Abstract
Entranceway architecture in the Mogollon region of New Mexico and Arizona showed a significant change throughout the development of the culture from AD 200-1400. Scholars have attributed this change to many different things; Harry Shafer proposed a restructuring of cosmology. This paper examines data collected from sites all over the Mogollon area to test that hypothesis. Cultural aspects considered include domestic and ceremonial house structure, as well as and mortuary customs. These variables indicate both the architectural and religious trends of the Mogollon people. Data compiled from site reports is tabulated and analyzed to show trends throughout the entire region. Upon analysis, Shafer's theory does not appear compatible with the available data. Though modern archaeologists cannot know what ancient peoples truly believed, the available evidence does not support a widespread cosmological shift in this area.

Introduction
As a junior in college, I thought field school in the desert of southern New Mexico was the best opportunity I could take to occupy the summer. We worked through May and June under the hot sun to excavate a Mogollon pueblo. As I worked with the crew excavating our assigned room, we observed some peculiarities that made it unique. True, it was much smaller than the other two spaces being investigated, and it had more interesting stratigraphy. Most significantly, unlike the other rooms with obvious doorways, there seemed to be no way to get into it! We spent the entire six weeks trying to unravel the mystery of the "doorless" room.
Many archaeologists have spent their field seasons in precisely this same way: excavating a ruin, not finding what they thought, and projecting hypotheses for why they found what they found. In the Mogollon region of New Mexico and eastern Arizona, architecture has historically perplexed excavators. Entranceways are a prime example of such a dilemma.

Architectural features such as entrances do not remain static over the course of a culture's development, as the Mogollon ruins have shown. Even though Southwestern entries fall into only a few broad categories—extended ramps, ceiling hatches, simple doorways—there remains the challenge of explaining these changes over time. Many theories have been proposed, and this paper strives not to add yet another hypothesis to the milieu, but rather to test an existing theory. Harry Shafer conjectured that the shift in entranceway architecture was due to a shift in cosmology. If this was correct, then corresponding archaeological data would include a contemporaneous change in domestic and ceremonial house structure and a regionally consistent shift in mortuary customs. However, though Shafer discusses evidence at one site that correlates with his theory, data collected from other sites do not correspond with this model.

**Literature Review**

The North American Southwest includes the states of Colorado, Utah, Arizona and New Mexico, and has attracted the attention of scholars for over a century. Adolph Bandelier first ventured into the Mimbres Valley in southern New Mexico in 1883 and described the histories, lifestyles and material cultures of the peoples he met there (LeBlanc 1983:28). Cosmos and Victor Mindeleff contemporaneously investigated the Pueblo people farther north in New Mexico and Colorado, and recorded both ethnographic descriptions and archaeological surveys of the area, complete with maps of buildings (Cameron 1999:67). Clement Webster followed Bandelier into the Mimbres Valley, and became the first to excavate a site professionally, and in the early twentieth century Nels Nelson focused on finding more sites and mapping their locations.
In 1914, the concentration shifted from architecture to more portable objects of material culture when J. Walter Fewkes started collecting pottery for museum exhibits. In the 1920's and 1930's, though, Bradfield, the Cosgroves and A.V. Kidder undertook more formal excavations of archaeological sites. Then Emil Haury authoritatively defined the boundaries of the Mogollon culture by trying to define the surrounding cultures (LeBlanc 1983:28); his reports are invaluable sources of information even today.

Even before academia entered the Southwest, though, descriptions of the architecture and the people who lived in it were recorded in the sixteenth century by Spanish explorers. The explorers described the houses they encountered as having many adjoining square rooms, sharing walls that were at least two feet thick for strength and insulation against the hot desert sun. These walls were constructed of wood frames covered with either stone or adobe. These dwellings were typically two or three stories high, but could also be as large as five or six stories. Castano de Sosa, a Spanish soldier arriving in the Southwest in 1591, noted that the lowest story had no doors or windows, but was used as a storage space entered through a trapdoor in the ceiling (Hernandez 1985:16, LeBlanc 1983:18). Upper levels were set back from the ones below them like a set of stairs (Hernandez 1975:22).

