sites with Rosa phase ceramics and Rosa-Gallina (Transitional) ceramics were not included either. The preponderance of evidence currently indicates that the Gallina branch is a product of the earlier Rosa phase. As such, these ceramics would indicate transitional sites and curated artifacts, not examples of trade or interaction. Lastly, most sites with rare occurrences of Pueblo IV and later sherds were not included either as they likely represent occasional foraging forays into the highland areas that were formerly occupied by the Gallina.

In total, 64 sites contained foreign ceramics in their assemblages. There are 2,752 sites listed as Gallina in the New Mexico Cultural Resources Inventory System’s (NMCRIS) database as of 2010. Accordingly, only 2.33% of all recorded sites of the Gallina branch contain foreign ceramics. This number is substantially lower than in most surrounding districts. Considering that archaeologists have been arguing for almost 100
years that the Gallina area is extremely isolated, this comparatively low percentage is not surprising.

**Can a least-cost path model down-the-line trade?**

Least-cost paths can characterize long distance trade routes. They are only most probable paths, though, and do not take into account people’s decisions, for example, to move across difficult terrain toward high valued trade items or away from known dangers, both physical and spiritual. Luckily, in the Greater Southwest, we often have evidence of both the beginning and end points in a trade network and it is more a matter of determining movement between the points then predicting where the material went from a source. These points can range in scale from sites to larger zones of production. To run this simulation, I used a least-cost path analysis to model down-the-line movement of trade goods from a geographic center in the zone of production for San Juan Red Ware to sites with the presence of San Juan Red Ware in the Gallina area. But is it possible for least-cost paths to model down-the-line trade?

As Hegmon et al. (1997:460) argued, it is probable that any San Juan Red Ware found outside of southeastern Utah resulted from the movement of pots and not people. This movement of items and not people is indicative of a down-the-line trade network.

Renfrew (1975) and Hodder (1980), and many others, have discussed different exchange and trade processes and their quantitative expressions in the form of decay, or fall off, curves. These curves are expressions of the decline in artifact counts the farther you get from the source of these artifacts. Much of the work related to these curves was an attempt to fit different curves to different exchange models. One aspect of these curves was that multiple points that were a similar distance from a source point would have
similar numbers of trade goods. Thus, there is a universal decay of trade goods expanding outward from a single point. This generates a bull's eye like image. Some rare complicating factors that can affect these decay curves involve regional limitations on trade and have been previously addressed (Hodder 1980).

A major issue with this type of quantitative model, though, is its disconnection from the landscape. Instead, predictions are created with Euclidean distances. In a down-the-line trade network envisioned, or represented, by a decay curve, all points, whether east, west, north or south of the source, have a similar distribution of the trade good in question. In this case, a least-cost path is not able to model any part of this distribution. However, when one factors in terrain, a down-the-line trade model can be *partially* modeled by least-cost paths. The first site in the network would interact with the least-costly site from it before trading with sites in higher cost areas (Figure 6). This format would be followed in a continually broader expanse from the source. This could account for the movement of goods through both time and space.

Consequently, a least-cost path created with Tobler's hiking function should effectively model the path of the fastest movement of goods in a down-the-line trade network that accounts for terrain. Higher cost trade lines would also expand out from these down-the-line trade nodes on the least-cost path (Figure 6). This down-the-line trade network, or tradeshed, would look much more like the drainage basin for a major river, though the goods would be flowing out of the basin and not into it. Using this tradeshed model, a least-cost path is still effective for determining the path of fastest movement in a down-the-line network. In the absence of quantitative trade numbers, this tradeshed would be best modeled by an inversion of Strahler’s Stream Order (Strahler
1952, 1957). This is a method for defining stream size based on a hierarchy of tributaries, with the smallest tributaries equaling one, the next order up equaling 2 and so forth (Figure 7). For a Strahler Stream Order, as with watersheds, flow is toward the central line. In a tradeshed, flow is modeled outward from the central line. The flow of goods backward towards the source can also be modeled, but as cost distance is directionally asymmetrical (Egenhofer and Mark 1995), a new tradeshed must be calculated. If you were lucky enough to have a systematically obtained, quantitative data on trade goods, you would be best served by using the Shreve Method (Shreve 1966) for stream ordering. This method would allow you to calculate the accumulative flow, and dispersal, of goods along a tradeshed.

Using a tradeshed approach, the two routes in Figure 8 are the best available approximations for the movement of San Juan Red Ware ceramics from southeastern Utah to sites in the Santa Fe district. The difference between these two routes is that one was modeled directly to Santa Fe. This is the southern-most route. The more northerly route was modeled through the site of Salmon Ruin and, based on the tradeshed model, is a more realistic indicator of how down-the-line trading would have occurred. From Santa Fe, based on the presence of San Juan Red wares, the pots likely then moved up the Tesuque Valley to numerous sites. This would be the next higher cost route, or trade order. Supporting this argument, in the Santa Fe district, we begin to see an increase in sites with Gallina ceramics. It is probably in this area that goods were exchanged between Gallina people and local Pueblo groups.

One issue that should be noted is the temporal discontinuity between the production of San Juan Red Ware in southeastern Utah and the presence of this Red Ware
at sites in the Gallina district. This is to say that the two sites with evidence of San Juan Red Ware in the Gallina district appear to date to a period in which production of San Juan Red Ware has already ceased. This brings up another interesting point regarding down-the-line trade and tradeshed models. For movement of goods within these trade paradigms, especially near the ends or boundaries of the tradeshed, it is not necessary for the good in question to still be in production. In fact, the reality is likely often the reverse. The ends of these networks of trade very likely were still engaged in low frequency trades that were no longer produced. In essence, then, the lower different levels of trade order lines within the tradeshed need not be contemporaneous with the higher levels of trade order lines. These tradesheds then would effectively model transport of goods through both time and space.

The Aegis site and LA160975 are modeled as recipients based on the presence of San Juan Red Ware at both of them. Furthermore, one sherd of Three Rivers Red-on-terracotta was found at LA160975. The nearest contemporary archaeological site that also contains Three Rivers Red-on-terracotta in the assemblage is the Pojoaque Grant site in the Tesuque Valley (Scheick 2007:Table 1; Stubbs 1954). This illustrates a possible connection between these two areas.

The Rio Chama and Rio Gallina, while not super highways of exotic trade goods, were the most likely mode for movement of materials into the Gallina region. Of course, not all trade movement need have been as circuitous as in this example. The location of the source of a trade good will determine the shape of the tradeshed.

One very interesting pattern that is readily discernible in Figure 8 is what appears to be a correlation between the northernmost trade route to Santa Fe that goes through
Salmon and a restriction in the settlement of Gallina sites to the southeast of their heartland. This restriction is not correlated with any riverine channel. Indeed, it appears that the only reason that the Gallina settlement is restricted in this area is because of this possible movement path through the region – a path that also directly crosses the Valles Caldera, one of the most prominent sources for obsidian in the Southwest.