The Spanish explorers and modern anthropologists alike have encountered many different groups in the Southwest, some of which are well known today: the Pueblo, Hopi, and Navajo (Bandelier 1937:23, Cordell 1984:5-14). These modern groups descended from ancient peoples whose names may not be so familiar: Anasazi, Hohokam, Mogollon. An even older group, the Chichimec, was a nomadic society of hunters and gatherers residing in the deserts of the northern Mexican state of Chihuahua. Some scholars say the Mogollon descended from these people (Turner 1993:47). Though the possible influence of gene flow should not be ruled out, it is noteworthy that all of these separate groups did not originate from the same people. Culturally
speaking, the Zuni and Pueblo groups who descended from the Anasazi farther north are different in many respects from the Mogollon who descended from the Chichimec farther south. Nevertheless, there is a great deal of similarity among these cultures, which may be due to a variety of factors. Similar ancestry and environmental and social pressures may have resulted in similar adaptations. Uniformity in architecture illustrates this hypothesis well (Jackson 1985). Throughout the Southwest, the climate is hot and dry, with an average annual precipitation of 46-48cm, much of which is snowmelt. Most of the game and trees—Douglas fir, ponderosa pine, pinion and juniper—thrive in the mountains where it is cooler and wetter (Cordell 1984:176, Jackson 1985:22). However, most of the arable land lies in valleys that receive water from streams on a regular basis, so when moving toward a more agrarian lifestyle, people were forced into the lowlands away from the trees and game. This led to region-wide access to similar materials and resources for building, such as stone, clay and mud (Jackson 1985:31). An economic advantage to this limited access to materials was that the use of local materials as well as local skills, labor, and building methods was encouraged, which promoted group solidarity. These community ties were important in prehistoric times: conformity was prized and the desire for a strong sense of belonging appears to have been a powerful force, which would have promoted uniformity of house structure, among other things. Thus follows the political agenda of avoiding conflicts within and between groups to maintain social order; this may have led to homogeneity of not only architecture, but also of basic ideologies (Jackson 1985:29). Architectural forms did change through time, though, and have drawn much interest from the academic community. Excavations have revealed that in the Mogollon culture, as in the rest of the Southwest, dwellings took on various shapes over time, from semi-subterranean pithouses to one-story adobe pueblo buildings (Cameron and Lekson 1998:4). Pithouses were made by digging shallow pits, then building a frame of wooden poles bent to form the dome of the roof,
and this frame covered with mud, grasses and adobe to complete the structure. Early pithouses were less than a meter deep; later pithouses sunk to a depth of a meter or greater into the ground (LeBlanc 1983:41-42). The entrances extended out from the house, to formed a ramp sloping downward into the house, and were covered by an extension of the roof. 

Centuries later, pueblos were made with either masonry or adobe, depending on available materials (Cameron and Lekson 1998:5). Pueblo entrances varied more: storage spaces were usually entered by ceiling hatches that used a ladder to allow entrance into the room, while habitation rooms were entered through simple doorways in the walls.

Various phases are associated with these changes in architectural forms. The earliest, the Archaic or Early Pithouse phase, spanned from AD 200-500, and included the roofed, extended entrance. The Late Pithouse period from AD 500-1000 actually included a number of distinct phases: the Georgetown (AD 500-650), San Francisco (AD 650-750), and Three Circle phases (AD 750-1000) (Cordell 1987:171). Over this period, the entranceway types morphed from extended covered ramps to short covered ramps to ceiling hatches (Shafer 1995:24).

The classic pueblo phase, Mimbres, followed until about AD 1200, and then later pueblo phases continued until the abandonment of the sites in the 15th century AD. These later buildings were entered via ceiling hatches in some rooms, and simple doorways in others. The most architecturally interesting period, though, is the time of transition between pithouse and pueblo, known as the Mangas phase, which overlapped the end of the Three Circle phase and the beginning of the Mimbres phase (AD 900-1050) (Cordell 1987:171).

Attempts to explain this shift has bred many competing theories in archeology. A possibility for architectural shift was changing land use and the introduction of horticulture (Cameron and Lekson 1998:6, Haury 1962:44) and its accompanying need for long-term food storage (Gilman 1987:543, Haury 1962:44). Subterranean pit storage, the method used in conjunction with
pithouses, exposed stored food to the moisture and parasites inherent in soil, such as fungi, rodents and insects. Storing food above ground limited these effects, and storing food in rooms with access only through the ceiling limited damage that could be caused by careless children or raids from neighboring groups (Cameron 1999:63).