**Settlement Locations and Control of Access**

Based on site location analysis and settlement patterns, settlements along the Rio Gallina appear to have been situated to control access to the river, as well as any movement that occurred along it. Control of access in river canyons through site emplacement occurred in other areas of the Southwest (Triadan and Zedeño 2004; Wilcox and Holmlund 2007), frequently through the use of cliff dwellings. This study is limited to an examination of only a few communities, but sites such as the Castles of the Chama should not be excluded from later analyses.

LA 160975 and the Aegis site are located at constricted access points on the southern ends of Mesas 1 and 2, respectively. If they were constructed to control access to the mesas from foreigners traveling through the Rio Gallina corridor, then sites should be located at access points on the north. While some sites do exist on the northern edges, not all of the access routes are covered. Consequently, it appears that the residents of these two mesas were primarily concerned with controlling access on the southern end. For that reason, the sites at the southern access points would have functioned similar to gatehouses in walls or large fortified structures. They would have controlled or blocked access to the interior from one direction.
If the source of conflict in the Gallina region was from an external aggressor following the reconstructed trade route, then the controlled access points should be located on the north sides of the mesas, adjacent to the corridor of movement through the region. People do not defend against an attack that they do not expect. It is only when there is a potential for violence, high or low, warranted or not, whether it is only feared, or actively expected, that violence will affect human behavior. It is possible to attempt to defend against the unknown, the chance of conflict, but it is impossible to defend against that which was never thought about to begin with. This is not unheard of. Pueblo groups have built with an eye toward the possibility of conflict in other locations. For example, Ferguson (1996:121-122; cited in Palonka 2009) noted that defensive features at Zuni Pueblo may have helped forestall attacks.

As mentioned above, the output for a least-cost path is a line, or route, connecting the destination and source point. The actual down-the-line trade route would have assuredly passed through numerous prehistoric communities on its way to sites in the Santa Fe district. By the time the ceramics reached these sites, we are likely already very high in the trade order of the tradeshed, which is to say that the Santa Fe district is one of the higher cost, or last reached areas for trade from southeastern Utah. From sites near Santa Fe, the ceramics moved up toward the Tesuque Valley and then onward to the sites in the Gallina country. Again, it is important to note that this trade route does not cross south of Mesas 1 and 2 where LA 160975, 160978 and the Aegis site – located where these land bridges connect to the mesas – would be effective in controlling foreign access to the dispersed settlements on the two mesas (Figure 8).
Again, the easiest access route to the mesas is by these land bridges, which connect the mesas to the southern upland areas. Access to the mesas by people traveling from the south would still be possible from the Rio Gallina valley floor, although it would be difficult. It would take upwards of a day for people traveling from the south to work their way around to the northern side. Lastly, since the controlled access to Mesas 1 and 2 is from the south, but the movement of outsiders or trade goods is to the north, I was forced to discard my original field hypothesis that these gatehouse sites were constructed to control access points against non-Gallina.

There is no additional evidence of foreign interaction at these mesa sites, at least none that has survived on the surface. We therefore must turn our gaze in another direction, to the immediate south. The locations of these gatehouse sites necessarily indicate that the prehistoric inhabitants of the mesas were concerned about populations in this direction. As noted above, the position of these gatehouse sites can only indicate a concern with controlling access to Mesas 1 and 2 from southern passage. However, if there is not a route to the south of the Mesas 1 and 2 that is moving outsiders or trade through the region, then the residents of these mesas must have been concerned with local inhabitants to the south. To the south of Mesas 1 and 2, though, there are only more Gallina sites.

As noted above, sites should only be located to defend against foreigners if they are the source of conflict, or fear of conflict, in the Gallina region. People do not guard against an attack that they do not, or cannot, anticipate. Only when the potential for conflict is present and recognized will it affect human behavior. It is certainly possible to endeavor to defend against the unknown. Humans are adept at predictive modeling
partially because we are so worried about the unknown. However, it is not possible to defend against that which is never thought about to begin with. Thus, when a site location indicates directionality of concern, it is a compass needle pointing toward where the conflict aggressors, or agents of concern, are located. This is only true, though, if the labor cost of circling around to another access point would be high. In the case of Mesas 1 and 2, the terrain is such that it would be a costly endeavor to circumvent the southern access routes for a northern approach. Additionally, residents of the mesas would easily be able to see any person attempting to travel through the drainages adjacent to the mesas and approach the river.

The position of the gatehouse sites on the southern edges of Mesas 1 and 2 implies that the directionality of concern for the residents of these mesas was to the south. However, only Gallina sites, and peoples, are located to the south. As such, it is very probable that the prehistoric residents of Mesas 1 and 2 erected sites LA160975, LA160978 and the Aegis site to control access to their mesas from other Gallina people living to the south. This supports the idea that at least some of the (fear of) violence seen in this region was internecine. However, it does not prove that any of the actual physical violence that is present in the archaeological record was from an internal source. What it does do, though, is indicate a directionality of fear. The people living on Mesas 1 and 2 were worried about violence from their Gallina neighbors to the south.

Archaeologists infer conflict from a number of different material indicators, only one of which is defensive site location. In this instance, and similar instances, where site location can determine the directions that occupants fear, or at least that cause them
anxiety, it is easy to assume that conflict actually came from that area. This evidence of anxiety often coincides with evidence of violent conflict, but it is not necessary.

Lastly, I must mention that with evidence of trade in the region so rare, it is unlikely that foreigners were moving freely through this corridor. It is probable, though, that the movement along this least-cost path was by other Gallina people from further along the tradeshed. Hence, the differing levels of anxiety that the residents of Mesas 1 and 2 displayed toward members of their own cultural group would also indicate that the internecine conflict in the region might have been widespread.

Second Case Study

The first case study demonstrated that in some instances at least a few Gallina communities were controlling how other Gallina accessed the mesas upon which they were living. While this establishes caution and concern – which themselves suggest conflict – on the part of the defensive communities, it does not confirm whether the physical violence in the region was internecine. So what about cases of obvious violence as established by examples of direct skeletal evidence? Can we determine whether these resulted from the incursion of foreign groups into the Gallina highlands? More specifically, is it possible to clarify this question by using a least-cost path analysis? For this example, I created least-cost paths from multiple locations in the Ancestral Pueblo world to a number of destinations on the Lower Rio Chama and Northern Rio Grande. In this study, the least-cost paths represent probable migration routes. Conflict areas in the Gallina region, as evidenced by informal burials with signs of violent skeletal trauma, were examined. I evaluated the locations of these sites to determine whether their positions were statistically significant in relation to the predicted migration routes.
LeBlanc (1999) described six lines of evidence that effectively establish the presence of conflict. These are direct skeletal evidence, settlement patterns, site configuration, site locations, site intervisibility, and evidence of site destruction through burning. Only sites displaying direct skeletal evidence of violence were chosen for this study (Table 2), as it is probably the least controversial line of evidence for determining violence.

Likewise, skeletons with missing carpals, metacarpals, tarsals and metatarsals, frequently used to argue for trophy taking, were not included, as I did not consider this adequate evidence for death by violence. Sites with mass informal burials were also recorded (Table 2), but they were only included in this study if at least one of the skeletons displayed evidence of violence.