This need to defend resources actually became a line of thought on its own. Many early pithouse villages were built on top of mesas or knolls that were not readily accessed; this led researchers to believe that attack from enemies was a concern in the ancient Southwest. Similarly, once multi-storied pueblos were developed on lower land more suitable for irrigation of crops, buildings could usually be accessed only by a ladder that could be pulled up in the event of attack, thus protecting the inhabitants and their goods (Cameron and Lekson 1998:3).

Others suggested that these neighbors were not raiders so much as traders who brought new ideas into the area. This theory promoted the hypothesis of cultural diffusion for the change in architecture. They argue that the interactions between the different peoples spread new concepts and methods of living into different areas, which contributed largely to the shift from pithouses to pueblos (Haury 1936:368).

Some scholars proposed an alternative theory of a regional climate change instead of diffusion when archaeologists discovered that the thermal efficiency of pithouses was greater than that of pueblos. The subterranean location of living space allowed the earth itself to provide insulation on all sides to moderate the effects of outside temperature fluctuations. This kept the heat of the environment out and the heat from a fire in, which was useful in winter months at higher elevations (Cordell 1987:252).

The round shape of the pithouse achieved this effect as well: domed structures typically heat up more quickly and cool down more slowly than rectangular structures (McGuire and Schiffer 1983:291). This data would imply that the shift to pueblos from pithouses indicated a regional
increase in temperature. There remained, however, pithouses contemporaneous with pueblos in many areas, which posed a problem for this theory (LeBlanc 1983:20, McGuire and Schiffer 1983:291).

A few possible explanations for the coexistence of pithouses and pueblos have been discussed in the archaeological community. One is that the pithouses were temporary shelters occupied seasonally by a few groups that still clung to the former lifestyle of hunting and gathering (LeBlanc 1983:20-21). Or, the temporary shelters could have been inhabited while families were in the process of building their pueblo rooms. Moving into those new rooms may have also been delayed by a waiting period to see if experimental materials or techniques actually worked for building. If this last scenario was reality, then arises the question of how much experimentation needed to be done, as the duration of this coexistence lasted about a century in the Mogollon region (McGuire and Schiffer 1983:279).

A fourth possibility to explain the use of both pithouses and pueblos was the marginalization of people. If some groups of the society could not afford to produce the build pueblos, then perhaps they were stuck with the older form of dwelling. Also, most pithouses found near pueblo settlements were also near marginal farmland; this could indicate that the families who occupied these houses were near the edges of society and could not live in the housing for the majority (McGuire and Schiffer 1983:295).

Such a difference in social ranking was unknown in hunting and gathering bands, so stratification would imply a boom in population (Gilman 1987:58) that led to a change in the social organization (Plog 1974:117-127). As the population expanded within the group (Cameron 1999:77), mobility of the groups decreased and reliance on agriculture increased, and people settled down into permanent villages with a permanent elite. Burial data supports this notion of a ranked society (McGuire and Schiffer 1983:290).
With this increased sedentism and social inequity, more symbolism was incorporated into the architecture, and buildings were partitioned for specialized activities. This increased the cost of maintenance on the building, which led to further social differentiation. Social standing may have required a compromise between the building, use and maintenance of a structure by the people who lived there (McGuire and Schiffer 1983:287).

For instance, the elite of society possessed enough wealth—energy, resources, skill—to produce and maintain a quality house, but lower classes may not have been able to afford to produce a quality house. Therefore, the poorer construction of their dwellings forced poorer people to spend more wealth on maintenance (McGuire and Schiffer 1983:282), such as plastering cracks in older walls (Bandelier and Hewett 1937:39).

Depending on the amount of damage, structures could be repaired or razed, and the material reused either to build another house in the same place or for secondary purposes. All of these strategies were used in several of the pueblos examined here. Also, as the population grew or decreased and the society changed, needs for space changed and architectural forms varied (Cameron 1999:29-30,58). Variation depended on the how the structure was used in ways utilitarian and symbolic (McGuire and Schiffer 1983:280).

The goals for the utilitarian function of dwellings are to mediate between people and their environment and to create space for certain activities. The means of achieving these goals depends on the materials and technology available as well as the size and needs of the group of people building. In general, the longer the expected use-life, the more effort and resources are spent on the production of a house. Usually, a structure expected to be used only for a short duration is round or domed, while structures that are expected to be in use for a long time are rectangular (McGuire and Schiffer 1983:280,283-4). Interestingly, pithouses were round and pueblos were rectangular, belying the more sedentary lifestyle developed in later periods.
The two different shapes each had their advantages and disadvantages. For example, the round form of pithouses had a higher volume to surface area ratio, so inner space was maximized while construction material is minimized. More flexibility was allowed with building materials with domes, as straight beams were not necessary for supports. The wind resistance was lower, and the thermal properties were better (McGuire and Schiffer 1983:284-5), as previously discussed.

However, the unpleasant aspects of pithouses included the high maintenance factor. Pithouses were covered with damp earth, which did not keep out moisture from wooden beams, and also encouraged the infestation of insects and other vermin. Also, the storage space was limited, and in fact any partitioning of inner space for specialized activities was very difficult in a round structure. Similarly, adding on was awkward, so pithouses did not accommodate expanding groups well (McGuire and Schiffer 1983:291).

The logistics of building a pueblo as opposed to a pithouse seemed to be impractical. Pueblos required long, straight beams for roof supports, which could only be obtained from trees higher up in the mountains; they also needed many more support beams than pithouses. If the dwelling was made out of stone, this material had to be quarried, worked, transported and then laid, all of which required much more time, energy and skill than digging a pit in the ground and covering a wooden frame with dirt.

On the other hand, pueblos were more advantageous than pithouses in social terms. These dwellings could be subdivided and added onto to grow with an increasing population. Pueblos were also more adaptable to symbolism displayed in plaster, masonry and other design features (McGuire and Schiffer 1983:292-3).

In addition to its functional properties, architecture conveys a symbolic meaning when an unusual investment is made in its production. Such structures may be much larger than more
utilitarian buildings, made of rare materials, or with special construction techniques. Investments in symbolism increase with the use of structures by symbolic institutions, such as ceremonial houses used by religious societies (McGuire and Schiffer 1983:281,292). Ethnographic evidence indicates that these institutions played a very important role in societies of the Southwest: civil leaders were often religious officials as well, and ceremonies such as the well-known Kachina dances were frequently held both privately and publicly (Jackson 1985:20).

It is this prevalence of religiosity that Harry Shafer based his theory of the shift from lateral entrances to ceiling entrances on. Shafer asserted that there is not enough evidence to support any of the material explanations proposed, so he concluded that the answer must lie with the immaterial. He claimed that the shift in architecture marked a kind of ideological transformation in the minds of the people (Shafer 1995:41).

Shafer relied on previous claims that architecture represents folk beliefs (Shafer 1995:41), and also that religion and social conformity were important factors in the societies of the Southwest (Jackson 1985:20, LeBlanc 1983:19). He referred to the mythology of the Southwest, especially creation myths. These stories tell of the first people being created in a dank, bleak underworld, and then emerging from that underworld through higher layers of the universe until arriving at this one (Shafer 1995:41). Such myths were common throughout the entire Southwest and even other parts of North America (Bandelier 1890:22).

Shafer claimed that the emergence theme of the creation myth was reflected in architecture by way of ceiling entries: burials below the house floor represented the underworld, the space inside the house represented the current middle world, and the outside entered through the hatch in the ceiling represented the upper world. Shafer supported his theory with data collected and analyzed from one site, the NAN Ruin in New Mexico (Shafer 1995:42). The data shown in this paper has been compiled from various sites from all over the Mogollon region to provide a basis
for comparison to that site.

**Data**

Shafer’s findings from the NAN Ruin included a total of 23 houses in a state of architectural transition. Three were modified pithouses, that is, the extended entrance was blocked with stone, and an alternate entrance inferred to be through the ceiling. Another 16 were surface rooms with sunken floors, another example of a transition between pithouse and pueblo, and 4 were incorporated into later surface room blocks (Shafer 1995:27).

Comparative data collected from pithouses include remains from Harris Village, Mogollon Village (Haury 1937:330), Cameron Creek, Starkweather Ruin, Los Tules, site LA2000, Cave Creek, San Simon Village, Bluff Site, Bear Ruin, Luna Village, SU site, Promontory, Turkey Foot Ridge, Twin Bridges, Three Pines, and Three Leggett (Wheat 1954:16-20). Comparative data collected from pueblos include Mimbres phase remains from Rowe Ruin (Cordell 1998:5), Saige-McFarland Ruin (Lekson 1990:1-6), and Orayvi (Cameron 1999:3), and later remains from Turkey Creek (Lowell 1991:9), Arroyo Hondo (Creamer 1993:1), and Joyce Well (Skibo, McCluney, Walker ND). Some doors were added at Orayvi following a period of restructuring (Cameron 1999:3), so percentages in the Mimbres phase exceed 100%. Domestic architectural data are shown in [Table 1](#).