Destination and source points for this analysis were chosen based on oral traditions and archaeological evidence. The destination sites include Wiyo, Pindi, Tsama’uinge, and Arroyo Hondo. These four sites have all been argued to be destination sites for migrants arriving in the Rio Grande region (Anschuetz and Scheick 2006; Duwe 2011; Elliott 1998; Habicht-Mauche 1993; Ortman 2010).

Patterns of Violence

Possible migration routes were modeled to five sites in the Northern Middle Rio Grande, Jemez, and Lower Rio Chama valleys from seven sites that are representative of areas thought to be sources of Coalition Period immigrants to these regions (Figure 9). Thus, each source site had five paths of movement into the Northern Rio Grande and each destination site had seven paths of movement from the Four Corners. As such, a
total of 35 paths were modeled. However, a quick review of Figure 9 will highlight that many of these paths overlapped for the majority of their length.

Most of the paths from Chaco and Chimney Rock barely cross Gallina territory, while many of the paths from Mesa Verde, Aztec, and Salmon travel directly through. Following this analysis, Gallina sites with skeletal evidence of conflict were placed on the map. Any probable migration route that did not approach these conflict sites was removed (Figure 10). I created a buffer with a radius of 3 kilometers around each of these remaining routes. This number was judgmentally chosen as a representative distance that people would roam from the main group, or route, to procure subsistence resources while traveling.

Seven out of the thirteen sites with direct skeletal evidence of violence fell within the buffer zone along the paths from Aztec, Salmon, and Mesa Verde to Tsama’uinge and Wiyo, two sites in the Lower Rio Chama and Tesuque Valley. A random sample of every Gallina structural site that falls within the buffered zone was then selected for calculating a Pearson’s chi-square ($\chi^2$) test. Since the paths from Aztec, Salmon, and Mesa Verde to Tsama’uinge and Wiyo converge through the Gallina region, they effectively have the same $\chi^2$ calculations. The null hypothesis was that the distribution of sites with evidence of violence would occur within these buffer zones through chance alone. For these routes, the $\chi^2$ test returned a result of 10.03, which has a $p$ of 0.005 at one degree of freedom. Accordingly, there is only a 0.5% chance that this spatial pattern would occur randomly. As such, it is extremely probable that the spatial distribution of these sites with direct skeletal evidence of violence is directly related to this migration route through the Gallina heartland.
Similarly, this test was conducted for the remaining routes that travel near sites with evidence of conflict (Figure 10). The Chaco to Wiyo or Tsama’uinge routes pass near one site with evidence of violence. The $x^2$ equaled 0.000154 at one degree of freedom, indicating that this site placement can be explained by random chance.

The last test involved the routes from the Bluff area to Tsama’uinge and Wiyo. These routes coincided with four sites that displayed skeletal evidence of violence. A visual examination seems to indicate a strong spatial patterning of violence sites strewn out along this corridor. The $x^2$ for this association was 2.78 at one degree of freedom. This is not significant at even a $p$ of 0.05. Thus, the association of these violence sites with the routes from the Bluff area could be explained by random chance and the null hypothesis is upheld.

**Discussion**

Based on this second case study, it is statistically probable that in at least some cases, the physical violence in the Gallina region occurred as a result of either migrants or other travelers moving through the Gallina heartland toward points farther south and east. If this was a prehistoric case of raiding, possibly for food supplies en route to a Rio Chama or Rio Grande destination, why did so many sites with evidence of violence in the Gallina region contain so much corn? Part of this might be answered by the very behavior of raiding itself. No more food than could easily be carried would be removed from these structures. After all, with no evidence of migrant sites, the transition through the region must have been fairly quick. Even with a community of people moving through to the Lower Rio Chama and Northern Rio Grande, a massive supply of food would not be necessary to keep these people until they reached their destination. Dick (1988:234)
estimated that there would be about 5,000 pounds of corn stored for each Gallina household. This would supply a family of 3.5 with enough corn for a year, including a seed reserve. Using his numbers, derived from ethnographic examples at Hopi, even if there were 100 raiders needing food for a week, they would still only need 1,327 pounds of corn. 3,700 pounds would remain in the attacked structure. The evidence of corn in a household with signs of violence does not preclude the possibility of an attack by outsiders, especially not with the new evidence of sites with skeletal evidence of violence clustering along migration routes.

Of the seven sites associated with the migration route, two have firm cutting dates post-A.D. 1250. The original investigators for the sites without tree ring dates argued that they were occupied around A.D. 1250. Furthermore, one of the sites with evidence of violence, Chupadero Station, which has a post-1260 cutting date, is immediately north of the buffer zone. This site, while possibly the product of migrant and Gallina conflict, was not included in the analysis, as it fell outside of the buffer zone.

The site with evidence of violence that is furthest to the north in Figure 10 is Rattlesnake Ridge. The location of this site is quite interesting as it is positioned farther from any of the migration routes than any of the other sites with evidence of skeletal perimortem trauma. As previously mentioned, Ellis (1976, 1988) contended that the deaths at Rattlesnake Ridge were evidence of the persecution of witches by fellow Gallina. Likewise, it is also the site that displayed the most lines of evidence for cannibalism following Turner’s criteria (Turner et al. 1993). Turner and colleagues did not suggest that cannibalism occurred at Rattlesnake Ridge, but they did mention that the skeletal assemblage was heavily modified. In fact, it was only missing one of their
criteria for cannibalism. Darling (1998) and Walker (1998) have both convincingly argued that the signature for cannibalism and for witchcraft persecution have often been confused by archaeologists. Rattlesnake Ridge, then, may very well be evidence for the persecution of witches in the Gallina region. Considering the site’s distance from any of the migration routes, it is probable, then, that it is actually evidence of internecine violence.

Other explanations could describe the spatial patterns of violence present in Figure 10. For instance, the location of the sites with skeletal evidence of violence within a riparian corridor could argue toward the presence of violence associated with the acquisition of water resources. This explanation, though, merely takes into account one phenomenon: the spatial pattern of sites with evidence of violence. As argued by Fogelin (2007:620), a better model should explain more phenomena. As such, the movement of migrants through the region best explains the spatial pattern seen in Figure 10. If water acquisition was a determinant for the location of sites with evidence of skeletal violence, then sites should be located along multiple riparian corridors, not simply along one or two. Another alternative explanation could be that these sites were products of internecine violence among the Gallina, possibly because the residents of the attacked sites were interacting with or aiding foreign travelers through the region. While this is also a good argument, the proscription for interacting with foreigners would likely carry over to the goods that the foreigners had. Any groups interacting with these migrants would likely have received some form of nonlocal material goods. If the inhabitants of the sites that were violently censored by their neighbors were attacked because of their interaction with these foreign agents, then it is very unlikely that the Gallina aggressors
would remove any trade items from these sites. These items would be clear markers of this proscribed interaction. Yet, they do not occur in the sites that contain skeletal evidence of violence. As such, it is unlikely that this is an appropriate explanation.

The migrant model is strong because it explains more than a single phenomenon. It illuminates that migrants moved through the area, how they moved, where they moved, the spatial pattern of sites with evidence of violence, as well as the source of violence in the Gallina region.