Ceremonial architectural data are shown in [Table 2](#). Ceremonial architecture in later pueblos consisted of 6 structures reserved for rituals called kivas found at Turkey Creek; the reports for the other five pueblo sites contained data for domestic architecture only.

Shafer reported a significant increase in burials beneath the floor of rooms that were in use during the Three Circle and Mangas phases, and that these burials contained pottery that was “killed” by punching a hole in the bottom. This killed vessel was then placed over the corpse’s head to signify emergence of the soul from the body into the place for the dead (Shafer 1995:30-33).
Most site reports examined for comparison did not specify where the dead were buried. All available information obtained is listed in Table 3.

In addition to tabular data, there were 48 burials and 3 cremations found at Harris Village, most of which were found in a layer of refuse below 3 different houses. Grave goods were found in 30% of those (Haury 1936:354) but it is unclear in the report whether or not the pottery included had been “killed”, or where it was placed. Similarly, at Mogollon Village, it is unclear how many bodies were buried under abandoned houses. Goods were found with only 4 of those 8 graves, and nothing is mentioned about killed pottery (Haury 1936:321). Of the 40 burials at Bear Ruin, 36 contained pottery (Wheat 1954:70), but details about its state when found are unpublished. Accounts of other pithouse sites did not publish specific data with the findings.

The burial data for pueblos are shown in Table 4.

None of the burials at Saige-McFarland contained killed pottery (Lekson 1990:93-95). Of the graves found at Rowe, five contained whole pots (at least inferred as whole when placed in the grave), and in one burial pottery was inverted over the shoulder of the corpse, but not over the head as Shafer’s theory prescribed. No mention was made of killing it first (Cordell 1998:47-51).

The only later pueblo site that reported grave goods was Joyce Well. Sixteen of the 23 graves found there included material goods, but none had a punctured bowl over the head of the body. Three contained bowls or jars near the head, but these were not killed prior to their placement there. Other burials were discovered with other objects placed similarly: an infant with a paint tube on the head, two adult graves with bundles of seeds or beans near their heads, and another burial with a woven mat under the head and a cotton cloth that may have covered the head. Also recovered from a burial was a jar containing corn meal covered with a bowl inverted over it; placement within the grave was not near the head (Skibo, McCluney, Walker ND).
Shafer insisted that the architectural manifestation of the cosmological change he proposed occurred between the years of AD 900-1000 (Shafer 1995:23). So, one question that should be addressed is whether or not this change took place rapidly or as a subtle shift throughout the centuries. One indication of a subtle shift would be a transformation from long extended entrances to short extended entrances before the elimination of extended entrances altogether. The data presented in Table 1 demonstrates that the opposite occurred: as the pithouse phases progressed, long entries increased and short entries decreased. Table 1 also shows that in the Mimbres pueblo phase, long entries disappeared and short entries increased dramatically. However, the simple doorways used in pueblos were not extended entrances, but were still entries less than one meter long, so they are included in the “short entries” category. For this reason, short entries predominated in the Mimbres phase, but such an increase does not indicate intermediacy between long entries and the elimination of extended entrances. Therefore, it is clear that the change in domestic architecture from extended entrances was not a slow one that took place over the course of many centuries.

Since the main focus of Shafer’s theory was ceiling entries, of particular interest is the ratio of the use of long entries and ceiling entries through time. As Table 1 indicates, ceiling entries actually decreased throughout the pithouse phases, especially between the later San Francisco and Three Circle phases. Then, in the Mimbres phase, the use of ceiling entries increased almost to the original level of the Georgetown phase. However, most of these entrances were utilized in storage rooms on the first floor of multi-story pueblos, and not habitation rooms. During the period of restructuring at Orayvi pueblo, for example, inhabitants moved some of their living
spaces into the rooms formerly used for storage. Interestingly, the walls of these new habitation rooms were remodeled to include not only windows, but also lateral doorways (Cameron 1999:42).