One last note regarding the conflict sites located along the Bluff routes: while the presence of these migration routes did not predict the presence of these violence sites, it is tempting to wonder if further examinations of sites within this corridor would turn up evidence of conflict. Of the four sites present along these routes, one has no dates and three are firmly dated to the early half of the 13th century. The sites with evidence of violence to the north appear to date to the latter half of the 13th century. Is it possible that there is a bimodal pattern of movement and violence through this region, with earlier movement on the southern edge of the Gallina territory and later movement cutting through the heartland? It is tempting to think so, based on the visible spatial patterns. As it stands, though, the data do not support this argument.

Researchers have frequently argued about where the Gallina went after the area was depopulated in the late 1200s. In conjunction with skeletal assemblages in the Gallina region that appear to result from captive-taking (Turner et al. 1993), these paths may help point archaeologists in the direction that many of the Gallina captives were taken. The Lower Rio Chama Valley and the Tesuque Valley would be excellent places to begin this search.
It is also interesting that this spatial patterning of conflict sites along migration routes seems to demonstrate a prevailing knowledge of time and distance in prehistoric populations. Simply following the path of least-cost would have mostly avoided the Gallina area. Yet following the path of least caloric and temporal cost goes through the Gallina region. There are only two ways to know about the path of least caloric and temporal cost: one must have walked it or preserved it in cultural memory. Considering the relative paucity of trade wares in the Gallina region, it is likely that this route was a product of memory and not personal experience. In other areas of the Southwest, we know that ancestral travel routes can be preserved for centuries with incredible precision (Darling 2009; Darling and Lewis 2008). It is likely that it occurred elsewhere as well. This is not the only process that would explain the migrants’ knowledge of the quickest and easiest way to the Rio Grande and Lower Rio Chama regions. It is, of course, possible that scouts may have traveled through the area first or that local guides were used. Whatever the case, the spatial patterns of violence through the Gallina region indicate the movement of migrants.

In addition, I want to mention that I am not arguing for who the actual aggressors were. There is no way to tell whether these deaths occurred because of retribution for violence instigated by the Gallina or from unexpected raids conducted by people passing through the region. For patterns of violence that include the death of up to 16 members of a village to occur, large numbers of people would have to be moving relatively quickly through the Gallina region. It would not be possible for a small group to attack a community and kill this many people who were fighting back. Moreover, we know that in a few cases (Hibben 1939), at least, they were fighting back. This would likely indicate,
at minimum, movement of migrants in numbers above the household level. We know that migration occurred ethnographically (Ellis 1976; Roberts 1996; Sando 1982) and that it occasionally involved acts of violence (Ellis 1976; Palonka 2009:85-86). However, from this information, we are not able to determine whether it was the migrants or the inhabitants who were the aggressors. It is just as possible that the Gallina were sporadically raiding traveling groups and were attacked because of it, as it is that the traveling groups were raiding the Gallina sites for supplies or other reasons.
CHAPTER 4: TOWARD A REGIONAL UNDERSTANDING OF THE GALLINA

In this thesis, I argued that the spatial patterns of violence and conflict present in the Gallina district could only be understood by taking a regional perspective. This means that the Gallina themselves need to be understood from within this perspective, or else there is no way to evaluate how they were effected by, or affecting, these regional processes. To do so, though, we first need to understand the processes that helped create the Gallina highland occupation.

The people of the Rosa phase (A.D. 700-950), the most likely progenitors of the people who would eventually become the Gallina, were fundamentally in sequence with the other cultures of the northern Southwest. Rosa phase potters decorated their ceramics with organic paints (Hall 1944) and lived in pit houses either in isolated homesteads or communities (Eddy 1966). Sipapus were present in pit houses (Elyea 1994:20). The Rosa phase sites contained trade ceramics from the Mesa Verde area, the San Juan, and the Rio Grande (Dittert et al. 1963; Eddy 1966; Stuart and Gauthier 1981; Stubbs 1930:78), with only a few Cibolan ceramics represented (Eddy 1966).

With the rise of Chacoan society in the A.D. 800s, the Rosa phase people slowly became marginal to the increasingly more complex groups to their southwest. Boundaries, though, are often central to the emergence of new practices (Wenger 1998:113-118,255). In these turbulent spaces, new cultural practices arise (Wenger 1998:255). Yet it is exactly this marginality that made a renegotiation of societal practices possible. This renegotiation did not occur immediately with the Rosa phase peoples, but by A.D. 1050 these new social practices were visible in the material traces left by the Gallina people. Here, in this tumultuous region outside of the Chacoan and
Mesa Verdean spheres, a tradition was invented. This is a frequent occurrence during times of cultural transitions and upheaval (Hobsbawm 1992:6-8; Otto and Pedersen 2000:10). These invented traditions often emerge in response to foreign elements. They become reified and transmitted into timeless and primordial truths, and often become the symbol for struggle against foreign constituents (Hobsbawm 1992:12). This process is by no means rare. The avoidance of alien and/or foreign processes and things occurred elsewhere in the Southwest as a form of resistance (Mills 2008:223). As well, it occurs throughout the world (Hobsbawm and Ranger 1992). These invented traditions are frequently vehicles for indigenous revitalizations as well as symbols of separateness, symbols that can be used to forge a group identity.

Human actors manipulate material culture to define the boundaries of social groups. This “symbolic and physical use of material culture to stress real and fictive affinity within and between individuals, households, and communities” (Kuijt 2000:157) is seen worldwide. This suggests that the adoption of new technologies and styles define an emerging disconnect from the surrounding cultural matrix (Brumfiel 2000:251). This technological and stylistic divide is reinforced by the cognitive processes that humans employ to determine group membership. In fact, the mere perception of belonging to a distinct group is sufficient to trigger intergroup discord (Tajfel and Turner 2004). Humans hold an explicit perception of themselves as members of groups. Once this perception of membership exists, the possibility of social comparisons can generate “spontaneous” inter-group conflict (Ferguson and Kelley 1964). The unique material traits of the Gallina, of themselves, were sufficient indicators of difference to allow the Gallina, or foreigners, to rationalize intergroup violence.
Invented traditions are practices that are governed by ritualistic and symbolic rules. These practiced traditions attempt to indoctrinate certain values and norms of behavior into a population through repetition. These traditions automatically imply a continuity with the past, although they are not necessarily part of the past. This past, whether real or invented, that then emerges within cultural discourses, imposes fixed, often formalized practices (Hobsbawm 1992:1). These traditions are powerful ideological tools for political action that frequently serve a group interest (Tonkinson 2000:170). They produce an impression of continuity, stability and shared identity that projects into earlier times (Lewis and Hammer 2007:5-6; Tonkinson 2000:170). This occurs continually throughout history, including with the British monarchy (Cannadine 1992:160), the kilt and bagpipes of Scotland (Trevor-Roper 1992), the European Renaissance (Sahlins 1999:7-8), and the “Ostalgie” of former East Germans (Otto and Pedersen 2000). In the United States alone, there are numerous examples of invented traditions at play: the Ghost Dance, Kwanzaa, neo-shamanism, and Wicca to name a few. These invented traditions occur throughout all classes and ethnicities and invariably present some form of connection with a past, either real or invented.

An earlier example of the invention of tradition is evidenced by the introduction of the pointed bottom pots to the Gallina region sometime after the Rosa phase, possibly as early as A.D. 1000 (Bahti 1945, 1949; Hall 1944:Appendix G). During the transition from the Rosa to the Gallina phase, it appears that a cultural revitalization occurred. A revitalization that is demonstrable by the sudden appearance of the Gallina pointed bottom pot. Ceramics with this conical base form are frequently associated with nomadic
groups (Mills 1985:Table 1). They are rarely used by settled agriculturalists. When they are present in sedentary groups, they are never the dominant form of utility ware.

What is amazing about the introduction of the pointed bottom pot is the rapidity of its acceptance. It is the dominant utility form at most Gallina sites. This appears to be a deliberate introduction of a pottery tradition that draws connections to a halcyonic past, possibly by using similarities in form to conical burden baskets. Baskets of this type were present during Basketmaker II times, for example. This tendency in Pueblo society to model ceramics after basketry has been previously reported upon (Cushing 1886:483; Marshall 1985:152). Interestingly, ceramic utility forms with conical bottoms are frequently associated with nomadic, or semi-nomadic, groups. This appears to be a worldwide trend. Focusing on North America, Mills (1985:Table 1) prepared an analysis of utility ceramic forms, subsistence practices, and settlement patterns of 37 groups. Of these groups, eight utilized, at least partially, ceramics with pointed bases. These groups all practiced a hunting-gathering lifestyle, except for two who split their time between agriculture and hunting-gathering subsistence practices. While all groups used this conical utility type for cooking purposes, some use it additionally for serving and one for brewing as well as cooking.

The Gallina, though, were settled agriculturalists. While they utilized logistical camps during the warmer seasons, they were not continually on the move. Cross-culturally, they do not fit the pattern for groups that would employ this form of ceramic. They did, however, use the pointed bottom pot for similar purposes. Most sherds and whole pots are covered in soot (Constan 2011; Hayden 1978:36; Hibben 1949; Mackey and Holbrook 1975), suggesting that they were frequently used for cooking. Moreover,
Constan (2011:156) suggests that the pointed bottom pots may have been used for cooking wild resources instead of agricultural ones.

It thus appears that this vessel shape was deployed to institute a revitalization of the past along with its associated cuisine. The appearance of this pottery form indicates an emergent tradition within the Gallina culture. One focused on an ideological past that likely facilitated a disassociation from the developing Chacoan and, later, Mesa Verdean cultures.

Simultaneously, pit houses continued to be occupied for domestic purposes in the Gallina region. The Gallina people lived in pit houses long after even neighboring out-of-phase groups, such as Taos (Anschuetz, in press:24; Crown et al. 1996; Dick 1976) transitioned to aggregated pueblos and specialized ceremonial pit structures. These pit houses, in essence, are the physical presence of the past interacting with the Gallina people during their daily activities. They were statements of Gallina identity in a world, which to the Gallina may have appeared to be going mad. In a similar way that the Salado ceramic complex in the Hohokam region was employed to unify diverse groups of people under a forward-looking, cohesive framework, the Gallina used these two meaning laden objects, the pit house and the pointed bottom pot, to unify their communities under a cohesive framework. The difference, though, is that the Gallina’s cohesive framework looked to the past for guidance, not the future.

Social scientists frequently deploy invention of tradition to explain cultural phenomena in modern periods. Giddens (2002), however, noted that “traditions and customs have been invented for a diversity of reasons. We should not suppose that the conscious construction of tradition is found only in the modern period.”
Archaeologists are often unable to identify the causes of dramatic changes in technology or style (Minar and Crown 2001:370) or the framework that supports continuity and stability (Minar and Crown 2001:370). Invention of tradition is one way to parse causality from the archaeological record. Communities of practice, on the other hand, enable archaeologists to investigate the transmission of these new ideas.

Engaging in social practice is essential for learning and becoming who we are (Wenger 1998). Learning is a form of cultural participation (Wenger 1998:4), which is fundamentally experiential and social (Wenger 1998:227) and is inseparable from our sense of identity (Lave and Wenger 1991:115). This active involvement engages the learner in the practices of the social community and constructs an identity in relation to these communities (Wenger 1998:4). These communities of practice are “so informal and so pervasive that they rarely come into explicit focus, but for the same reasons they are also quite familiar” (Wenger 1998:12). Furthermore, each person is usually involved in many intersecting communities of practice.

Facilities of engagement promote learning and active participation in communities (Wenger 1998:237). These interactional facilities can include physical or virtual space and interactive technologies. These facilities encourage transitions toward full membership within the society, which supports the reproduction of current traditions for future generations.

As such, communities of practice generate and produce their own future (Lave and Wenger 1991:58). As an action, learning builds personal histories in relation to community histories. This continually connects our past and our future in a process of individual and collective becoming (Wenger 1998:227). Pauketat states that “practices
are the process, not just the consequences of processes. Thus they generate change” (Pauketat 2001). This is not entirely correct. Practices are the process and not just the consequences, true, but they do not always generate change. The agents within those practices always have to choose to either institute or not to institute change. It is more correct, then, to state that these agents have the ability to affect changes. As such, practices can create continuities as well as change.

Archaeologists love change. We love differences. Because of this, we tend to focus on the periods when change occurs and skim over times of stability. Nevertheless, stability, itself, is important. It is a choice that people make. Every generation has a conscious choice to continue the traditions of the previous generations or to enact change. The Gallina chose, generation after generation, to construct their domestic sphere in a “traditional” manner. A community of practice investigative framework allows us to investigate periods of stability such as this one and gain valuable insights. It enables us to gain information from stability, not just change.

Communities of practice maintain stability through a couple of mechanisms. Participation and reification occur around artifacts. Members within the society can ensure that artifacts are in place “so that the future will have to be organized around them” (Wenger 1998:231). These material artifacts are repositories of information and retrieval mechanisms, or reificative memory (Wenger 1998:231). Likewise, generational encounters, apprenticeship systems, and storytelling are forms of participative memory (Wenger 1998:238). The material remains of past peoples allow us to look at both of these processes. Southwest researchers have analyzed past communities of practice by utilizing the material record to understand some of the prehistoric participatory systems.
As Wills (2009) noted, similar processes have been described as enculturative traditions (Clark 2004:63).

The full complexity of the significance of artifacts in association with the social practice can be transparent to learners. “Knowledge within a community of practice and ways of perceiving and manipulating objects characteristic of community practices are encoded in artifacts in ways that can be more or less revealing. Moreover, the activity system and the social world of which an artifact is part are reflected in multiple ways in its design and use” (Lave and Wenger 1991:101-102).

Participation and reification are entrenched within historical practices. These practices become resources for continuing this history. It can be, in essence, the mechanization of stability (Wenger 1998:251). The Gallina maintained their historical practices; ones both real (pit houses) and invented (pointed bottom pots) through participation and reification. These two material forms, one transportable and one immovable, were present in all aspects of Gallina life, were intersected by all communities of practice, and were unavoidable by any member of a Gallina community.