The implications of this development weigh against Shafer. In addition to the notable decrease in ceiling entries near the end of the pithouse phases, the marked increase during the shift to pueblos was due to increased use mainly in storage areas. If the Mogollon people were trying to reflect a change in their belief system in their architecture, then habitation rooms should have been the first domestic forms to be remodeled. Accommodations to religious beliefs should be employed where people live, not just where they store their goods. Also, the addition of lateral doors into walls when storage rooms were remodeled into habitation rooms shows that the inhabitants purposely avoided using ceiling hatches for entrances into living spaces. Both of these factors directly contradict Shafer’s theory.

Finally, Table 1 shows that the trend in later pueblo phases reversed that of the previous phases. More evidence for hatches was apparent in the archaeological record for later periods than earlier ones, but to equate these younger pueblos with the older ones, any lack of evidence for a lateral entry has been interpreted as the existence of a ceiling entry. The plethora of additional hatches shows that a definite shift from lateral entrances to ceiling entrances occurred on a large scale.

However, since the data was gathered from pueblos built so long after the Mangas and Mimbres phases, that change did not take place during the transition between pithouse and pueblo as Shafer asserted.

Another reversal of the earlier trends was the type of entry into storage spaces. At Turkey Creek, all rooms identified as used for storage had lateral doorways (Lowell 1991:24), not ceiling hatches as previously seen in the Mimbres phase. The buildings were still entered from the outside using a ladder and ceiling hatch, but all such access to areas outside the pueblo was
gained via habitation rooms (Lowell 1991:26). Joyce Well and Arroyo Hondo were not always entered through the ceiling as at Turkey Creek, but only a few doors opened onto plazas at each locale (Creamer 1993; Skibo, McCluney, Walker ND). Primarily, the data in Table 1 show that in later pueblos, lateral doorways were used to connect interior rooms, while ladders and ceiling hatches were used to exit the pueblo into the outside world. This portion of the data agrees with Shafer’s theory.

Ideological changes should be more apparent in ceremonial architecture since the structure is related even more directly to cosmology than domestic architecture. As seen in Table 2, ceiling entries became more prevalent as the pithouse phases progressed, and short entries were not even represented in the Three Circles phase. Initially, these two trends give the appearance of a clear shift from extended entrances to ceiling hatches.

However, the data in Table 2 show that long entries increased through time, being most prevalent in the Three Circles phase. Such preponderance demonstrates that though ceiling entries increased, they did not replace extended entries. This contradicts Shafer’s description of how a regional shift in cosmology should be depicted. Therefore, the pithouse data do not correlate with Shafer as clearly as it may initially seem.

Pueblo data seem to show an obvious trend toward ceiling entries since all of the entrances found were hatches. But, even compared to the limited pithouse ceremonial data, pueblo ceremonial structures were exceedingly sparse. No Mimbres examples were found, and only one later pueblo site reported this type of architecture. Obviously, some shift from favoring long entries to hatches occurred, but almost 500 years elapsed between available specimens. Based on this incomplete information, no concrete inference can be made regarding when this change occurred. It is clear, though, from the data presented that extended lateral entries were still preferred in ceremonial architecture in the last pithouse phase, Three Circles. Tentatively, then, it
may be reasonable to surmise that a definite preference for ceiling hatches did not manifest itself until after the transitional Mangas phase to which Shafer attributed it.

Tables 3 and 4 contain burial data for pithouses and pueblos, respectively. These data are included in the study because people manifest their cosmological beliefs in their treatment of the dead. Shafer detailed how burials should be found if his emergence theory is correct. Table 3 lists the amount of burials found sub-floor at the few pithouse sites they were found. These high percentages, especially at SU Site where the sample size was relatively large, agree with the mortuary aspect of the theory Shafer proposes. However, the lack of sites containing these burials does not appear to indicate the region-wide propensity toward sub-floor interment that would indicate ideological change.

It is possible that the lack of data is due to archaeologists failing to record their findings completely or recognize the prior removal of a body by pothunters. Vague descriptions of additional burials under houses at other sites incorporated in the data section imply that the past was not accurately reported. The included depictions of these graves, though, were that the bodies were buried under abandoned houses in layers of trash, and not under inhabited houses to represent the underworld as Shafer suggested. Since there was no one living in the house at the time of sub-floor burial, that removes the middle level of the multi-layered universe model and voids the emergence theory.