All agents within a community of practice must continually negotiate meaning. The world is a complex matrix of social interactions where “every action calls upon a wealth of past interpretation and negotiation” (Wenger 1998:251). The pointed bottom pot and pit house, in Gallina society, functioned to “preserve histories of learning as living practices” (Wenger 1998:251). They were thus the ideal medium for transmitting information to new generations and ensuring that they moved forward into the future as legitimate participants in this “traditional” society.
To learn, humans must also confront boundaries. Learning both constructs and bridges boundaries, creating a multifaceted personal identity and community (Wenger 1998:227). Communities of practice can be generative as well as reificatory. These communities exist in a zone of opposition between structure and situated experience, practice and identity (Wenger 1998:13). It is within this framework that learners negotiate and reproduce continuity with the past or generate change. Rendering things negotiable that were not previously negotiable, alters the limits of what can be modified. “Once something has become negotiable, it expands our identities because it enters the realm of what we can do something about. As a transformation of identity, the learning involved in such changes is profound and cannot be easily undone” (Wenger 1998:248).

This transition across a boundary is evident in the eventual domestic occupation of above ground structures in the Gallina region. These structures appear to increase in frequency through time (Fiero 1978:205; Seaman 1976:47-48). This change in the proportions of structures indicates some permeability in the boundary between Gallina and Other as embodied by habitation structures. Where pointed bottom pots appear to increase through time in Gallina assemblages (Fiero 1978:205; Seaman 1976:47-48), pit houses decrease. Thus, the structures of transmission, of participation and reification, between these two communities of practice appear differentially effective at maintaining the persistence of the material culture and continuity with the “past.”

It is tempting to separate these differential communities of practice along gender lines. Ceramic construction, and often decoration, is frequently attributed to women, especially in smaller-scale societies (Mills and Crown 1995). Moreover, habitation construction is often the product of male labor, although females are often involved in
some building activities, such as plastering. Was the community of practice that revolved around the conical bottomed pots responsible for negotiating acceptance of the Gallina “traditionalism” in the feminine sphere while pit house construction enculturated Gallina males?

The slow slide to surface domestic structures started what was eventually to end in a full reworking of this social practice, a modification of the community of practice. The cliff house epitomized this change. As noted by Cartledge:

> The appearance of cliff houses in the Gallina area relatively late in the sequence of occupation represents a sharp break with the past in terms of intra-community relationships, social proximity and implied cohesiveness. In most areas of the Southwest United States similar apartment-like, aggregated, contiguous-roomed cliff houses develop out of architectural traditions of multi-roomed, aggregated, apartment-like pueblos. In these areas, there is logical continuity between the cliff house and preceding architectural traditions. This is not the case in the Gallina area. … The implied underlying concepts of social/familial space [in pit and unit houses] are quite different from those implied by cliff house architecture” [Cartledge 1988:F18 – F19].

Pointed bottom pots, however, continued to be produced up until the final occupation of the area by the Gallina. It appears the community of practice centered on this invented tradition was stronger and more resistant to change than the tradition with a direct, material link to the past.
The picture that emerges from the literature and the archaeological evidence, when viewed through the theoretical lens of invented traditions and communities of practice, is not of a stagnant, highly conservative, forgotten society that is ineffectively pushed into the hills as their betters slowly take over more productive lands. What materializes is the image of a society that used the concept of stability to enact a revolution, to promote cultural change. The pointed bottom pot and the pit house, as symbols of the Gallina resistance to cultural developments elsewhere in the Southwest, particularly at Chaco (earlier) and Mesa Verde (later), are keystones to understanding the Gallina culture.
CHAPTER 5: CONCLUSIONS

This research is an attempt to resolve the polemic debates concerning the source of violence in the Gallina region. Without understanding the Gallina position, spatially and culturally, in the northern Southwest, our understanding of the cause of conflict in this region would still be unclear. Once we embed prehistoric cultures within a broader societal context, when research is integrated and the culture is not studied as an island in the stream of prehistory, then we can find our answers. The pattern that emerges in the Gallina highlands is far too complex for any single explanatory model. Conflict between Gallina communities occurred both psychologically (i.e., fear) and physically (as seen at Rattlesnake Ridge). Conflict with external agents transpired through at least one corridor in the Gallina heartland, a corridor that appears to be one of the migration routes to the Lower Rio Chama and Northern Middle Rio Grande from the Mesa Verde, Aztec, and Salmon regions. A polemic argument fails to capture this complexity and can only explain a portion of the human behavior that patterned the archaeological record. There is no singular source of violence.

Shortly after A.D. 1275, when evidence of conflict in the Gallina region reached an apex, the area was depopulated. In the Southwest, migration is a common coping strategy when social and/or environmental conditions become too inhospitable. The Gallina, with an increasingly failing isolationist strategy—itself supported and continually reinforced by the “traditional” material technologies of the group—likely migrated, either freely or as captives, to other regions where a new social identity was negotiated, one that did not necessitate a separation from other groups. The direction, or directions, of this movement is still unknown (c.f. Wiseman 2007), although it is probable, as Beal (1987)
argued, that there are descendants of the Gallina in the Lower Rio Chama, if not in the Northern Middle Rio Grande area.

The Gallina culture of the northern American Southwest exists at a critical juncture of archaeological knowledge, both physically and ontologically. Their location in space is in a key position between the Four Corners and Northern Rio Grande provinces. Their cultural location demonstrates that processes typically associated with “core” groups can be better understood by incorporating evidence of the groups on the “periphery.” Thus, while archaeologists often perceive the Gallina as aberrant hillbillies and isolationists, the truth is that they sat on one of the most important migration routes of the northern Southwest. As such, the apparent isolation of the Gallina is not so much that of a forgotten group, but of choice. While comparisons have been made to modern socioeconomic classes that are lost on the periphery of society (e.g., hillbillies), the evidence indicates that the Gallina were much more aware of the surrounding cultural matrix and actively chose to separate themselves (e.g., the Mennonites) from the contemporary cultures of their day.

This small, supposedly backwater group, which has for so long been considered incidental at best to the social processes occurring in the Southwest, can only be ignored to the detriment of our historical knowledge. Just as they were unable to be ignored 700 years ago. The relative lack of interactions as evidenced by the extremely rare trade goods does not just denote a lack of exchange in this region. What it evidences is a lack of contact. And yet people knew about this area. People avoided this area. This tells us that the Gallina actively shaped the decision-making practices of all of the groups that surrounded them. They were in essence, influential to the processes of the day. When the
movement out of the Four Corners region began, decisions must have been made regarding the Gallina and their position in space between the source and destination areas. As case study two demonstrates, a decision was indeed made. It appears that, in the end, the rapidity of travel was deemed more important, in at least a few cases, than the avoidance of conflict. The Gallina, who effectively utilized tradition to create an isolationist resistance, suddenly became unavoidable. For a few decades, these lands were contested landscapes of movement. What happened to the Gallina after this period, though, remains to be resolved.