Another theory for the burial of relatives under the homes of the living could be ancestor worship, the belief that burying the body under the house would always keep the deceased person near. There is no available evidence directly contradicting this hypothesis for this time period. So, the bodies discovered under houses occupied at the time of interment do not necessarily represent a conformation to an emergence myth.

Despite the lack of burial data in pithouses, according to Shafer, sub-floor burials should increase
with time, so pueblos should have had more of these graves than pithouses. \textit{Table 4} shows the percentage of sub-floor burials found in pueblos. These graves were evident at only two sites. The vast majority of the burials uncovered at Saige-McFarland were below houses, but very few of those found at Rowe, which had a larger sample size, were under structures. Therefore, the inconsistency in the data does not provide substantial evidence for a widespread treatment of the dead that would indicate a physical manifestation of an emergence myth immediately following architectural transition.

The remaining three pueblo sites that contained burial data show in \textit{Table 4} were occupied after the Mimbres phase, but the inconsistency in the data is still present. Turkey Creek and Arroyo Hondo both had low amounts of sub-floor burials, though not as low as Rowe Ruin. All the burials found at Joyce Well were beneath dwellings, but this is due to the focus of excavation: almost none of the extramural areas were exposed below the surfaces used during occupation (Skibo, McCluney, Walker ND). Therefore, burials outside the pueblo remain buried and unavailable for discussion in the site report.

This statement does not negate the possible importance of sub-floor burials at Joyce Well. However, the data from Turkey Creek and Arroyo Hondo actually show more graves beneath floors than Joyce Well; the low percentage of sub-floor burials is due to the comparatively overwhelming number of graves found outside the pueblo. This number cannot be calculated for Joyce Well because of unavailable burial data for extramural areas. So, the combination of the inconsistency of data from the Mimbres phase, the few sub-floor burials found at most later pueblos, and the uncertainty of the completeness of the burial data from Joyce Well does not positively support Shafer’s hypothesis.

A peculiarity about the data at Turkey Creek is that all of the burials below structures were children. Adults—and only adults—were buried outside the pueblo in trash mounds surrounding
the settlement or under public plazas (Lowell 1991:19). If a widespread change in cosmology occurred, as according to Shafer, then all burials—or at least all ages of people—should be below the floors of dwellings to correlate with the mythology. The segregation of burial sites by age at Turkey Creek does not support the generality of Shafer’s emergence model.

Another particularity to Shafer’s emergence hypothesis concerned the goods found within the graves. Killed pottery placed over the head was supposed to denote emergence, but nowhere in the examined literature was killed pottery mentioned among grave goods. Much of the goods once placed in graves have since been removed by pot hunters, and even regarding the graves that do contain articles many site reports did not list the location of goods within the grave. Those described, though, were clearly not over the head as Shafer specified.

An interesting contribution to the grave goods was the ceramic jar containing cornmeal and covered with an inverted bowl found at Joyce Well. Inferences could be made about this assemblage of artifacts paralleling emergence myths: the cornmeal represents life since it sustained the horticultural Mogollon, and the inverted bowl separates this life from the world above. Or, the assemblage could just signify an offering of cornmeal to the deceased, with the bowl acting as a lid for the jar, which does not imply emergence. The second hypothesis is more likely because of its simplicity, and also because of ethnographic data for such phenomena from all over the world. Overall, the contradictions between what Shafer claimed should appear in graves and the data collected serve to invalidate emergence indicated in burial goods.

**Conclusions**

For this paper, I examined 23 sites within the Mogollon culture containing both pithouse and pueblo remains for evidence that a major cosmological shift corresponding with an emergence theme was manifested in structures during the shift from one architectural form to the other. The data presented in this paper from those sites have shown that the indicators of this shift were
present in different forms of architecture.

Different aspects of the theory tested include the change from lateral doors to ceiling hatches in the time period between the pithouse and pueblo periods in both domestic and ceremonial architecture. With the data presented here, I showed that this change clearly took place in both forms of architecture, but not until well after the transitional Mangas and early Mimbres pueblo phases. I also showed that the sub-floor burials in this area were so inconsistent that they cannot conclusively support the theory. The data regarding goods contained within the graves were the most indicative against the theory of emergence depicted in material culture.

Some of the data from the later pueblo period exhibited trends contrary to data from earlier periods. Ceiling hatches comprised the most prevalent form of entry in the later pueblos in domestic structures, with most openings to the outside via ladders. Similarly, ceremonial structures relied entirely on ceiling entries.

The later architectural data supported Shafer’s theory in many ways, so the real change in architecture seems to have taken place not as the people moved from pithouses to pueblos, but as pueblos developed over prolonged use. The data indicates that the model should be modified to concern a later time period, and not grave goods. From the evidence that I have presented in this paper, the theory held by Harry Shafer may have suited the data he analyzed from the NAN Ranch, but the regional data do not support his claim.

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Notes
I would like to thank Dr. James Skibo of the Anthropology department at Illinois State University for his invaluable advice and contributions to this paper. I would also like to acknowledge Dr. Robert Dirks and my colleagues at Illinois State University for their feedback and suggestions, and all of my family for their unfailing support. All of these people have been essential in the preparation of this manuscript.

Analysis of the Shift in Entranceway Architecture of the Mogollon Region / Amanda Burke


Table 1: Entrance types observed in domestic architecture

<table>
<thead>
<tr>
<th>Phase</th>
<th>Ceiling (No Lateral Entry)</th>
<th>Short Entry (&lt;1m)</th>
<th>Long Entry (&gt;1m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Georgetown</td>
<td>34 (38.2%)</td>
<td>31 (34.8%)</td>
<td>24 (27.0%)</td>
</tr>
<tr>
<td>San Francisco</td>
<td>23 (35.4%)</td>
<td>14 (21.5%)</td>
<td>28 (43.1%)</td>
</tr>
<tr>
<td>Three Circle</td>
<td>18 (21.2%)</td>
<td>8 (9.4%)</td>
<td>59 (69.4%)</td>
</tr>
<tr>
<td>Mimbres</td>
<td>78 (31.7%)</td>
<td>178 (72.3%)</td>
<td>-----------------</td>
</tr>
<tr>
<td>Later Pueblos</td>
<td>330 (71.6%)</td>
<td>131 (28.4%)</td>
<td>-----------------</td>
</tr>
</tbody>
</table>
Table 2: Entrance types observed in ceremonial architecture

<table>
<thead>
<tr>
<th>Phase</th>
<th>Ceiling (No Lateral Entry)</th>
<th>Short Entry (&lt;1m)</th>
<th>Long Entry (&gt;1m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Georgetown</td>
<td>1 (16.7%)</td>
<td>4 (66.7%)</td>
<td>1 (16.7%)</td>
</tr>
<tr>
<td>San Francisco</td>
<td>2 (33.3%)</td>
<td>1 (16.7%)</td>
<td>3 (50.0%)</td>
</tr>
<tr>
<td>Three Circles</td>
<td>2 (40.0%)</td>
<td>0</td>
<td>3 (60.0%)</td>
</tr>
<tr>
<td>Later Pueblos</td>
<td>6 (100%)</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
## Table 3: Sub-floor burials in pithouses

<table>
<thead>
<tr>
<th>Site</th>
<th>Sub-floor burials</th>
<th>Total burials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cave Creek</td>
<td>2 (40.0%)</td>
<td>5</td>
</tr>
<tr>
<td>SU Site</td>
<td>27 (50.0%)</td>
<td>54</td>
</tr>
<tr>
<td>Starkweather</td>
<td>3 (100%)</td>
<td>3</td>
</tr>
</tbody>
</table>
### Table 4: Sub-floor burials in pueblos

<table>
<thead>
<tr>
<th>Site (and Phase)</th>
<th>Sub-floor burials</th>
<th>Total burials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saige-McFarland (Mimbres)</td>
<td>10 (91.0%)</td>
<td>11</td>
</tr>
<tr>
<td>Rowe Ruin (Mimbres)</td>
<td>3 (8.8%)</td>
<td>34</td>
</tr>
<tr>
<td>Turkey Creek (Later)</td>
<td>46 (19.6%)</td>
<td>234</td>
</tr>
<tr>
<td>Arroyo Hondo (Later)</td>
<td>29 (23.0%)</td>
<td>126</td>
</tr>
<tr>
<td>Joyce Well (Later)</td>
<td>23 (100%)</td>
<td>23</td>
</tr>
</tbody>
</table>