As a final point, I did not attempt to determine whether the instances of conflict in the Gallina region were warfare. I feel that the often times circular arguments of whether the shape of violence in a region was or was not war tends to obscure meaningful patterns in the material record. In the Southwest, especially, researchers focusing on conflict need to step back from arguing for or against the presence of war and instead see what the patterns of violence display. They might be surprised by what they see.
FIGURES

Figure 1: The Southwest jigsaw.
Figure 2: Gallina site distribution.
<table>
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<tr>
<th>Gallina</th>
<th>Navajo</th>
<th>Ute</th>
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Figure 3: Comparison of conical bottom pots modified from Hibben (1949).
Figure 4: Pit house plan view modified from Dick (1976).
Figure 5: Cut-away of Gallina Unit House modified from Ellis (1987).
Figure 6: Tradeshed model.
Figure 7: Strahler stream order.
Figure 8: San Juan Red Ware trade.
Figure 9: Proposed migration routes.
Figure 10: Migration routes and sites with evidence of violence.
# TABLES

Table 1: Nonlocal ceramics in the Gallina district

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**Minimum Total Foreign Sherds in Gallina Region:** 720
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<td>1</td>
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<td>ph</td>
<td>Ellis 1991</td>
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<td>127387</td>
<td>Archuleta</td>
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<td>ph</td>
<td>Green 1956</td>
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<td>22915</td>
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<td>1248</td>
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<td>extra mural</td>
<td>Green 1964, Hicks 1949</td>
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<td>61569</td>
<td>Leeson Group, Bg 91</td>
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<td>0</td>
<td>uh</td>
<td>Green et al. 1958</td>
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<td>641</td>
<td>Capulin</td>
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<td>Green et al. 1958, Mera 1938</td>
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<td>6865</td>
<td>Lagunitas</td>
<td>1</td>
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<td>Hammack 1965</td>
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<td>Bull Snake Hill</td>
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<td>Hammack 1965</td>
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<td>12378</td>
<td>Evans Site</td>
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<td>uh</td>
<td>Lange 1956</td>
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<td>12059</td>
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<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>uh</td>
<td>Mackey and Holbrook 1975</td>
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<td>12063</td>
<td>N/A</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>uh</td>
<td>Mackey and Holbrook 1975</td>
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<td>11633</td>
<td>L/102, T-site</td>
<td>6</td>
<td>0</td>
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<td>extra mural, 1 inside structure</td>
<td>Massau 2009, Mohr and Sample 1973, Sullivan and Katzenberg 1982</td>
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<td>22800, 22802, 24287</td>
<td>The Nightmare Site</td>
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<td>0</td>
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<td>extra mural</td>
<td>Peterson et al 2006</td>
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<td>6163</td>
<td>N/A</td>
<td>1000</td>
<td>1</td>
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<td>extra mural?</td>
<td>Reed 1963</td>
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<td>11843</td>
<td>Kinslow site</td>
<td>1100</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>extra mural, next to ph</td>
<td>Weaver 1976, Seaman 1976</td>
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*uh = unit house; ph = pit house; ch = cliff house

**Total:** 166 85 87 78
REFERENCES

Ackerly, Neal

Anschuetz, Kurt


Anschuetz, Kurt F., and Cherie L. Scheick

Bahti, Thomas N.
1945 An Elaboration of E.T. Hall's Largo-Gallina Phase and Rosa Phase Trait List. Unpublished manuscript, Department of Department of Anthropology, University of New Mexico, Albuquerque.


Bain, James, Brian Blanchard, Bruce Campbell, Jr. Sinclair Hatch, John Hayden, Mary Lu Moore, Cheryl Muceus, Gordon Page, William Perret, Mary Purdy, Darlene Shibley, Jim Shibley, William Sundt, Pat Trusell, and Fred Trusell
1993 The Teacher, the Ghosts and the Snake: Preliminary Results of Eight Field Seasons at Rattlesnake Ridge. Ms. on file at the Ghost Rancho Museum.
Baker, Larry L., and Kristin Langenfeld

Beal, John D.

Bice, Richard A.

Blumenthal, E. H.

Bremer, J. Michael

Brugge, David M.

Brumfiel, Elizabeth


Cannadine, David

Cartledge, Tom

Ceram, C. W.

Chagnon, Napoleon A.

Clark, Jeffrey J.

Constan, Connie

Cope, Edward

Cordell, Linda S.


Crown, Patricia L.

Crown, Patricia L., Janet D. Orcutt, and Timothy A. Kohler

Darling, J. Andrew


Darling, J. Andrew, and Barnaby V. Lewis

Deboer, W. R.

Dew, Margaret
2003  A Pueblo Ii and Iii Buffer Zone between the Chaco and Gallina Areas of Northwest New Mexico. The Artifact 41:65-78.

Dick, Herbert W.


Dick, Herbert W., and Hugh Davidson
Dittert, Alfred E.
1958 Preliminary Archaeological Investigations in the Navajo Project Area of Northwestern New Mexico. Museum of New Mexico Papers in Anthropology No. 1, Santa Fe.

Dittert, Alfred E., Frank W. Eddy, and B. L. Dickey
1963 Evidences of Early Ceramic Phases in the Navajo Reservoir District. El Palacio 70:5-12.

Douglass, William Boone

Duwe, Samuel Gregg

Eddy, Frank W.
1966 Prehistory of the Navajo Reservoir District, Northwestern New Mexico. Museum of New Mexico, Santa Fe.

Egenhofer, Max, and David Mark

Elliott, Michael L.

Elliott, Michael L., and Landon D. Smith

Ellis, Andrea

Ellis, Florence Hawley


Ellis, Florence Hawley, and Andrea Ellis Dodge

Elyea, Janette

Ferguson, Charles K., and Harold H. Kelley

Ferguson, R. Brian

Ferguson, T. J.

Fiero, Kathleen
1978  Archaeological Investigation at La 11850: A Gallina Phase Village on the Continental Divide, Rio Arriba County, New Mexico (Review Draft). Laboratory of Anthropology Notes No. 111f. Museum of New Mexico, Santa Fe, NM.

Fogelin, Lars
Ford, Richard I., Albert H. Scroeder, and Stewart L. Peckham

Gallenkamp, Charles B.

Giddens, Anthony

Gorenflo, Larry J., and Thomas L. Bell

Green, Roger C.

Green, Roger C., Maryanne A. Danfelser, and Gwinn Vivian

Grimstead, Deanna M.

Haas, Jonathan, and Winifred Creamer
1985 Warfare and Tribalization in the Prehistoric Southwest. School of American Research, Santa Fe.

Habicht-Mauche, Judith A.

Hall, Edward Twitchell

Harrill, Bruce G.

Hayden, John S.

Hegmon, Michelle, James R. Allison, Hector Neff, and Michael D. Glascock

Heider, Fritz
1970 The Psychology of Interpersonal Relations. Wiley, New York [u.a.].

Hibben, Frank C.

1939 The Gallina Culture of North Central New Mexico. Ph. D., Department of Anthropology, Harvard University, Cambridge, Massachusetts.


Hicks, Frederic
1949 A Gallina Unit House of Northwestern New Mexico. Manuscript on file, Department of Anthropology, University of New Mexico, Albuquerque.

Hobsbawm, Eric


Hobsbawm, Eric J., and Terence O. Ranger

Hodder, Ian  

Holbrook, Sally J., and James C. Mackey  

Ireland, Arthur K.  

Jeancon, Jean Allard  
1929  *Archeological Investigations in the Taos Valley, New Mexico, During 1920 (with 15 Plates)*. Smithsonian Miscellaneous Collections. 81(12). The Smithsonian Institution, Washington, D.C.

Jennings, Jesse D., Erik K. Reed, J. B. Griffin, J. C. Kelley, C. W. Meighan, S. Stubbs, J. B. Wheat, and D. C. Taylor  

Jett, Stephen C.  

Kantner, John  

Keeley, Lawrence H.  

Kliendienst, Maxine  

Knight, Terry L.

Koehring, Vera  
 n.d.  *An Analysis of Gallina Painted Pottery Design.* Manuscript on file, Department of Anthropology, University of New Mexico, Albuquerque.

Kohler, Timothy A., and Kathryn Kramer Turner  
2006  *Raiding for Women in the Pre-Hispanic Northern Pueblo Southwest?*  

Kuckelman, K. A., R. R. Lightfoot, and D. L. Martin  
2000  *Changing Patterns of Violence in the Northern San Juan Region.*  
*The Kiva* 66:147 - 165.

Kuijt, Ian  

Kulisheck, Jeremy  

Lally, James R.  

Lambert, Patricia M.  

Lancaster, James W.  
1983  *Research Design for the Excavation and Testing of Four Gallina Phase Sites Along Nm 112, Rio Arriba County, Nm.*  
*Laboratory of Anthropology Note No. 310h.*

Lange, Charles H.  
1941  *The Evans Site: A Contribution to the Archaeology of the Gallina Region, Northern New Mexico.* Department of Anthropology, University of New Mexico, Albuquerque.
1956  The Evans Site and the Archaeology of the Gallina Region, New Mexico.  

Langenfeld, Kristin, and Larry L. Baker  

Lave, Jean, and Etienne Wenger  

Leblanc, Steven A.  
1999  *Prehistoric Warfare in the American Southwest.* University of Utah Press, Salt Lake City.

Lewis, James R., and Olav Hammer  

Mackey, James  
1977  A Multivariate, Osteological Approach to Towa Culture History.  

1982  Vallecitos Pueblo (a Fourteenth Century A.D. Ancestral Jemez Site), and La 12761 (a Late Prehistoric - Early Historic, Jemez Phase Farm House Site) in New Mexico. *Journal of Intermountain Archeology* 1(2):80-99.

Mackey, James C., and Roger C. Green  

Mackey, James C., and Sally J. Holbrook  
1975  *Archeological Report Submitted to Santa Fe National Forest for Work Done in 1973-1974 under Forest Service Permit on Federal Lands in the Cuba and Coyote Districts.* Ms. on file at the Laboratory of Anthropology, Santa Fe, NM.


Marlar, Richard A.  

Marshall, Michael P.

Massouh, Paula Ann

McKenna, Peter J., and H. Wolcott Toll

Mera, Harry P.
1935  Ceramic Clues to the Prehistory of North Central New Mexico. Laboratory of Anthropology.


Mills, Barbara J.


Mills, Barbara L., and Patricia L. Crown

Minar, C. Jill, and Patricia L. Crown

Mohr, Albert, and L. L. Sample
1972  Archaeological Excavations at Site No. L/102, Rio Arriba County, New Mexico-1972. Laboratory of Anthropology Notes No. 83. Museum of New Mexico, Santa Fe, NM.

Moore, Roger
1988 The Excavation of a Brush Structure as Gallina Site (La 52254) near Lindrith in Rio Arriba County, New Mexico. San Juan County Archaeological Research Center and Library.

Muceus, Cheryl, and Bob Lawrence

Myers, Nate

Oakes, Yvonne R.

Ortman, Scott G.

Otto, Ton, and Poul Pedersen
2000 Tradition between Continuity and Invention: An Introduction. Folk 42:3-17.

Page, Gordon B.

Palonka, Radoslaw

Pattison, Natalie B.
1968 Nogales Cliff House: A Largo Gallina Site, Department of Anthropology, University of New Mexico, Albuquerque.

Pauketat, Timothy R.
2001  Practice and History in Archaeology: An Emerging Paradigm.  

Pendleton, La Verna  

Peterson, John A., David V. Hill, Alfredo Enriquez, and Tim Graves  

Plog, Fred  

Pueblo of Jemez  

Reiter, Paul  

Renfrew, Colin  

Rinaldo, John B.  

Roberts, David  
Sahlins, Marshall David  

Sando, Joe S.  

Scheick, Cherie L.  

Schulman, Albert  

Seaman, Timothy J.  
1976 *Archaeological Investigations on the San Juan to Ojo 245kv Transmission Line for the Public Service Company of New Mexico: Excavation of La 11843 an Early Stockade Settlement of the Gallina Phase*. Museum of New Mexico Laboratory of Anthropology Notes.

Service, Elman R.  

Shreve, Ronald L.  

Simpson, David Erik  

Simpson, Erik  

Sleeter, Richard Stanley  
1987 *Cultural Interaction of the Prehistoric Gallina: A Study of Settlement Patterns in North-Central New Mexico*. Unpublished Masters Thesis, Department of Anthropology, New Mexico State University, Las Cruces, New Mexico.


Snow, Bryan Edward

Strahler, Arthur Newell


Stuart, David E., and Rory P. Gauthier

Stubbs, Stanley


Sutherland, Edwin H.

Tajfel, Henri, and John Turner

Tobler, Waldo

Tonkinson, Robert

Trevor-Roper, Hugh

Triadan, Daniela, and M. Nieves Zedeño
2004 The Political Geography and Territoriality of 14th-Century Settlements in the Mogollon Highlands of East-Central Arizona. In *The Protohistoric Pueblo*

Turner, Christy G., and Jacqueline A. Turner

Turner, Christy G., Jacqueline A. Turner, and Roger C. Green

Tyson, Ken
1954 Bg 80, Room 12; Bg 81; Bg 84 Excavations at Gallina Sites on the Largo Canyon, New Mexico. Manuscript on file, University of New Mexico, 18th Gallina Field Expedition, Maxwell Museum Archive Catalogue No. 2005.22.45.

Upham, Steadman, and Paul F. Reed

Walker, William H.

Wendorf, Fred, and Erik Kellerman Joint Author Reed

Wenger, Etienne
1998 Communities of Practice: Learning, Meaning, and Identity. Cambridge University Press, New York, N.Y.

White, Tim D.

Whiteaker, Ralph J.
1976 Excavations of Portions of La 11841, a Gallina Phase Pit House Site, Rio Arriba County, New Mexico. Laboratory of Anthropology Notes No. 111d. Museum of New Mexico, Santa Fe, NM.

Wilcox, David R, and Jonathan Haas
Wilcox, David R., and James P. Holmlund
2007 The Archaeology of Perry Mesa and Its World. Ralph M. Bilby Research Center, Northern Arizona University, Flagstaff.

Wilkinson, Nancy

Wills, W. H.

Wilson, C. Dean

Wiseman, Regge N.